GRÜNENTHAL REPORT 2022/2023

GO TO ››

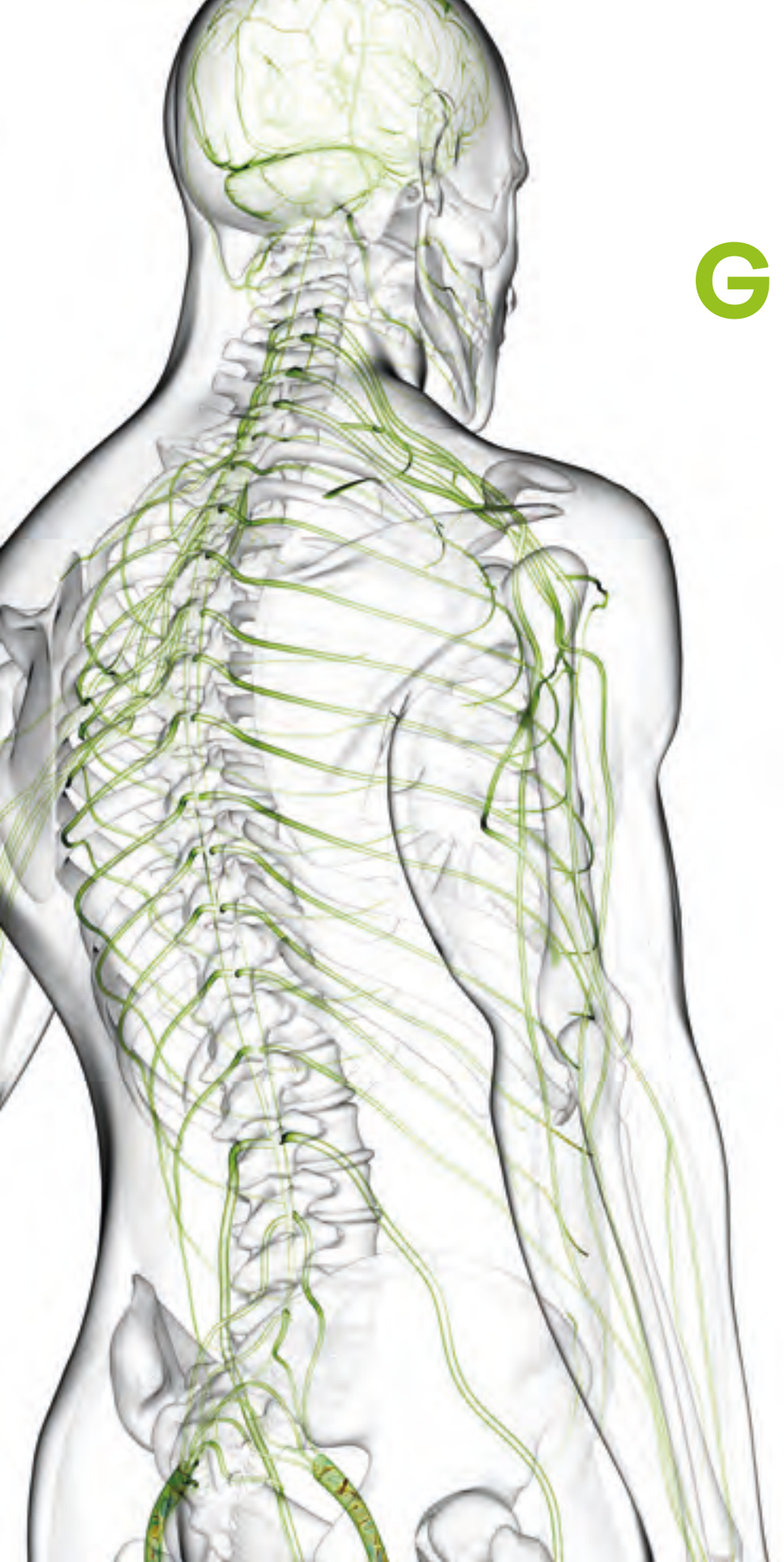
Our Grünenthal Report provides information about our key objectives and activities, as well as our recent business development highlights and financial performance.

GRÜNENTHAL RESPONSIBILITY 2022/2023

GO TO ››

Our Responsibility Report shares insights into how we conduct our business responsibly, as well as details about our impact on society and the environment.

GRÜNENTHAL



GRÜNENTHAL REPORT 2022/2023

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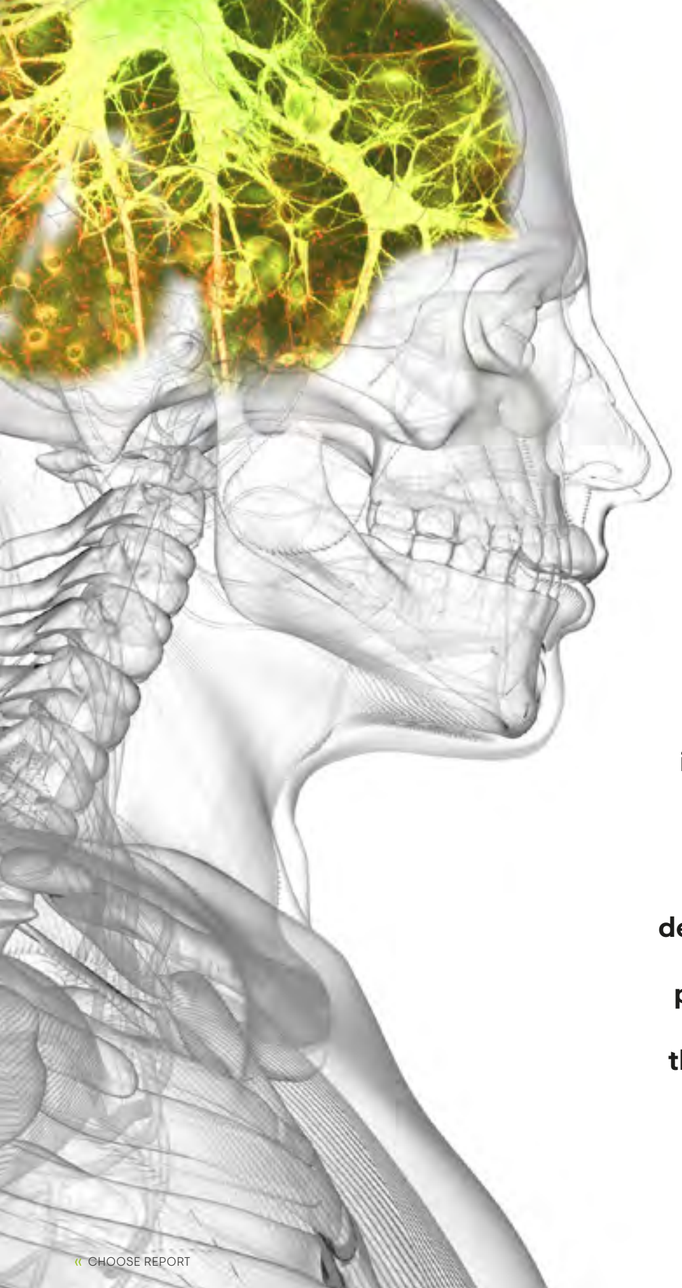


CORPORATE PROFILE

Grünenthal is a global leader in pain management and related diseases. We have a long track record of bringing innovative treatments to patients worldwide. As a fully integrated pharmaceutical company we cover the entire value chain – from drug research and development to commercialisation of portfolios with growth products and established brands. We operate in accordance with the highest ethical and regulatory standards, and we focus our efforts on our vision of a World Free of Pain.

LETTER FROM THE CEO

Over the last few years, we have transformed Grünenthal, diversified our portfolio and strengthened our pipeline. Grünenthal is now in a prime position to continue our growth strategy and move closer to our vision of a World Free of Pain.

Dear Friends and Partners,

Over the past few years, Grünenthal has fundamentally transformed its strategy and culture. We have created solid growth, diversified our portfolio and built an innovation pipeline to provide patients with better treatments to manage their pain. And we have evolved our culture to make Grünenthal more attractive for talents and a great place to work.
2022 was yet another fantastic year for Grünenthal. The company exceeded its financial and non-financial targets. Our revenue reached €1.7 billion, an increase of 13 percent compared to 2021. The adjusted EBITDA reached €438 million, an increase of 18 percent over 2021, and has more than tripled since 2017. These record results were driven by increased demand for pain treatments and excellent sales performance across regions. Its financial success positions Grünenthal well to further invest in advancing the R&D pipeline, continuing the M&A strategy and growing the business in the United States.

Strategy for growth

Grünenthal's exceptional performance in 2022 is a testament to our people and reflects the demand for better pain treatments. I am pleased with our progress towards our vision of a World Free of Pain.
Key brands such as Qutenza™, Palexia™, Vimovo™, and Zomig™ performed well and grew faster than the market. Especially Qutenza™, a topical non-opioid treatment for various peripheral neuropathic pain conditions, saw a surge in demand, particularly in the U.S., where the product is indicated for treating post-herpetic neuralgia and pain related to diabetic neuropathy of the feet. The neuropathic pain market is significant, with an estimated size of $4.5 billion in the United States, which is the largest global neuropathic pain market.[1]
2022 was another very successful year for Grünenthal in terms of acquisitions. In November 2022, Grünenthal acquired Nebido™, a leading brand for testosterone replacement therapy, from Bayer for ~€495 million. The brand immediately contributed to Grünenthal's revenue and profit as of November 2022. Another milestone in Grünenthal's M&A strategy was the announcement to enter into a joint venture agreement with Kyowa Kirin International. The joint venture includes 13 established brands with revenues primarily from pain management products.

Innovation pipeline

A key priority is the development of resiniferatoxin (RTX). This investigational medicine is being developed for treating pain in patients with knee osteoarthritis, and entered Phase III of clinical development in August 2022. A readout of the data is expected in the second half of 2024. The Phase III programme aims to enable market authorisation in the E.U., U.S. and Japan by 2025/2026. The global osteoarthritis market has significant potential and is expected to grow to ~€11 billion in 2025. Grünenthal's second Phase III programme investigates the use of Qutenza™ in patients with post-surgical neuropathic pain (PSNP) to support an extension of the U.S. label.
In Phase I, trials are ongoing for a Nociceptin/Orphanin FQ peptide receptor (NOP) agonist. This compound is being developed to provide a non-opioid therapy option with a strong analgesic effect without the side effects commonly associated with opioids. Grünenthal is also further developing its Glucocorticoid Receptor Modulator (GRM) in Phase I. The oral investigational medicine aims to provide a therapy option with broad anti-inflammatory efficacy. Our new GRM compound has the potential to combine the efficacy of traditional glucocorticoids like prednisolone with a significantly improved safety profile allowing for longer-term treatment, an unmet need in many indications.

Culture and responsibility

Our Impact Initiatives for the Responsible Business programme reached their milestones last year. We made further progress with attracting and developing talents, and launched our Diversity & Engagement strategy. Following excellent employee engagement scores during the 2022 survey, Grünenthal now has 24 entities certified as a Great Place to Work®.
On behalf of the Executive Board Team, I invite you to join us in 2023 as we continue working on getting closer to our vision of a World Free of Pain.

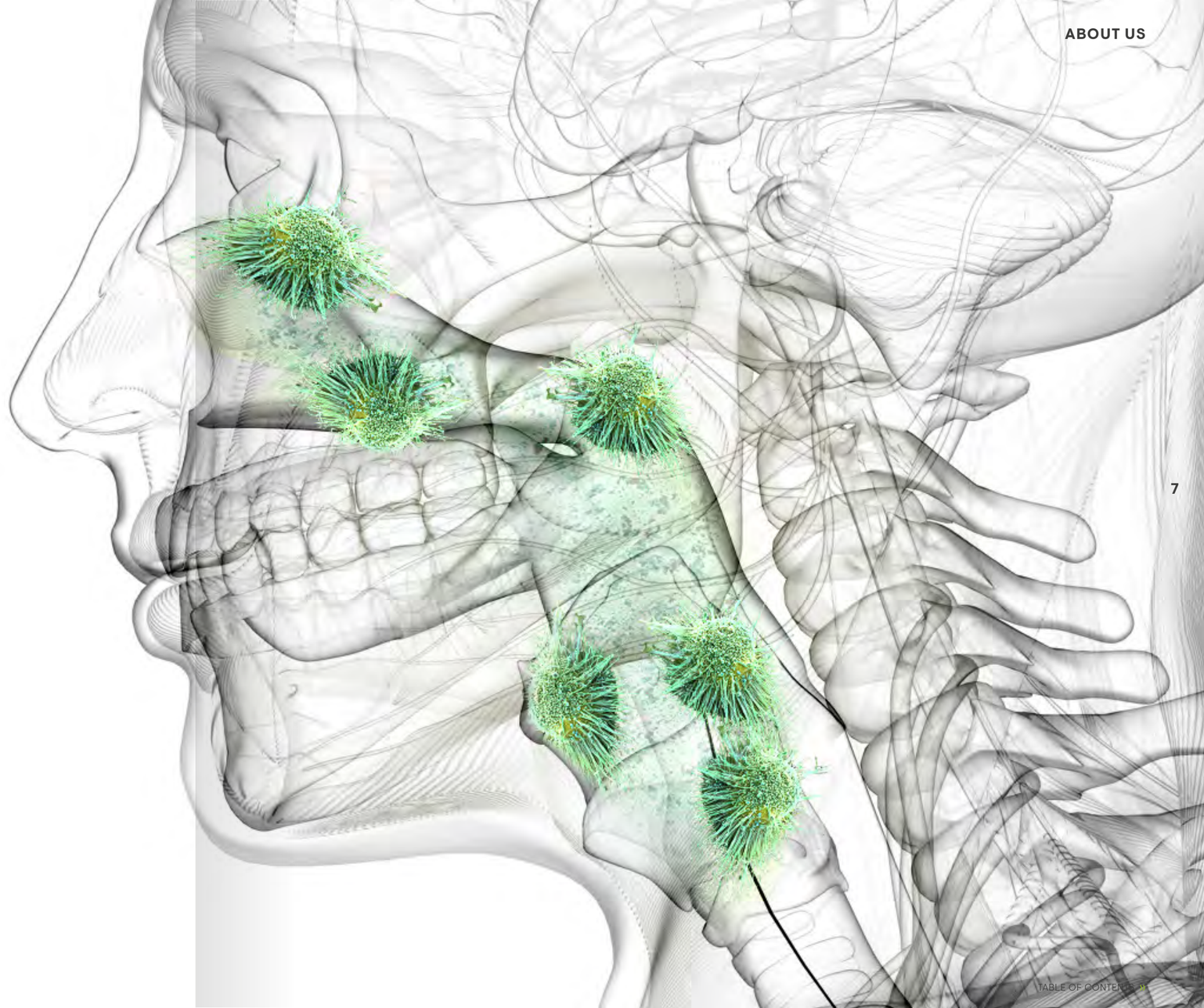
Gabriel Baertschi
Chief Executive Officer

"Grünenthal touches the lives of millions of patients every year. And we will continue seeking innovative pain treatments to change lives for the better.

Gabriel Baertschi
Chief Executive Officer

ABOUT US

We are proud to work for a World Free of Pain.



BY THE NUMBERS

Pain, especially chronic pain, represents a substantial burden for people and society. Its alleviation remains a significant unmet medical need. Grünenthal is the leading pharmaceutical company focused on pain therapies and research.

We are committed to transforming the future of pain management. As a family-owned company, we have been developing innovative medicines for more than 75 years. Over the past five decades, we have focused on developing, manufacturing and commercialising innovative products for the pain market. From research to distribution, we have capabilities across the entire value chain. We aim to strengthen our pain leadership by developing highly innovative, non-opioid therapies. In partnership with leading science organisations, we strive to create more value for patients and healthcare systems. Conducting our business responsibly is at the core of our strategy and culture. Acquisitions of carefully selected established brands have been the key driver of our profitability and growth. This strategy helps secure our financial stability and enables us to reinvest in pain research.

Leadership position in pain-related markets*

#1

in Latin America** and Europe***

Products sold in around

100

countries

Solid revenue base

1.7

billion euro in 2022

Focus on innovation

200

priority patent applications filed in the last 10 years

Strong and capable team

4,400

employees worldwide

Longstanding commitment

75

years of developing innovative medicines for patients

Production capacities

5

manufacturing sites in Europe and Latin America

International R&D network

2

R&D sites – one R&D Unit in Aachen (Germany) and an Innovation Hub in Boston, (USA)

* Including Anti-Calcitonin Gene-Related Peptides (CGRPs). Defined Pain Market incl.: Strong opioids, weak opioids (Codeine, Dextropropoxyphene, Dihydrocodeine, Hydrocodone, Tilidine, Tramadol), NSAIDs & plain Cox2 Inhibitors, oral solid Rx, Antimigraine Triptans, Lidocaine & Capsaicine Patches, Anti-epileptics & Anti-depressants with their respective share in Localized Neuropathic Pain acc. Rx information (Pregabalin, Gabapentin, Carbamazepin, Amitriptylin & Duloxetin)

Accumulated evaluation of countries where Grünenthal is present through its own sales force:

** Brazil, Central America, Chile, Colombia, Ecuador, Dominican Republic, Mexico, Peru

*** Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK.

Source: Based on internal analysis by Grünenthal using data from the following source: IQVIA MIDAS® Quarterly Sales Retail+Hospital, Q4/ 2022, time period year 2022, fixed EUR, reflecting estimates of real-world activity. Note: data does not account for parallel imports or recent acquisitions or joint ventures.

OUR EXECUTIVE BOARD TEAM

Gabriel Baertschi
Chief Executive Officer

Drawing on 20 years of experience in the pharmaceutical industry, Gabriel joined Grünenthal in 2016 as Chairman of the Corporate Executive Board and Chief Executive Officer. Under his leadership, Grünenthal has executed a diligent M&A strategy by closing successful acquisitions with a total expected deal value of more than €2 billion since 2017. The company has also transformed its business model, significantly developed its pipeline, and more than tripled its adjusted EBITDA and operating cash flow since 2017.

Jan Adams, MD
Chief Scientific Officer

Jan has more than 15 years of experience in healthcare and biopharmaceuticals, and took over the role of CSO in 2020. Under his leadership, Grünenthal has transformed its R&D strategy and operating model, significantly strengthening its pipeline of highly innovative non-opioid pain assets. Jan joined Grünenthal in July 2017 as Head of Corporate Strategy and Portfolio Management, and was instrumental in many transformational initiatives working at the interface between Strategy, Business Development, Research, Development and Commercial.

Janneke van der Kamp
Chief Commercial Officer

On 1 March, 2023, Janneke joined Grünenthal as our new Chief Commercial Officer. She has broad experience in the pharmaceutical industry, including global leadership roles with a focus on product and portfolio strategy, and substantial experience in launching and growing brands across several disease areas. Her work at Grünenthal will aim to maximise our portfolio, prepare the launch of our pipeline assets, and drive growth from our key brands.

Fabian Raschke
Chief Financial Officer

In his 15-year career, Fabian has a proven track record of success in projects ranging from completely modernising a company's Finance function to increasing efficiency, driving growth and taking advantage of the full range of financing models. Fabian joined Grünenthal in 2016 as Head Group Controlling, before assuming the role of Chief Financial Officer in 2019. He was pivotal in Grünenthal's move to the capital markets with the first bond placement in 2021. Fabian is also responsible for the realignment of the IT function, supporting our digital road map and substantially increasing our cyber defence capabilities.

Victor Barbosa
Head Global Operations

Since joining in 2006, Victor has worked across Grünenthal's supply chain and operations teams. With extensive experience in diverse markets, he has been instrumental in redefining the company's organisation for product supply. As Head of Global Operations (GO), Victor is ultimately accountable for Grünenthal's product quality, cost and service to patients and customers worldwide. He leads around 2,000 people in our GO unit, spanning the full value chain of product supply. He is also accountable for Grünenthal's Contract Manufacturing Business.

Leen Hofkens
Head Global Human Resources

Since joining in 2018, Leen has been committed to driving a high-performance culture where diverse talents thrive in rich and varied roles, join forces and have a real impact on Grünenthal's success. Leen was instrumental in rolling out the company's Values & Behaviours, which guide our decision making and shape our culture, including our leadership capabilities. Leen also played a key role in strengthening Grünenthal's Performance & Development Management approach and employee engagement activities, as well as driving our diversity and engagement agenda forward.

Sebastian Köhler
General Counsel

Sebastian joined Grünenthal in 2018 to build and lead the General Counsel area comprising Legal, Responsibility, Compliance, Risk, Audit, Patents, Trademarks, Legal Operations and Corporate Affairs. In this role, he ensures that our business gets best-in-class in-house advice to support the sustainable implementation and evolution of our strategy. Sebastian brings over 10 years of expertise in executive roles and strategic legal consultancy.

Quentin Le Masne de Chermont
Head Corporate Strategy and Portfolio Management

Before joining Grünenthal in 2019, Quentin spent 8 years consulting companies in the healthcare sector on game-changing business strategies. His career began in research. He now drives our business goals at the intersection of Strategy, Commercial, R&D and Operations. Quentin has additional responsibility for deal assessment of established brand acquisitions.

from left to right:

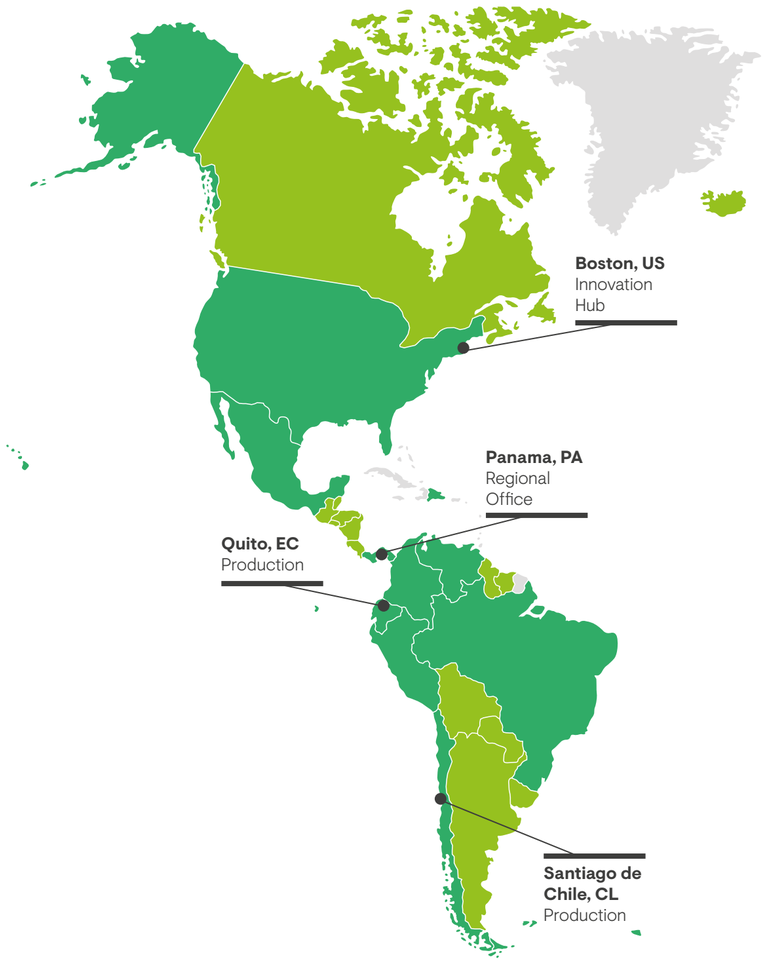
top row:
Fabian Raschke,
Quentin Le Masne de Chermont

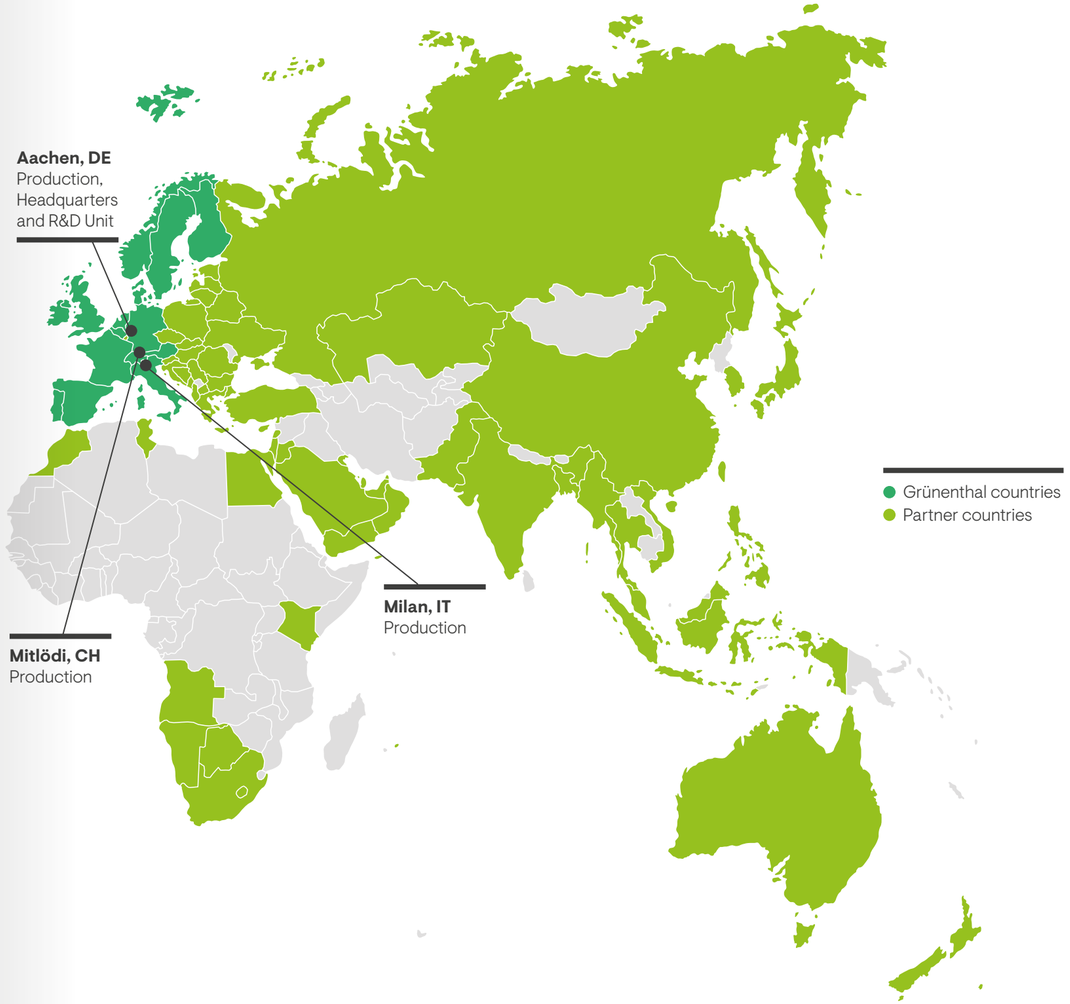
middle row:
Janneke van der Kamp,
Sebastian Köhler, Victor Barbosa

bottom row:
Gabriel Baertschi,
Leen Hofkens, Jan Adams, MD

MARKET PRESENCE

Grünenthal is a global company headquartered in Aachen, Germany. It has affiliates in 28 countries across Europe, Latin America and the US. Patients and customers benefit from Grünenthal products in around 100 countries worldwide.





TRANSFORMING A COMPANY

Our path to a World Free of Pain.

STORY OF TRANSFORMATION

Since 2017, Grünenthal has made radical and far-reaching changes that put us in a strong position to achieve future growth and reach more patients with life-changing treatments.

Our vision and strategic approach

To emphasise our focus on making life better for people around the globe, we launched our shared vision of a World Free of Pain in 2017. Grünenthal now touches the lives of millions of patients every year, with innovative treatments that reduce suffering and give patients the quality of life they deserve.

Looking ahead, we are striving to achieve this vision by pursuing two key strategic approaches. First, we are targeting organic growth by focusing our research and development activities on pain management. Second, we are tapping into inorganic growth opportunities by acquiring assets that strengthen our established brand portfolio – no matter which therapeutic area. These deals deliver significant EBITDA contributions that enable us to continue investing in innovative pain treatments.

Transformation milestones since 2017

Financial growth
More than tripled company value, entered debt capital market and received favourable credit ratings.

R&D transformation
Built promising R&D pipeline with three Phase III projects, two Phase I projects and innovative pre-clinical platforms.

M&A
Closed successful acquisitions outperforming benchmark M&A in the pharmaceutical market, with total expected deal value of more than €2.0 bn since 2017.

Patient supply
Continued reliable supply of medicines despite strong headwinds in recent years.

Latin America
Focused promotion on innovative products in Pain and Women's Health for better profitability and sustainable growth.

US entry
Fully represented in the USA: Established our research site Boston Innovation Hub and our commercial affiliate Averitas Pharma.

> “There are many ingredients needed to transform a company. A talented and high-performing team is the true key to success.

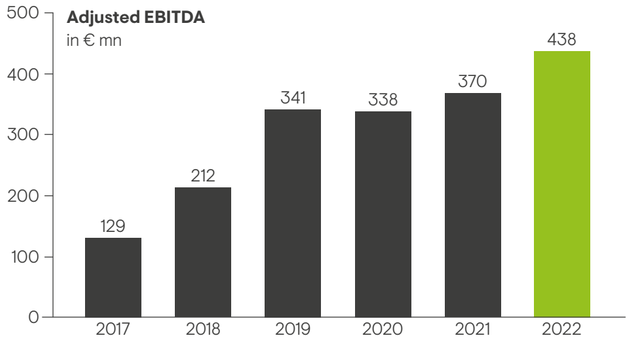
Gabriel Baertschi
Chief Executive Officer

Inclusive culture and responsible business
Became workplace with winning culture, ensured highest standards for conducting business responsibly.

Financial growth

Our company has achieved remarkable progress with its financial performance since 2017. Grünenthal's profitability, measured by adjusted EBITDA, has more than tripled during the last half-decade. Our company value is now more than three times higher, in terms of our equity market value and operating cash flow. In 2021, Grünenthal successfully closed its first-ever bond transaction of €950 million, with strong investor demand. Three major independent credit rating agencies regularly assess Grünenthal and have confirmed our solid financial position.

Grünenthal's business results 2017-2022

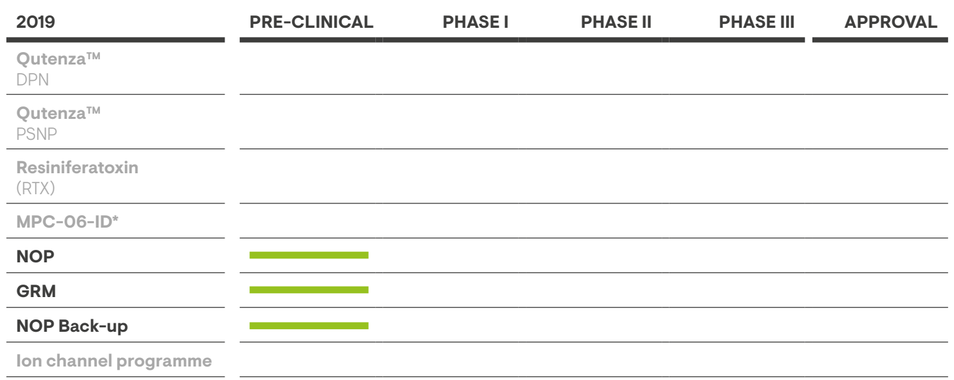


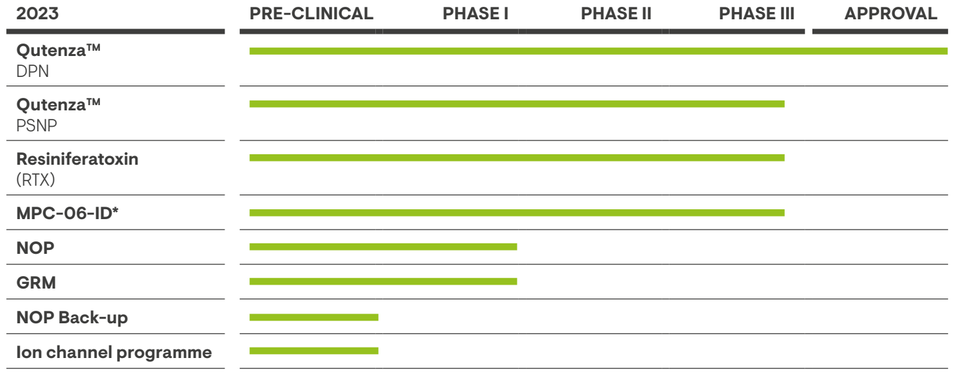
Driving innovation

Since 2017, we have dramatically expanded our innovation pipeline. Several exciting candidates are making their way through the development process. This includes resiniferatoxin (RTX), an investigational medicine developed for the treatment of pain in patients with knee osteoarthritis. Our innovative approach has already led to tangible outcomes. For example in the USA we achieved a label extension for Qutenza™. Under the extended label, this non-opioid treatment option is now available to patients with Diabetic Peripheral Neuropathy of the feet in adults, a progressive and debilitating complication of diabetes that affected more than five million Americans in 2020[18]. This is a powerful example of how our experts achieve tangible breakthroughs for patients' quality of life.

This growing pipeline of innovative investigational medicines reflects the success of our R&D strategy launched in 2019. It has created a modern operating model that enables our scientists to pursue high-potential assets in a modality-agnostic manner. Since adopting this new setup, we have become a more diverse and international organisation, with a global approach that includes partnerships with organisations who share our passion for scientific progress. As part of this approach, we set up our Innovation Hub in Boston in 2020. It establishes a centre of excellence for pain research, where our experts can identify and develop promising external innovation opportunities by collaborating with institutions in the Boston area, one of the world's largest life science hotspots.

Pipeline development 2019-2023



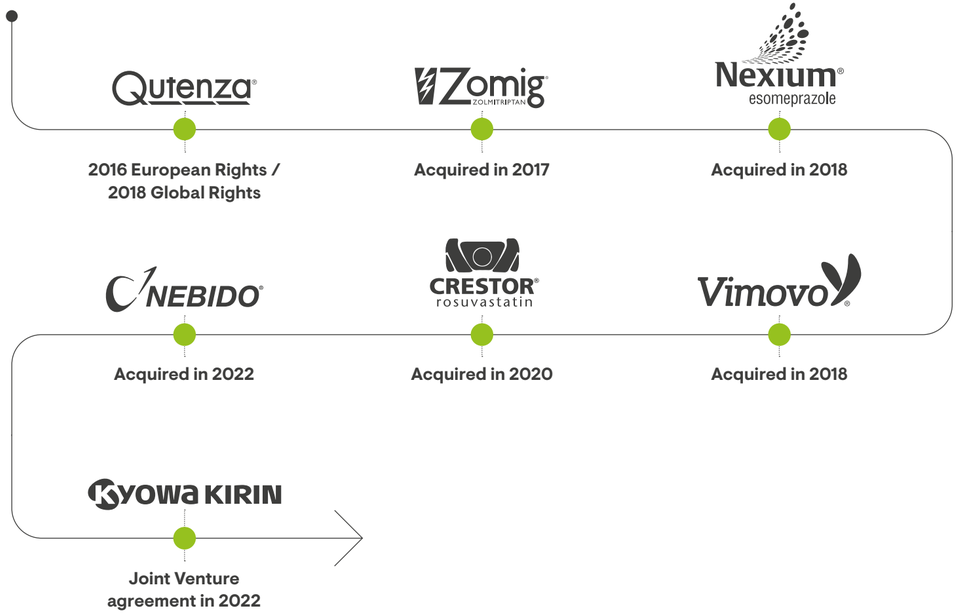


* Collaboration with Mesoblast

The right deals

Mergers and Acquisitions (M&A) are a key driver of our growth strategy. Our M&A strategy has increased profitability and diversified Grünenthal's brand portfolio. Since 2017, Grünenthal has closed successful acquisitions with a total expected deal value of more than €2.0 billion; of which approx. €1.8 billion relate to acquisitions of established brands, incl. Zomig™, Nexium™ and Vimovo™, Crestor™ as well as Nebido™. We also expanded our portfolio of established brands through a joint venture collaboration with Kyowa Kyrin, which gives Grünenthal access to 13 life-changing brands across six therapeutic areas.

Grünenthal's experts around the globe join forces across functions to maximise the return on our investments by integrating new products and businesses into our company quickly and effectively. This begins with our due diligence approach, where we evaluate possible targets with a focus on potential synergies in our production, logistics and commercial activities. Our teams actively strive to reduce costs and generate additional value from all brands at every stage in the product life cycle. And we strongly focus on identifying deals for brands that will make an immediate positive contribution to profitability and cash flow.



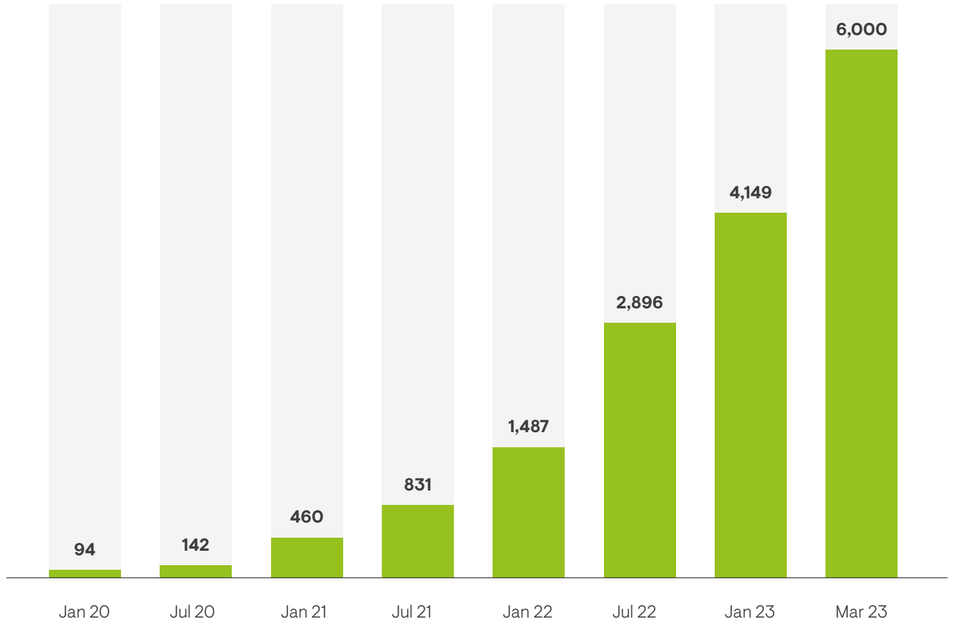
Commercial success

We continue to see strong commercial performance across our portfolio and geographies. In Europe, our established brands have grown faster than the market and our growth brand Qutenza™ has shown strong performance in key markets such as France.

In 2018, we extended our commercial footprint to the United States and entered the market with the non-opioid topical system Qutenza™. We built an entire organisation from scratch and have seen strong growth since then.
One third of Grünenthal's revenue comes from Latin America, with a very diverse product portfolio. Since 2017, we have been focusing on innovative pain products (+30% growth) and profitable diversified products (+23% growth), a successful strategy that has led to increased profitability in the region.

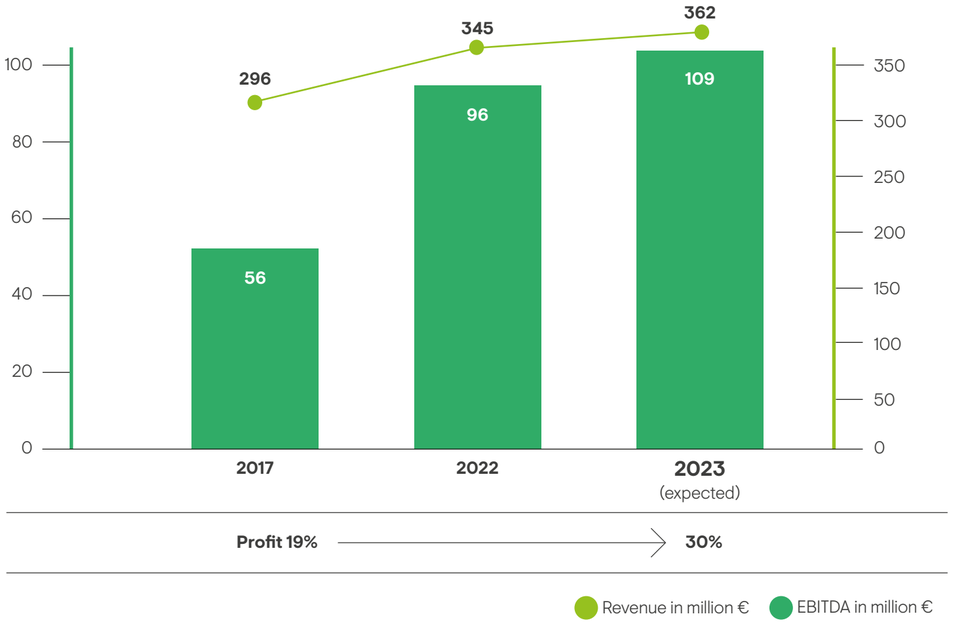
Qutenza™ US overview

In-market topical systems (TS) volume



As we look to the future, we continue to evaluate opportunities to further expand our portfolio and our geographic footprint. As part of this ambition, in 2022 we entered into a commercial partnership with Shionogi to commercialise RTX in Japan.

Performance Latin America



Reaching patients worldwide

Global Operations (GO) started its journey in 2017, when it was founded as a new business area to enable end-to-end processes for our product supply worldwide. As a second step in 2020, GO implemented a strategic growth plan, GO2025, which aims to create the optimal setup to seamlessly integrate further products into our portfolio and supply them to patients. As part of GO2025, our GO team aims to drive Grünenthal's profitability by ensuring excellence in our processes and continuously innovating the way we operate.
GO has the clear mission to ensure safe, efficient and reliable product supply to patients. In line with this, our manufacturing and operations teams successfully kept our business running at all times – despite the pandemic, global supply challenges and disrupted supply chains.

2020 until end of 2023

€114 million investment in our manufacturing capabilities

2017 until end of 2022

25 end-to-end integrations into our Global Operations (finalised or in progress)

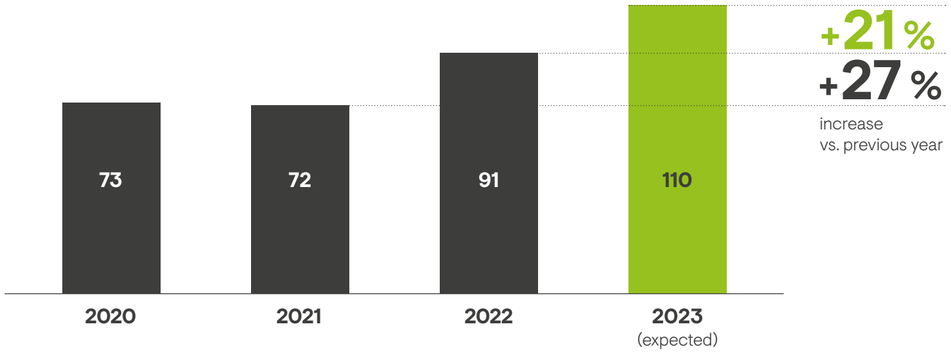
Cost-effective integration of acquired products

Successful acquisitions depend on integrating new brands into our supply chain quickly and effectively. Our GO team ensures that we get maximum value for our investments. We are often able to achieve substantial cost reductions in production. Here are some examples:

- **Nexium™ and Vimovo™**: approx. €10.2 million per annum through in-house packaging
- **Zomig™**: approx. €3.7 million annually expected through in-house bulk production and packaging
- **Crestor™**: approx. €15 million per annum expected through in-house bulk production and packaging

Grünenthal's growth is reflected in the development of production volume

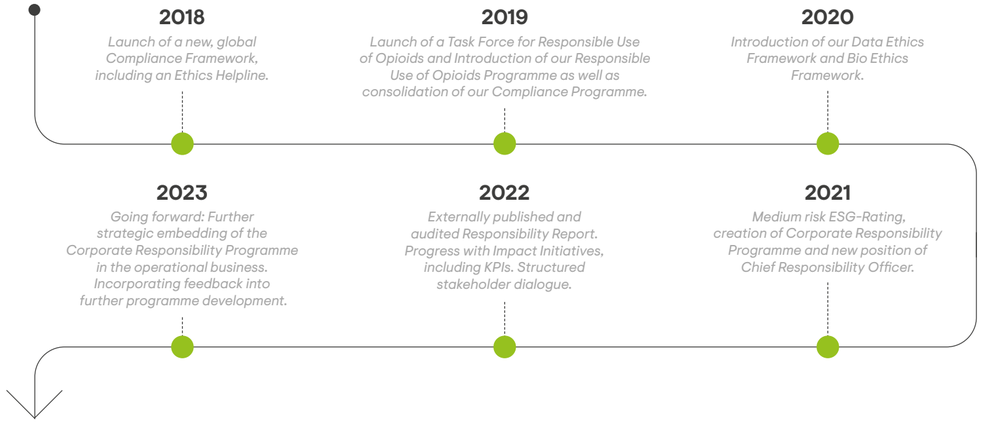
Manufacturing site in Aachen, Germany
Volume in million packs



Enhancing reputation

Dialogue with our communities
Interactions with external partners and stakeholders play an important role in defining our position as a science-driven and patient-focused company. We actively seek dialogue with our stakeholders, for example local politicians, to understand our communities' needs and reaffirm our commitment to the regions where we are based. Since 2018, we have reshaped our Grünenthal brand and corporate design to strengthen the way we approach our target groups worldwide. This includes a more engaging social media presence that boosts our capacity to share clear and inspiring insights into how our company improves quality of life for pain patients worldwide. Our communities include those that have been affected by the Thalidomide tragedy, which will always remain a part of our company's history. In November 2021, Dr. Michael Wirtz, shareholder of Grünenthal, apologised to those affected and their families on behalf of his family. We welcome this gesture as a further step on the chosen path of dialogue between affected people, Grünenthal and the shareholder family.

Ensuring the highest standards for conducting our business responsibly
As a global leader in pain management, we conduct business in a responsible way and aspire to proactively create a positive impact on society and the environment. In 2020, we stepped up our efforts to lead progress for a better world by launching our holistic Corporate Responsibility Programme. It centres around four dedicated Fields of Action with 12 material topics, each with specific ambitions that sharpen our focus on delivering improvements every day. An independent ratings agency ranked Grünenthal in the top 3 percent for our pharmaceutical subindustry in 2022. This reflects the real-world action that Grünenthal is taking to protect its long-term future, as well as the long-term future of communities and the environment.



Winning culture

Talented people are the decisive factor in our company's success and they make a real-world impact on improving patients' lives. Our global team has joined forces to transform Grünenthal during the last five years, and we are now a more agile business that is ready to seize opportunities for growth. To do this, Grünenthal has taken a wide range of steps to keep strengthening its culture since 2017, and this is reflected in the highly motivated team that pushes our company forward every day.

The spirit of continuous improvement has been a decisive factor in our transformation since 2017 – and it will continue to move our company forward in the future too. Our people are always searching for ways to increase flexibility, improve efficiency and optimise our way of working. In this way, we make sure Grünenthal is ready to take advantage of opportunities to further boost business success and keep making life better for patients worldwide.

Grünenthal Executive Board Team at internal Group Conference thanking all employees for their commitment

STRATEGY AND FINANCIALS

We have a strong corporate strategy for further transforming our company. Our results prove that we are heading in the right direction.

ACHIEVING OUR VISION OF A WORLD FREE OF PAIN

As a company dedicated to developing and commercialising innovative pain products, we are committed to our vision of a World Free of Pain. Our corporate strategy is designed to bring this vision to life.

The 5 pillars of our corporate strategy

1. Innovation

Be a leading innovator in pain treatments to address critical, unmet medical needs, with a focus on non-opioid treatments.

2. Growth

Drive the commercial success of our growth brands and evolve our go-to-market model towards digital and omnichannel approaches.

3. Acquisitions

Complement our portfolio with deals for established brands, irrespective of therapeutic area.

4. Efficiency

Drive profitability through efficiencies across the value chain and manufacture at the best safety, quality and cost level.

5. People

Invest in building capabilities of our people, and operate in line with the highest ethical and regulatory standards.

Our corporate strategy is built on five pillars: innovation, growth, acquisitions, efficiency and people. All five elements are essential and closely linked. Our results in recent years show that our strategy is transforming our company and moving us in the right direction.

Innovation

As a science-driven company, we focus on developing novel non-opioid treatments for pain therapy. We develop promising candidates through proof of concept and beyond, and take a world-leading role in creating pain treatments that address unmet medical needs. Grünenthal focuses on four key pain indications: peripheral neuropathic pain, chronic post-surgical pain, chronic low back pain and osteoarthritis. One of our most recent in-house developments is our ion channel programme. These potential non-opioid treatments aim to address peripheral neuropathic and nociceptive pain indications. You can explore further specific examples of our innovative R&D projects in the chapter A World Free of Pain.

In addition, we selectively source early-stage and late-stage projects to complement Grünenthal's R&D pipeline. With our acquisition of Mestex AG in 2021, Grünenthal secured global rights for resiniferatoxin (RTX). This attractive late-stage asset could offer an innovative non-opioid therapy option for millions of patients affected by pain associated with osteoarthritis of the knee. This condition affects over 360 million people worldwide.[2]

Sharing the costs and risks of late-stage development with partners is vital to our R&D strategy. In March 2022, Grünenthal entered an agreement with NovaQuest Capital Management for the global clinical Phase III programme for RTX. This agreement significantly contributes to securing the development costs for RTX while also opening up the potential for Grünenthal to advance promising pipeline assets into the clinic. This was the first time that Grünenthal has agreed a strategic collaboration of this type.

In August 2022, we enrolled the first patient into our global clinical Phase III programme for RTX. If the drug is approved by regulators, we envisage a potential market entry in 2025/2026. In 2022, we also took a significant step towards providing RTX to patients outside of our core markets the EU, the US and Latin America by entering into a collaboration with Shionogi. They will serve the Japanese market as our exclusive partner.

Growth

Grünenthal is well-positioned to maximise business opportunities and build successful brands now and in the future. This includes expanding the commercial success of Qutenza™ in the US. The label extension for the treatment of neuropathic pain associated with diabetic peripheral neuropathy (DPN) of the feet in adults represents a unique growth opportunity, allowing us to help more patients in the US than under the original label for the treatment of neuropathic pain associated with postherpetic neuralgia (PHN).

We will also continue to maximise the value of Palexia™ in Europe. This product is still growing after more than a decade on the market because of its differentiated profile. At the same time, we will prepare for and manage the upcoming loss of exclusivity of Palexia™ in Europe.

Across all brands, we have continued to evolve our go-to-market model towards a digital and omnichannel approach. This has been accelerated by the Covid-19 pandemic, and we have rapidly and substantially expanded our use of channels that enable remote interaction.

Acquisitions

We keep growing our business through targeted acquisitions of established brands based on clearly defined acquisition criteria:

- Established brands with high brand loyalty and predictable, stable sales.
- Synergistic products with significant overlaps to our existing infrastructure and regulatory expertise, ideally in territories where Grünenthal has a commercial footprint.
- Acquisitions that enhance our portfolio diversification in products in areas with high medical needs.
- Immediate positive EBITDA and cash flow contributions, with an acquisition at attractive multiples, guaranteeing short payback periods and fast deleveraging.

We enforce a disciplined acquisition strategy supported by robust due diligence. Leveraging our many years of experience, we ensure fast and effective integration of acquisitions while maintaining an uninterrupted market supply. Partners benefit from our commercial, regulatory and manufacturing expertise to achieve valuable synergies.

Since 2017, Grünenthal has closed successful acquisitions with a total expected deal value of more than €2.0 billion, of which approx. €1.8 billion relate to acquisitions of established brands, including Zomig™, Nexium™ and Vimovo™, Crestor™ as well as Nebido™. In 2022, these brands contributed €278 million to Grünenthal's adjusted EBITDA, representing 63 percent of our total adjusted EBITDA. Some Grünenthal acquisitions are also made through collaborations and joint venture arrangements, like our latest joint venture collaboration with Kyowa Kyrin, encompassing a portfolio of established brands.

These acquisitions and collaborations will further contribute to our solid EBITDA growth in 2023. In addition to this, synergies play an important role after the integration of acquired brands. In 2022, manufacturing synergies for Nexium™, Vimovo™ and Zomig™ reached around €12 million.

Efficiency

We continuously identify potential ways of boosting efficiency throughout our value chain. Key ongoing projects include operational excellence programmes, leveraging digital technologies and automation, technical product re-development, and direct spend optimisation. These improvements are integrated end-to-end in our manufacturing process for our own medicines as well as for products that we manufacture for other pharmaceutical companies as a trusted supplier.

At all times, we apply strict measures for controlling costs and follow a prudent financial policy supported by the long-term commitment of our shareholders.

People

Our people are the key to our success – and our company's culture is the backbone of everything we achieve. We continued to make substantial progress on our cultural journey last year. In 2022, we were certified as a Great Place to Work® in 24 entities spread across 19 countries. Looking ahead, we will maintain our drive towards a high-performance culture, while continuing to strengthen opportunities for personal and professional development.

We strongly believe diversity is the foundation of an innovative business. In 2022, we launched our first Diversity and Engagement Strategy. It provides a plan and specific global commitments that aim to truly empower, inspire, support and engage all our people, partners and communities. This will enable us to achieve outstanding business results and build the capabilities we need for the future.

We remain committed to maintaining the highest ethical and regulatory standards in our business operations and our role as an advocate for the responsible use of our products – including medically necessary opioids. In order to ensure highly effective compliance processes, we have instilled a culture that gives our company an ethically minded and fully engaged workforce.

Grünenthal's second ESG rating in July 2022 confirmed the company's improved ESG risk management, putting it in the top three percent of the global pharmaceutical subindustry.

You can learn more about our approach in the chapters People and Culture and Responsible Business.

STRONG BRANDS THAT CREATE VALUE AND FUND FUTURE DRUG DEVELOPMENT

We have the expertise and strategy to maximise value from our brands – developed or acquired – to drive growth and fund innovation.

Our success builds on our portfolio's complementary mix of established and growth brands.

The established brands bring together all mature and off-patent products. They are characterised by high brand awareness, predictable and stable sales, and high profitability. These include Nexium™, Crestor™ and Nebido™, and brands we have developed over a longer period, like Tramal™.

The growth brands include innovative and patent-protected products like Qutenza™, and brands that continue to have valuable growth potential like Palexia™ and Vimovo™.

Combining these two product categories provides us with a well-balanced and resilient business. In addition, the profit that we generate with our established and growth brands gives our company financial stability. This enables us to fund the development of urgently needed innovative pain therapies.

Enriching our portfolio

Our M&A strategy is designed to enrich our portfolio of brands. We achieve this through early-stage and late-stage asset R&D deals in the therapeutic area of pain, and through the acquisition of established brands irrespective of therapeutic area.

Acquisition of early-stage and late-stage development assets in pain

We will continue to selectively source early-stage and late-stage projects in pain to complement Grünenthal's R&D pipeline. Our 2021 acquisition of Mestex AG, with its late-stage asset RTX, is one example of this approach.

€2 bn

total expected deal value of closed successful acquisitions since 2017

"Combining both established and growth brands in our portfolio provides us with a well-balanced and resilient business. The profits we generate give us the financial stability to fund the development of new pain therapies that patients urgently need.

Quentin Le Masne de Chermont
Head Corporate Strategy and Portfolio Management

Acquisitions of established brands

We also seek to acquire established brands, irrespective of their therapeutic area – brands that offer stable sales performance with the potential to support funding for our R&D projects and secure our financial stability. As a fully integrated pharmaceutical company with extensive experience in established brands, we can enhance the performance of acquired products to create significant value for Grünenthal and its partners. Dedicated teams ensure fast and effective integration. We use our commercial expertise to maximise market performance while achieving synergies through our cost-efficient manufacturing.

Acquisitions of established brands represent a unique opportunity that matches our strengths and capabilities, directly impacting our financial stability. We typically acquire established brands that benefit from high brand loyalty. Our acquisitions of Crestor™ from AstraZeneca and Nebido™ from Bayer are recent examples. We believe there will be more opportunities like this in the future.

In November 2022, we entered a joint venture collaboration with Kyowa Kirin International, a Japan-based global specialty pharmaceutical company. This collaboration covers an established medicines portfolio that includes 13 brands across six therapeutic areas, primarily focused on pain. The portfolio fits very well with our geographic footprint and therapeutic areas, and we believe we can expand the reach of the medicines to help even more people in need. Grünenthal will own a 51 percent majority share in the joint venture and intends to acquire the remaining shares at the beginning of 2026.

Backed by the trust of our shareholders, we are a proven and reliable partner with the ability to execute acquisitions quickly and pragmatically.

Further acquisitions

Alongside investing in R&D assets and established brands, we are also open to acquiring selected companies and growth brands – as we did with Qutenza™. Since 2017, we have closed successful acquisitions with a total expected deal value of more than €2 billion.

The power of partnerships

Working with partners is the best way to achieve our vision of a World Free of Pain.

R&D partnerships in pain management

At Grünenthal, we never stop searching for new partnerships with organisations and individuals that share our vision of a World Free of Pain. We believe collaboration is the key to developing life-changing treatments for patients. In this spirit, we actively seek R&D collaborations for non-opioid treatments that focus on our core pain indications: chronic low back pain and osteoarthritis, and that have the potential to make a real difference for patients – independent of the modality and their stage of development. A recent example is the partnership with NovaQuest Capital Management. Over many decades, our experts have built strong networks by sharing knowledge and collaborating – while always focusing on improving patients' lives together.

Commercial out-licensing partnerships

Through our commercial partner business, we give patients access to our products in territories where we do not have our own presence. This includes Africa, Asia, Australia, Canada, Central Eastern Europe and the Middle East. We are working on finding the most appropriate partners for Qutenza™ and RTX in the Asia Pacific (APAC) region and Canada. In addition, Grünenthal is currently pursuing out-partnering opportunities for established brands, such as Crestor™ and Nebido™, in countries where we do not have our own commercial footprint. This will give patients across the globe access to our medicines.

Commercial in-licensing partnerships

Our exceptional commercial capabilities and regulatory expertise make us a natural partner for businesses that want to bring projects to the market successfully. We are proud of our robust in-market capabilities for commercialising brands. We do this by using in-person promotion, as well as via a range of digital channels.

> “Win-win outcomes and compromises during negotiations are very important for successful long-term partnerships. Our partnerships often continue far beyond the negotiation, integration and implementation phases.

Susanne Ziemons
Head M&A and Licensing

PRODUCT PORTFOLIO PERFORMANCE

Our product portfolio comprises a complementary mix of innovative growth brands and established brands with high levels of brand awareness.

In 2022, our growth brands comprised our patent-protected brands Palexia™, Qutenza™ and Vimovo™. Operational revenue from Palexia™ (excluding licensing revenue), our highest-selling product, accounted for around 20 percent of total revenue in 2022. Qutenza™ has become an even more powerful potential growth driver following a US label extension in July 2020, a ramp-up of our US commercial infrastructure and promotional activities in 2021/2022. These measures have significantly increased the patient population that can benefit from this treatment.

Our established brands include Nebido™, Nexium™, Versatis™, Tramal™, Zaldiar™/Ixprim™, Crestor™, Zomig™/AscoTop™ and Transtec™/Norspan™.

Diversified product mix

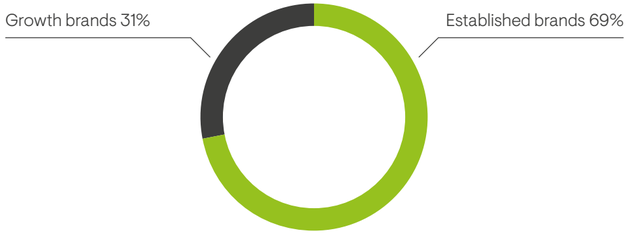
Revenue from pain products accounted for 59 percent of our revenue in 2022. In recent years, we have diversified our product portfolio beyond the pain segment through successful acquisitions of established brands.

Revenue distribution by geography

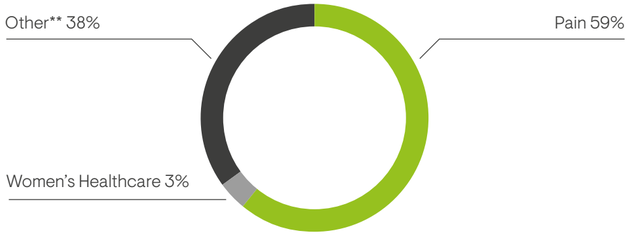
Diversifying products and geographies enables us to manage our business risks more effectively, making us less dependent on a single product or market.

Revenue split as of December 31, 2022

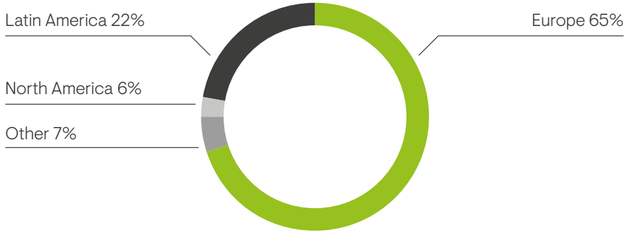
Revenue by product typology*



Revenue by therapeutic area



Revenue by geography



* Based on operational revenue of products
** Includes Nexium™, Andromaco branded generics, contract manufacturing, partner business in APAC, and R&D cost reimbursements

STRONG FINANCIAL PERFORMANCE

Revenue and profit hit record levels in 2022, with key investments to ensure our company's future.

Financial results exceeded expectations

2022 was another year of record results for Grünenthal. Revenue reached €1,654 million, an increase of 13 percent compared to 2021. Adjusted EBITDA reached €438 million last year, which is an increase of 18 percent compared to 2021. With this result, we have more than tripled our profitability since 2017. Grünenthal has also more than tripled its operating cash flow since 2017, putting our company in a solid position to further invest in advancing the R&D pipeline, continuing the M&A strategy and growing the business in the United States.

Excellent business performance and partnerships

The 2022 results were made possible by excellent business performance, as well as revenue from strategic partnerships for our late-stage asset resiniferatoxin (RTX). The Japanese company Shionogi will obtain exclusive commercialisation rights for RTX in Japan. In addition, the life science investment firm NovaQuest Capital Management is now sharing the clinical development and approval risks of developing this asset with us.

Operational revenue from growth brands and established brands increased significantly, leading to our company's best ever financial performance. We exceeded our targets for 2022, which shows that Grünenthal is making excellent progress with its ambitious strategy for business growth.

Key brands such as Qutenza™, Palexia™, Vimovo™ and Zomig™ grew faster than the market. Palexia™'s operational revenue reached €333.7 million (+€17 million; +5%), Vimovo™'s operational revenue reached €66.6 million (+€20 million; +44%) and Zomig™'s operational revenue reached €70.2 million (+€8 million; +12%). Operational revenue from Qutenza™ reached €76.0 million (+€33 million; +77%). The surge in demand for this topical non-opioid treatment for various neuropathic pain conditions was particularly evident in the U.S., where the product is indicated for treating post herpetic neuralgia and pain related to diabetic neuropathy of the feet. The neuropathic pain market is significant, with an estimated size of $4.5 billion in the United States, which is the largest global neuropathic pain market.[1]

For information about the sales performance of our other brands, please see the table in the chapter A World Free of Pain.

Growing through acquisitions

We made several important investments in our company's future during 2022. Grünenthal acquired Nebido™ from Bayer for around €495 million in November, for example. This leading brand for testosterone replacement therapy immediately contributed to revenue and profit as of November 2022. If we had

acquired Nebido™ on January 1, 2022, the brand would have contributed an additional €102 million of revenue and €80 million of EBITDA during the full year.
We also entered a joint venture agreement with Kyowa Kirin International (KKI) in 2022, which involves 13 established brands primarily in pain management. Grünenthal will own a 51 percent share in the new company and intends to acquire the remaining 49 percent at the beginning of 2026. This will contribute to Grünenthal's revenue performance (top-line) from 2023 onwards and profitability (bottom-line) from 2026. Due to license fees and a royalty agreement with the seller, there will be a limited EBITDA impact until Grünenthal purchases the remaining shares and integrates the product portfolio into its network in 2026.

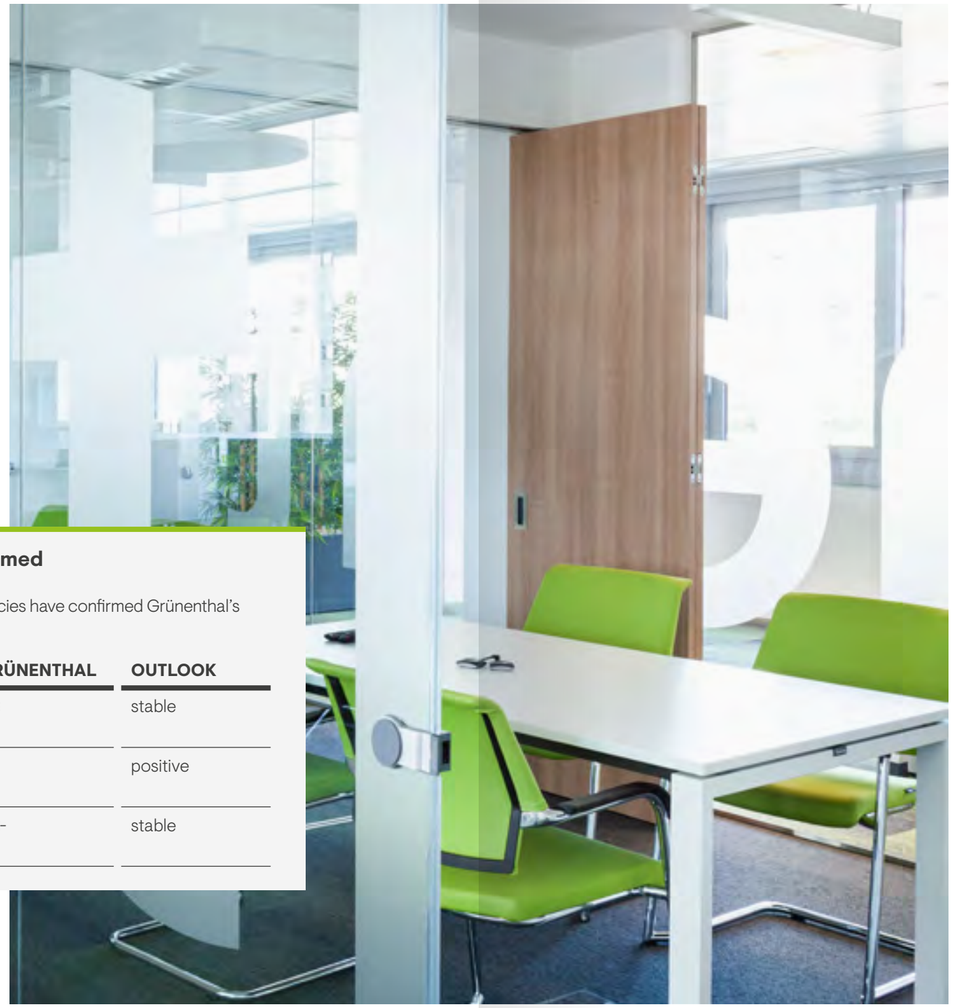
Outlook

Our prudent approach to finance will remain unchanged in 2023.
Our strong liquidity profile is supported by high cash generation, existing cash on the balance sheet and €500 million of Revolving Credit Facility (RCF).
In April 2023, we successfully placed a new €300 million bond, following the issuance of our debut bonds in 2021.
The new financing will enhance the company's capital structure and provide additional flexibility for the implementation of its strategy and in making progress towards its vision of a World Free of Pain.
Going forward, we will continue to finance our M&A strategy with an optimal funding mix.
We will adhere to our disciplined approach to acquisitions of established products with attractive multiples and which are EBITDA accretive in order to maintain acceptable leverage levels.
Our financial policy is supported by our family shareholders and their long-term commitment to the sustainable growth of the Group and a balanced dividend policy.
Following this record year for our company's financial performance, we anticipate a slight increase in revenue for 2023 – primarily driven by growth for Qutenza™ and the recent Nebido™ acquisition, as well as the joint venture with KKI. Profitability is expected to remain almost unchanged due to the expected entry of alternative tapentadol products for Palexia™, and also because of continuous investments in the US that will aim to unlock the full sales potential for Qutenza™.

Solid financial position confirmed

Leading independent credit rating agencies have confirmed Grünenthal's solid financial position.

RATING AGENCY	GRÜNENTHAL	OUTLOOK
Fitch Ratings (March 2023)	BB	stable
Moody's Investors Service (April 2023)	B1	positive
Standard & Poor's (April 2022)	BB-	stable



Profit and loss statement*

IN € MILLION	ACTUAL 2021	ACTUAL 2022
Revenue**	**1,467**	**1,654**
Cost of sales***	-438	-519
Gross profit#	**1,029**	**1,134**
Marketing, Sales & Medical costs##	-424	-479
Core Research & Development cost	-140	-164
Other Costs	-300	-238
Depreciation Fixed Assets###	151	155
EBITDA	**316**	**408**
Adjusted EBITDA+	**370**	**438**
Earnings before taxes	**115**	**203**

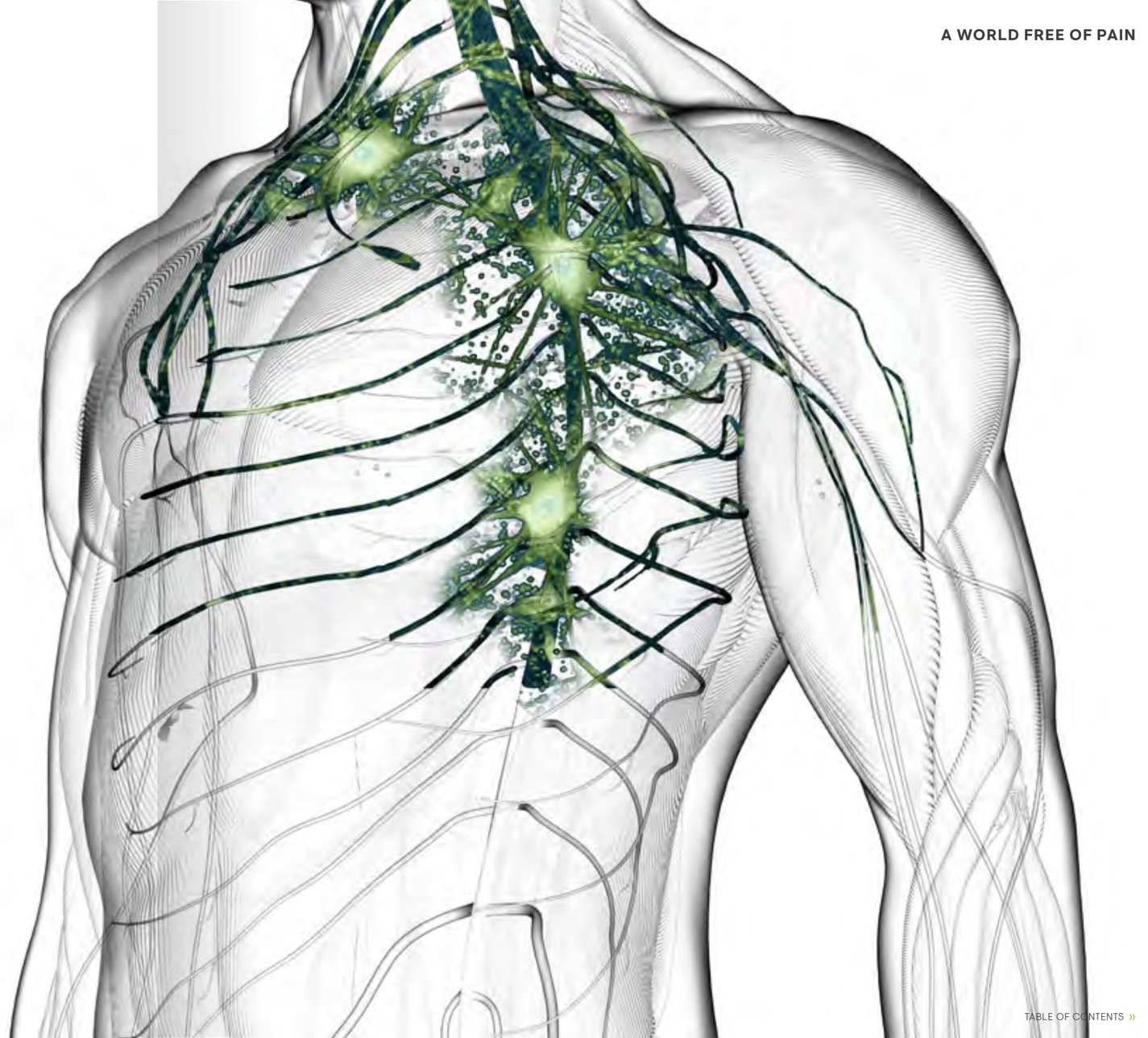
* **Management view** Profit and loss statements (P&L) can be displayed in Accounting and Management view. Both P&Ls include the same information, but are designed to serve different needs. The Accounting P&L is used for reporting according to German Commercial Code (HGB) while the Management P&L is used for internal steering and tracking. Both views are similar for Revenue, Cost of sales and thus Gross profit. But they differ in terms of the recognition of depreciation on acquired product rights and medical affairs costs. Depreciation of acquired products rights are recognised in Management view as part of "other costs" whereas Accounting view shows it as part of "selling expenses". Medical commercial R&D costs comprise post approval product costs, e.g. for the maintenance of registration, for clinical studies for Phase IIIb/IV and the support of investigator initiated studies as well as structural costs. These costs are part of "Marketing, Sales & Medical costs" in Management view whereas shown as "Research & Development costs" in Accounting view
** **Revenue** primarily comprises sales of products and revenue from licensing, as well as milestone payments. It also includes service income from our contract manufacturing business, such as customer refunds for the purchase of machines required to produce a certain product or for customisation of product formulations
*** **Cost of sales** are any costs that can be directly associated with products sales
\# **Gross profit** reveals how much money a company earns taking into consideration the costs that it incurs for producing its products and/or services
Marketing, Sales & Medical costs consists of all costs to promote, sell and distribute our products to the customer. This excludes depreciation on acquired products which is part of "other costs"
Depreciation of machines, IT equipment and several other items is an incremental part of CoGs, Marketing, Sales and Medical costs, R&D costs. In order to derive the Earnings before interest, taxes, depreciation and amortisation (EBITDA), it needs to be added back
\+ **Adjusted EBITDA**, short for adjusted Earnings Before Interest, Taxes, Depreciation and Amortisation, is a key performance indicator for the Grünenthal Group. It is calculated by adjusting the operating result for amortisation, depreciation and impairment and special effects, in particular from restructuring and acquisition-related expenses

> "The trust investors place in Grünenthal encourages us to continue our growth strategy.

Fabian Raschke
Chief Financial Officer

A WORLD FREE OF PAIN

For more than 50 years, we have been a leading innovator in pain treatments that address critical unmet medical needs and bring us closer to our vision of a World Free of Pain.



UNDERSTANDING PAIN

More than 1.5 billion individuals suffer from chronic pain[3] – almost one in five people worldwide.

This disease is one of the most common reasons for seeking medical help. It is also a frequent cause of people withdrawing from the labour market early and a significant contributor to disability retirement.[4] It is associated with multiple conditions, and many patients struggle to find effective relief from available medicines.

Chronic pain

At Grünenthal, we consider pain a disease in its own right rather than just a symptom. We have dedicated the last 50 years to delivering innovative treatment options for people affected by pain. That dedication led to developing six important treatment options for pain patients – and we are now a global leader in pain research and management.

This success story began in the 1970s with Tramal™ (Tramadol), which is still one of the most frequently prescribed opioid analgesics in the world. Palexia™ (Tapentadol) is another example. It was the first innovative molecule in the opioid analgesic class to be approved for over 25 years. Our non-opioid product Qutenza™ leverages Nobel Prize-winning science and is at the heart of pain leadership.

We know patients are still seriously underserved in this therapeutic area. That is why we are determined to develop the next generation of pain medicines. Our R&D activities focus on four strategic indications that are characterised by a substantial unmet medical need in large patient populations:

- Peripheral neuropathic pain
- Chronic post-surgical pain
- Chronic low back pain
- Osteoarthritis

Our innovators have been driving progress towards our vision of a World Free of Pain for more than half a century. With every research project we launch and every medicine we create, we seek to relieve pain and make life better for patients and their families.

A GLOBAL DISEASE

Pain is generating an increasingly large burden worldwide.[5] It impacts patients, their families, caregivers, and society as a whole.

Chronic pain refers to pain that lasts longer than three months.[6] In chronic pain syndromes, pain can be the sole or a leading complaint or can be secondary to an underlying disease.[7] The condition is influenced by multiple interconnected biological, psychological and social factors. This might include injury, illness or nerve damage, poor sleep, anxiety or depression.[8]

In 2019, chronic pain was recognised as a health condition in its own right by the International Association for the Study of Pain and the World Health Organization.[9] Patients need better solutions to manage their pain as many current pain treatments do not provide sufficient relief or have severe side effects. Grünenthal continues to invest in researching innovative, non-opioid pain medicines and ensures that more patients can benefit from its medicines.

Some of the most common types of chronic pain are[9]:

Migraine | Pain associated with osteoarthritis | Low back pain or lumbar pain | Neck pain | Musculoskeletal pain

1 in 5
people suffer from chronic pain worldwide.[3]

60%
of permanent work incapacity in Europe is related to musculoskeletal pain alone.[10]

13%
Lower back pain prevalence in Southern Latin America in 2017.[11]

78%
of chronic pain patients state that they were not satisfied with the efficiency of the treatment they received.[12]

53-90%
of adults with chronic pain experience a clinically significant degree of insomnia.[13]

$560-635 bn
estimated medical costs and lost productivity per year caused by chronic pain in the US.[8]

€300 bn
estimated total cost of the consequences of chronic pain across Europe.[14]

DEVELOPING LIFE-CHANGING TREATMENTS

We meet the unmet medical needs of patients worldwide by driving innovation in the therapeutic area of pain.

> The scientific community has made great progress in understanding pain and its pathophysiology in recent years. Grünenthal strives to play a leading role in translating these insights into novel therapies.

Jan Adams, MD
Chief Scientific Officer

Existing pain therapies work for some patients – but not for all of them. One European survey revealed that 40 percent of patients were unsatisfied with their pain management.[15] This shows the clear need for innovative treatment options that provide better outcomes for more patients.

Grünenthal is uniquely positioned in the therapeutic area of pain. Since the 1970s, we have focused on developing innovative pain therapies and have become a leading company. Our scientists have developed several life-changing pain medicines for patients. And in 2022, we made significant progress in strengthening our pipeline and moving forward with high-priority projects.

	RESEARCH/ PRE-CLINICAL	PHASE I	PHASE II	PHASE III
Qutenza™ (Capsaicin 8%)	Post-surgical neuropathic pain (PSNP)			
RTX (Resiniferatoxin)	Osteoarthritis			
MPC-06-ID* (Rexlemestrocel-L)	Chronic low back pain (degenerative disc disease)			
GRM (Glucocorticoid Receptor Modulator)	Chronic inflammatory diseases			
NOP (Nociceptin/Orphanin Peptide Receptor Agonist)	Chronic pain			
NOP Back-up (Nociceptin/Orphanin Peptide Receptor Agonist)	Chronic pain			
Ion channel programme	Acute and chronic pain			

* Collaboration with Mesoblast

OUR KEY PROJECTS IN R&D

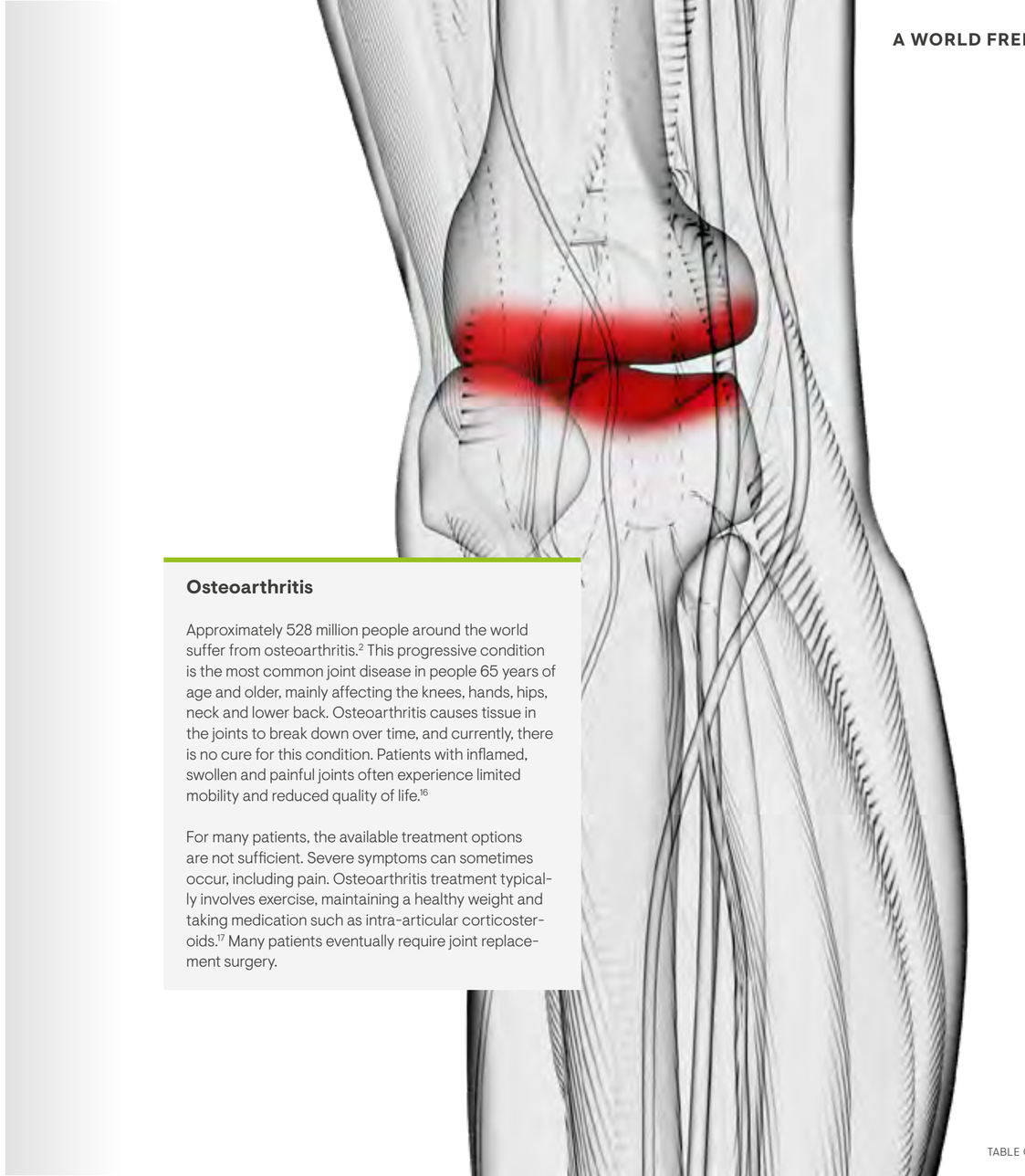
We are pursuing a range of programmes that aim to move us closer towards achieving our vision of a World Free of Pain.

In April 2021, we acquired the Swiss biotech company Mestex AG and its innovative investigational medicine resiniferatoxin (RTX). This is a potential intra-articular treatment for pain associated with osteoarthritis (OA) of the knee, a condition which currently cannot be cured. RTX is a highly potent TRPV1 agonist with a well-validated mechanism of action. Initial data indicates a long-lasting and significant analgesic effect, functional improvements compared to placebo and a favourable safety profile.

In 2022, Phase III trials started to investigate the efficacy and safety of intra-articular injections of RTX in adults with knee osteoarthritis who have exhausted available treatment options and still suffer from moderate to severe pain. These studies are part of a global development programme that aims to meet requirements for approval in the EU, the US and Japan. Grünenthal entered an agreement with NovaQuest Capital Management to support these trials in March 2022. NovaQuest is a life science investment firm and will reimburse Grünenthal's investments into the clinical Phase III programme for RTX while sharing the clinical development and approval risks with us. In case of successful development and marketing approval, NovaQuest receives one-time payments or milestones and revenue-based payments over the course of the commercialisation.

In addition, we signed a licensing agreement with the Japanese pharmaceutical company Shionogi in August 2022. Shionogi obtained the exclusive rights to commercialise RTX for pain associated with OA of the knee in Japan if the Phase III trials are successful. Grünenthal will carry out manufacturing and supply under this partnership's terms.

RTX has the potential to be a transformative asset for Grünenthal and the patients we serve. It strengthens our late-stage pipeline with a global development programme covering Europe, the US and Japan – opening up a significant business opportunity.



Osteoarthritis

Approximately 528 million people around the world suffer from osteoarthritis.[2] This progressive condition is the most common joint disease in people 65 years of age and older, mainly affecting the knees, hands, hips, neck and lower back. Osteoarthritis causes tissue in the joints to break down over time, and currently, there is no cure for this condition. Patients with inflamed, swollen and painful joints often experience limited mobility and reduced quality of life.[16]

For many patients, the available treatment options are not sufficient. Severe symptoms can sometimes occur, including pain. Osteoarthritis treatment typically involves exercise, maintaining a healthy weight and taking medication such as intra-articular corticosteroids.[17] Many patients eventually require joint replacement surgery.

Qutenza™ – Reaching more patients in the US

The US FDA approval of Qutenza™ for the treatment of pain associated with diabetic peripheral neuropathy (DPN) of the feet in adults marks a major milestone in our efforts to bring this treatment to more patients. Painful DPN is a progressive and debilitating complication of diabetes that affected more than five million Americans in 2020 and is challenging to diagnose, treat and manage effectively.[18]

Qutenza™ is a topical system containing prescription-strength capsaicin. It is a non-opioid treatment that can provide prolonged pain relief for several months while most frequently reported adverse events were transient, self-limiting, mild to moderate application site reactions.[19]

In Europe, it is approved for the treatment of peripheral neuropathic pain. In the US, it is approved for the treatment of peripheral neuropathic pain associated with post-herpetic neuralgia, and in 2020 it also received approval for the treatment of pain associated with DPN of the feet in adults.[20]

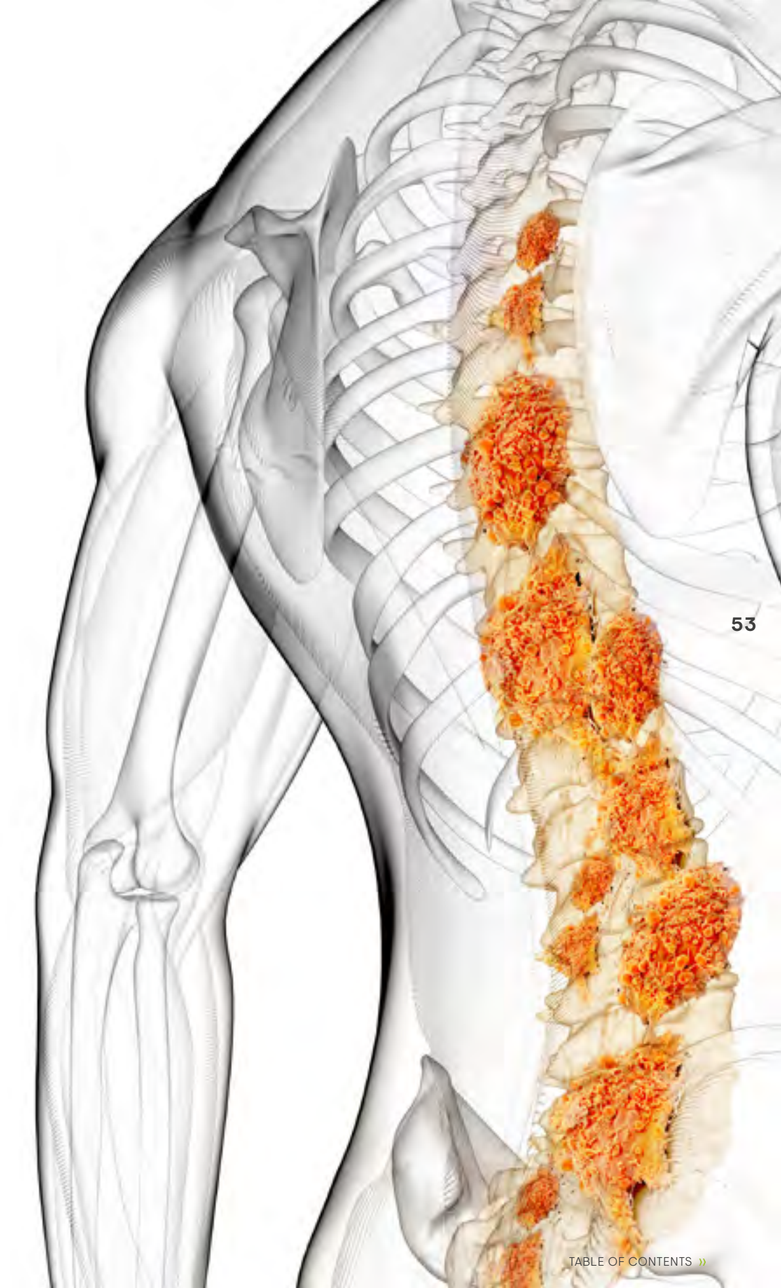
Our life-cycle management efforts focus on making Qutenza™ more widely available by expanding the label particularly in the US. Specifically, our researchers developed an additional Phase III programme to study the efficacy, safety and tolerability of Qutenza™ in post-surgical neuropathic pain (PSNP). The first patients were enrolled in a pivotal Phase III trial in Q3 2021. We also pursue further exploratory activities with external partners in other indications.

MPC-06-ID – Cell therapy for chronic low back pain

In 2019, we partnered with Mesoblast to develop a highly innovative mesenchymal precursor cell therapy for patients with chronic low back pain associated with degenerative disc disease who have not found effective relief from available treatment options.

Early in 2021, Mesoblast published results from the Phase III trial MSB-DR003 that was carried out in the US and Australia. The trial provided several important findings, including a significant and long-lasting treatment effect on pain relief. However, it did not achieve its primary outcome measure between the treatment groups.

After analysing the data obtained through this trial, Mesoblast anticipated conducting another confirmatory trial in the US and received positive feedback from the FDA regarding a new Phase III programme for MPC-06-ID in patients with chronic low back pain due to degenerative disc disease. The new trial will be conducted with up to 20 percent of the patient population involved being from Europe to support potential product approvals in both the US and Europe.



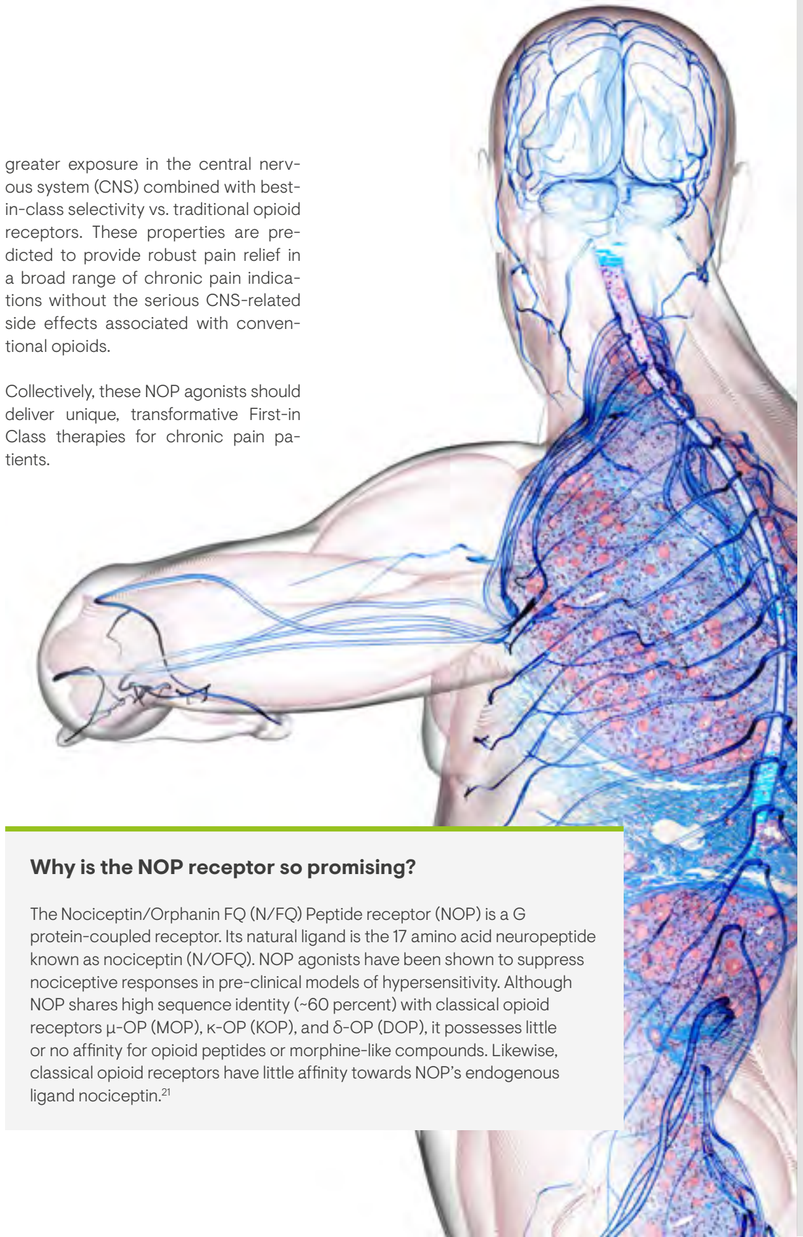
NOP – Promising treatment for patients with pain

Our proprietary Nociceptin/Orphanin FQ Peptide receptor (NOP) agonist franchise of molecules reflects the culmination of many years of pioneering research in the field of NOP receptor analgesics. These molecules possess a unique mechanism of action for treating chronic pain and are predicted to provide robust pain relief without the side effects commonly associated with opioids.

Our most advanced NOP agonist was recently tested in a human experimental pain clinical study in healthy participants and produced a significant reduction in both electrical signaling in pain pathways, as well as the subjective perception of pain. Ongoing Phase I trials are further evaluating its safety, tolerability and pharmacokinetics and results from these early clinical studies will inform further testing of the molecule in chronic pain patients.

We also have recently selected an additional NOP agonist for clinical investigation. This follow-on NOP agonist has been engineered to have significantly greater exposure in the central nervous system (CNS) combined with best-in-class selectivity vs. traditional opioid receptors. These properties are predicted to provide robust pain relief in a broad range of chronic pain indications without the serious CNS-related side effects associated with conventional opioids.

Collectively, these NOP agonists should deliver unique, transformative First-in Class therapies for chronic pain patients.



Why is the NOP receptor so promising?

The Nociceptin/Orphanin FQ (N/FQ) Peptide receptor (NOP) is a G protein-coupled receptor. Its natural ligand is the 17 amino acid neuropeptide known as nociceptin (N/OFQ). NOP agonists have been shown to suppress nociceptive responses in pre-clinical models of hypersensitivity. Although NOP shares high sequence identity (~60 percent) with classical opioid receptors μ-OP (MOP), κ-OP (KOP), and δ-OP (DOP), it possesses little or no affinity for opioid peptides or morphine-like compounds. Likewise, classical opioid receptors have little affinity towards NOP's endogenous ligand nociceptin.[21]

GRM – Potential anti-inflammatory with an improved safety profile

Our proprietary Glucocorticoid Receptor Modulator (GRM) is an oral investigational medicine developed to bring broad anti-inflammatory efficacy and a safety profile allowing for longer-term treatment addressing unmet medical needs and making a true difference in patients' every-day lives.

While traditional glucocorticoids are highly effective anti-inflammatory drugs, they come with side effects such as reduced bone formation that may lead to osteoporosis and increased glucose levels, which raise the risk of diabetes, limiting their use in effective doses to short-term treatment.

Our new GRM compound has the potential to combine the efficacy of traditional glucocorticoids like prednisolone with a significantly improved safety profile allowing for longer-term treatment, an unmet need in many indications.
The clinical Phase I study for our GRM involves 88 healthy participants and primarily aims to characterise the safety and tolerability profile while also confirming the pharmacokinetic characteristics of the compound.

By obtaining biomarker data early in clinical development, our experts aim to confirm whether our GRM has the potential to offer a therapy option that combines high efficacy with a favourable safety profile. The results of the study are expected in 2023.

TURNING BIG POTENTIAL INTO PATIENT BENEFITS

Since acquiring the promising investigational medicine RTX in 2021, our experts have achieved constant progress to bring this potential life-changer closer to market launch.

Acquiring innovative investigational medicines is the first step in a complex process. Grünenthal's teams bring together wide-ranging expertise in how to drive investigational medicines through clinical development – and tap into their potential to generate positive outcomes for the patients we serve.
Our progress with resiniferatoxin (RTX) is a powerful example of this approach in action. This investigational medicine entered our portfolio in April 2021, when Grünenthal acquired the Swiss biotech company Mestex AG. Since then, we have taken decisive steps to advance this potential treatment on its journey into the lives of patients suffering from pain associated with osteoarthritis (OA) of the knee.

A promising late-stage asset

RTX it is a highly potent Transient Receptor Potential Vanilloid 1 (TRPV1) agonist developed based on research that won the Nobel Prize in Physiology or Medicine in 2021. The initial data gathered by Mestex AG indicates that this investigational medicine achieved a long-lasting, significant analgesic effect and functional improvements when compared to placebo (saline injection). It also offered a favourable safety profile. This made it an attractive asset for Grünenthal's M&A strategy, mainly because of its potential to provide relief for a large population of pain patients – with approximately 528 million people suffering from osteoarthritis worldwide.[2]
Currently, osteoarthritis cannot be cured. Patients typically receive a range of oral anti-inflammatory medicines, many will also receive intra-articular corticosteroids or even undergo knee replacement surgery to relieve the pain of inflamed and swollen joints. RTX is a non-opioid which has the potential to provide long-lasting pain relief and functional improvement of the joints.

Latex extraction from an euphorbia resinifera

Entering Phase III

Grünenthal is now investigating the efficacy and safety of intra-articular injections of RTX in adults by conducting three trials across approximately 200 sites in Europe, the US, Latin America, South Africa and Japan. Just one year after the acquisition, the Grünenthal team enrolled the first patients in the global clinical Phase III programme. The trials, which commenced in August 2022, will include more than 1,800 patients with knee osteoarthritis who have exhausted available treatment options and still suffer from moderate to severe pain. The Phase III programme aims to enable marketing approval for RTX in the EU, the US, and Japan if successful.

Partners for developing RTX

Our partnership with the US-based life science investment firm NovaQuest Capital Management supports these Phase III trials. Grünenthal entered an agreement with NovaQuest in March 2022, and the two companies are now advancing the RTX development process together.

Under the terms of the agreement, NovaQuest will reimburse Grünenthal's investments into the clinical Phase III programme for RTX, and will share the clinical development and approval risks with Grünenthal. If RTX successfully achieves marketing approval, NovaQuest will receive one-time payments or milestones and revenue-based payments throughout the commercialisation. This agreement frees up Grünenthal's resources to make further investments in executing its growth strategy and advancing its promising pipeline into the clinic.

Reaching patients worldwide

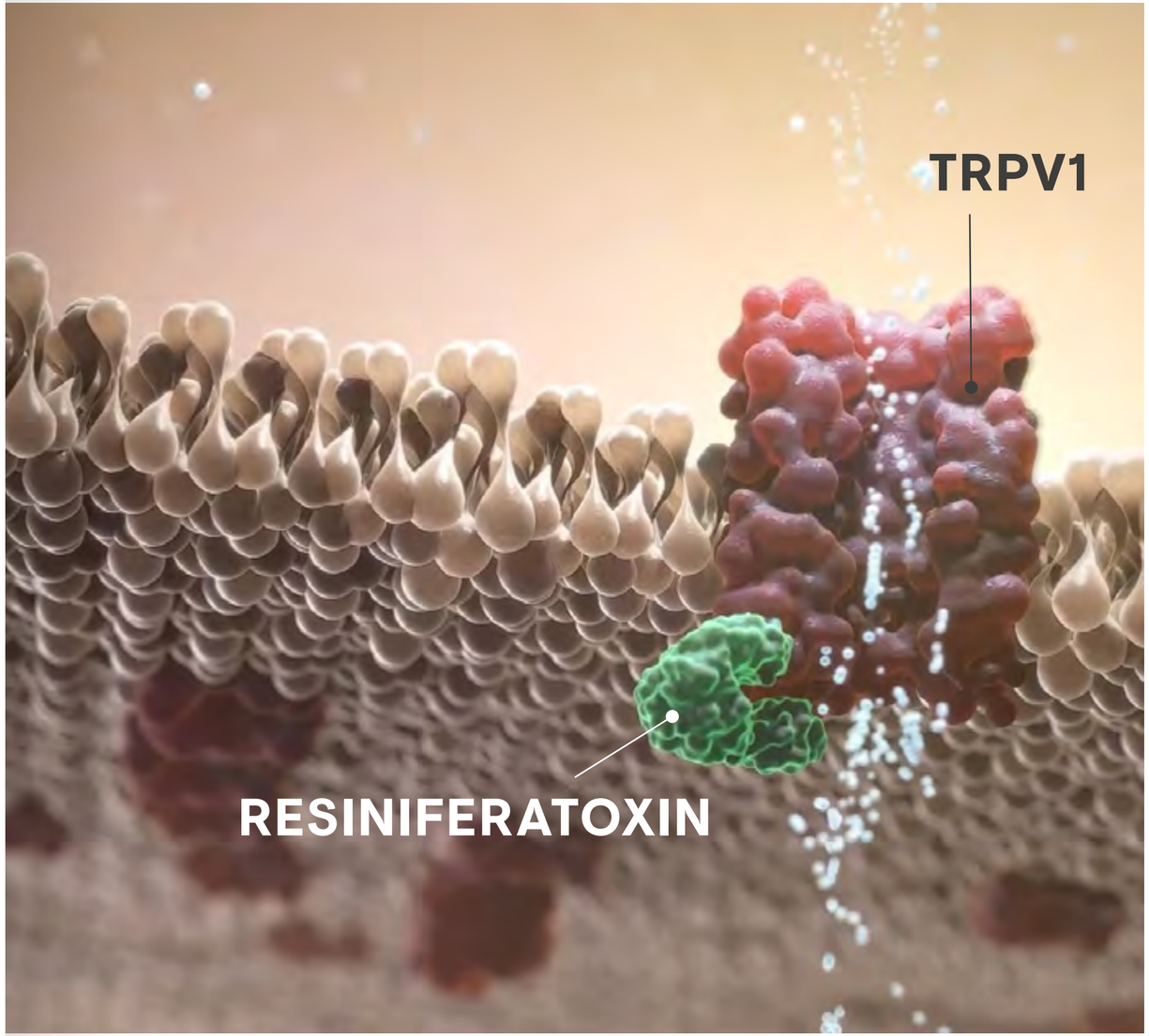
Grünenthal is also engaging in partnerships that aim to maximise the patient population that can benefit from access to RTX if it is approved for market launch. For example, we entered a licensing agreement with Shionogi in August 2022. Shionogi is a leading global research-driven pharmaceutical company based in Japan. With this deal, it obtained exclusive rights to commercialise RTX in Japan for pain associated with knee osteoarthritis for a total consideration of up to $525 million plus additional sales-based payments. The agreement includes competitive investment commitments for launch and commercialisation. Grünenthal will manufacture and supply RTX, and Shionogi will leverage its strong commercial presence in Japan to bring RTX to patients in need.

The osteoarthritis market

Grünenthal holds the global rights for this treatment – and the global osteoarthritis market is expected to grow approximately $11.0 billion in 2025[22]. Grünenthal intends to explore the potential of RTX for treating osteoarthritis-related pain in additional joints if the outcome of the Phase III programme is positive.

> "Resiniferatoxin is a promising asset for more than 500 million people worldwide[2] who suffer from osteoarthritis and seek a meaningful non-opioid therapy option.

Gabriel Baertschi
Chief Executive Officer



EMPOWERING BETTER PATIENT CARE

We support healthcare professionals in providing improved treatments for patients worldwide.

We aim to improve the lives of people living with pain by developing and delivering life-changing new treatments. To ensure patients receive the best possible care, we focus on clear and efficient communication with physicians, pharmacists, nurses, hospitals, buying groups, wholesalers and other institutions.

We serve this diverse customer base of approximately 250,000 customers by making our products available in more than 100 countries, directly from our 28 affiliates or indirectly from our strategic partners.

Over the last 50 years, we have built a strong presence in Europe as well as in Latin America, providing millions of people with access to effective pain treatments. There is a significant unmet need in the Latin American region and a lack of sufficient education about chronic pain for healthcare professionals.

In addition, Grünenthal recently expanded its geographical footprint to the US. We have seen significant growth of our non-opioid cutaneous system Qutenza™ in this important market, and we expect this rapid growth to continue in the coming years.

Engaging with such diverse markets and customer groups in today's world requires new ways of operating. In particular, we are convinced that it is essential to always focus on our customers' needs. With our omnichannel engagement model, we provide a tailored customer experience through meaningful interactions – wherever and whenever our customers need it.

"We are focused on understanding and meeting our customers' needs. With this approach, we provide a tailored customer experience that ensures our products and services match what our customers need most, ultimately helping them better help their patients.

Janneke van der Kamp
Chief Commercial Officer

Increasing access to pain relief, improving quality of patient care

During 2021, the Palexia™ team generated new real-world evidence (RWE) data that supports further differentiation of the brand's value for use in patients with severe chronic pain where a patient's doctor has decided that an opioid is necessary. In 2022, the team utilised this data to help physicians better understand Palexia™'s value for patients with severe chronic pain where a patient's doctor has decided that an opioid is necessary. We have a clear commitment to the responsible use of opioid-based medicines. We always ensure adherence to the highest ethical standards and compliance with our Code of Conduct,[23] Opioid Charter[24] and communication guidelines – in every region and across all relevant communication channels.

For Qutenza™, demand from healthcare professionals rose during 2022 with over 77,000 patients treated globally – 16 percent more than in the previous year. In Europe, we continue to see strong growth and are increasingly focused on key account excellence and the importance of repeated application in potentially improving patient outcomes.

In 2022 the emphasis was on creating inspiring medical education and a patient support programme focused on the best use of Qutenza™ and the latest research in pain. This shows our strong commitment to providing supportive tools that improve quality of patient care.

In the US, we now have a robust team covering the whole country. This allows us to fully address the unmet pain management needs of patients with DPN of the feet. We continue to expand our presence in Europe and have seen strong growth in all countries where Qutenza™ is on the market.

Vimovo™ has become an important part of our portfolio and complements our existing range of treatments. This medicine combines effective pain treatment with gastroprotection and is used to treat osteoarthritis. It continues to grow at a robust rate due to high unmet patient needs in this area.

In 2022, Grünenthal acquired the global rights for Nebido™. The first Marketing Authorization transfers took place in November. Nebido™ is a leading brand for the treatment of symptomatic male hypogonadism, when testosterone deficiency has been confirmed by clinical features and biochemical tests. Symtomatic male hypogonadism is a condition that affects one in six men over the age of 50. The treatment is an intramuscular injection with a unique depot formulation. It is approved and has been successfully commercialised in over 80 countries.

In Latin America, we have adapted our strategy to focus more on innovation – and particularly on pain, our core competency. This has paid off well, with strong growth across our key brands.

We have also transformed our go-to-market model into a digital and/or omnichannel approach. We have substantially increased our share of new ways of detailing (e.g., mail, webinars, e-detailing). We delivered approximately 2.6 million omnichannel interactions with customers worldwide in 2022, approximately 34% of which were digital interactions, thanks to our advanced digital capabilities.

With our customer-centric framework in place, we are further strengthening our ability to reach more patients in need and support healthcare professionals in providing the best possible care.

ACCELERATING THE GROWTH OF QUTENZA™

Qutenza™ is helping Grünenthal take bold steps to address the unmet needs of patients worldwide.

Our commercial activities for Qutenza™ focus on the customer experience for healthcare professionals, payers and patients. More than five million people in the US suffer from diabetic peripheral neuropathy (DPN)[18], which is a debilitating complication of diabetes. Successful pain management could vastly improve quality of life for those people. In this context, the FDA approval of Qutenza™ for the treatment of adults with neuropathic pain associated with DPN of the feet in 2020 was a tremendous milestone. It extended access to Qutenza™ to approximately 1.3 million patients in the US - compared to only 60,000 patients under the previous label for postherpetic neuralgia (PHN).

Smart investments for growth

We broadened our footprint in the US, growing our key account management, market access and medical affairs teams and hiring top talent. In 2022 in-market volume increased 270 percent vs 2021. This represents the significant potential to reach even more patients in need.

Aligned with our strategic imperative to match our customers' and patients' preferences, we broadened our distribution network, integrating a partnership with a specialty pharmacy in 2021.

Our significant investments in the speciality care market have identified the 10,000 healthcare professionals who treat over half of all neuropathic pain patients. Our peer-to-peer education programme aims to better communicate the science of Qutenza™. In addition, with a healthcare professional and patient portal, we have a fully functioning omnichannel approach built for a better customer service experience.

A patient-centred strategy

Making Qutenza™ affordable for patients is also a crucial part of our strategy. In 2021, we launched the first-ever patient out-of-pocket cost-support programme for eligible patients, to ensure more patients who need it can afford this therapy. A new patient advisory council includes patients living with pain to provide insights into our activities.

Healthcare payers are another link in the chain. We increased our team that focuses on payers, updating and expanding their information on Qutenza™. And we have already broadened access to Qutenza™ for eligible patients by increasing the number of covered lives through health insurance companies to 193 million. Looking ahead, we hope to explore further usage and potential benefits of Qutenza™ with a real-world evidence (RWE) initiative to analyse clinical data.

We also launched our first direct-to-patient TV commercial in 2022, helping to ensure that more patients see the value of Qutenza™ and feel empowered to discuss their treatment options with their HCP.

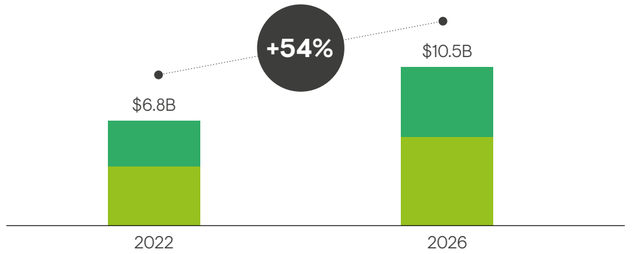
In 2022, Qutenza™ was included in two important US guideline and compendium updates. This demonstrates the medical community's confidence in this medicine. The 2022 American Diabetes Association (ADA) Clinical Compendia Series recommended Qutenza™ for DPN, which marked the first time Qutenza™ has been recommended as a topical treatment in a professional compendium. Qutenza™ was also included as a first-line recommended medicine for Painful DPN in the American Association of Clinical Endocrinology (AACE) Guideline. This is one of the major international guidelines that includes recommendations on the management of painful diabetic neuropathy (pDPN).

Our US expansion reflects our commitment to patients and to widening their access to therapies. It also exemplifies our commercial approach of leading with customer experience – bringing both short-term and long-term value. We do this by scaling up products that will sustain our long-term growth and lay the foundation for our future success.

US business overview

The US represents a 31.6%* share of the global neuropathic pain market

Chart: US neuropathic pain market



Implication: As the world's largest neuropathic pain market, the US offers the most favourable unit economics for QUTENZA™, from both a volume and price perspective*,**.

- Neuropathic pain market
- Total pain market

* Persistence Market Research, 2023
** Averitas Internal Data, 2022

> We have expanded our US team to address the unmet need of patients suffering from postherpetic neuralgia and painful diabetic peripheral neuropathy of the feet. We strive to provide a seamless customer and patient experience throughout the Qutenza™ journey.

Jeannie Lloyds
Senior Vice President Commercial of Grünenthal subsidiary Averitas Pharma

MAXIMISING OUR PORTFOLIO ACROSS THE BRAND LIFECYCLE

Grünenthal's portfolio includes eleven global brands at different stages of the brand lifecycle.

In 2022, our growth brands comprised our patent-protected brands Palexia™, Qutenza™ and Vimovo.™

Grünenthal's established brands bring together mature and off-patent products. This includes Zomig™, Nexium™, Crestor™ and Versatis™, and brands we have developed over a longer period of time such as Tramal™, Transtec™ and Zaldiar™. These established brands are characterised by high brand awareness, predictable sales and strong profitability.

Combining these product profiles gives our company a well-balanced and resilient overall portfolio.

Vimovo™ was an important part of our portfolio in 2022. Active promotion in several countries helped to achieve significant growth of more than 10 percent. We constantly strive for continuous brand growth because we believe there is still untapped potential to be unlocked from these treatments.

Our Palexia™ team has continued to further differentiate the brand for use in patients with severe chronic pain in cases where a doctor has decided that an opioid is necessary. Following a successful 2022 with intrinsic volume growth, we expect loss of exclusivity in Europe and are well prepared to manage this next phase of Palexia™.

Since acquiring Nebido™ at the end of last year, we have started assessing the best way to promote the brand. This includes an omnichannel approach in some markets, with active field teams promoting the brand. In other markets, we are focusing exclusively on digital promotion.

Managing established brands

Our established brands are at a later stage of their lifecycle. They already face generic competition or other market pressures that could limit growth in demand.

In 2022, we continued to proactively manage these brands through a customer-centric approach delivered via a range of channels. We maintained our strong focus on these brands, with particular emphasis on Nexium™, Zomig™, Crestor™ and Versatis™. This ensured differentiated strategies that reflected the specific market conditions for each treatment, as well as cross-business transparency to boost synergies. Markets where we operate through partners are now a key growth driver for our business, and we have implemented a new strategy and structure that is optimising our network. At the same time, we have further enhanced our activities to identify opportunities to increase demand and reduce or optimise costs.

The results of these efforts surpassed our expectations, with almost all established brands growing faster than the market and delivering increased year-on-year revenue. Overall, our established brands achieved operational revenue of €1,047 million in 2022, which equates to an increase of 7 percent compared to the previous year.

In Latin American markets, Versatis™ is at a much earlier stage in its lifecycle. In Mexico, for example, this brand is still in the post-launch growth phase. Operational revenue from Versatis™ in Latin America increased by 71 percent in 2022 compared to 2021. Globally, this brand delivered operational revenue of €140.9 million in 2022. This is 3 percent higher than in 2021.

Operational revenue of Nexium™ reached €192.5 million in 2022, which is an increase of 3 percent on the previous year. This was made possible by our omnichannel platform and our close collaboration with strong partners.

For Zomig™, we continued to take over production of nasal sprays. We also launched new formulas and package sizes in some European affiliates. We expanded our geographical distribution by launching the product in Canada, and we are continuing preparation for launching this product in several other partner markets. Globally, Zomig™ delivered operational revenue of €70.2 million in 2022, with impressive growth of 12 percent compared to 2021.

Due to proactive management across geographies, a revitalised way of managing our business partners, and a continued effort to optimise costs, we achieved growth for our mature brands in 2022. Compared to the previous year, Tramal™ grew by 12 percent, Zaldiar™ by 4 percent and Transtec™ by 10 percent.

69%

of Grünenthal's operational revenue is from established brands.

INCREASING ACCESS AND AWARENESS

We want to support people to better manage their pain and help them get back to normality – and we are involved in several initiatives that support this goal.

Initiatives

CHANGE PAIN™ is an initiative established by Grünenthal in 2009 and endorsed by the European Pain Federation EFIC and Pain Alliance Europe (PAE). The initiative's mission is to improve patient outcomes by strengthening pain management through adequate research, communication and education.

The CHANGE PAIN™ medical education platform is an international initiative that provides tailored educational content about pain to healthcare professionals and patients. Customers attend the CHANGE PAIN™ educational initiatives like meetings and webinars, and use the tools to help educate their staff and peers while also supporting patients' self-management.

In 2022 we reached more than 50,000 health care professionals through educational events and approximately 580,000 visitors though our educational websites as part of our efforts to educate the healthcare sector about pain management and improve the patient outcomes from pain treatment by providing practical tools for pain therapy building on communication and education.

www.changepain.com

SOCIETAL IMPACT OF PAIN (SIP) is a multi-stakeholder partnership led by the European Pain Federation and Pain Alliance Europe, and Grünenthal is one of the main sponsors. The partnership aims to raise awareness about pain and encourage changes to pain policies by providing opportunities for discussion among healthcare professionals, pain advocacy groups, politicians, healthcare insurance providers, representatives of health authorities, regulators and budget holders.

SIP is endorsed by more than 310 European and national patient and healthcare organisations, and collaborates with organisations from other disease areas to advocate for improved management of pain, for example in cancer and rheumatology.

www.sip-platform.eu

Grants

EFIC-GRÜNENTHAL GRANT (E-G-G) Grünenthal supports this grant with up to €110,000. The scientific framework is under the responsibility of the European Pain Federation EFIC.

These grants support early-career scientists within European Pain Federation EFIC member countries to carry out innovative pain research. Since 2004 the E-G-G has successfully funded 70 innovative research projects, awarding almost €1.8 million to participants in more than 14 countries.

The five recipients of the 2022 E-G-G were recognised at the 12th Congress of the European Pain Federation EFIC in April 2022.

www.e-g-g.info

BRAIN, MIND AND PAIN (BMP) is financially supported by Grünenthal to encourage patient-centred innovation in pain research and care. The BMP grant is the first pan-European grant that selects applications based on their impact from a patient's perspective.

The theme of the third edition of the BMP Grant is prevention and self-management, focusing on "Healthy Sleep For People Living With Brain, Mind And Pain Conditions". Results from the 2022 projects will be presented in 2023.

www.bmp-grant.eu

GLOBAL BRANDS

Providing solutions for patients with high medical needs.

BRAND NAME	ACTIVE INGREDIENT / TECHNOLOGY	INDICATION RANGE*	OPERATIONAL REVENUE** 2022 IN € MILLION
Qutenza®	**Capsaicin**	**EU indication:** Treatment of peripheral neuropathic pain in adults either alone or in combination with other medicinal products for the treatment of pain. **US indication:** Treatment of neuropathic pain associated with postherpetic neuralgia (PHN) and for neuropathic pain associated with diabetic peripheral neuropathy (DPN) of the feet in adults.	**76.0**
Vimovo®	**Fixed-dose combination of Esomeprazole and Naproxen**	In adults for the symptomatic treatment of osteoarthritis, rheumatoid arthritis and ankylosing spondylitis, in patients who are at risk for developing non-steroidal anti-inflammatory drug (NSAID)-associated gastric and/or duodenal ulcers and where reatment with lower doses of naproxen or of other NSAIDs is not considered sufficient.	**66.6**
versatis®	**Lidocaine**	**EU and Peru indication:** Symptomatic relief of neuropathic pain associated with previous herpes zoster infection (postherpetic neuralgia, PHN) in adults. **Latin America indication:** Treatment of localized neuropathic pain, including pain associated with a previous herpes zoster infection (postherpetic neuralgia).	**140.9**
Zomig® ZOLMITRIPTAN AscoTop® Nasal	**Zolmitriptan**	**Oral formulations:** In adults aged 18 years and older for acute treatment of migraine headache with or without aura. **Nasal spray:** In adults and adolescents aged 12 years and older for the acute treatment of migraine headache with or without aura, and in adults for the treatment of cluster headache.	**70.2**
NEBIDO®	**Testosterone undecanoate**	Treatment of male hypogonadism, when testosterone deficiency has been confirmed by clinical features and biochemical tests.	**18.1#**
Nexium® esomeprazole	**Esomeprazole**	**20 mg; 40 mg gastro-resistant tablets: Indicated in adolescents from the age of 12 years and in adults for:** Gastroesophageal reflux disease (GERD) • treatment of erosive reflux esophagitis • long-term management of patients with healed esophagitis to prevent relapse • symptomatic treatment of GERD **Indicated in adults for:** In combination with appropriate antibacterial therapeutic regimens for the eradication of Helicobacter pylori and: • healing of Helicobacter pylori associated duodenal ulcer • prevention of relapse of peptic ulcers in patients with Helicobacter pylori-associated ulcers **Patients requiring continued NSAID therapy:** • healing of gastric ulcers associated with NSAID therapy • prevention of gastric and duodenal ulcers associated with NSAID therapy, in patients at risk **Prolonged treatment after intravenous-induced prevention of rebleeding of peptic ulcers.** **Treatment of Zollinger Ellison Syndrome.** **Indicated in adolescents from the age of 12 years:** In combination with antibiotics in treatment of duodenal ulcer caused by Helicobacter pylori. Nexium™ is also available in other dosage forms with slightly varying indications.##	**192.5**

* Status: April 2022. Please note that indications and formulations may vary from country to country. Please refer to the respective local product information or Summary of Product Characteristics (SmPC)
** without license and milestone income
# Comprises operational revenue from sales of Nebido™ in November and December 2022, following initial consolidation of revenue from Nebido™ as of November 1, 2022.
see SmPC for 'Nexium™ 10 mg gastro-resistant granules for oral suspension, sachet' and for 'Nexium™ 40 mg Powder for solution for injection/infusion'

BRAND NAME	ACTIVE INGREDIENT / TECHNOLOGY	INDICATION RANGE*	OPERATIONAL REVENUE** 2022 IN € MILLION
CRESTOR® rosuvastatin	**Rosuvastatin**	**Treatment of hypercholesterolaemia** Adults, adolescents and children aged 6 years or older with primary hypercholesterolaemia (type IIa including heterozygous familial hypercholesterolaemia) or mixed dyslipidaemia (type IIb) as an adjunct to diet when response to diet and other non-pharmacological treatments (e.g. exercise, weight reduction) is inadequate. Adults, adolescents and children aged 6 years or older with homozygous familial hypercholesterolaemia as an adjunct to diet and other lipid lowering treatments (e.g. LDL apheresis) or if such treatments are not appropriate. **Prevention of cardiovascular events** Prevention of major cardiovascular events in patients who are estimated to have a high risk for a first cardiovascular event, as an adjunct to correction of other risk factors.	**68.5#**
PALEXIA	**Tapentadol**	**Prolonged-release tablet:** Management of severe chronic pain in adults which can be adequately managed only with opioid analgesics. **Film-coated IR tablet:** Relief of moderate to severe acute pain in adults which can be adequately managed only with opioid analgesics. **Oral solution:** Relief of moderate to severe acute pain in children## from 2 years of age and in adults, which can be adequately managed only with opioid analgesics.	**Palexia™ 333.7 + Partner sales of Nucynta™ in the US: $184.5 mn**
Tramal®	**Tramadol**	**EU and LATAM indication:** Treatment of moderate to severe pain.	**96.1**
ZALDIAR®	**Fixed-dose combination of Tramadol and Paracetamol**	Symptomatic treatment of moderate to severe pain; use should be restricted to patients whose moderate to severe pain is considered to require a combination of tramadol and paracetamol.	**62.6**
Transtec® / NORSPAN®	**Buprenorphine**	Transtec™: Treatment of moderate to severe cancer pain and severe pain which does not respond to non-opioid analgesics. Transtec™ is not suitable for the treatment of acute pain. Norspan™: Management of moderate to severe chronic pain.###	**52.4**

* Status: April 2022. Please note that indications and formulations may vary from country to country. Please refer to the respective local product information or Summary of Product Characteristics (SmPC)
** without license and milestone income
# profit transfer following the acquisition of Crestor™ in February 2021
in children restricted to hospital use where appropriate equipment to enable respiratory support is available and for a maximum treatment duration of 3 days
Please note that for Norspan™ Grünenthal is only the Market Authorisation Holder in Latin America

STATEMENT ON THE RESPONSIBLE USE OF OPIOID-BASED MEDICINES

General considerations for pain management with any medication that contains an opioid mechanism of action.

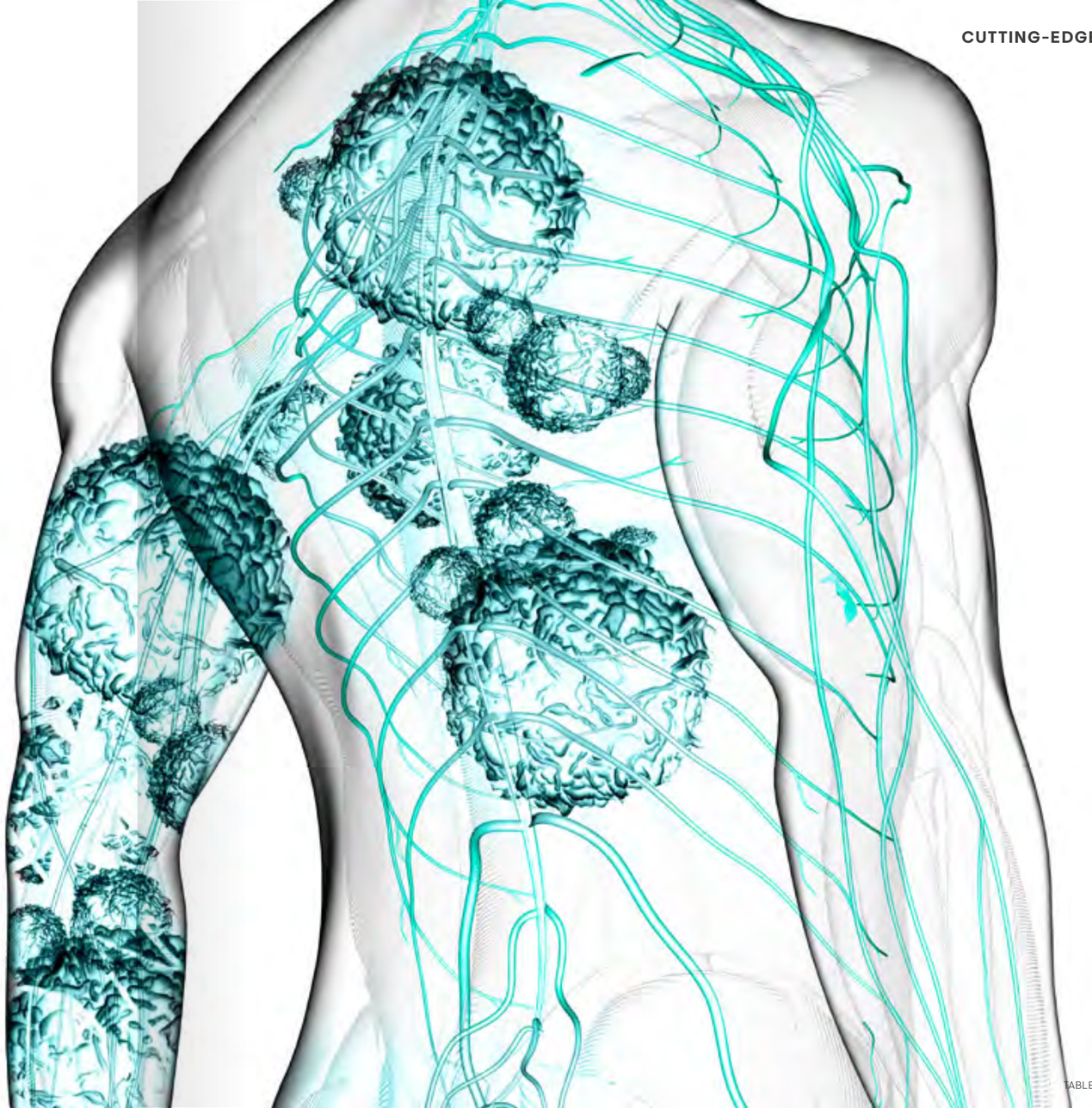
The following general aspects should be considered:

- An individualised, patient-centred approach for diagnosing and treating pain is essential to establish a therapeutic alliance between patient and clinician.
- Consider patient variables that may affect opioid dose for each patient prior to opioid use.[25]
- In patients with acute pain e.g. post-surgery pain, the use of medication should be for the shortest necessary time.[25] All patients should be carefully selected, abuse risk factors evaluated, and regular monitoring and follow-up implemented to ensure that opioids are used appropriately[26-27] and in alignment with treatment goals (pain intensity and functionality), as agreed with the patient.[26-27]
- Patients should be made aware of the potential side effects of opioids and the potential for developing tolerance, dependence and addiction.[26-27]
- It is important to optimally use multimodal, non-opioid approaches in acute and chronic pain before escalating to opioids or in conjunction with opioid therapy.[25]
- Addiction is possible even when opioids are taken as directed. The exact prevalence of abuse in patients treated with opioids for chronic pain is difficult to determine.[28]
- Regular clinical reviews are required for long-term opioid treatment to assess pain control, impact on lifestyle, physical and psychological well-being, side effects and continued need for treatment.[29]
- Any long-term treatment with opioids should be monitored and re-evaluated regularly, incl. tapering down the dose or discontinuing treatment.[26-27]
- Signs of opioid use disorder should be monitored and addressed.[26-27]
- Patients and the general public can benefit from clear educational materials and awareness interventions to support the responsible use of opioids.[30]

Scan here to see the Grünenthal Statement on the Responsible Use of Opioids

CUTTING-EDGE SCIENCE

Our experts engage in pioneering research to find next-generation pain medicines, and develop advanced technologies to bring life-changing treatments to patients in need – wherever they are in the world.



CREATING INNOVATIVE MEDICINES

Scientists at Grünenthal identify and develop promising potential treatments by identifying the best targets, leveraging our expertise in bioinformatics and systems biology, and combining this with our deep knowledge of pain biology.

Predictive validity

Scientists in the pain field have learned that pre-clinical behavioural models do not have sufficient predictive validity to serve as the basis for selecting new targets. For example, the expression profile of proteins varies between species and the function of targets may also differ.

Our experts work on human genetic and clinical data and develop pre-clinical models using human tissues and cells to select targets. This should minimise attrition due to a lack of efficacy in clinical development. For example, we investigate human cells such as nociceptive neurones, which carry pain signals from the periphery to the spinal cord. By working on these neurones and examining how they interact with other cell types, we can understand how they work in health and pain conditions.

Grünenthal's researchers are investigating the role of key targets in processing pain signals and evaluating whether natural variation in a target, such as genetic differences, may have functional consequences. Beyond genetic evidence, we look for existing clinical evidence that modulating the activity or function of a target may impact pain. We consider a target very promising if it is possible to combine an understanding of its function in pain processing with clinical and genetic evidence for a role in pathophysiology. In addition, we consider the safety implications of modulating a target before adopting it into our portfolio.

Turning data into knowledge

We use our bioinformatics and systems biology expertise to screen, analyse and process the large volume of omics data – and to turn that data into knowledge that can inform our research activities. By joining forces with external partners, we build strong collaborative relationships with academic groups and other experts to mine this data and understand how different cells and tissues communicate in painful conditions.

Omics data

Omics-approaches refer to a group of high-throughput technologies that are used to analyse large sets of biological data, such as genomics, transcriptomics and proteomics. In contrast to genetics, which focuses on single genes, genomics analyses genomes, the entire set of genes of an organism and their inter-relationships. Accordingly, proteomics study all proteins produced by an organism and transcriptomics look into all RNA molecules, including mRNA, rRNA, tRNA, and other non-coding RNAs.

“At Grünenthal, we bring together diverse international talent, a focused research strategy and an excellent network with organisations that share our passion for scientific progress.

Gillian Burgess,
Head of Research

Pain research at Grünenthal

Focused therapeutic area strategy
We focus our R&D efforts on four pain indications characterised by high unmet medical need.

Comprehensive disease understanding
Deep understanding of the underlying human disease biology enables us to identify well validated, highly promising targets.

Double down on most promising targets
We pursue targets holistically and leverage a wide range of modalities to minimise compound-specific risks and maximise probability of success.

Teaming up
We collaborate with leading institutions around the world to tap into the best science and technologies wherever they exist.

A concise therapeutic area strategy

Substantial in-house research including identification and validation to disease understanding. Projects in all phases from research up to clinical developement are potential interest

Peripheral neuropathic pain

Chronic low back pain

Osteoarthritis

Chronic post-surgical pain

Focus on identifying and establishing collaborative partnerships for projects undergoing clinical development.

Peri-surgical pain

Migraine

Fibromyalgia

CRPS

JOINING FORCES FOR INNOVATION

Grünenthal collaborates with pioneering partners to develop next-generation treatments and research methodologies.

Despite extensive research, limited progress in bringing forward innovative pain medicines has been made in recent years to address remaining unmet medical needs. One reason is a significant need for better translational models in pain research. Scientists have traditionally used rodent models to investigate the cellular and molecular mechanisms involved in pain. However, the findings frequently failed to translate into the clinical setting due to fundamental differences in molecular, cellular and genetic mechanisms of pain across species. As a result, there is a high interest in establishing pre-clinical models that can more accurately represent the conditions in the human body. Together with their partners around the globe, Grünenthal scientists are taking on this challenge and work on creating humanised pre-clinical models to support the development of the next generation of pain medicines.

Advancing pain research with partners

Our work with Uniklinik RWTH Aachen and RTWH Aachen University is just one example of this collaborative approach in action. We are joining forces with the shared aim of developing translational research tools and humanised preclinical models for target validation, by using human cells and tissue during preclinical testing. This will involve creating a shared local infrastructure to ethically and reliably source human Dorsal Root Ganglia (DRGs) and other tissues of interest. In addition, we are closely examining differences between human and non-human models, and aim to identify the best surrogate species for supporting mechanistic translation into the clinic as efficiently as possible. If successful, this cooperation will enable new methods to be integrated into drug development activities at Grünenthal.

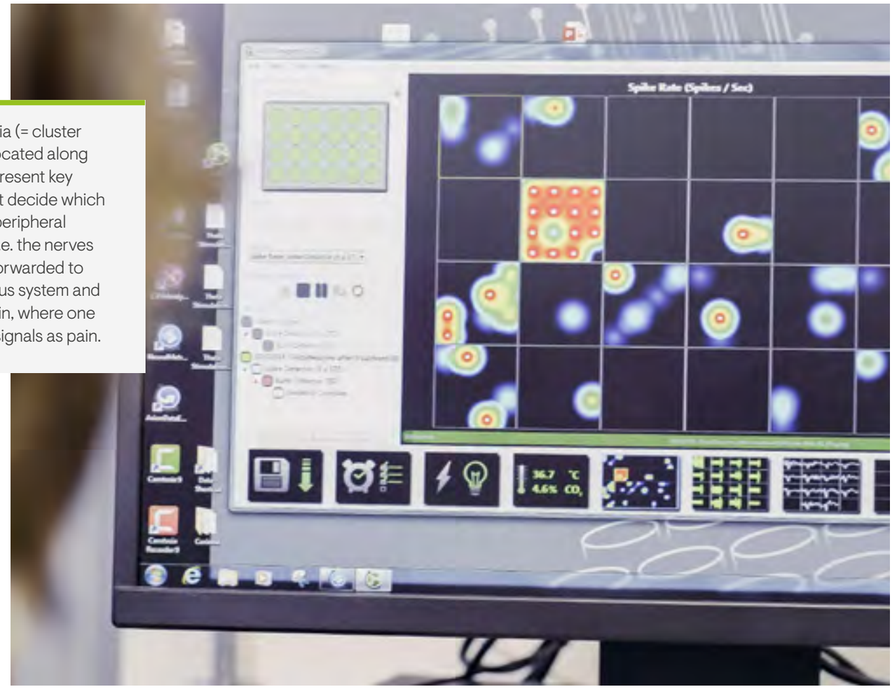
> “We pursue the common goal of creating a distinct translational toolbox for pain R&D and increasing our understanding of the pathological processes causing chronic pain.

Jan Adams, MD
Chief Scientific Officer

Enhancing human validation

By partnering with McGill University in Montreal, Canada, we are further striving to enhance our access to high-quality human tissue for pain R&D. McGill is a centre of excellence for pain research, with experts conducting pioneering research at the Alan Edwards Centre for Research on Pain. As part of this collaboration, McGill sends human tissue to our strategic partners (Contract Research Organisations, CROs), which are located in the immediate vicinity of McGill University, to conduct experiments into novel pain treatments.

These tissue samples must be used within experiments fairly quickly because they deteriorate over time. This limits their availability because they cannot be transported over long distances. In turn, this restricts the selection of CROs that we can supply with these samples. To overcome these limitations, we are currently developing a process to treat samples with Cryofreeze, which would remove restrictions on time and geographies. If successful, this would enable us to enhance the availablity of tissue gained through McGill and other partners for our global research network. In addition, the technology might also enable the long-term archiving of the samples which would create a unique biobank for Grünenthal and its partners.



Dorsal root ganglia (= cluster of neurons) are located along the spine and represent key gate-keepers that decide which signals from the peripheral nervous system, i.e. the nerves in the limbs, are forwarded to the central nervous system and ultimately the brain, where one perceives these signals as pain.

Developing human induced pluripotent stem cell-based microfluidic cultures for pain research

Together with King's College London, Grünenthal is developing microfluidic culture (MFC) models based on human induced pluripotent stem cells (iPSCs) that are specifically tailored to support pain research. This collaboration aims to establish models with human iPSC-derived neurons that closely mimic the functionality of human nociceptive neurones.

This project offers significant potential to strengthen pre-clinical research because microfluidic cell cultures replicate a cell's natural microenvironment and in-vivo milieu more accurately than traditional in-vitro models. If successful, this could significantly enhance our understanding of how investigational medicines modulate pain in the human body.

Our ambition with this cooperation is to develop pioneering methodologies that we can then include in our pre-clinical toolbox. In this way, we can improve the accuracy of our early-stage testing – and open up exciting potential to develop novel pain treatments quickly and effectively.

> "As a leading company in pain research, our ambition is to play a crucial role in developing pioneering methodologies.

Jan Adams, MD
Chief Scientific Officer

About induced pluripotent stem cells

Induced pluripotent stem cells (iPSCs) are derived from a somatic cell that has been reprogrammed back into a pluripotent state by either introducing specific genes coding for transcription factors or adding small molecules that regulate cell identity. Those iPSCs can be differentiated into different cell types with unique characters, including peripheral sensory neurons.

About microfluidic cultures

Microfluidic devices are compartmentalised chips consisting of different chambers, sometimes called 'lab on a chip' or 'tissue chips', allowing cell-to-cell contact via a series of connecting channels. Microfluidic cultures are used in this present collaboration to investigate the effects of analgesic compounds on different cellular compartments of the pain-sensing neuronal network, as well as the communication between neurons involved in pathological pain signalling.

OUR STRONG FOCUS ON PAIN MAKES US A PARTNER OF CHOICE

Interview with Pavithra Sundaresan,
Head of External Innovation

Pavithra Sundaresan shares her insights and experiences as Head of External Innovation, leading our efforts to collaborate with innovative companies around the globe to complement our internal R&D in pain. From evaluating new molecules through to supporting development and ensuring successful commercialisation, Grünenthal is an ideal partner for academic institutes, biotech and pharma companies that want to turn bright ideas into life-changing pain treatments.

> “Grünenthal is a uniquely strong and flexible partner for R&D pain projects.
>
> **Pavithra Sundaresan,**
> Head of External Innovation

What is happening in the pain R&D landscape right now?

The clinical R&D pipeline is still dominated by life-cycle management approaches which are reformulations of existing drugs or are repurposed drugs with an FDA approval in another disease. 2022 saw a number of late-stage clinical failures which underscores the challenges of developing therapeutics for pain. However, breakthroughs related to genomics and being able to investigate biological processes at the level of single cells and moving away from rodent models to better translatable models, the pain landscape is transforming. These methods and others are also enabling identification of novel targets and mechanisms that require further validation in pain.

The flow of funding from industry or venture capital into opportunities in the therapeutic area of pain is very low compared to other disease areas like oncology or immunology, however such investment will be key for innovation to flourish and for novel treatments to reach patients.

With a significant number of big pharma companies having exited pain, innovation is being led by smaller companies and academic institutions who are striving to find these new mechanisms and novel approaches in pain. Numerous smaller biotechs are pursuing applications like gene therapy or cell therapy that carry a higher risk but may have a better patient outcome including a potential for disease modification in the long run. Companies are also investigating novel modalities that may have better traction for well-known pain targets where small molecules have previously failed.

It is vital for industry to work closely together with academia to tackle this therapeutic area, in order to leverage the key relationships academia has with university hospitals and academic networks to access human tissue, proprietary models, or biomarker research to name a few areas that are important for progressing research in pain. Grünenthal is fortunate to collaborate with thought-leaders from academia who are addressing these topics.

Why is Grünenthal a strong partner for pain R&D?

Grünenthal is a unique player that is committed to research and development with a leading position in pain. This makes us an attractive partner for small or large companies who are looking for deep pain expertise to progress pain assets, obtain a source of non-dilutive licensing operational revenue through partnering or seeking to divest their pain programmes completely.

We aim to be flexible with our partnering approach depending on the stage of the asset/technology and the aspirations of our partner. This may involve an early research collaboration and access to our capabilities to help compounds advance through early stage R&D, a co-development/co-commercialisation or geography-split type of deal structure for an asset in clinical development, or a straightforward licensing deal or an asset acquisition.

Finally, there are not many companies with our capabilities or leading position in pain. Our company has a long tradition of driving progress for pain management and we are committed to continuing that progress in the future. That makes us a popular partner for innovation.

What does Grünenthal look for in potential innovation collaborators?

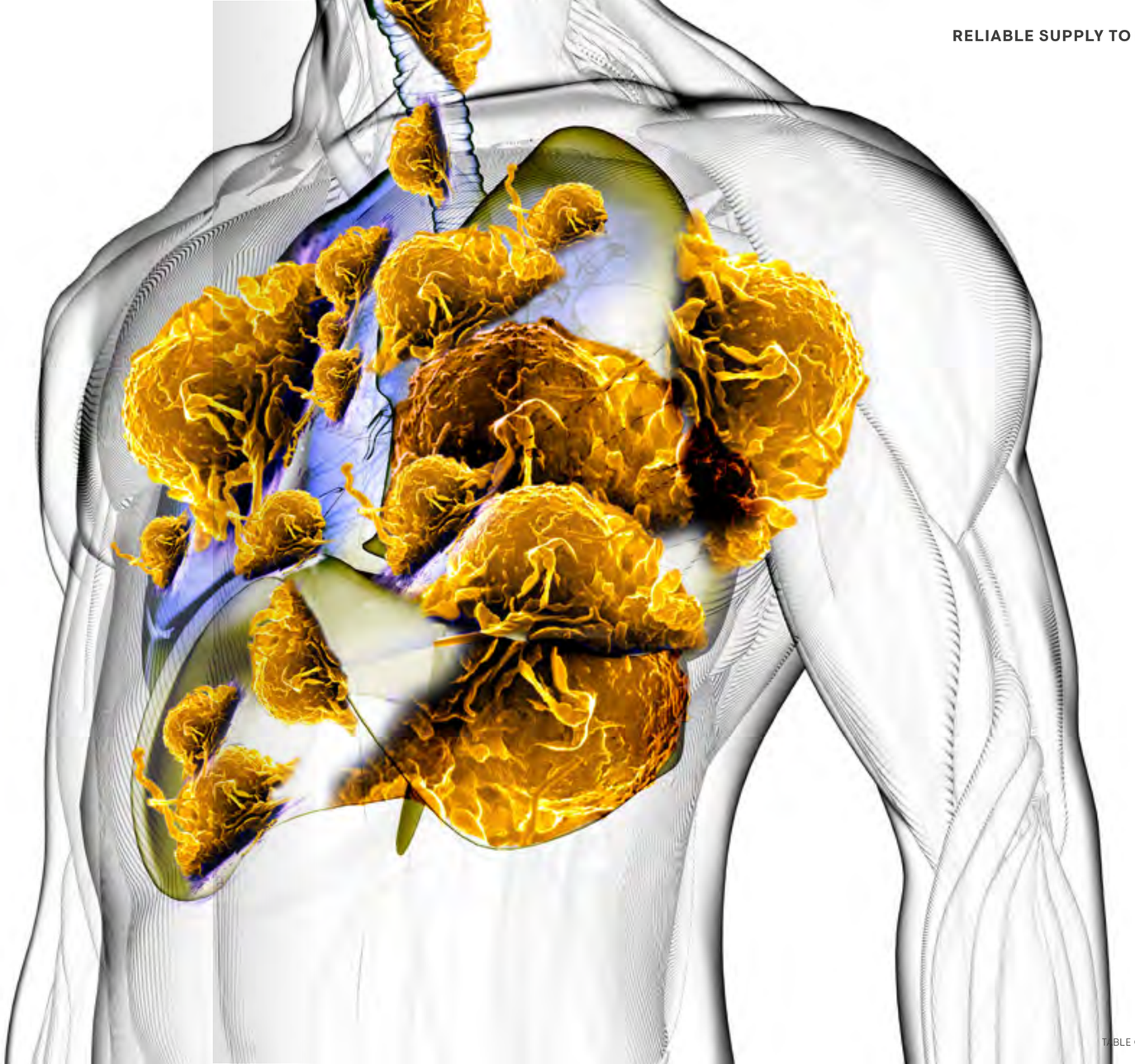
Whilst we remain strongly focused on pain, our scouting approach is broad in that we are looking for pain programmes in any stage of development as well as novel technology platforms with transformative potential for patients.

We are seeking selective and potent molecules, of any modality, which address the key pain pathways and where there is strong target validation. As animal models of pain have low translatability to the clinic, I am really interested to speak with companies who are using more “human-relevant” models or cell systems and who are investigating credible biomarkers for pain.

There remains a huge unmet medical need in the many pain indications Grünenthal is pursuing. Ultimately, it is all about connecting with great science and we are super excited about working with fantastic scientists and entrepreneurs who are striving to make a real difference to patients suffering from pain.

RELIABLE SUPPLY TO PATIENTS

Our Global Operations team brings together 2,000 committed people to supply 95 unique products to patients in over 100 countries.



MANAGING THE END-TO-END VALUE CHAIN

Our Global Operations team ensures the highest levels of safety, quality and cost-efficiency in all of our activities – and at every stage in our value chain.

Every day, our Global Operations (GO) team strives to ensure patients have reliable access to medicines across more than 100 countries worldwide. We are proud that we successfully maintained an uninterrupted supply of treatments in 2022, despite several local and global challenges. People in GO share a strong sense of commitment and responsibility. Together, they improve patients' lives and support growth for Grünenthal by ensuring outstanding quality and excellent processes.

Around 2,000 people manage the full end-to-end value chain for our products. We operate five specialised production facilities – in Chile, Ecuador, Germany, Italy and Switzerland. At those sites, we manufacture Grünenthal products and also support external customers. In 2022, third-party manufacturing accounted for 52 percent of our production volume.

Victor Barbosa, Head Global Operations, shares his opinions about...

...GO's contribution to business growth for Grünenthal

Grünenthal has ambitious growth plans – and GO is a powerful force driving that growth. We are a perfect home for our acquisitions as we have created a powerful manufacturing asset able to drive value post-merger by improving COGS and resilience of the supply chain. We have a proven track record of integrations into our supply chain quickly and effectively to ensure we get the full value out of the investment and maintain continuous quality and patient supply. And we focus heavily on constant improvement of our operations to boost safety, sustainability and efficiency.

...GO's constant transformation

In our transformative business environment, staying agile and responding to new challenges is essential. That is a key factor for our work in procurement, manufacturing, product integration, supply chain management, contract manufacturing and quality assurance. Our GO2025 strategic plan guides our efforts to constantly future-proof Grünenthal's profitability by striving for outstanding levels of cost-efficiency, quality and safety along the entire value chain. Establishing operational excellence in manufacturing operations and implementing digital technologies are significant aspects of this journey. We invest in our people, our sites and our technologies to improve our operations, ensure high quality and deliver reliable treatments to patients worldwide.

...GO's people and culture

This is a great time to work in GO because there are so many exciting opportunities. Our team is constantly growing, which opens up attractive possibilities for new employees and fresh pathways for professional growth for our existing colleagues. Employee development, sustainability and safety are of the highest importance in GO. We look for people who want to leave a footprint behind and be part of driving the journey to excellence. That is why our team is a truly cool place to work.

Investing in the future

We understand that our production sites play an important role in securing safe and reliable supply of medicines to patients. Pursuing excellence is the key to maintaining our strong competitive position. For this reason, we are committed to investing in our manufacturing capabilities worldwide.

Between 2020 and the end of 2023, we will have invested more than €140 million in our sites. The major investments include:

- Approximately €42 million to modernise our site in Santiago, Chile, ensuring world-class infrastructure and robust product quality.
- Approximately €21 million for integrating and insourcing newly acquired products such as Crestor™, Nexium™ and Vimovo™.
- €4 million invested in automation and digitalisation.

GO2025 – Our way forward

Our Global Operations team is driving progress towards Grünenthal's vision of a World Free of Pain. Alongside our mission to deliver a safe, effective and reliable supply of medicines to patients, we have a clear strategic plan called GO2025. This plan guides our efforts to boost Grünenthal's profitability by making sure we achieve optimal quality, safety and cost-efficiency levels throughout the full value chain.

Digital technologies are a significant part of this journey. We take advantage of smart innovations inspired by Industry 4.0 to maximise productivity, improve our reactions to market changes and make our manufacturing processes more resilient. These technologies include data capture, advanced analytics and assembly line robotics. We are also creating a Global Operations Business System (GOBS) across our main end-to-end processes to further strengthen our operational excellence.

Digitalisation – Our facilitator

Digital technologies are opening up exciting opportunities for our Global Operations team. We are determined to explore every possible way of creating value through digital solutions – from embracing automation to unleashing the power of data. Our core focus is on strengthening our fundamentals by creating more efficient processes and enabling smoother end-to-end operations.

Here are just a few examples:

- We have introduced cobots in the packaging centres at our site in Aachen, Germany. Cobots are used for highly repetitive activities like carton handling. This boosts efficiency and gives our people more freedom to focus on other tasks.
- We are introducing robots in the biopharma business at our site in Italy. We also use Autonomous Guided Vehicles (AGVs) in the warehouse to increase efficiency, reduce errors and improve safety.
- We now use an automated and standardised digital performance system across all sites. It provides ongoing global data transparency while also improving the efficiency of our packaging and bulk operations.
- Our data collection systems have now been extended to reach from our manufacturing lines to the bulk manufacturing areas of our sites. This enables us to even better understand the manufacturing process and improve its performance.
- We have applied innovative advanced analytics algorithms to increase the yield of our Active Pharmaceutical Ingredient (API) site.
- Our eProcurement platform for tendering, offer comparison and Supplier Relationship Management (SRM) is helping to increase efficiency in our procurement activities.
- We have implemented the E2Open platform to connect to our Enterprise Resource Planning (ERP) systems. This platform takes our digitalisation to the next level, increases transparency and improves our process management. The system also allows automatic exchange of supply chain data, such as information about orders, updates, inventory levels and deliveries.

€140 mn

invested in our sites between 2020 and the end of 2023

SUSTAINABLE RESULTS IN LINE WITH THE HIGHEST QUALITY STANDARDS

Driving operational excellence to create long-term value.

Jorge Sosa, Head of Global Operations Business System, leads Grünenthal's approach to achieving operational excellence by optimising the company's processes and culture. He speaks about how the Global Operations Business System (GOBS) prepares the business for the future and ensures a safe, reliable and efficient supply of products for patients worldwide.

How does Grünenthal define operational excellence?

When we talk about operations, we describe all areas of our business that convert inputs into outputs. That includes procurement, manufacturing, quality, safety, sustainability, and even other areas of the business. Excellence is about making the best use of resources and ensuring a culture of continual improvement, where we are able to adapt to evolving business requirements – while pursuing superior performance and meeting patients' needs. Operational excellence brings the two parts together. Essentially, it is about empowering everyone at Grünenthal to be excellent at everything they do, every day.

What is GOBS and how is it creating value?

Every facet of a business – on the shop floor, production, warehouse or office – can be improved by applying correct principles. A GOBS defines the elements needed to drive excellence. It is a set of standards, processes, practices, principles, tools and templates to deliver superior performance and results in all areas of an organisation. It also requires embedding a supportive, strong culture and mindset that focuses on creating sustainable improvement.

We are implementing our GOBS across Grünenthal's main end-to-end processes to strengthen operational excellence. It will allow us to attain consistent, measurable results, to grow faster – and above all, to meet the promises to our patients: ensuring a safe, reliable and efficient supply of products.

What are your ambitions for the future with GOBS?

GOBS is putting Grünenthal in a strong position for whatever the future brings. It reflects our commitment to delivering sustainable results in line with the highest quality standards. People are the key factor in this ambition because our success will depend on the mindset and culture within our team. With GOBS, we are empowering our people to take actions and make decisions that create real-world value for our company and the patients we serve. That is my ambition for the future – and it is already shaping our work today.

Building growth capabilities

Acquisitions are a key factor in our company's growth strategy – and successful acquisitions depend on integrating new brands into our supply chain quickly and effectively. Our GO team has a strong track record of helping to unleash the full growth potential of Grünenthal's acquired products and technologies. Our dedicated team for integrating acquisitions ensures that we get maximum value for our investments, and we are often able to achieve substantial cost reductions in production. The successful acquisitions of the European rights for Nexium™ and the global rights for Vimovo™ (excluding the US and Japan) are both strong examples of this approach in action. Since acquiring these two brands in 2018, we have invested €11.8 million in state-of-the-art packaging equipment at our Aachen site. Following the takeover of packaging activities from AstraZeneca in 2022, we already realised cost savings of approximately €10.2 million per annum. Zomig™, acquired from AstraZeneca in 2017, is another integration success story. We expect synergies from acquiring Zomig™ of up to approximately €3.7 million annually through our in-house bulk and packaging capabilities.

From 2023 onwards, Grünenthal's Italian site will take over production of the nasal spray formulation and supply it to Europe, Canada and the USA. After investing around €10 million in a new 10,000 m^2 facility and the related equipment, we can now ensure patients have access to this valuable treatment beyond AstraZeneca's original supply agreement ending in 2022.
For the integration of Crestor™, we expect to take over production and packaging activities in all relevant markets in 2025. We anticipate substantial synergies worth up to approximately €15 million per annum through in-house bulk and packaging.

Grünenthal PRO – Serving our customers

Our Contract Manufacturing Business, called Grünenthal PRO, is always ready to embrace fresh opportunities to support new partners worldwide.
Grünenthal PRO offers high-quality products and services for customers around the globe – and we are recognised as a trusted partner in our industry worldwide. We constantly optimise our capabilities and capacities to expand the range of support we provide from our five production sites. Together with partners at every stage in our supply chain, we ensure our customers are satisfied.
We provide a strong service portfolio that includes controlled drugs handling, regulatory services, production process design, special technologies such as hormones, hot melt extrusion and biopharma packaging.
In 2022, Grünenthal PRO achieved revenue of €66 million. Our teams supplied 34 million packs and 94 tons of API to 55 customers and welcomed two new customers. Biopharma assembly and packaging was the main driver of growth for our Contract Manufacturing Business, with a 32 percent compound annual growth rate (CAGR). Looking ahead, we expect this positive trend to continue.
Our site in Italy is now able to provide assembly and packaging for nasal spray products, thanks to a state-of-the-art new 10,000m^2 facility. And in addition to this investment, we are also increasing our capacities to provide assembly and packaging for pre-filled-pen and syringes for our biopharma customers.

52 %

of our overall production volume is for external customers.
For more information: **www.grunenthal-pro.com**

Production volume 2022

3.2 billion tablets

145 million packs

300 tons API

Strong results and high expectations

Our Global Operations team expects an overall production volume increase of 13 percent in 2023 compared to 2022. This growth is being driven by the successes of our brands and our global Partner Business expansion – and reaches across all of our global sites.

- Amongst others, as a result of Grünenthal taking over packaging activities for Nexium™ and Vimovo™ from AstraZeneca, the production volume at our site in Aachen, Germany, increased by 27 percent in 2022 compared to 2021, and we expect a further increase of 21 percent in 2023. Due to this rapid expansion, we aim to make this site a Centre of Excellence for Packaging in Europe.
- The excellent performance of our Contract Manufacturing Business has earned trust from customers – and is opening up new possibilities. In particular, biopharma customers are awarding Grünenthal opportunities to enter new markets because of the outstanding service levels at our site near Milan, Italy. We expect the production volume at this site to increase further driven by being a trusted partner for biopharma products and integrating acquisitions. The bulk production volume is expected to grow by 21 percent in 2023 compared to the previous year.
- Our Contract Manufacturing Business is also growing in Latin America. The modern Grünenthal manufacturing site in Quito, Ecuador, already meets European standards. We have started exporting from Ecuador to Brazil, and will begin exporting to Europe soon.
- Our production site that makes Active Pharmaceutical Ingredients (API) in Mitlödi, Switzerland is another strong example of our achievements. According to McKinsey's proprietary Pharma Operations Benchmarking service (POBOS), it is one of the most competitive API sites in the entire pharmaceutical industry. We have been manufacturing the API Tramadol in Mitlödi for over 30 years, and cover about one-third of the world's demand for this prescription pain medication from this facility.

We will continue to move forward with the strategy for our Contract Manufacturing Business, and will structure our activities and target our investments in line with this approach. In this context, our site in Ecuador became a regional manufacturing and distribution centre for liquids and semi-solids. The production of all liquids and semi-solids is being transferred from our site in Chile to our site in Ecuador. This transfer will be finalised at the end of 2023, resulting in a 32 percent increase in volume for the site in Quito.

Safety first

One element of our company's approach to manufacturing will never change: We always put safety first. Every accident is one accident too many. In this spirit, we continuously develop preventative measures and provide education and training activities to improve the level of occupational safety at Grünenthal. Every step, however small, brings us closer to achieving our goal of zero accidents. This requires safe framework conditions and safe behaviour. To promote these two components of workplace safety, we actively search for unsafe situations and behaviour – and then make sure they are corrected. We also analyse every accident at one of our locations and then share key learnings with our other sites around the world.
Here are some examples of our success with boosting safety:

- Over 95 percent of our GO staff have taken part in the Behaviour Safety Observation programme. This simple and effective approach supports employees in identifying potential hazards and taking corrective actions.
- Lost Working Day Accidents have decreased by 52 percent across our manufacturing sites in the last three years.
- Two of our five manufacturing sites were accident-free for one year during 2023, and one of those sites has now completed more than two years without an accident.

Quality always

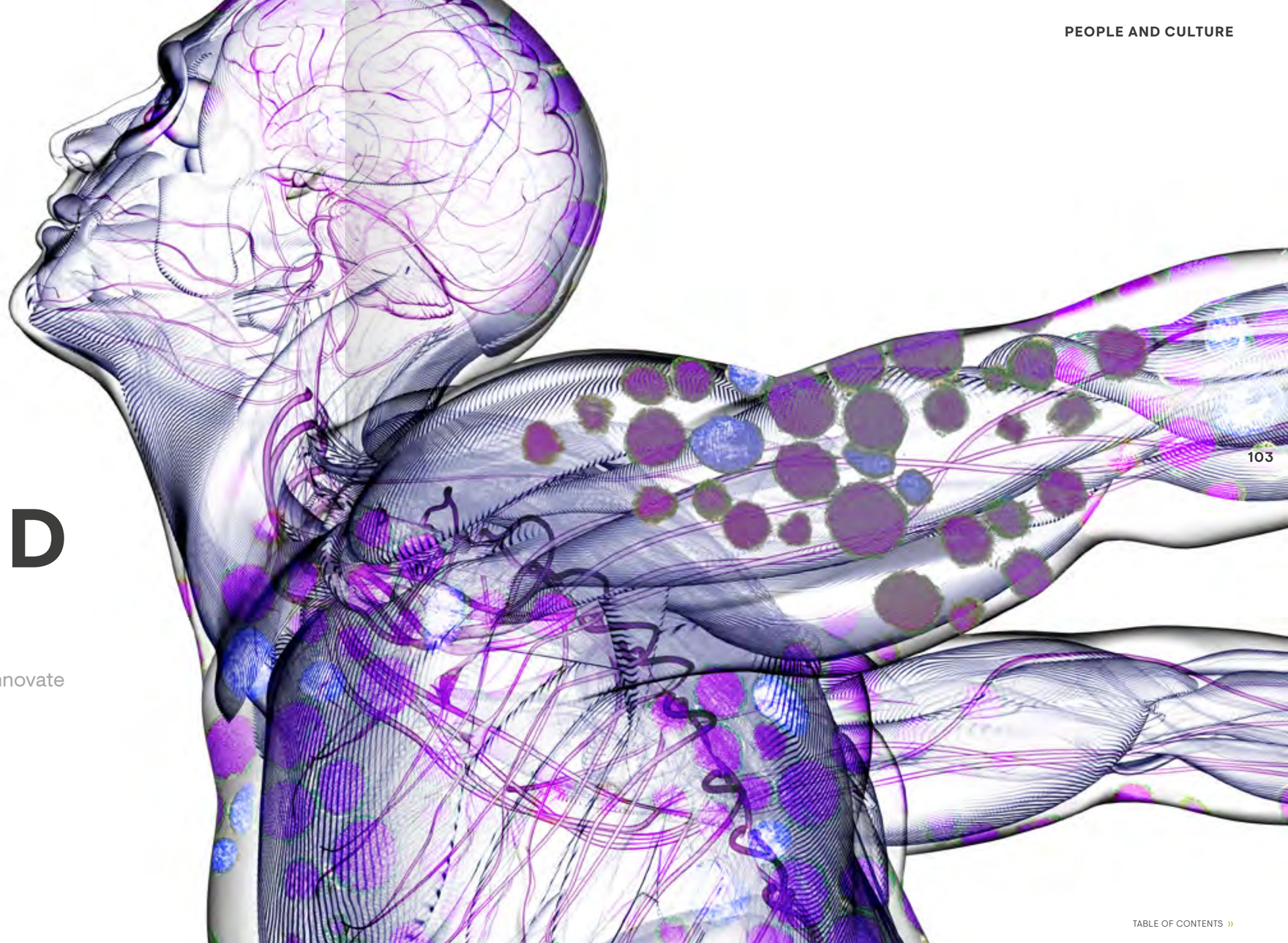
Grünenthal is absolutely committed to providing patients with medicines they can trust. We operate in line with strict regulatory standards, and our robust Quality Management System (QMS) ensures compliance and quality at every stage in our global value chain. Our Pharmaceutical Quality System (PQS) is monitored by a comprehensive set of Quality Key Performance Indicators (QKPIs). These QKPIs allow us to track progress and monitor success in meeting our ambitious quality targets.
Digitalisation is a key component of our approach to quality. Our QMS is now transforming the culture of quality at Grünenthal by reshaping and streamlining our processes, while also creating an efficient, digital and global way of working. Based on the results of internal and external audits, inspections and certifications, we are certain that we are on the right track.
In 2022, we maintained and extended our certifications. Our manufacturing facility for Active Pharmaceutical Ingredients (APIs) in Germany passed an inspection by the U.S. Food and Drug Administration (FDA) last year. On top of this, our plant in Chile was re-certified by the Peruvian health authorities and various countries re-certified our sites in Ecuador, Germany and Switzerland. During 17 inspections in 2022, inspectorates confirmed the appropriateness and maturity of our PQS at our headquarters, our manufacturing sites and our sales affiliates.
In addition, our manufacturing sites successfully passed 31 client audits. To effectively oversee our supplier and vendor network, we performed 484 audits in total last year. This included on-site audits, remote audits and documentation assessments to check the adequacy of our partners' operations.

> "At Grünenthal, when we talk about quality excellence, it stands for operational excellence. It is all about business activities that need to be excellent from an operational perspective, which means ensuring outstanding quality by doing the right things effectively, consistently and in a timely manner – to meet our patients' needs and expectations.

Johan Vandaele,
Head Global Quality Excellence

PEOPLE AND CULTURE

At Grünenthal, we join forces, make an impact and innovate for a World Free of Pain.



THRIVING WITH ENGAGED AND DIVERSE TEAMS

Our employees bring great ideas to the table and develop their full potential as contributors to the success of Grünenthal and the communities we serve.

Our employees are highly engaged and empowered, making us a certified Great Place to Work® in most of our countries. We continue to build new capabilities internally, as well as by bringing in diverse talent from outside the company to help us achieve our strategic priorities today and in the future.

Driving a high-performance culture is key to our success. To achieve this and keep our employees engaged in the pursuit of our shared priorities, we take action to make sure everybody at our company understands and fully supports Grünenthal's strategy. Together, we strive to bring our Values & Behaviours to life – every day, everywhere, every one of us.

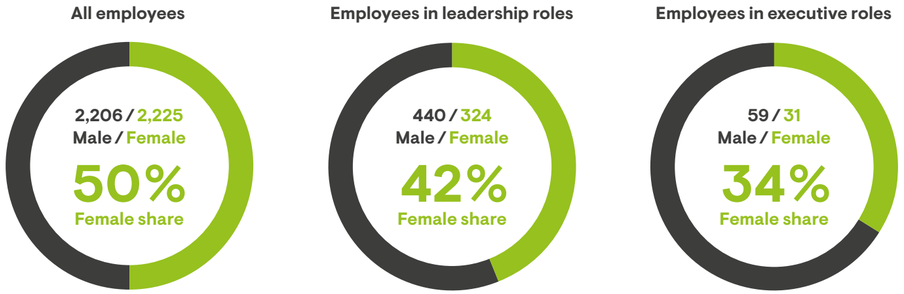
> "Diversity and inclusion are important. We strive to create an environment where all employees feel valued, respected and involved, and can bring their full selves to work – where they are empowered to give their best.

Leen Hofkens,
Head Global Human Resources

Gender balance 2022 vs 2018

in headcount and percent male / female

2022



2018

In 2023, we are committed to continuing our journey and making further progress to enhance our diversity mix and build an inclusive work environment.

Teams joining forces around the world

We welcomed over 600 new colleagues worldwide in 2022, including 240 people in our Global Operations team. We also continued strengthening our footprint in the US.

- 674 new hires in total
- US sales organisation nearly doubled:
  - December 2021: 110 employees
  - December 2022: 185 employees

Employees by function	December 2022
R&D	297
Global Commercial	1,631
Corporate Functions	616
Global Operations	1,887
Total	4,431

28
Countries

63
Nationalities

>600
New colleagues worldwide

Global leaders at Grünenthal Group Conference

Join forces. Make an impact. Innovate for a World Free of Pain.

Our strengthened Employer Brand helps us attract, develop and retain talented and diverse colleagues. Follow us on LinkedIn for regular updates, or check out open positions on our careers website.

careers.grunenthal.com

Empowering diversity and engagement

In 2022, we launched our Diversity & Engagement strategy. It brings together existing local and global events and initiatives, ranging from our Pride talks through to local Diwali celebrations and graduate recruitment. By focusing on three pillars, the strategy provides a clear plan with global commitments to truly empower, inspire, support and engage all of our people, partners and communities. Everyone is encouraged to support the initiatives personally – wherever they are based in our organisation and hierarchy. As part of this approach in 2022, we founded an LGBT+ community and increased support for mental health and colleagues experiencing menopause.

Three pillars

Enhancing our diversity

Enhancing our talent pool through attraction, retention and enablement of diverse talent

Driving conscious inclusion

Creating psychological safety and belonging through our people processes and leadership

Positively impacting our local communities

Inspiring younger generations, partnering with diverse suppliers and supporting through volunteering

Our Diversity & Engagement vision: All employees feel valued, respected, included and empowered to do their best, bring great ideas to the table and develop their full potential as a contributor to the success of Grünenthal and the communities we serve.

When nobody gets left behind, **everybody moves forward**

A GREAT PLACE TO START

Young graduates play a big role at Grünenthal by fuelling our future talent pipeline, diversifying our workforce and bringing fresh ideas into the company.

We offer graduate and trainee programmes that provide a smooth and varied start to professional life. In this way, we empower graduates to develop skills and gather experiences that will enable them to make a real positive impact in our teams.

Global Graduate Programme

Our Global Graduate Programme is designed to provide highly talented graduates and PhD students with a personalised career journey.

Over 24 months, graduates gain a well-rounded view of our organisation through rotations across roles, global affiliates and sites. Exciting projects and a chance to develop a strong professional network await the young talents participating in this programme.

Working in close collaboration with a senior leader who acts as a mentor, our graduates are supported in identifying strengths and development areas, getting the most out of their potential, and growing continuously. At the end of this programme, graduates are ready to take the next step in their career at Grünenthal.

We recently evolved our Graduate Programme to offer a more international experience. Since making that change, 17 talented young people from 10 countries have started their journey at Grünenthal. They completed over 30 rotations in our different business areas, including international assignments. With the Global Graduate Programme, we fuel our pipeline of future leaders and experts within Grünenthal worldwide. By 2022, 10 alumni from the programme had taken on roles within our organisation.

> “I am committed to increasing the hiring and development of the younger generation, together with our leaders and managers.

Leen Hofkens,
Head Global Human Resources

Javier Martin
Head Global Strategy & Development Operations, Global Graduate Mentor

I am motivated to give something back to our company by providing guidance, influence and support to graduates during the critical early stages of their careers – just like my first manager did for me. It is an honour and pleasure to watch them succeed.

When working with the graduates, there are two stand-out rewarding moments. First, when they land their first “real job”, I am always impressed by their capacity to adapt to new roles, and I find their passion truly energising. Second, I enjoy seeing graduates grow and reach senior positions with lots of responsibility. Together, we can look back at where they started and how much they have developed.

I always try to remember what it was like starting out. At that point, we often feel less “important” than other employees and might even feel a little bit vulnerable too. As a mentor, it is important for me to make them feel valued and create a sense of belonging.

Noemi Lewald
Graduate Global Operations

At Grünenthal, I have had the opportunity to grow by taking the lead in projects at an early stage. While I was given the confidence to jump into the cold water sometimes, I always had a support network I could also rely on. The programme is unique because it allows you to develop in your chosen direction without any predefined job rotations. You become the captain of your own journey. My mentor supported me in selecting the right road and provided high visibility for my work throughout the organisation. I truly feel empowered in my current role.

A GREAT PLACE TO DEVELOP YOUR CAREER

Retaining and developing talent is essential for the success of our business.

We are building capabilities that help us achieve our strategic priorities at the functional and leadership levels – today and in the future. To strengthen our succession pipeline for critical roles at Grünenthal, we aim to maintain a balance between attracting external candidates and developing internal employees.

For our internal talent, we provide a range of growth opportunities. This includes activities and initiatives within their existing role and advancing into new positions or taking lateral moves across functions to gain additional perspectives. Our senior leaders and managers are expected to regularly support their employees' growth based on individual development plans, and by providing frequent feedback and coaching.

We focus on on-the-job learning combined with training and learning from others. In 2022, we invested in additional online learning platforms like LinkedIn Learning and Coursera. In this way, we allow employees to flexibly design and enhance their learning journey by accessing relevant content that is fully focused on their individual needs – at any time and from anywhere. 42 percent of our senior leadership vacancies were filled by internal talents and successors.

42 %
senior leadership vacancies filled internally

Supporting individual development

Corinne Pala
Regional Head Regulatory Affairs EU

I have a PhD in chemistry, and I started working at Grünenthal in October 2002 as the very first graduate in R&D. My focus was on project management and project leadership. Over the years, I progressed through 6 different roles. My journey began in Clinical Outsourcing, and I am now Head of Regulatory Affairs for Europe. Along the way, I held positions as Head of Relationship Management, Head of Project Management Office, and International Project Lead for Palexia, Versatis and Zalviso. This growth was made possible by the guidance and support of my managers and mentors, who encouraged me to take on more responsibilities. The recognition I received for my achievements also motivated me to keep going the extra mile. I kept asking for more responsibilities and learned from every new role and the people around me. Each year, I had the opportunity to take on new challenges that enriched my roles – and kept my daily work fresh and inspiring. The Grünenthal learning model, which states that the biggest part of learning – 70% – actually happens on-the-job, perfectly summarises my own development here.

Wladimir Sviercovich
Finance Director CAMEX

I have had the privilege to work for Grünenthal at the country level in Ecuador, at the regional level at the Latin America Head Office, and at the global level at our Corporate Hub in Lisbon. This was possible thanks to the support and mentorship of amazing leaders and professionals who have challenged and supported me every step of the way. I have benefited from the mentorship programmes provided by Human Resources, which are a great tool for getting advice from experienced professionals who can offer an outside-in view. This type of perspective works wonders for problem-solving and creative solutions. Development opportunities are always a two-way street: I am a firm believer in volunteering for challenging projects, stepping outside of your comfort zone and taking on tasks that are outside your area of expertise. I have thoroughly enjoyed working on different projects, especially when I get to work with colleagues from other business areas, cultures or geographic locations.

A GREAT PLACE TO WORK AND GROW

We actively engage our employees on our cultural journey by creating an environment of trust, transparency, respect, fairness, learning and collaboration.

In 2022, we were certified as a Great Place to Work® in 24 entities spread across 19 countries, including our headquarters and all of our production sites. This reflects our employees' positive feedback about our workplace culture and leadership approach, and reveals the significant progress we have made together. Grünenthal has conducted the Great Place to Work® survey regularly since 2009. We are proud that we have maintained the positive results achieved in this survey in recent years.

Maintaining employee engagement

Regular employee surveys help us gain a clear picture of our progress in evolving our culture. The consistently high participation rates strongly indicate our employees' commitment to shaping our culture. And we are proud of how these results indicate positive progress on our cultural journey.
The 2022 results of the Great Place to Work® survey confirmed the positive trends seen in previous surveys. More than 3,500 of our employees shared their feedback last year, a participation rate of 83 percent.

More Grünenthal entities are now certified than ever before

Chilean colleagues celebrating Great Place to Work® certification

- 81% of participants stated that Grünenthal is a great place to work.
- We achieved a Trust Index of 76%, maintaining high scores across all key dimensions, with especially high scores for pride (81%).
- We have a strong foundation for further enhancing Diversity & Engagement across our company, with scores above 90% for fair treatment irrespective of gender, race or sexual orientation. 84% of respondents agreed that diversity is seen as a strength at Grünenthal, and 88% agreed that our people are accepted and respected for all aspects of their identity.
- Those participating in our hybrid working model stated that they feel equally connected to the company and their team when working remotely (91%), and that collaboration with their team works well (92%).
- The results in the Great Place to Work® survey also prove that we really bring our Employer Brand to life: Join forces. Make an impact. Innovate for a World Free of Pain. 82% say they feel they make a difference at Grünenthal; for 81%, their job has special meaning – it's "not just a job". 88% feel a sense of pride when they look at our accomplishments, and 80% say that people here are willing to give extra to get the job done.

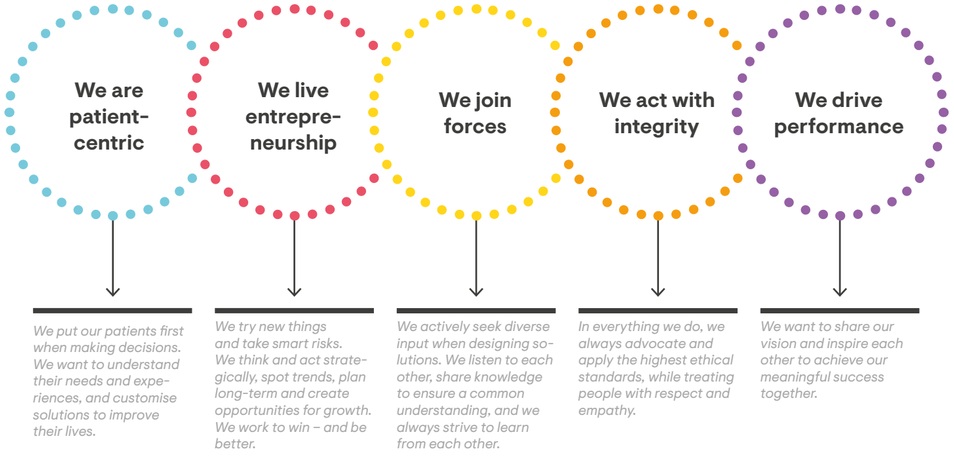
Our employees' feedback will help us to continue taking the right steps forward on our cultural journey.

WE ARE GRÜNENTHAL: OUR VALUES & BEHAVIOURS

Our people and our decisions are guided by Grünenthal's Values & Behaviours.

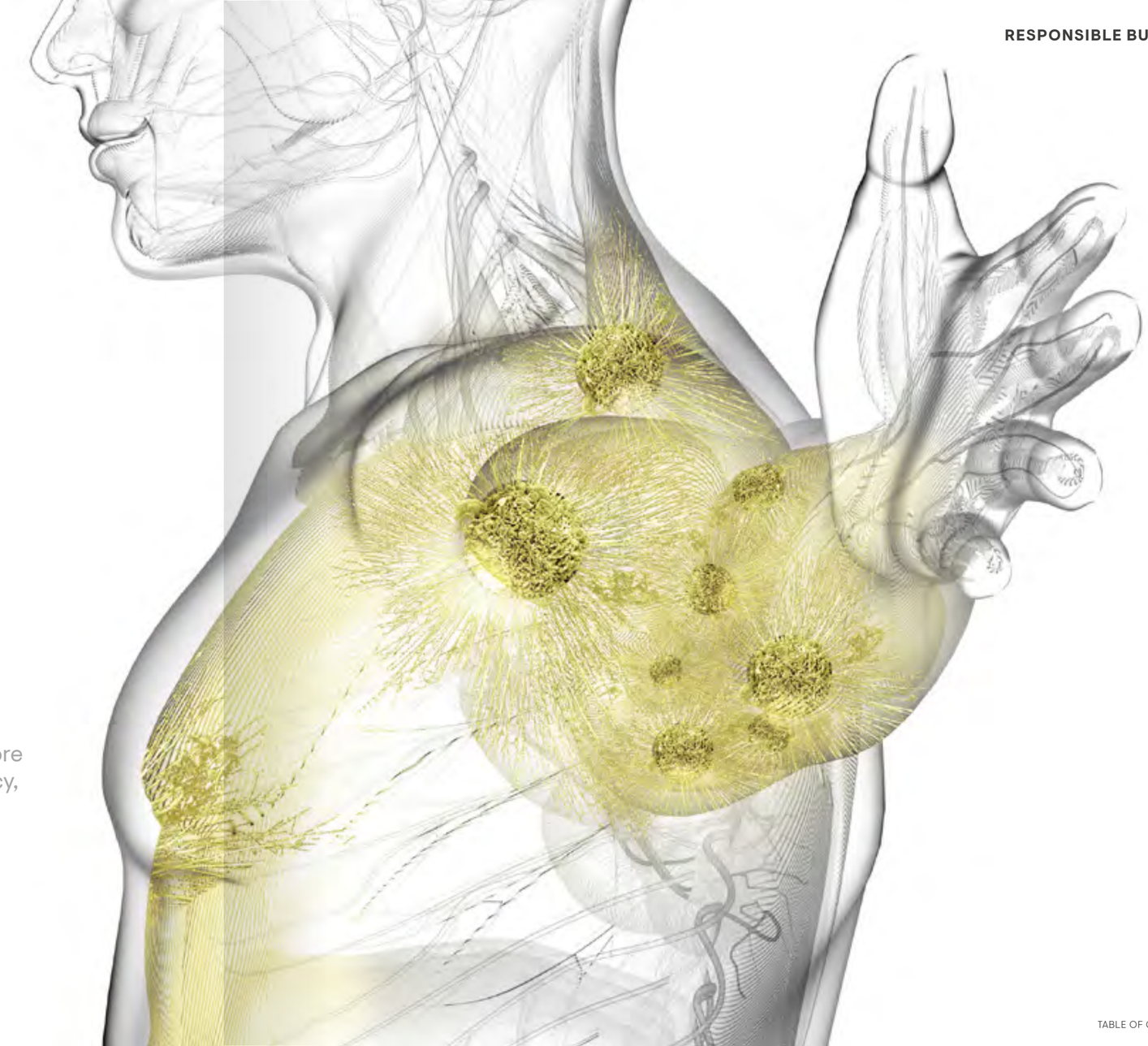
We work hard and challenge each other to take our collective performance to the next level. At the same time, we support each other, work closely together and demonstrate integrity in everything we do. We make sure outstanding results are recognised and rewarded, while always considering how achievements have been made possible.

Great leadership at Grünenthal means exemplifying our Values & Behaviours. In 2022, we conducted broad research and involved many of our senior leaders in identifying the essential personal attributes and skills that enable our leaders to live up to that expectation. In this way, we provide consistent and targeted development guidance for all current and aspiring leaders across the company.



RESPONSIBLE BUSINESS

Grünenthal aspires to create a positive impact on society – in our core business and beyond. Our firm commitment to integrity, transparency, and the highest ethical standards always guides us.



POSITIVE IMPACT

As a global leader in pain management, we constantly seek to achieve positive outcomes for patients and their families. In addition, Grünenthal aims to maximise its beneficial effect on employees, partners and society – while reducing the environmental footprint of our business activities. These ambitions drive our approach to Corporate Responsibility.

To bring this approach to life, we launched a holistic Corporate Responsibility Programme in 2021. Our global team took decisive steps to implement this programme in 2022. We will continue to build on this solid foundation in the coming years. Our Corporate Responsibility Programme focuses on four modules: Fields of Action, Ethical Framework, ESG Risk Management, and Corporate Governance.

Fields of Action

In 2021, we conducted a materiality analysis to identify the topics that matter most to our stakeholders. Based on these insights, we clustered the material topics into four dedicated Fields of Action: Compliance, Ethics and Transparency, Patients, People and Planet. We then set ambitious targets and defined KPIs for measuring progress. In the 2022 reporting period, we re-assessed all important strategic and operational topics within our company and its environment. This involved analysing both their impact on Grünenthal's business activities ('financial materiality') and the impact of Grünenthal's business activities on sustainability topics ('impact materiality'), known collectively as the double materiality concept.

To gain a holistic view, we analysed the identified topics regarding their relevance in our value chain. You can find more details in our Responsibility Report.

Ethical Framework

It is our fundamental responsibility to maintain the highest ethical standards in everything we do. We aim to build trust and give confidence to patients, employees, partners and communities. Our strict ethical framework – including our bioethics and data ethics frameworks – provides guidance in areas that lack clear legal regulations.

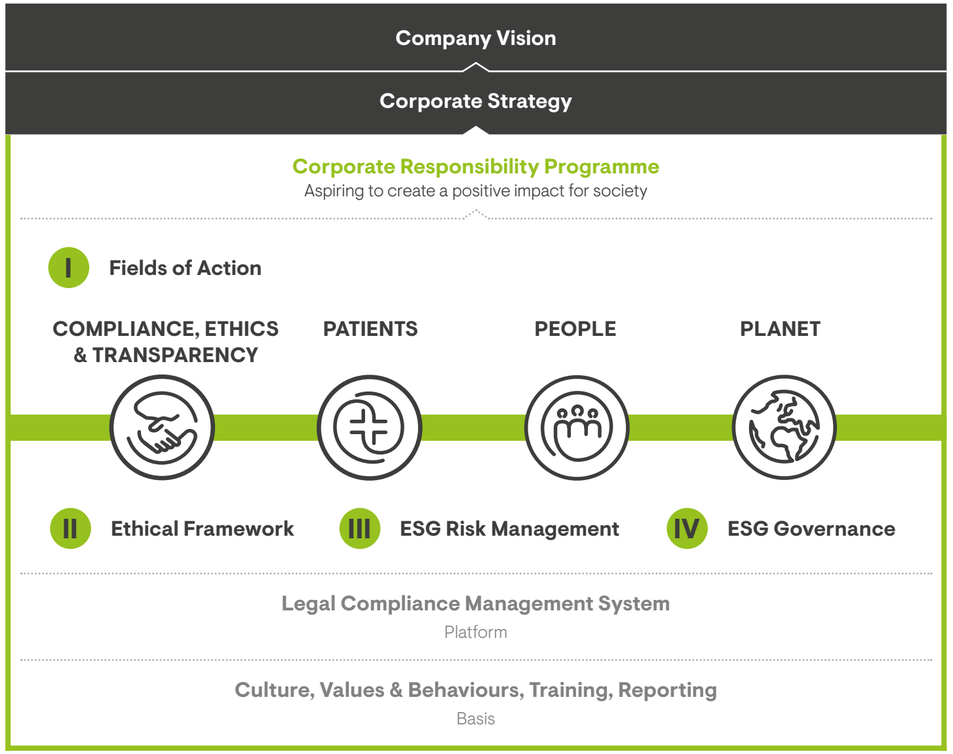
ESG Risk Management

Managing risks is an essential aspect of Corporate Responsibility. Potential risks in this area can be clustered into Environmental, Social and Governance (ESG) categories. An independent agency regularly monitors and assesses our ESG risks and our approach to managing them.

Corporate Governance

Our corporate governance system ensures that we always act in line with our belief in decent entrepreneurship. We further strengthened our governance approach by introducing the Grünenthal Responsibility Board in 2021.
It drives the implementation and development of our Corporate Responsibility Programme.

Our Corporate Responsibility Programme is embedded in our strategy



OUR IMPACT INITIATIVES

We have created dedicated impact initiatives for our Fields of Action for Patients, People and Planet. These initiatives are designed to boost our positive impact around the world.

Patient

Educating Patients and Healthcare Professionals – To better support patients on their journey to achieving optimal pain management, we have established an initiative to educate healthcare professionals on the responsible use of pain medication. With regard to opioids, our Charter on the Responsible Use of Opioids sets out our commitment to exploring and endorsing measures that minimise the risk of inappropriate and illegitimate use of prescription opioids – while striving to ensure that individual patients with a clear need for opioid-based pain relief are not denied access.

Data-driven Human Disease Understanding – To enhance our ability to create truly novel medicines for patients in need, we are expanding our understanding of human disease based on concrete data.

Awareness and Accessibility – The mission of the Awareness and Accessibility Initiative is to positively impact patients' lives by improving access to adequate pain management and raising awareness about chronic pain and palliative care.

Further insights into how we develop innovative medicines are available in the chapter a World Free of Pain of this report.

People

Circle of Trust – To foster a culture of trust among employees, partners and the community, we have established a Diversity & Engagement Council. It raises awareness, identifies needs, governs initiatives and monitors impact. We have launched our first Diversity & Engagement strategy to guide our work on building an inclusive and diverse workplace with engaged colleagues.

You can read more about how we create a positive impact for the people we work with in the chapter People & Culture of this report.

Planet

Driving Environmental Sustainability – To reduce the environmental impact of our business, we have established a number of initiatives to ensure we use resources more sustainably, avoid waste in our operations wherever possible, and switch to low-carbon or renewable energy sources at our sites.

In order to create a meaningful impact and achieve our environmental goals, we have established three major areas of action:

- Sustainable Operations: This targets net zero emissions from our sites, as well as a reduction of waste and improved wastewater treatment.
- Sustainable Procurement: This focuses on working with key suppliers to reduce carbon emissions, and aligning with waste and wastewater standards.
- Sustainable Products: This targets a reduced environmental impact associated with our product packaging, while also embedding green design principles into the development and manufacture of our products.

Alongside improving the environmental impact of our own operations, we launched our #TreesForOurPlanet initiative to support reforestation in 2021. It marked our 75-year anniversary by planting 7,500 trees worldwide in 2021, and our teams beat this target by planting more than 10,000 trees. We continued this project in 2022 and planted over 11,000 trees across the globe.

Our Responsibility Report provides regular and transparent information about our progress, and is published alongside this report. It shares insights into how we conduct our business responsibly, as well as details about our impact on society and the environment – and how we reflect external factors in our daily work. The report also offers updates on the goals and KPIs that measure our progress along the value chain. We report in line with the Global Reporting Initiative (GRI) standards and subject our reporting to external auditing.

VALUES AND ETHICAL FRAMEWORK

Everything we do is guided by our deep commitment to strong values and ethical behaviour.

We want our patients, customers, employees, partners, suppliers, investors and all the communities we serve to have the confidence to trust and do business with us. This is key to our long-term success.

We have a shared set of Values & Behaviours that make clear how we work together to achieve successful outcomes for our company and our patients. These Values & Behaviours guide our decision-making and give a clear indication of how we behave – as individuals and as an organisation.

Business ethics

Our Code of Conduct provides a framework for our actions and decisions. Everyone in our organisation has the responsibility to live up to these standards in their daily work. All employees are requested to sign the Code of Conduct when joining the company. We bring it to life through face-to-face and online training. We also offer a confidential 24-hour Ethics Helpline for anyone with questions, concerns or doubts. Every complaint or concern is investigated by our Compliance organisation, which is fully integrated within the business.

Our Compliance Officers sit on decision making bodies across the company and report to the Chief Responsibility Officer, who regularly reports to the Executive Board and the Supervisory Board.

In addition, we insist that our business partners act lawfully and with integrity in line with this framework. To ensure this, we have established our Code of Conduct for Business Partners, which clearly sets out our expectations related to compliance and ethics for all business partners before entering into a working relationship.

Bio ethics

We are committed to conducting our research activities within a strict bioethical framework. We adhere to clear rules on animal trials, human biological sampling and emerging technologies. In addition, we share clinical information that is necessary for conducting legitimate research, serving patients' safety and improving public health.

Data and digital ethics

We handle all personal data responsibly and conduct all of our data processing activities in line with applicable legal standards. In addition, we live the principles set out in our Digital Ethics Charter:

- Human beings keep oversight and accountability of our digital activities.
- Safety and security are embedded into all of our digital activities as cornerstones to protect our values.
- We can explain all of our digital activities.
- Our digital activities do not cause bias and discrimination.
- Digital ethics are engrained in our decision-making processes.
- All digital activities must be conducted in line with this charter.

OUR ENVIRONMENTAL, SOCIAL AND GOVERNANCE RATING

Independent, external evaluations have ranked Grünenthal as a leader in managing risks related to Environmental, Social and Governance (ESG) criteria.

One part of our Corporate Responsibility Programme is to manage non-financial risks effectively. Possible risks for our business can be clustered into three main categories: Environmental, Social and Governance (ESG). Examples include pollution, discrimination or corruption.
Each year, our performance against ESG criteria is recognised by an external rating. Sustainalytics' ESG Risk Rating's framework focuses on exposure and management of a company's material ESG issues.

"Exposure"
This dimension reflects the degree to which a company's enterprise value is exposed to material ESG issues including:

- Ethical marketing.
- Clinical trial transparency.
- Corruption and bribery.
- Human capital.

"Management"
This criterion measures a company's preparedness and track record in managing its exposure to material ESG issues through its:

- Policies.
- Programmes.
- Training.
- Management systems.

ESG Risks

Environment
(e.g. pollution)

Social
(e.g. discrimination)

Governance
(e.g. corruption)

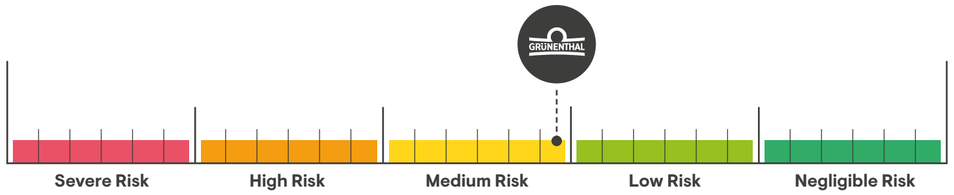
A proud position

In 2022, Grünenthal was placed in the top three percent of the global pharmaceuticals subindustry. This puts our company just outside the low-risk category and ahead of our key peers. The rating agency Sustainalytics assessed Grünenthal as having a medium ESG risk overall and managing our ESG risks in a strong way.

> "We aim to continuously improve and optimise our ESG performance. To achieve this, we have set ambitious targets for each responsibility topic.

Sebastian Köhler,
General Counsel

ESG Rating



TURNING WORDS INTO ACTIONS

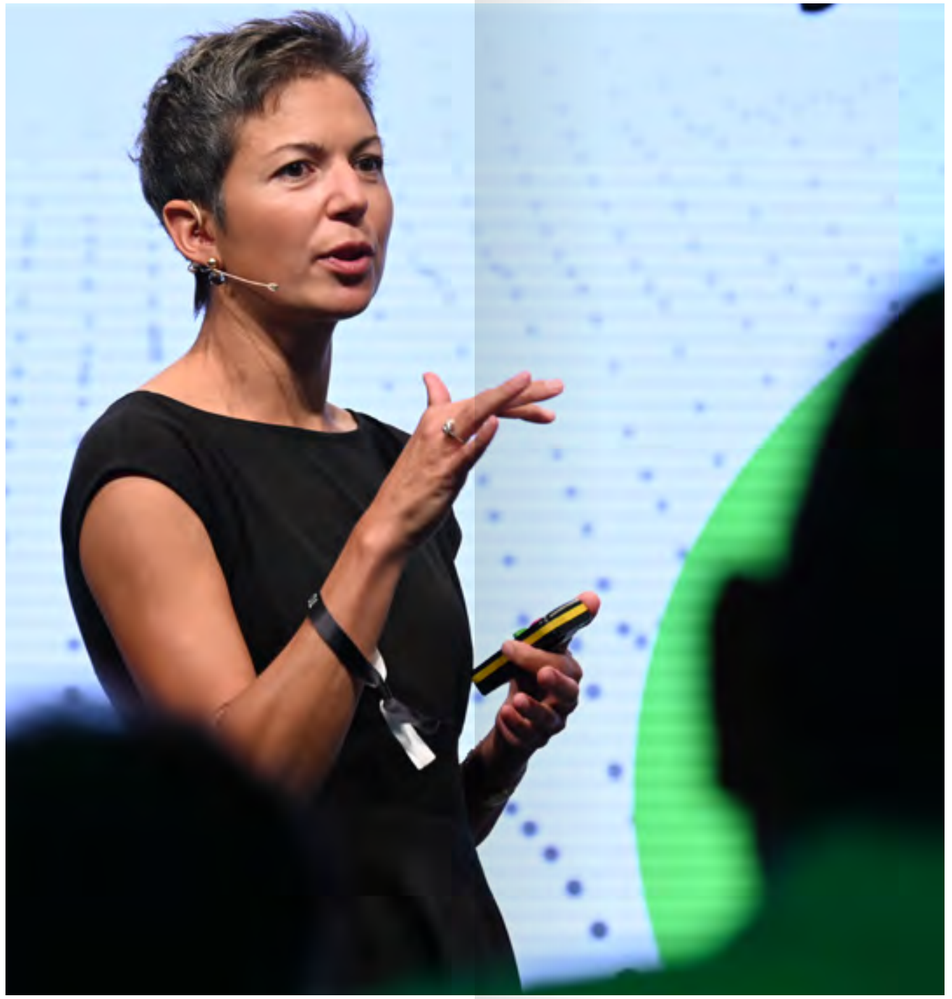
Our authentic and practical approach to implementing Corporate Responsibility at Grünenthal.

What does Corporate Responsibility really mean at Grünenthal?

Corporate Responsibility means conducting our business legally, ethically, respectfully and sustainably. This covers everything we do – from selecting suppliers through to how we treat employees, the conditions in our production facilities and the way we market products. Our Corporate Responsibility Programme is not just a collection of buzzwords. It is a clear and specific plan for how we engage with the world in a positive way.

How does it fit together with the company's overall strategy?

Corporate Responsibility is deeply embedded in our business strategy, and is a high-priority topic at Grünenthal. All business areas are required to contribute to our ambitious goals and initiatives. Corporate Responsibility is one of the four strategic dimensions of our yearly Corporate Scorecard. Adhering to our Scorecard is part of our incentive system for employees, so it is built into our approach to measuring the performance of all individuals and teams.



Why is it important to take action now?

Today, every company is operating in a rapidly transforming world – with climate change, rising digitalisation, political power shifts, a global pandemic, inflation and war. The roles and responsibilities of stakeholders worldwide are also changing. Governments cannot respond to modern challenges like water and energy scarcity by acting alone. Other players like civil society, non-governmental organisations, international institutions, industries and businesses need to play a central role by stepping up and making a contribution.
Society is right to expect companies to take increased responsibility for their actions and to conduct business sustainably. Corporate Responsibility involves going beyond minimum legal requirements to manage the economic, environmental and societal impact of a business' operations.

Governance systems ensure that organisations live up to these responsibilities. And because investors, customers, employees and suppliers are becoming increasingly selective when choosing business partners, it is incredibly important for companies to meet these requirements and report on them transparently.

> "We have an authentic Corporate Responsibility policy, meaning it is not just a "tick the box" exercise but a way for us to invest in and engage with the world around us in a positive way.

Prof. Dr. Cordula Meckenstock,
Chief Responsibility Officer

SUPPORT FOR THALIDOMIDE-AFFECTED PEOPLE

The Grünenthal Foundation for the Support of Thalidomide-affected People provides help where it is most needed.

Thalidomide is a pharmaceutically active ingredient developed by Grünenthal in 1954 and brought to market in Germany in 1957 and globally from 1958 on. Grünenthal marketed it in Germany as a sleep aid and sedative under the brand Contergan, and it was marketed globally either by Grünenthal or by licensees under various trademarks. In 1961 Grünenthal withdrew its products containing Thalidomide and urged its licensees to do the same following what came to be known as the Thalidomide Tragedy. It was discovered that the drug caused severe deformities in newborns if taken between the 34th and 50th day of pregnancy. An estimated 10,000 people worldwide were affected by the tragedy. Today, around 5,000 affected people are still alive and have to deal with the challenges of their limitations.

Back in 2011, a Thalidomide-affected person asked Grünenthal for a second wheelchair because he needed one for the house and a separate one for outside. This request led to the creation of a hardship initiative – and one year later the Grünenthal Foundation for the Support of Thalidomide-affected People was established to provide a framework for handling requests like this. Since then, the Foundation has supported almost 3,500 cases, giving Thalidomide-affected people increased autonomy and mobility.

The relationship between Thalidomide-affected people and Grünenthal has seen significant changes in the last 10 years. The Foundation's team serves as the first point of contact, as well as advisors to Thalidomide-affected people. "For me, working at the Grünenthal Foundation is meaningful and has taught me a lot of humility," said Tom Hermes, a representative of the Foundation. "It is enriching to accompany those affected, sometimes over many years, and to develop projects with them. I look forward to seeing what we achieve together in the future."

How does the Foundation provide support?

The Thalidomide Tragedy will always be a part of our history. We will never forget what happened, and we deeply regret the terrible consequences for those affected and their families. We see it as a responsibility to contribute to improvements in the living situations of Thalidomide-affected people. Thalidomide-affected people live with disabilities, such as shortened limbs, that make day-to-day activities extremely challenging. The Foundation supports them by co-financing home and vehicle modifications to enable affected people to drive their own vehicle and spend time outside their home working or socialising. Our work has enabled almost 500 changes to cars based on individual needs, and over 350 bathrooms and 360 kitchens are now more accessible. The use of a keyboard can also be an obstacle to applying for support, so we co-finance speech recognition software for personal computers. More than 350 Thalidomide-affected people have learned how to use this technology, which helps them carry out professional duties. Through ongoing dialogue with those affected and their representatives, members of the Foundation identify individual needs and find customised solutions. This mainly deals with challenges related to increasing age and a deteriorating health situation.

> "We always encourage and empower others to share their knowledge of Thalidomide and its effects, and we will continue this work with the same dedication in the future.
>
> **Fabia Kehren**
> Grünenthal Foundation

Grünenthal Foundation – 10 years of support

To learn more about the Grünenthal Foundation, please visit: **https://www.grunenthal-foundation.com**

Since it was established 10 years ago, the Grünenthal Foundation has been helping Thalidomide-affected people to maximise their independence, self-determination and quality of life.

So far, the Foundation has supported Thalidomide-affected people with almost

3,500

activities such as renovation measures for barrier-free homes.

When co-financing housing renovations, the Foundation focuses on adapting living spaces to the unique needs of each individual.

The Foundation promotes digital technologies that enable affected people to access helpful information.

Since it was established, the Foundation has supported adjustments to almost

500

cars to meet the specific needs of Thalidomide survivors.

Technological innovations have enabled the Foundation to provide even better support for the daily lives of Thalidomide-affected people.

The Foundation has co-financed the remodelling of more than 350 bathrooms and

360

kitchens since it was established in 2012.

The Foundation supports affected people by arranging companions for vacations and other activities outside the home.

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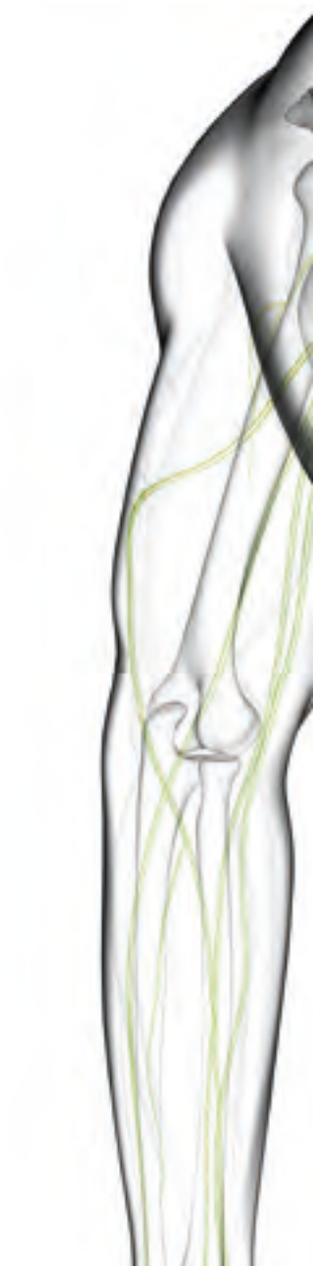

GRÜNENTHAL RESPONSIBILITY 2022/2023

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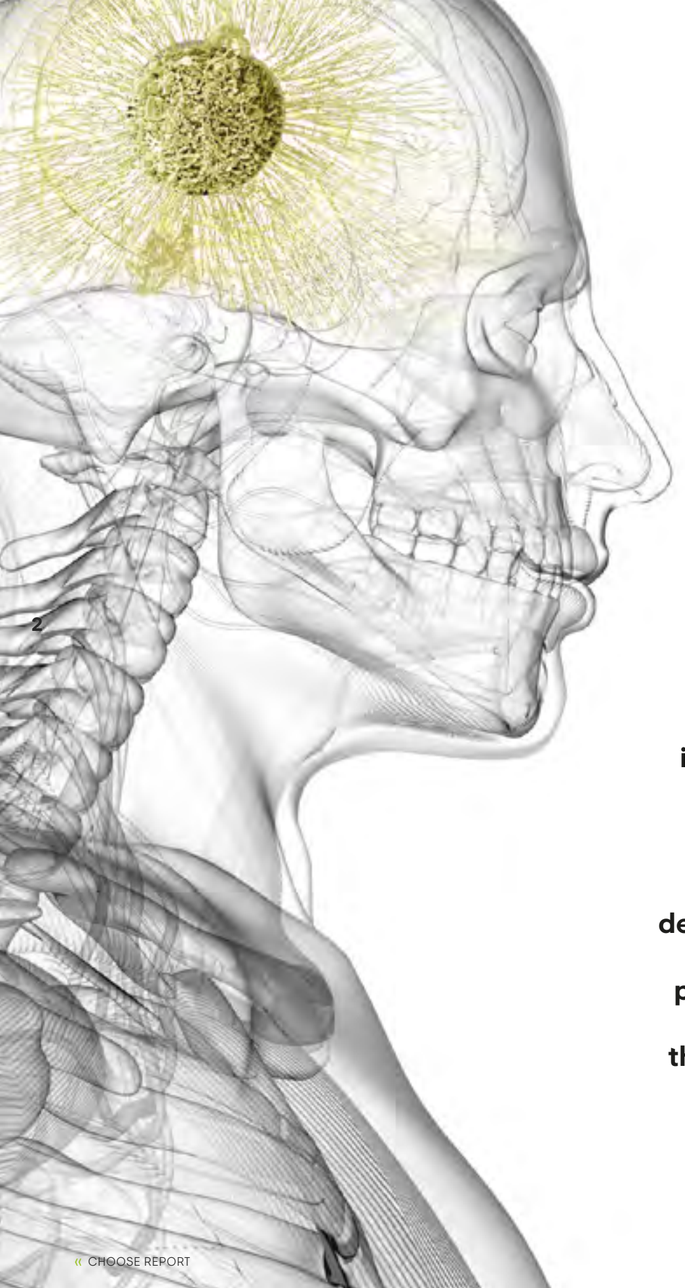


CORPORATE PROFILE

Grünenthal is a global leader in pain management and related diseases. We have a long track record of bringing innovative treatments to patients worldwide. As a fully integrated pharmaceutical company we cover the entire value chain – from drug research and development to commercialisation of portfolios with both growth products and established brands. We operate in accordance with the highest ethical and regulatory standards, and we focus our efforts on our vision of a World Free of Pain.

About this Report

GRI 2-1, GRI 2-3, GRI 2-4, GRI 2-5

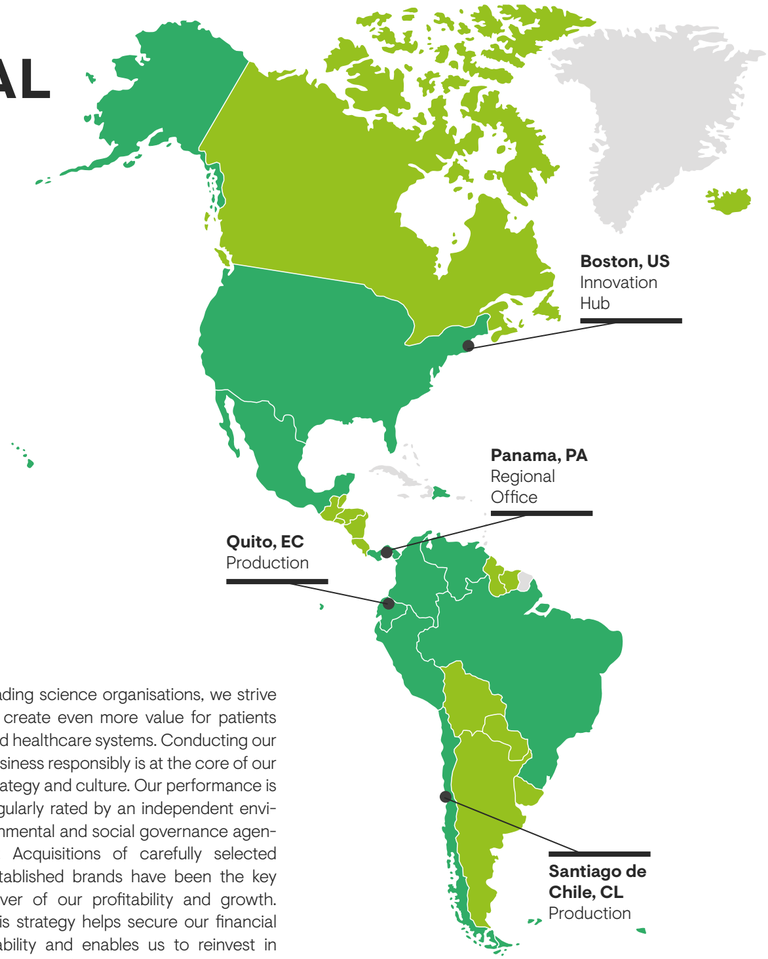
In selecting the content of this second Grünenthal Responsibility Report, we were guided by the general principles of sustainability reporting of completeness, materiality and stakeholder engagement. Grünenthal has reported in accordance with the GRI Standards for the period 01-01-2022 to 31-12-2022. The GRI indicators are marked at the relevant text sections. This report was published in April 2023 and is planned to be published annually. There have been no restatements compared with the year before. We are committed to the 10 principles of the UN Global Compact. The GRI Content Index therefore also indicates which GRI indicators simultaneously cover one or more of the UN Global Compact principles.

Deloitte GmbH Wirtschaftsprüfungsgesellschaft conducted a voluntary, limited assurance engagement on the data for the fiscal year 2022. As greenhouse gas emissions for 2022 are not yet available, the 2021 figures are in the scope of the audit. Sections containing audited data in this report are indicated by a line on the left side of the text. With the exception of greenhouse gas emissions, 2021 figures are not in the scope of the limited assurance audit for 2022. Unless otherwise indicated, the statements in this report refer to the scope of consolidation as stated in the consolidated financial statements of Grünenthal Pharma GmbH & Co. Kommanditgesellschaft.

Our Ambitions

The Global Reporting Initiative is an internationally recognized and probably the most widely used reporting standard for Responsibility/Sustainability reporting.
It provides strict requirements for transparent metrics and KPIs to set clear ambitions and measure progress. We are committed to driving our Responsibility Programme in a measurable and auditable way, so we have chosen the ambitious reporting standards and the voluntary external audit.

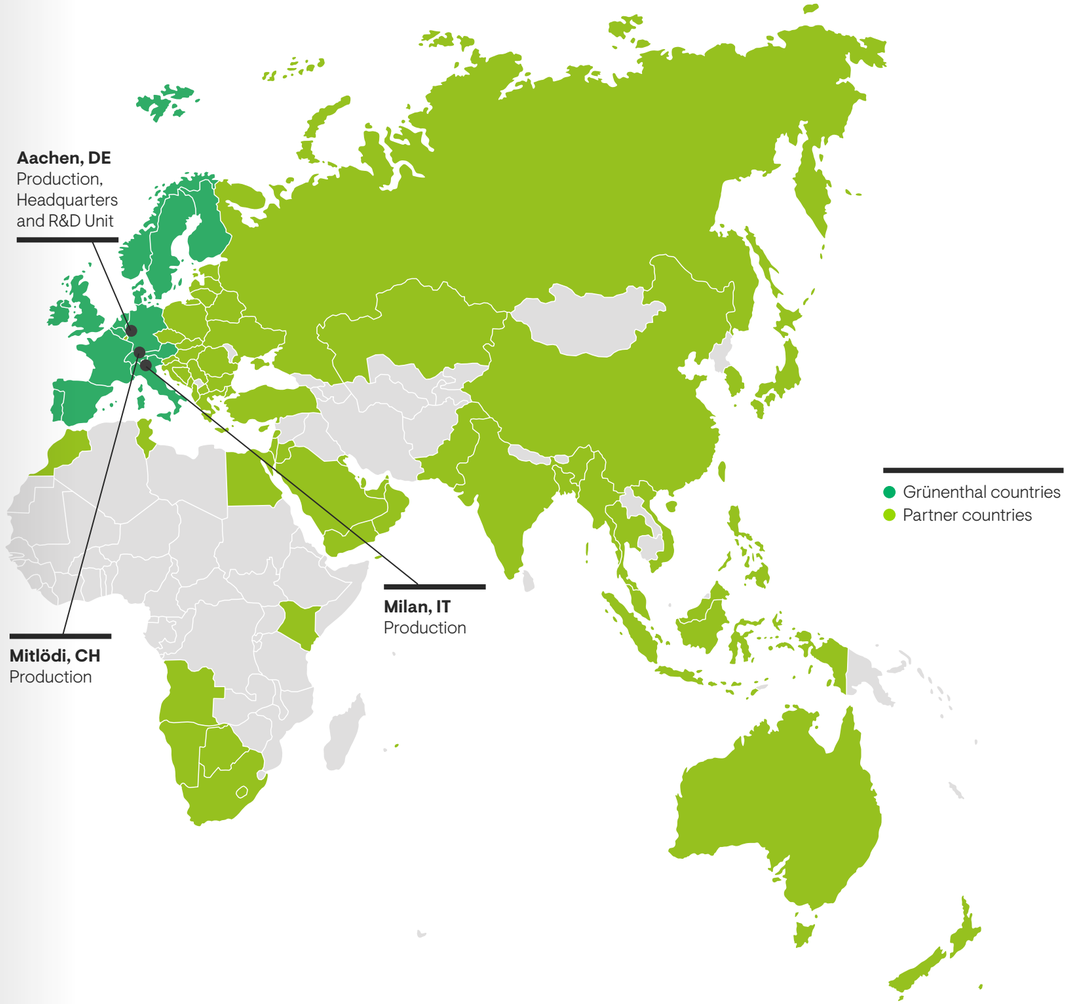
THE GRÜNENTHAL WORLD



GRI 2-1, GRI 2-2, GRI 2-6

Grünenthal is a global company headquartered in Aachen, Germany. It has affiliates in 28 countries across Europe, Latin America and the US. Patients and customers benefit from Grünenthal products in around 100 countries worldwide.

Pain, especially chronic pain, represents a significant burden for people and society. Its alleviation remains a significant unmet medical need. Grünenthal is the leading pharmaceutical company focused on pain therapies and research. We are committed to transforming the future of pain management within the highest ethical and regulatory standards. As a family-owned company, we have been in the business of developing breakthrough medicines for patients for more than 75 years. Over the past five decades, we have focused on developing, manufacturing and commercialising innovative products for the pain market. From research to distribution, we have capabilities across the full value chain and aim to strengthen our pain leadership by developing highly innovative, non-opioid therapies. In partnership with leading science organisations, we strive to create even more value for patients and healthcare systems. Conducting our business responsibly is at the core of our strategy and culture. Our performance is regularly rated by an independent environmental and social governance agency. Acquisitions of carefully selected established brands have been the key driver of our profitability and growth. This strategy helps secure our financial stability and enables us to reinvest in pain research.



LETTER FROM THE CEO

GRI 2-22

As a global leader in pain management, our purpose at Grünenthal is to improve lives. Each day, our teams worldwide work to make our vision of a World Free of Pain a reality. Conducting our business responsibly is a core part of our strategy and culture, and we aspire to have a net positive impact on the societies we operate in.

Dear Partners,

Our long-standing commitment to Corporate Responsibility is closely tied to our culture and embedded within our strategy. In 2022, we took decisive steps to implement our comprehensive Corporate Responsibility Programme. This programme is built on four modules: Fields of Action, Ethical Framework, ESG Risk Management, and Corporate Governance.

Our Fields of Action ensure we create a maximum positive impact on healthcare, our communities, and the environment. Key initiatives revolve around the topic clusters PATIENT, PEOPLE and PLANET. Material topics with specific ambitions and KPIs have been identified for each field. We want our commitment to Environmental, Social and Governance (ESG) to be a valuable and sustainable contribution to society.

In the 2022 reporting period, we re-assessed all important strategic and operational topics within our company and its environment. This involved analysing both their impact on Grünenthal's business activities ('financial materiality') and the impact of Grünenthal's business activities on sustainability topics ('impact materiality'), known collectively as the double materiality concept.

To gain a holistic view, we analysed the identified topics regarding their relevance in our value chain. Our annual Responsibility Reports demonstrate our transparency and document our progress. We report according to the Global Reporting Initiative (GRI) standards and subject our reporting to external auditing. Our efforts were recognized by an ESG rating that ranked Grünenthal in the top 3% for our pharmaceutical subindustry[1], with an even stronger rating compared with the previous year.

As a United Nations Global Compact (UNGC) member, we formally commit to the values of the world's largest initiative for responsible corporate governance. We are committed to the 10 universal UNGC principles in human rights, labour standards, environment and climate, and corruption prevention. In addition, we support the achievement of the Sustainable Development Goals (SDGs).

We believe a sustainable future can only become a reality when the important stakeholders work together. This is why we maintain the dialogue with our partners and employees to challenge our efforts and adjust our targets.

We continue to make great strides to positively impact the communities and the environment we operate in. From sustainable water management to reducing our energy consumption: Grünenthal does its part to reduce its footprint on our surroundings. We also regularly partner with NGO's, for example, when providing disaster relief or supporting research around the world. Grünenthal continues its successful journey towards an even more sustainable future for all.

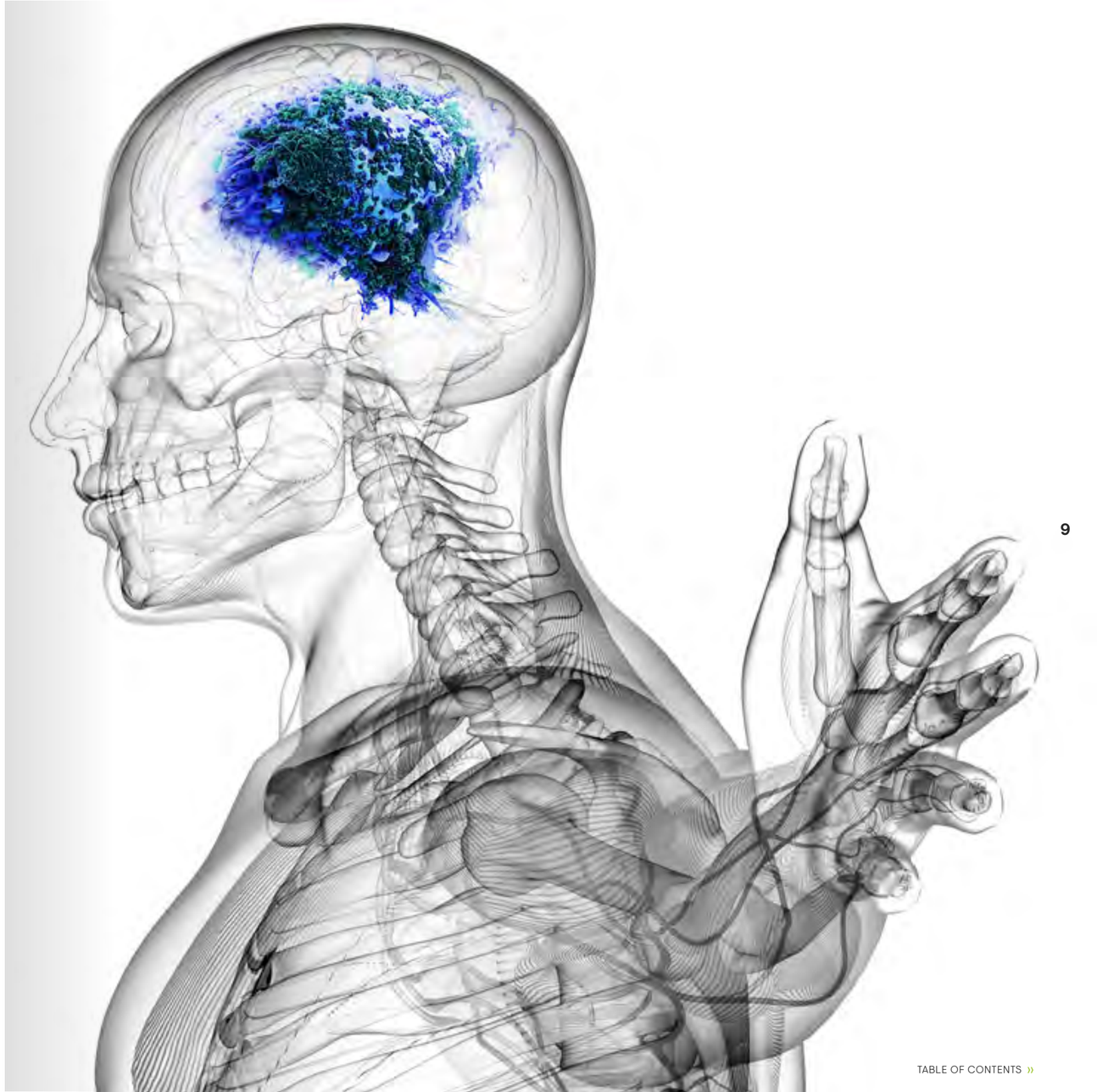
Gabriel Baertschi
Chief Executive Officer

> "Grünenthal aims to maximise its beneficial effect on employees, partners and society – while reducing the environmental footprint of our business activities.

Gabriel Baertschi
Chief Executive Officer

1 Sustainalytics. The Pharmaceuticals industry comprises three subindustries: Pharmaceuticals, Biotechnology and Laboratory Equipment and Services.

GRÜNENTHAL'S CORPORATE RESPONSIBILITY PROGRAMME



GRÜNENTHAL'S CORPORATE RESPONSIBILITY PROGRAMME

Corporate Responsibility is at the core of our business strategy and our culture. We want to create a net positive impact for patients, employees, partners and wider society. And we want to reduce the negative impact of our operations on the environment.

To make this happen, we have established a holistic corporate responsibility programme (the 'Corporate Responsibility Programme') which includes impact initiatives with ambitious goals.

Our responsibility and sustainability reporting is drawn up in line with the latest Global Reporting Initiative (GRI) Standards (2021) and the 10 principles of the United Nations Global Compact (UNGC), of which the Grünenthal Group became a member in 2021.

In addition, our performance is regularly assessed by independent rating agencies according to environmental, social and governance (ESG) criteria.

What we achieved in 2022:

- Improved ESG risk rating through permanent gap filling
- Established a regular cycle of data collection and reporting
- Ambitions from Responsibility Report 2021/22 'on track'
- Established a dedicated cross-functional ESG Lead Team as a clear point of contact

Our Corporate Responsibility Programme is embedded in our Strategy

The four Modules of our Corporate Responsibility Programme

I

Fields of Action

Our Fields of Action are focused on **compliance, ethics and transparency**, the **patients** we serve, the **people** with whom we work and the **planet** we depend on. We have created internal capacity to define and organise the necessary tasks, set ourselves ambitious targets and established key performance indicators ('KPI') to measure progress for each of these fields of action.

II

Ethical Framework

Our strict ethical framework provides us with guidance in areas that are lacking clear legal regulations. Examples include our bioethics and our data ethics frameworks (see chapter 'Compliance, Ethics and Transparency').

III

ESG Risk Management

Managing risks is an essential aspect of acting responsibly as a corporation. Potential risks in this area can be clustered into the established sustainability categories: environmental, social and governance – or 'ESG'. Our performance in ESG risk management is reflected in an external rating by Sustainalytics. In 2022, Grünenthal was placed in the top 3 % of the global pharmaceuticals subindustry – a segment that is inherently characterised by higher ESG risk. This puts our company just outside the low-risk category and ahead of our key peers. The rating agency Sustainalytics assessed Grünenthal as having a medium ESG risk overall and managing our ESG risks in a strong way. We continually review our ESG risks and look for targeted opportunities for improvement. The results of the rating also form a basis for defining our material topics, goals and measures.

IV

ESG Governance

Our comprehensive corporate governance system ensures that we constantly conduct our business in ways which align with our belief in decent entrepreneurship. We have further strengthened our sustainability governance by introducing a responsibility board (the 'Responsibility Board'). It drives the ongoing implementation and further development of our Corporate Responsibility Programme.

Dialogue with our Stakeholders

GRI 2-29

We operate in a dynamic environment with a large number of diverse stakeholder groups whose demands vary widely. We aim to be a reliable and trustworthy partner to attract talent and fulfill the expectations of our investors and shareholders by being a good corporate citizen with strong ethics. Therefore, it is important for us to engage all our stakeholders in a continuous dialogue. As part of our materiality analysis 2021, we have identified five core stakeholder groups that have an especially strong influence on Grünenthal, or for whom our impact is particularly significant. These stakeholder groups were validated in the 2022 materiality analysis:

Customers

Our customers can be divided into two subgroups, namely B2B customers (such as wholesalers, pharmacies and retailers) and end consumers (patients). Both groups are directly affected by our activities. From outreach via our patient engagement, we know that end consumers rightly expect our products to meet high quality and safety standards and to be accessible. These same aspects are also important for our B2B customers, as they are indirectly affected by the quality and safety as well as by the accessibility, availability and reputation of our products.

Employees

Our employees at Grünenthal benefit directly from opportunities for growth and development that we can offer them. Our goal is to maximise these opportunities while providing a safe place to work. At the same time, the successful implementation of our Responsible Business Programme depends largely on the ability and willingness of our employees to understand, comply with and support this programme. Our corporate responsibility engagement is key for attracting and maintaining talents at Grünenthal. In line with this motivation, we are improving the discourse with our employees and have conducted an employee survey which we will do repeatedly, from which we can gather feedback and reflect on their input.

Investors

Grünenthal's actions and operations ultimately affect our financial performance and are therefore relevant for our debt investors. This is particularly true for our approach to ESG risk management, as our related performance presents opportunities as well as risks that have a mid- and long-term impact on financial performance.
From engaging with them directly, through debt investor calls and in other ways, we gather more intelligence and for example know debt investors will themselves consider sustainability factors in their investment decisions and may even be required to do so under applicable laws, regulations or investment guidelines.

Suppliers

We are embedded in and depend on global supply chains to manufacture our products. Grünenthal's actions and performance have a direct impact on other businesses in our supply chain. At the same time, our suppliers and their decisions and dependencies have a direct impact on us. We are very aware of our responsibility regarding the organisations in our value chain and maintain a continuous dialogue with them. We also have dedicated working groups and impact initiatives in place to collaborate with and improve environmental, social and governance aspects in our supply chain.

Peers

As an important member of the pharmaceutical industry, we want to set a benchmark for quality, reliability and safety. Together with our partners and peers, we want to have a positive influence on the entire sector and increase the overall sustainability performance of the pharmaceutical industry.
We are in an ongoing dialogue with our core stakeholders and jointly analyse potential impacts, requirements, opportunities and risks in the context of responsible and sustainable business decisions. As part of our materiality analysis, we have included our main stakeholders in the development of our material topics. Thanks to recurring supervisory dialogue and regular touchpoints with our executive business team on the topic, the incorporation of stakeholder engagement in Grünenthal's Responsibility Programme is ensured.

Membership Awssociations

GRI 2-28

In addition to maintaining an ongoing dialogue with our stakeholders, we are involved in many industry and sector associations. These include:

- Akademie für ärztliche Fortbildung
- Arbeitsgemeinschaft für Pharmazeutische Verfahrenstechnik e. V. (APV)
- Berufsverband der Ärzte und Psychologischen Psychotherapeuten in der Schmerz- und Palliativmedizin in Deutschland e.V. (BVSD)
- BioRiver Life Science im Rheinland e.V.
- Bundesverband Managed Care e.V.
- Clinical Data Interchange Standards Consortium (CDISC)
- Deutsche Gesellschaft für Palliativmedizin e.V.
- Deutsche Gesellschaft für Regulatory Affairs e.V. (DGRA)
- Deutsche Gesellschaft für Schmerzmedizin e.V. (DGS)
- Deutsche Public Relations Gesellschaft e.V.
- Deutsche Schmerzgesellschaft e.V.
- Deutsche Schmerzliga e.V.
- Deutsches Institut für Compliance e.V. (DICO)
- Deutschsprachige SAP Anwendergruppe e.V. (DSAG)
- digitalHUB Aachen e.V.
- European Federation of Pharmaceutical Industries and Associations (EFPIA)
- European Pharmaceutical Market Research Association (EphMRA)
- Eversana Life Science Services, LLC
- Gesellschaft Deutscher Chemiker e.V. (GDCh)
- Gesellschaft zur Förderung des Unternehmernachwuchses e.V. (BBUG)
- Health Care Bayern e.V.
- Interdisziplinäre Gesellschaft für orthopädische/unfallchirurgische und allgemeine Schmerztherapie e.V. (IGOST)
- International Federation of Pharmaceutical Manufacturers & Associations (IFPMA)
- International Society for Pharmaceutical Engineering, Inc. (ISPE)
- International Trademark Association (INTA)
- Interpat Association – The biopharmaceutical Intellectual Property think tank
- Lernendes Energieeffizienznetzwerk RheinEnergie AG
- Max-Planck-Gesellschaft
- Deutsche Gesellschaft für Personalführung e.V. (DGFP)
- Navitas Life Sciences Ltd.
- Patentrechtliche Arbeitskreise
- Paul-Ehrlich-Institut (Federal Institute for Vaccines and Biomedicines)
- Pharmaceutical Users Software Exchange (PhUSE)
- Pharma.be
- SecurMed UK
- Stifterverband Für Die Deutsche Wissenschaft e.V.
- The Data Warehousing Institute Germany e.V. (tdwi)
- United Nations Global Compact
- Verband der chemischen Industrie e.V.
- Verband Deutscher Treasurer e.V.
- Verband Forschender Arzneimittelhersteller e.V. (vfa)
- Vereniging Innovatieve Geneesmiddelen (The Dutch Association Innovative Medicines)

ESG Management Approaches and Materiality Analysis

GRI 3-1, GRI 3-3

The development of our responsibility and sustainability activities has emerged through dialogue, analysis of our impact on people and nature, and analysis of actual and potential ESG impacts on our business.

Procedure for the Materiality Analysis

In the 2022 reporting period, we not only put the results of last year's materiality analysis under scrutiny, we also re-conducted the materiality analysis based on the 'double materiality' concept. While material topics in 2021 were determined primarily by their impact (economic, environmental and social impacts of Grünenthal's business) and the external (stakeholder) relevance, we re-assessed all the important strategic and operational topics within Grünenthal and its environment in 2022. Mirroring the findings in a central materiality workshop and strategic analysis phase, the 'double materiality' of topics was assessed. This meant analysing both (i) their impact on Grünenthal's business activities ('financial materiality') and (ii) the impact of Grünenthal's business activities on the sustainability topics ('impact materiality').

As with last year's process, the Corporate Executive Board and the Advisory Board were also involved in the final definition and understanding of the material topics 2022. Stakeholder input gained from our recurring dialogue was also considered.

Importantly, to gain a holistic understanding of the topics' impact and our impact on the topics, we analysed the identified topics regarding their relevance in our value chain. This way, we were able to identify at which points in the value creation process topics are relevant, and who in or outside Grünenthal may be affected or should be involved or considered when setting goals and designing measures for the respective material topics.

Material Topics

GRI 3-2

In our materiality analysis, we reviewed all the important topics grouped in our four fields of action (see infographic below). As for the reporting period 2022, the four fields of action are:

- **Compliance, Ethics and Transparency**
- **Patient**
- **People**
- **Planet**

These form the framework of our responsibility and sustainability activities.
It is essential to our business to ensure high **Compliance, Ethics and Transparency** standards. They are the foundation of our business and shape our everyday operations.
The **Patient** field of action concerns the solutions and achievements for the users of our products. The main topics in this field of action are directly related to innovation, to how we market our existing products, and to awareness and access to pain medication.

The **People** field of action includes key topics related to our employees, such as their health and level of engagement, as well as our diversity as an organisation and our attractiveness to potential employees.
The action area **Planet** encompasses all the topics related to the environmental impact of our business activities, the responsible use of resources and our influence on the climate.

Our 12 Material Topics within four Fields of Action

PATIENT

- Responsible Use of Pain Medication
- Product Governance & Safety
- Responsible Innovation
- Awareness & Accessibility

COMPLIANCE, ETHICS & TRANSPARENCY

- Compliance, Ethics & Transparency Excellence

PEOPLE

- Human Capital Fairness
- Employee Engagement
- Equality, Diversity & Inclusion
- Attractive Employer

PLANET

- Environmental Excellence Strategy
- Responsible Use of Resources
- Our Impact on Climate

Fields of Action	COMPLIANCE, ETHICS & TRANSPARENCY	PATIENT	PEOPLE	PLANET
Material Topics and Descriptions	• Compliance, Ethics & Transparency Excellence *Aiming for excellence in the areas of compliance, ethics and transparency is at the core of our daily business. We operate at high ethical standards and continuously strive for excellence*	• Responsible Use of Pain Medication *Our approach to the responsible use of pain medication is based on three pillars which form the foundation of our business relationships. They centre on strict governance, close involvement of our business partners, and education about pain medication for healthcare professionals and patients* • Product Governance & Safety *Our products are made to manage pain. Striving to ensure the safety of our products and the highest product standards is essential* • Responsible Innovation *Even today, there are still types of pain that cannot be adequately treated. Through our R&D, we contribute to providing for people with as yet unmet needs* • Awareness & Accessibility *Raising awareness and enabling access to pain medication is a core topic to us. We need to make people understand that pain is a disease in its own right and give those who suffer from it access to appropriate medicines to treat their condition. We strive to raise awareness and accessibility via various initiatives that are combined in one holistic Awareness & Accessibility platform that further boosts our ability to reach our goals*	• Human Capital Fairness *Healthy employees and safe working conditions are the basis for our success. To achieve this, we rely on comprehensive health measures and the highest safety standards* • Employee Engagement *Fostering a high-performance culture and living our Values & Behaviours is the key to our success. This is why we invest in regularly requesting feedback from our employees to help us constantly improve* • Equality, Diversity & Inclusion *We stand for diversity, equality and inclusion. We want to increase diversity and equality at Grünenthal and become a role model and inclusive workplace* • Attractive Employer *We want to create the best possible conditions for our employees in their working and personal environment. We therefore offer rich and varied roles, opportunities for growth and an extensive range of benefits*	• Environmental Excellence Strategy *Our goal is to further promote environmental sustainability. We achieve this by continually developing our environmental sustainability strategy based on our impact initiative Driving Environmental Sustainability* • Responsible Use of Resources *Responsible use of resources is essential for us and our stakeholders to limit our impact on the environment. We focus in particular on our consumption of energy and water and our handling of production waste* • Our Impact on Climate *We want to better understand our impact on climate change and want to take action to reduce it. We therefore calculate our corporate carbon footprint and set ourselves firm targets for future CO_2 reductions*

Materiality Matrix

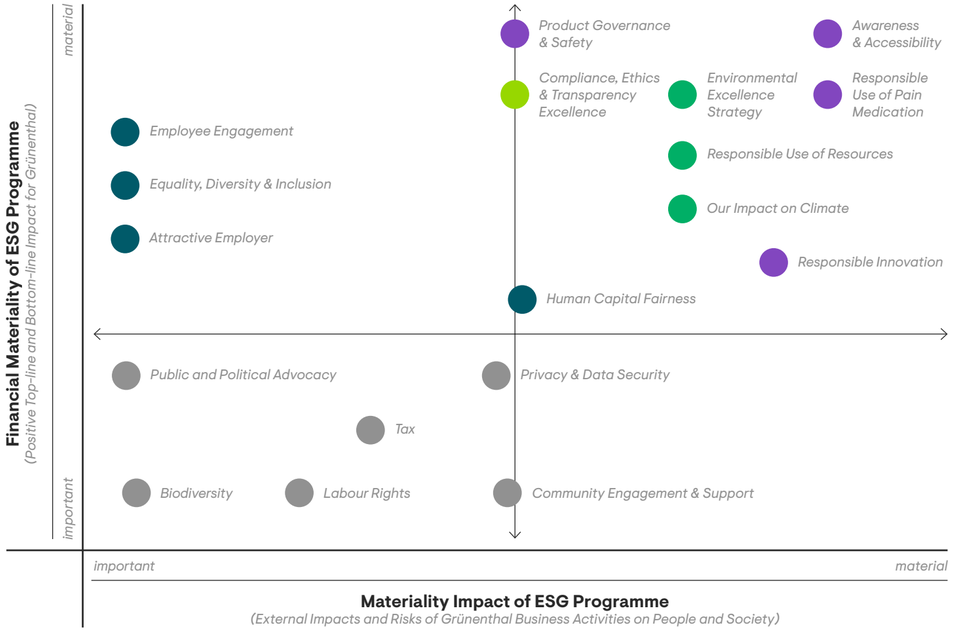
When analysing the impacts as well as the risks and opportunities associated with all topics determined, it was the 12 Material Topics, already reported for the period 2021, that scored highest in materiality in 2022 again, for the following reasons:

- **Compliance, Ethics & Transparency** Excellence in the respective field of action provides the licence to operate for Grünenthal, and has the greatest effects on the costs and barriers to market entry, and corporate reputation. Financial materiality is therefore high. This topic also has great social impact materiality, as it influences the global development of fair and transparent access to pharmaceutical products.
- In the **Patient** field of action, both Awareness & Accessibility and Responsible Use of Pain Medication are scored as highly financially material due to the effects on safeguarding company positioning and reputation ('A World Free of Pain'), market sales volumes, and efficiency effects by focusing and clustering measures and also involving the cost of incurred measures. The impact materiality is also highest, due to the direct effects on efficient healthcare resources through better and faster treatments, and a social impact through improvements in the overall health situation. In this Patient field of action, Responsible Innovation also ranks as a material topic. In the financial materiality dimension, Responsible Innovation affects the speed of development cycles and can contribute to broader patient sales bases with potential positive reputation effects. Materiality impact is highest due to the topic's effect on broader patient phenotyping.
- In the **People** field of action, the financial materiality for four topics is high: Employee Engagement; Equality, Diversity & Inclusion; Attractive Employer; and Human Capital Fairness. These material topics all have direct effects on personnel costs, productivity rates, personnel retention rates, recruiting costs, size of employee base, and employer reputation. In the case of Human Capital Fairness, the materiality impact is also high due to a general social contribution impact on employment conditions.

- In the **Planet** field of action, the three material topics are Environmental Excellence Strategy, Responsible Use of Resources, and Our Impact on Climate. They influence access to capital and its cost, and ongoing capital expenditures especially for energy sourcing, environmental risk mitigation and access to energy; it all defines the financial materiality of these topics. Additionally, the impact on environmental prosperity affects the materiality impact of these topics.

When mapped according to the relevance of their respective financial and impact materiality, Grünenthal Material Topics 2022 creates the following matrix.

Grünenthal Double Materiality Matrix

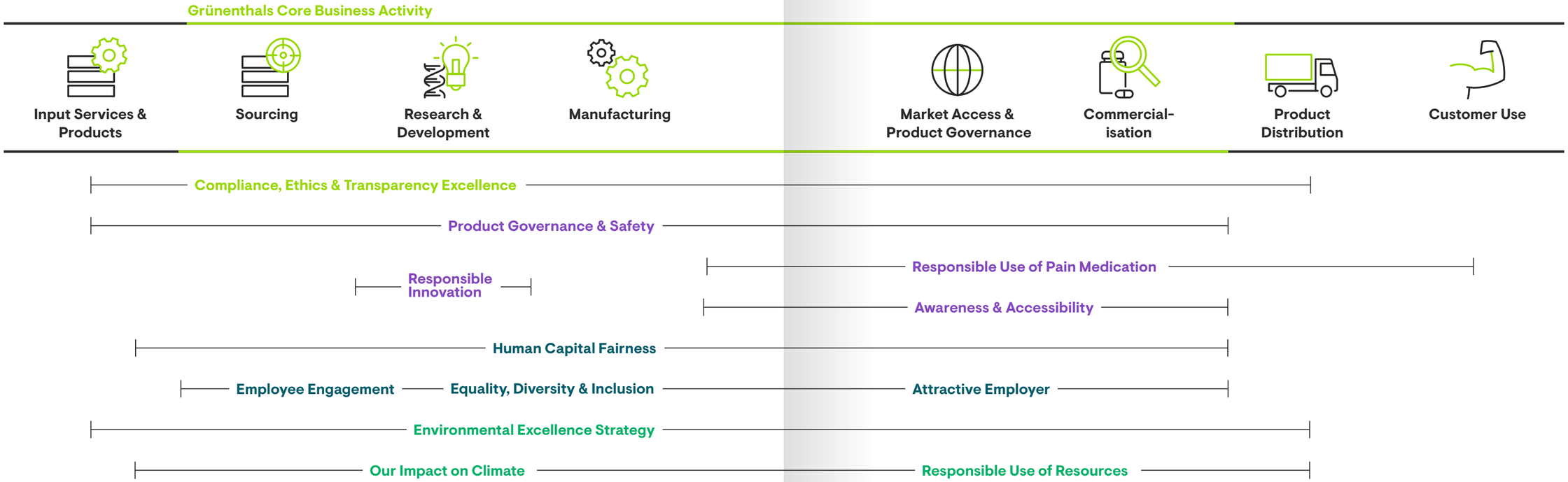


Grünenthal's material topics within our Fields of Actions:

Compliance, Ethics & Transparency · Patient · People · Planet

In addition to this, we have mapped the Grünenthal Material Topics 2022 according to their relevance within the Grünenthal Value Creation Process as shown below.

Grünenthal Value Creation Process and Mapped Span of Material Topics



Grünenthal's material Topics within our Fields of Actions: Compliance, Ethics & Transparency · Patient · People · Planet

Sustainable Development Goals

We want to continuously improve and optimise our ESG performance. To achieve this, we have set ambitious targets for each of our material responsibility topics. These targets can be found in this report on the opening pages for each relevant chapter.

Grünenthal's Contribution to the SDGs

In 2015, the United Nations adopted Sustainable Development Goals (SDG) as a 'blueprint to achieve a better and more sustainable future for all'. The SDGs are a call to action to end poverty and inequality, protect the planet, and ensure that all people enjoy health, justice and prosperity.
As a leading pharmaceutical company, we are committed to supporting the SDGs in line with our business strategy. We particularly contribute to SDG 3, which aims at ensuring healthy lives and promoting wellbeing for all.

SDG 3: Good Health and Wellbeing

Pain is a huge burden for patients, their families and society as a whole. As a leader in pain management, we help to educate patients and healthcare professionals on how to use pain medication responsibly, while ensuring the best possible impact for the patient. We also raise awareness and increase accessibility to available treatments, while developing new medication for unmet medical needs to improve patient quality of life worldwide.
Through our business operations and ongoing activities, we also make essential contributions to the following SDGs:

SDG 8: Decent Work and Economic Growth

People thrive best in a healthy environment, so we care for the wellbeing of everyone who works at Grünenthal. We have established an inspiring place to work and develop, in an open and inclusive atmosphere, with fair employment practices. In 2022, we were certified as a Great Place to Work® at 24 entities in 19 countries, including our headquarters and all our production sites. We aim to maintain high levels of engagement at Grünenthal by providing a working environment in which all our employees feel valued, respected and empowered to reach their full potential and bring great ideas to the table.

SDG 9: Industry, Innovation and Infrastructure

We need solutions that address huge unmet needs in pain management. This is why a large part of our revenue is reinvested into R&D each year, and well above industry average. Through our funding programmes such as the EFIC-Grünenthal Grant and the Brain, Mind and Pain 'Patient-Centred Innovation Grant' (BMP Grant), we support scientists in carrying out innovative clinical pain research. We have filed 200 priority patent applications in the last 10 years. On top of this, we leverage modern technologies to improve outcomes for patients. We are, for example, using machine learning based on anonymised human data to increase understanding of disease and to improve the design of clinical trials.

SDG 12: Responsible Consumption and Production

We conduct our business responsibly, which means legally, ethically, respectfully and sustainably. This approach covers everything we do, from selecting suppliers and how we treat our employees to production conditions and marketing and sales practices. Our dedicated responsibility initiatives, such as our zero waste to landfill programme, energy and water efficiency programmes and consumption targets help us focus our efforts to contribute to the achievement of SDG 12.

SDG 13: Climate Action

To reduce the environmental impact of our business, we have established several initiatives to ensure we use resources more sustainably, avoid waste in our operations wherever possible, and switch to renewable and low-carbon energy. To foster a more strategic approach, we have carried out a full environmental impact assessment and greenhouse gas (GHG) inventory for all our activities. On this basis, we are building a roadmap to becoming more sustainable in our business operations. We have set ourselves the goal of achieving net zero emissions for our own sites and our direct emissions by 2030. With our goal to work with our key suppliers to achieve a commitment to use 100 % renewable power and implement an energy reduction standard by 2030, we hope to raise awareness, educate, and inspire our supply chain to follow our commitments.

Embedding Sustainability in the Organisational Structure

GRI 2-12, GRI 2-13, GRI 2-14, GRI 2-17

To develop a strong corporate responsibility governance structure, we have established a responsibility board (the 'Responsibility Board') for a consistent Grünenthal-wide and localised implementation, enforcement and monitoring of our Corporate Responsibility Programme. The Board is chaired by the Chief Responsibility Officer. The Responsibility Board ensures close alignment with the Corporate Executive Board and communication to all employees and stakeholders.

Members of the Responsibility Board

- Chief Responsibility Officer (Chair)
- Head of Global Human Resources
- Head of Corporate Strategy
- Head of Global Communication
- Head of Research
- Head of Drug Safety and Qualified Person Responsible for Pharmacovigilance (QPPV)
- Head of Manufacturing Latin America & API and Global Manufacturing Operations
- Head of Latin America
- Head of Commercial Controlling
- Head of Global Portfolio Commercialisation
- Commercial Responsibility & Business Ethics Officer

The Responsibility Board reports directly to the Corporate Executive Board in regular reporting and coordination updates, and at any other time if needed. The Corporate Executive Board is therefore in constant exchange with the Responsibility Board and is permanently involved in the development, adoption and updating of all relevant strategies, policies and goals regarding sustainability at Grünenthal.

In addition, the Advisory Board (Beirat) is regularly informed by the Chief Responsibility Officer about the situation, plans and progress of the Corporate Responsibility Programme.

Our Responsibility Programme's continuous improvement and development is the key duty of the Responsibility Board. It serves as a decision-making body and sounding board for all questions, issues, matters and targets related to Corporate Responsibility at Grünenthal, and organises all the necessary structures throughout the Grünenthal Group to ensure stable sustainability governance.

The Responsibility Board also manages and fosters continual dialogue with external and internal stakeholders, sets ambitious sustainability targets and ensures transparent reporting.

In this context, the Responsibility Board actively promotes the advancement of collective knowledge, skills, and experience of the Corporate Executive Board and the Advisory Board on sustainable development.

Governance Structures

GRI 2-1, GRI 2-9, GRI 2-11

The Ultimate Parent Company of the Grünenthal Group

The ultimate parent company (Grünenthal Pharma GmbH & Co. KG) of the Grünenthal Group is a limited partnership (Kommanditgesellschaft) incorporated under the laws of Germany, with a limited liability company (Gesellschaft mit beschränkter Haftung) as general partner incorporated under the laws of the Principality of Liechtenstein, and which has its corporate seat in Aachen, Germany (the 'Ultimate Parent Company'). It wholly owns Grünenthal GmbH. The Ultimate Parent Company serves as a holding company, while Grünenthal GmbH is the entity that is active in the pharmaceutical business.

Grünenthal GmbH

Grünenthal GmbH is a limited liability company (Gesellschaft mit beschränkter Haftung) organised and existing under the laws of Germany and has its corporate seat in Aachen, Germany (the 'GmbH'). The GmbH was incorporated in 1946 under the name Chemie Grünenthal GmbH.

Dual Governance Structure

Both the Ultimate Parent Company and the GmbH have a dual management system characterised by a separation of personnel between the management and supervisory bodies, as further explained below.

The Advisory Board

Both the Ultimate Parent Company and the operational GmbH have an advisory board (Beirat) in place. The limited partners of the Ultimate Parent Company (the 'Shareholders') and the shareholders of the GmbH, respectively, elect the members of their relevant advisory board (Beirat). The members of the advisory board of the Ultimate Parent Company and the advisory board of the operational GmbH (the 'Advisory Board') have to be identical.
The Advisory Board appoints the GmbH's managing directors (Geschäftsführer), who form the Corporate Executive Board (the 'Corporate Executive Board'), and advises and controls the Corporate Executive Board. The managing directors (Geschäftsführer) regularly report to the Advisory Board on the financial situation of the Group, and on matters relating to the business situation of the Group, the management's plans, important occurrences and matters, and on the Group's performance.
The Advisory Board approves the measures of the Corporate Executive Board if required by the Articles of Association of the GmbH and the partnership agreement of the Ultimate Parent Company. For example, certain significant actions, including acquisitions, material licence deals and material investments or fundamental strategic matters of the Group, where they lie outside the usual course of business, require the approval of the Advisory Board.
The Advisory Board has an audit committee (Prüfungsausschuss) and a personnel committee (Personalausschuss). It may establish any other committee if it decides to do so.

The members of the Advisory Board consist of five external voting members (the 'Voting Members') and four consulting/non-voting members (the 'Non-Voting Members'). One Voting Member of the Advisory Board is female and the other four Voting Members are male. Three of the Non-Voting Members are female and the other Non-Voting Member is male. The Voting Members comprise members with long-standing experience in senior positions from relevant industries such as pharmaceuticals, consumer goods, advertising, legal, human resources and auditing. The Non-Voting Members are Shareholders or family members of the Shareholders.

Election of the Advisory Board Members

GRI 2-10

The limited partners of the Ultimate Parent Company (the 'Shareholders') and the shareholder of the GmbH, respectively, elect the members of their relevant advisory board (Beirat). In accordance with the partnership agreement of the Ultimate Parent Company, the members of the advisory board of the Ultimate Parent Company and the advisory board of the operational GmbH (the 'Advisory Board') have to be identical. The Voting Members of the Advisory Board are elected by a simple majority. For the election of persons who are shareholders, a majority of two thirds is required.

The Corporate Executive Board

As a limited liability company, the GmbH is managed by its managing directors (Geschäftsführer), who are appointed by the Advisory Board and who together form the Corporate Executive Board. According to the Articles of Association of the GmbH, if only one managing director has been appointed, he or she shall represent the GmbH alone. If more than one managing director has been appointed, the issuer shall be represented by two managing directors jointly or by one managing director and one authorised representative (Prokurist) jointly. The managing directors (Geschäftsführer) regularly report to the Advisory Board as described in above section, 'The Advisory Board'. There is regular reporting on economic, environmental and social issues as well as on ESG Risk Management.

Performance Evaluation and Remuneration Determination of highest Governance Body

GRI 2-18, GRI 2-19, GRI 2-20

The Advisory Board has a personnel committee (Personalausschuss). This committee is responsible for preparing the resolutions of the Advisory Board on the appointment and dismissal of the members of the Corporate Executive Board, and resolutions on the conclusion, amendment and termination of their employment contracts. The personnel committee is made up of three members of the Advisory Board and external members. The external members of the Personnel Committee have long-standing experience in senior positions from relevant industries such as legal, human resources and auditing.
According to the Company's bylaws, our Corporate Executive Board members' terms of office can be up to five years. Re-appointments are possible. Our Advisory Board has adopted the custom of appointing Corporate Executive Board members for a maximum of three years for the first term.
The objectives of the Corporate Executive Board members reflect the measures of success according to the company objectives, such as pipeline progress, profit and revenue, debt payback and organisational development. The remuneration elements include both a fixed and variable part. All elements are benchmarked against the market median for peers in the EU pharma industry (for example turnover, number of employees, R&D) and are based on advice from external experts. The variable part of the remuneration is based on enterprise value creation, annual profitability and individual targets related to organisational objectives (according to company scorecard KPIs).

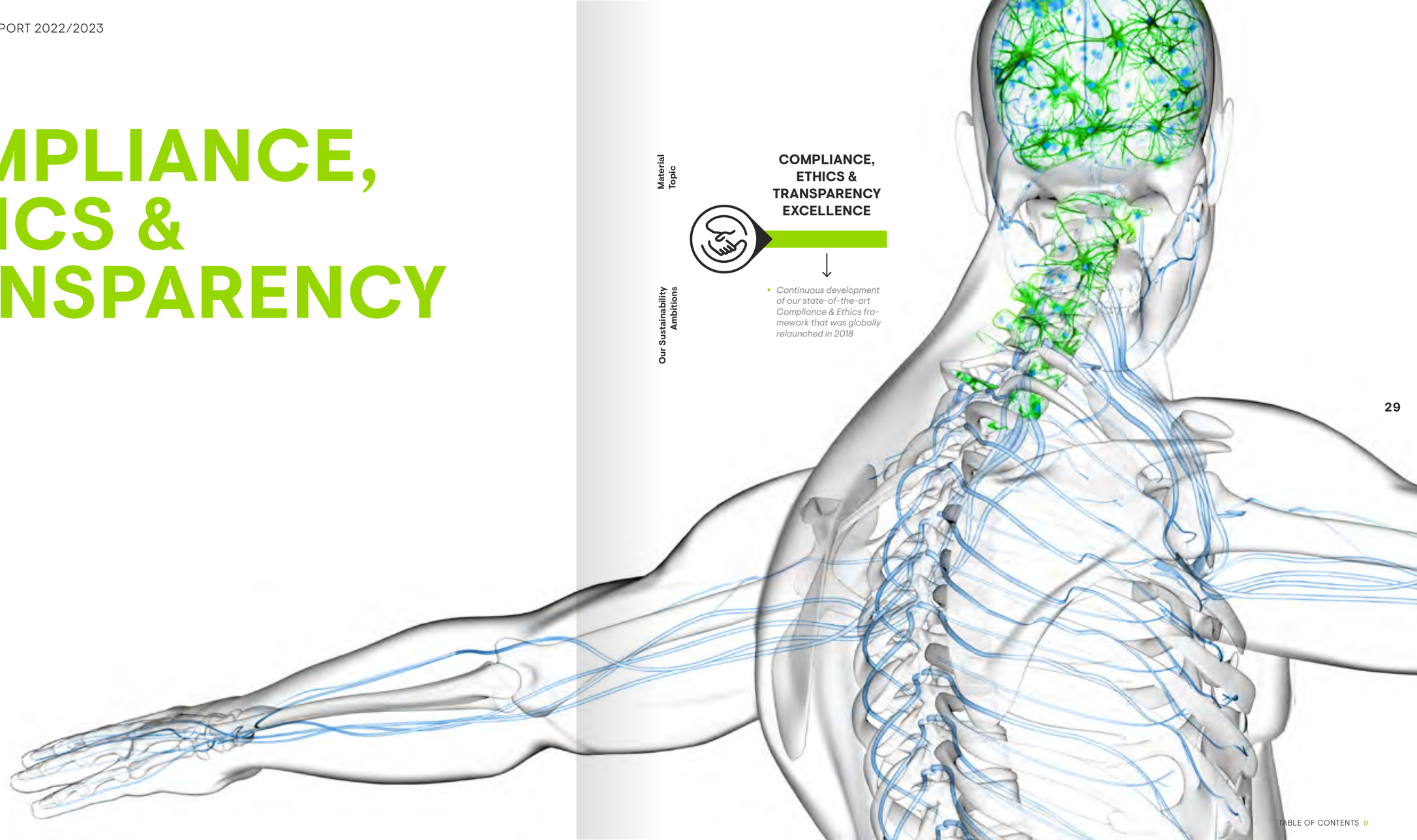
COMPLIANCE, ETHICS & TRANSPARENCY

Material Topic

COMPLIANCE, ETHICS & TRANSPARENCY EXCELLENCE

Our Sustainability Ambitions

- *Continuous development of our state-of-the-art Compliance & Ethics framework that was globally relaunched in 2018*



COMPLIANCE, ETHICS & TRANSPARENCY

We see it as our fundamental responsibility to act with integrity and maintain the highest ethical standards in everything we do. Our aim is to build trust and give confidence to patients, employees, partners and the communities we serve. Our Compliance & Ethics framework provides a clear governance and structure for our actions and is built around our Code of Conduct.

The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

For us, Compliance, Ethics & Transparency go hand in hand, build on each other and are deeply anchored in our culture. This is why excellence in this area is a material topic for us:

COMPLIANCE, ETHICS & TRANSPARENCY

Maintaining excellence in the areas of compliance, ethics and transparency is at the core of our daily business operations. We aim to operate at high ethical standards and continually strive to do better.

Compliance

Our Compliance Organisation is an integral part of our daily business. Dedicated Compliance Officers serve on decision-making bodies across the organisation. Their independence is maintained through a direct reporting line to the Chief Responsibility Officer, who reports to the Corporate Executive Board and to the Advisory Board.

A continual dialogue at Grünenthal brings our global Compliance & Ethics framework to life. This includes face-to-face training and workshops, remote and on-demand training as well as day-to-day consulting. We manage our business partners based on internal analysis and risk-rating and require them to act lawfully and with integrity in line with this framework. An Ethics Helpline Tool is accessible 24/7 to both our employees and external parties to raise questions, concerns or doubts.

By having a robust Compliance & Ethics framework that is integrated into Grünenthal's business processes, we ensure that risks are identified and managed to avoid negative impact to the company and its stakeholders.

Our global Compliance Management System

GRI 2-15, GRI 2-16, GRI 2-23, GRI 2-24, GRI 2-25, GRI 2-26

Grünenthal has established a comprehensive global Compliance Management System comprising Compliance, Business Ethics and Opioid Liability Risk Management.

The Compliance & Ethics framework is comprehensive, based on a Code of Conduct and includes a set of Compliance policies with a focus on our key risk areas (see box). It relies on group-wide processes including obtaining approvals before engaging with the healthcare organisations or healthcare professionals, reviewing promotional and non-promotional content, and reporting non-compliance. Features are continually added to keep the Compliance Management System up to date and in line with regulatory, political and social developments.

Our global Compliance Policies on

- Ethics Helpline
- Anti-Corruption
- Business Partners
- Healthcare Interactions
- Patient Interactions
- Promotion & Marketing
- Research & Development
- Data Protection
- Fair Competition
- Dawn Raid
- Code of Conduct for Business Partners
- Anti Money Laundering
- Foreign Trade
- Trade Secrets

Dedicated Compliance Organisation

Grünenthal's dedicated 'Compliance Organisation' consists of a Chief Responsibility Officer, a team of Compliance Officers as well as local Compliance contacts. The Compliance Organisation is the central actor within the global Compliance Management System. It is responsible for advising and training our colleagues and our business partners worldwide and for conducting investigations into alleged compliance violations.

The Chief Responsibility Officer reports on a regular basis and as needed to the Corporate Executive Board and the Advisory Board, providing detailed updates on training, healthcare interactions, audits, current developments and the status of reported alleged compliance incidents, as well as critical concerns. Both Boards are active decision-makers in issuing strategic directions regarding the Compliance Management System.

At regional and local level, regular reporting and consulting on Compliance topics is ensured via the Compliance Officers who are part of the regional and local leadership teams.

Ethics Committees are established as needed to decide on measures to be taken after a reported compliance incident has been investigated. Regional and local Ethics Committees take decisions about regional and local Compliance incidents, whereas the Global Ethics Committee is in charge of all Compliance incidents that have a major impact, such as the involvement of senior management and systemic or impactful Compliance violations.

Code of Conduct and Key Compliance Policies

Our Code of Conduct is the centrepiece of our Compliance Management System. It lays out our high standards in legal, ethical and responsible business conduct, including topics such as conflicts of interest, anti-corruption, human rights and data privacy. These basic principles on how we run our business operations are detailed in our global Compliance Policies. Our business partners are handled according to our Business Partner Policy and may be required to sign our Code of Conduct for Business Partners.

Our Code of Conduct and our Code of Conduct for Business Partners are publicly accessible.

www.grunenthal.com/en/responsibility/compliance-ethics-and-transparency

In addition to this Compliance & Ethics framework, we have established a comprehensive Opioid Responsibility Framework (see 'Our Approach to the Responsible Use of Pain Medication' in chapter 'PATIENT – THE PEOPLE WE SERVE') to mitigate risks related to our product portfolio.

Communication and Training

All new employees receive standardised online training on our Code of Conduct and on our Compliance & Ethics framework in general. Furthermore, on an annual basis, the Corporate Executive Board approves a training matrix that contains mandatory Compliance training courses for all our employees. These courses are target-groups specific and cover key topics such as 'Healthcare Interactions', 'Data Privacy', 'Business Partner Compliance' and 'Use of Social Media'. Additionally, there is training on topics that are identified as locally relevant such as local code requirements. The Compliance Policies and all relevant training materials are available in several languages, including English, German, Spanish, French, Italian and Portuguese.

To meet changing requirements, we are continually developing new training courses and updating existing ones. Our current portfolio consists of various training formats (see box).

Concrete figures on the two main training courses related to Compliance, Ethical Behaviour and Anti-corruption – Code of Conduct/Corporate Responsibility/Conflict of Interest (CCC) eLearning and Healthcare Interactions (HCI) training – can be found in the section 'Ethical Business within Grünenthal and its Supply Chain'. Training figures for our Opioid Responsibility Framework are reported in the 'PATIENT – THE PEOPLE WE SERVE' chapter in the section 'Our Approach to the Responsible Use of Pain Medication'.

Our regular Compliance Training Sessions:

CCC eLearning:

- Code of Conduct/Corporate Responsibility/Conflict of Interest

Face-to-Face:

- Anti Money Laundering
- Behaviour in case of a Dawn Raid
- Business Partner Compliance
- Case Handling
- Compliance/Opioid Responsibility@Commercial Partners
- Compliance & Ethics in Procurement
- Consent Management & Omnichannel Model
- Corporate Digital Responsibility
- Data Privacy
- ESG / Corporate Responsibility Programme
- Foreign Trade Compliance
- Healthcare Interactions (HCI)
- Onboarding Compliance Training
- Opioid Responsibility
- Promotional and non-Promotional Content Creation and Management
- Responsible Use of Chat Platforms
- Supply Chain Act
- Third Party Due Diligence
- Trade Secrets

Our Whistleblowing Process and Disciplinary Measures

Our employees are expected to report any behaviour that is not in line with our Code of Conduct, our Compliance Policies, local laws and regulations, or professional or industrial guidelines and directives. Such reports can also be made anonymously. Several reporting options are available for employees, and some are also open for external stakeholders such as business partners and local communities:

1. Speaking to a manager,
2. Contacting HR, the legal department, the works council or the Compliance Organisation,
3. Using the Ethics Helpline, a web-based whistleblowing system complemented by a telephone hotline and available 24/ 7 in seven languages. Employees or external stakeholders can seek advice and raise concerns personally or anonymously.

Reported incidents will be investigated discreetly and neutrally by the Compliance Organisation, in accordance with applicable data protection laws. Depending on the allegations, Global Compliance will decide whether the Corporate Executive Board and/or the Advisory Board are to be informed. Both Boards are informed about all Compliance investigations in the course of the regular reporting. Other departments will be involved where appropriate. The responsible local or global Ethics Committee decides on the appropriate disciplinary and other measures once an investigation has been concluded. Employees who raise reasonable concerns in good faith will be protected, and retaliation against such employees is treated as a Compliance violation.
There were no critical concerns during the reporting period.

Compliance Audits

Compliance audits are regularly conducted by the Internal Audit department, with detailed audit plans being approved by the Corporate Executive Board and by the Advisory Board for the upcoming audit period. In addition, the Internal Audit team also conducts audits as required in case of suspected irregularities that do not fall within the scope of a possible Compliance violation. Furthermore, the Internal Audit team prepares so-called spot checks on a variety of Compliance topics. These spot checks are conducted as self-assessments on the implementation of various Compliance measures (such as training, documentation of Business Partner checks, approvals of donations) by the respective Compliance Officers.

Compliance with Laws and Regulations

GRI 2-27, GRI 416-2

In the reporting year, there was no significant case of non-compliance with laws and regulations.

Ethical Business within Grünenthal and its Supply Chain

We are committed to conducting business in a legal, ethical and responsible manner. We have a strict Anti-Corruption Policy, clear Social Supplier Standards and a state-of-the-art framework for Corporate Digital Responsibility.

Anti-Corruption

GRI 205-1, GRI 205-2, GRI 205-3, GRI 206-1

Our Anti-Corruption Policy, our Healthcare Interaction Policy and our Patient Interaction Policy govern how to interact with external stakeholders such as suppliers, doctors, patients and consultants in a fully transparent and appropriate way. Clear examples illustrate to our employees how to avoid even the appearance of improper influence both when they are on the 'giving' and also the 'receiving' end. Our global policies are complemented by local implementation rules, contract templates for standard transactions and a fair market value tool to avoid overcompensation. We provide a clear framework of rules, approval requirements, documentation tools, training and personal advice. This ensures a consistent and effective operationalisation of our anti-corruption and anti-bribery policies in all our activities, no matter if simple or highly complex.

At regular intervals, Compliance audits are carried out by the Internal Audit department to assess the corruption risks of our individual entities. Besides the regular risk assessments, there were four site assessments in the reporting year. No significant corruption risks were identified.

Third Party Due Diligence Assessments

Grünenthal has implemented a comprehensive Third Party Due Diligence process to ensure that risks related to Compliance and Business Ethics among our business partners can be avoided or managed appropriately. Business partners undergo Compliance screening on a risk-based basis.
Of the total number of active Business Partners in the reporting year, 40 were classified as High-Risk after a thorough Business Partner Compliance assessment performed in 2022 or in the preceding years. In addition, three Third Parties were classified as 'No-Go´ Business Partners in 2022.
Based on the individual risk level determined in our Third Party Due Diligence process, suppliers and sales-side business partners such as distributors are required to sign our Code of Conduct for Business Partners (BPCoC). This obliges our business partners to follow our own Code of Conduct principles and grants us audit and termination rights in case of non-compliance. When contracting with medical business partners such as doctors or university hospitals, we use standardised contract templates that enable us to require them to comply with the principles of our Code of Conduct and our Healthcare Interaction Policy.

Third Party Due Diligence Metrics

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	2019 – 2022
Number of active business partners[1] in 2022 and that underwent a Third Party Due Diligence Assessment and breakdown by risk level	Total assessments: **3,943** with the following breakdown: Low risk: **3,268 (83 %)** Medium risk: **635 (16 %)** High risk: **40 (1 %)**
Number of business partners that were considered a 'No-Go´ in 2022	**3**

A large majority of the business partners contracted by Grünenthal in 2022, therefore considered active business partners, were classified as low risk (more than 80 %). Mitigating measures were put in place for medium and high risk business partners. In 2022, Grünenthal decided not to enter into a business relationship with three business partners based on compliance and/or reputational reasons.

Monitoring Corruption

No confirmed cases of corruption were identified at the Grünenthal Group itself either in the reporting year 2022 or in the previous year[2]. Furthermore, there were no legal actions pending or completed during the reporting period or the previous year[2] regarding anti-competitive behaviour and violations of anti-trust and monopoly legislation in which the organisation has been identified as a participant.

Training in Anti-Corruption

Our comprehensive Anti-Corruption framework as described above is regularly communicated to our employees and to our Executive and Advisory Board members.
All employees and the Corporate Executive Board team receive anti-corruption training via our newly launched eLearning with modules on Code of Conduct, Conflict of Interest and Corporate Responsibility ('CCC eLearning'), and via our target-specific Healthcare Interactions Training ('HCI Training').
The CCC eLearning must be completed by every employee. All employees had to take the course at its launch; for new employees it is part of the onboarding process.
Our HCI Training covers Anti-Corruption and Anti-Bribery in the healthcare sector specifically. All employees who interact with healthcare professionals, healthcare organisations and/or patients receive this training regularly as these interactions bear the highest corruption risks in the context of Grünenthal's business. Employees with high exposure to healthcare professionals must complete the training annually.
The CCC eLearning must be completed by all our employees except production employees. The CCC eLearning has replaced the former Code of Conduct eLearning and was launched in August 2022 in headquarters and the German-speaking core markets (DACH region – Germany, Austria, Switzerland), and was rolled out in all other Grünenthal regions except US in September 2022. In the US, the CCC eLearning was rolled out in October 2022. **The completion rate of this target group was 96 % at the end of 2022 and 100 % by end of February 2023.** New employees are continually added to the course and trained as part of the onboarding process.

Number of Employees in the relevant Target Groups receiving Training in 2021 and 2022

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	2022	2021[2]
eLearning	Code of Conduct, Conflict of Interest and Corporate Responsibility ('CCC') eLearning (initial rollout)[3] Module 1 (Corporate Responsibility): **3,241** Module 2 (Code of Conduct): **3,252** Module 3 (Conflict of Interest): **3,235**	Code of Conduct eLearning (new employees, refreshers and carry over) **415**
HCI-Training (coverage of specific target group, by region):		
Germany, Austria, Switzerland and Headquarters:	100 % (268/268)	100 % (256/256)
Portugal and Spain:	99 % (199/201)	99 % (208/211)
Italy:	100 % (116/116)	100 % (199/199)
France[4] and Benelux:	100 % (79/79)	100 % (110/110)
UK, Ireland and the Nordics:	100 % (65/65)	100 % (78/78)
Latin America:	97 % (689/710)	99 % (679/688)
US:	100 % (22/22)	100 % (67/67)

We were able to significantly increase the number of employees receiving compliance related training. HCI Training coverage of the relevant target group exceeded 95 % in all regions, safeguarding the relevant awareness of compliance issues at Grünenthal.

1 Active Business Partners refers to all creditors and debtors that had financial transactions with Grünenthal in the reporting year.
2 2021 figures are not in the scope of the limited assurance audit for 2022
3 Methodology: We have disregarded all 'inactive' employees, regardless if they did or did not complete any of the modules. We have disregarded employees assigned via 'GRT-All' job code, that was initially attributed by mistake, regardless if they did or did not complete any of the modules. The employees have received the training via other job codes later on. We have considered as 'completed' those who have completed all three modules.
The slight difference in the total number of trainees per module is a result of the system we used in headquarters, where employees had the choice between a German and English version and some started courses in both languages, but completed them only in one.
4 The training materials used in France differed from the global training slide-deck due to local requirements. Nevertheless, they do capture all relevant anti-corruption aspects and cover the scope of the global training.

Social Supplier Standards

Through the implementation of a rigorous governance process, we want to meet or exceed the required social standards throughout our business operations and supply chain. In particular, we are in the process of implementing a comprehensive Responsible Sourcing Programme to meet all the requirements of the German Supply Chain Act (Lieferkettensorgfaltspflichtengesetz). This imposes significant due diligence obligations on companies in Germany to ensure that human rights and environmental standards, such as child labour, occupational health and emissions of hazardous substances, are adhered to throughout the entire supply chain.

Furthermore, we continued our intense training and communication campaign and we made all internal arrangements to appoint a Human Rights and Environmental Officer in 2023, who will be responsible for monitoring all related activities at Grünenthal.

Statement on Human Rights according to § 6 paragraph 2 of the Act on Corporate Due Diligence Obligations in Supply Chains (Lieferkettensorgfaltspflichtengesetz – LkSG)

To minimise the risk of being in business with parties that do not respect human rights and environmental standards, we proactively screen and manage our supply chain with a whole range of measures that are integrated in our operational business processes globally. Based on risk factors such as the category of the supplier, these are: suppliers of finished products or of goods necessary to produce Grünenthal products; suppliers of labour-intensive services necessary to produce or deliver Grünenthal products; suppliers of goods or services that are necessary for R&D activities, except consultancy services; and suppliers that are established in a country with developing environment/human rights standards. We carry out specific ESG Third Party Due Diligences with a focus on human rights aspects and environmental standards.

Risk evaluation is carried out jointly with the business, while mitigation measures are driven by Procurement in cooperation with the suppliers. Our suppliers have access to our whistleblowing system 'Ethics Helpline', and are encouraged to raise any concerns they may have.

Human rights are an integral part of our comprehensive Compliance & Ethics framework, and are embedded in our training, control and remediation mechanisms. There is a clear expectation towards our suppliers and employees to proactively watch for, flag and mitigate any risks in the human rights and environmental area. This is a task that can only be achieved if everyone in our ecosystem contributes.

Member of UN Global Compact

We are committed to respecting and promoting human rights. Grünenthal does not accept harassment or any form of discrimination on grounds such as gender, race, nationality, age, religion, sexual orientation, physical appearance, social origin, disability, union membership or family status.

Gabriel Baertschi
Chief Executive Officer

Data Security, Protection and Ethics

We handle all personal data responsibly. Data security, data protection and data ethics build on each other.

We have strict global policies aimed at maximising data security. These cover all aspects of IT security and cyber security. We ensure that all data is protected as well as possible through appropriate technical and organisational measures. The technical dimension of this protection is owned by the Global IT department, operating in close cooperation with our Global Data Protection Team.

Furthermore, by means of a sound set of legal instruments, we ensure that all personal data is handled according to General Data Protection Regulation (GDPR) standards wherever applicable. We have an internal Global Data Protection Officer who is supported by a global network of internal and external Data Protection Officers and Data Protection Coordinators. Our Data Protection framework covers any business operation, spanning from the processing of highly sensitive clinical trial data from trial subjects to daily standard transactions such as answering data subject requests. All of the above-mentioned principles are laid out in our Global Data Protection Policy. Beyond complying with the legal requirements relating to handling data, we also act responsibly, which means in line with our high ethical standards. To provide clear guidance for our employees about data ethics, we have created our Corporate Digital Responsibility framework.

Corporate Digital Responsibility

Our Corporate Digital Responsibility framework translates the values and ethical principles set out in our Code of Conduct to our digital activities. It enables us to take control of our digital footprint by defining a positive digital reputation and it safeguards profound data governance.

The core document is our Digital Ethics Charter, which sets a gold standard for how we behave when using digital channels. The charter is operationalised via various guidance documents and toolboxes that we are developing in dedicated cross-functional working groups. Examples of such guidance include the responsible use of machine learning in research activities, transparent consent management and responsible use of social listening. In 2022, we developed and finalised a training campaign on the basis of digital ethics and digital literacy that will be rolled out in 2023.

Key Achievements in 2022 and Plan for 2023 – Digital Ethics at Grünenthal

Achievements in 2022

- **Finalisation of** nearly all working group **deliverables**
- **Training** on finalised deliverables already **planned**
- **Decision proposals and endorsements** were presented to the DigiCom
- Creation of a **new working group on Grünenthal websites**
- Definition of three operational pillars: **(1) Digital Outreach; (2) Communication & training; (3) Analytics**

2023 Plan

- **Strengthen governance** process
- Roll out pending/planned **training**
- Set up **new working groups**
- Consolidate a **digital community at Grünenthal**
- **Enhance measurability** across the three pillars: Digital Outrach, Analytics, Communication & Training

Digital Ethics Training Campaign

It is very important for our office-based employees to be well informed on the various topics in Digital Ethics. In 2023 we are planning training on digital topics such as the use of Social Media, our Consent Management Center and Digital Literacy on Websites. This training is held by virtual classrooms or videos as part of our Learning Management System and is mandatory for the respective target groups. In 2022 we have already successfully completed an employee training session on Remote Interactions as part of our new governance process.

The training on Digital Literacy on Websites, which is expected to take place in the first semester of 2023, explains the key concepts of dealing with websites in an easy language. It highlights the importance of enhancing our digital outreach, preserving our digital footprint and ensuring information security. It will be launched in seven languages and be mandatory for all office-based employees globally.

We currently have around 200 active websites globally. A new governance process for setting up, maintaining or deactivating websites was designed in 2022 and it is currently being rolled-out globally. This process helps to ensure that only websites that are in line with our Digital Ethics Framework remain active.

For more information, see:
www.grunenthal.com/en/responsibility/compliance-ethics-and-transparency#ethicalbusiness

Our Digital Ethics Charter – We live Digital Ethics

- Human beings keep oversight and accountability of our digital activities.
- Safety and security are embedded in all our digital activities as cornerstones to protect our values.
- We can explain all our digital activities.
- Our digital activities do not cause bias or discrimination.
- Digital ethics are engrained in our decision-making processes.
- We only undertake digital activities that are in line with this Charter.

To steer our Digital Responsibility efforts, we have a specific governance structure, including a Digital Ethics Steering Committee, that consists of senior management and is chaired by the Chief Responsibility Officer. The Digital Ethics Steering Committee helps to identify new use cases in our ever-evolving digital business operations, facilitates efficient operationalisation of our Digital Ethics Charter and aligns with the Corporate Executive Board on an ongoing basis.

Bioethical Framework for Research

The Grünenthal R&D organisation is committed to the highest bioethical standards in its preclinical research activities. A Bioethical Framework for Research was established in December 2021 to set out the principles, processes and governance to support three key areas of preclinical activities:

1. Animal Welfare: helping to ensure that all animal research is conducted to the highest international standards, follows all applicable laws and regulations, and that animal use is considered within the Replacement, Reduction and Refinement principles.[1]

2. Human Biology Samples: helping to ensure that human samples used for research are consented for use, adhere to all applicable laws and regulations, and that donor privacy is protected.

3. Emerging Technologies: helping to ensure that the allowed preclinical use of new and advanced biological and technological methodologies (for example genetic engineering, stem cells, nanotechnology) is defined, follows applicable laws and regulations, and additionally considers their potential wider societal and environment impacts.

Governance of the framework is executed through the Bioethics Steering Committee (BSC), which reports to the Executive Board through its Chair, who is the Chief Scientific Officer. The oversight of Emerging Technologies is directly managed by the BSC. Two working groups, reporting to the BSC, are each responsible for Animal Welfare and Human Biological Samples.

During 2022, the entire Research Organisation (around 100 members) received training on the Bioethical Framework, the working groups met at least monthly and reviewed more than 110 work requests, and the BSC met quarterly to review implementation progress and to support working group activities.

The promotion of bioethical research has encouraged innovation through investment in new technologies and tools such as the developments of computational approaches to improve the prediction of drug toxicology, and in-vitro cellular models that mimic human pain circuitry. Together these areas complement and support Grünenthal's aim to develop safe and effective treatments for pain.

1 The 3Rs principle https://www.bfr.bund.de/en/3r_principle-194147.html

Transparency

For Grünenthal, being fully transparent is a crucial success factor in earning the trust of our stakeholders. We meet our transparency requirements in three key areas:

Clinical Trials Transparency

We share clinical information that is necessary for conducting legitimate research, serving patient safety and improving public health. We have publicly committed to the Principles for Responsible Clinical Trial Data Sharing that were issued in January 2014 by the European Federation of Pharmaceutical Industries and Associations (EFPIA) and the Pharmaceutical Research and Manufacturers of America (PhRMA). More information on Clinical Trials is published on Grünenthal's corporate website:

www.grunenthal.com/en/research-and-development/clinical-trials

EFPIA Disclosure Code and Disclosure of Transfer of Values

We are member of the European Federation of Pharmaceutical Industries and Associations (EFPIA) and support the EFPIA Disclosure Code. We are committed to publishing information about our collaboration with healthcare professionals and healthcare organisations to demonstrate that we interact with these stakeholders in an ethical and transparent way.

All interactions and transfers of value are disclosed in line with either the EFPIA Disclosure (Transparency) Code, local pharmaceutical codes or national legislation implemented by organisations such as healthcare authorities.

More information is published on Grünenthal's corporate website:

www.grunenthal.com/en/responsibility/compliance-ethics-and-transparency/efpia-disclosure

Tax Transparency

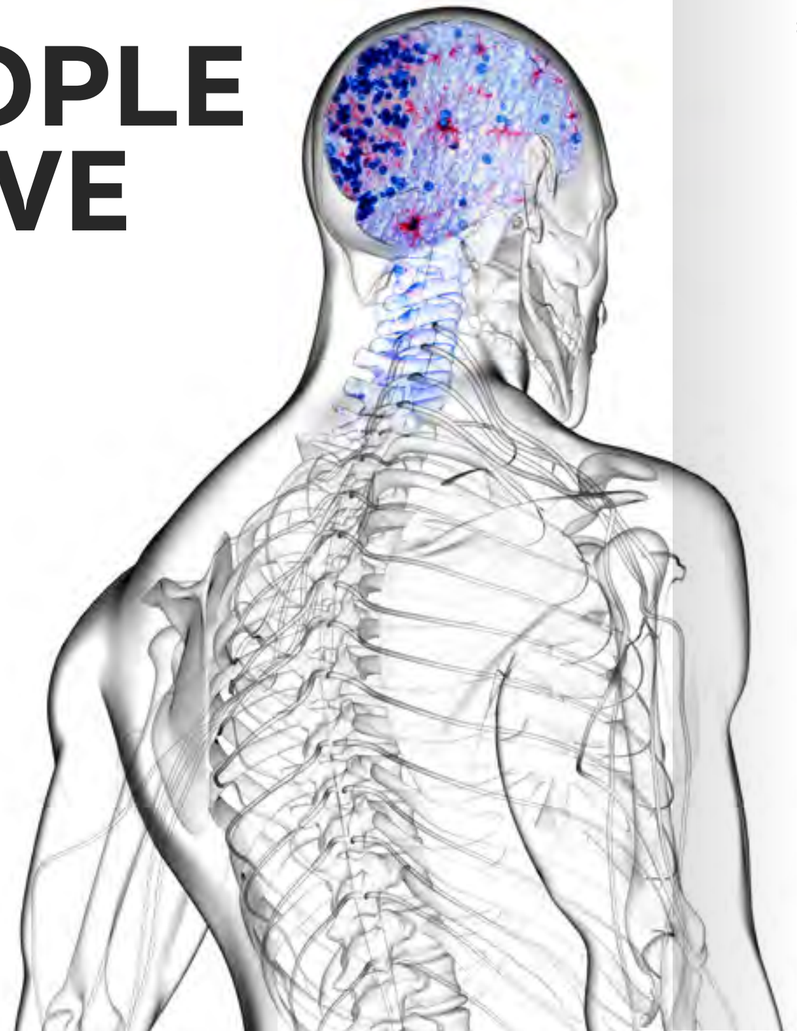
Good corporate governance and compliance is of highest priority at Grünenthal, and also shapes the attitude we take in managing our tax affairs globally.

Good corporate governance and compliance shapes the attitude we take in managing our tax affairs globally

We consider good governance of our tax affairs to be an ongoing and evolving process in a continuously fast-moving global tax landscape. Grünenthal acts in compliance with local and international tax regulations and is guided by relevant international standards such as the OECD Guidelines, BEPS Reports and BEPS action plans. This means:

- We are committed to comply with the spirit as well as the letter of the law.
- We aim to pay the right amount of tax in compliance with all relevant local and international tax laws and regulations and do not tolerate any form of profit shifting, tax fraud or facilitation of tax evasion.
- We are committed to align our tax contribution with the value we create in the countries we operate in.
- As a good corporate citizen, Grünenthal considers taxes and duties as an important part of its social responsibility.
- We are committed to ensuring that Grünenthal's tax affairs are responsibly managed, and that we are consistently recognised by all our stakeholders as a responsible and reliable taxpayer.
- In the event that applicable laws and regulations are subject to interpretation, we seek appropriate assurance regarding the position taken either through consulting with advisers or through advance rulings or pricing agreements with the relevant tax authorities.
- Grünenthal aims to achieve and maintain respectful relationships with the tax authorities, and we are committed to transparent and constructive relationships with all relevant authorities.

PATIENT – THE PEOPLE WE SERVE



Material Topic	RESPONSIBLE USE OF PAIN MEDICATION	AWARENESS & ACCESSIBILITY	RESPONSIBLE INNOVATION	PRODUCT GOVERNANCE & SAFETY
Our Sustainability Ambitions	• *Continuous development and improvement of Grünenthal's leading opioid responsibility framework (the 'Opioid Responsibility Framework')* • *Continuous expansion of the network of Business Partners committed to the Opioid Responsibility Framework for Business Partners* • *Further expansion of the CHANGE PAIN™ (CP) hub, 'CP Responsibly', featuring Grünenthal and independent Responsible Use of Pain Medication educational resources* • *Postponed launch of an educational expert forum on Responsible Use of Pain Medication in Latin America from the end of 2022 to end of 2024 (with a pilot to bridge until then), to be recognised as the platform for Responsible Use of Pain Medication by international healthcare professionals (HCP) by the end of 2026*[1]	• *Increase the focus, reach and impact of our global and local Awareness & Accessibility activities by aligning them strategically under one global platform* • *By having a clear strategy regarding governance, transparency and accountability, we ensure that our Awareness & Accessibility initiatives have a lasting impact on patients' lives* • *Use the global network to collaborate with external partners to identify best leverage opportunities for our unique expertise to have a lasting impact on improving pain management*	• *Reduce cycle time and resources required for de novo candidate discovery through machine learning (ML) (baseline 18 months; goal in 2025, 14 months)* • *Improve clinical trial design through ML-based patient phenotyping (baseline 0 trials; goal in 2025, 2 trials)* • *Improve understanding of treatment effect in clinical studies and post-approval, through objective measurement of mobility and sleep (baseline 1 study; goal in 2025, 2 studies)*	• *97 % of 'on-time' submissions to authorities globally for individual Case Safety Reports (ICSR)* • *Maintain or exceed the current level of recognised compliance with global pharmacovigilance standards* • *100 % compliance with the International Conference on Harmonisation-Good Clinical Practice (ICH-GCP) standards and other applicable ethical standards*

1 We are currently shifting towards being more customer centric across the organisation. We are embedding set-up of the Expert Forum in the change process and are therefore delaying its go-live.

PATIENT – THE PEOPLE WE SERVE

Having access to appropriate pain treatment is a basic human right. Chronic pain, in particular, is a common, complex and distressing problem whose impact on patients, caregivers and societies continues to be underestimated. It frequently presents as a result of a disease or an injury. However, it is not merely an accompanying symptom, but rather a disease in its own right. Access to pain management at the end stage of a person's life is another cornerstone in preserving human dignity.

Chronic pain and palliative care are two areas in which adequate education, societal awareness and accessibility to appropriate treatment still need to be increased – no matter where in the world. As a leader in pain management, we help to educate healthcare professionals (HCP) and patients on how to use these medicines responsibly. We also raise awareness about pain and its impact on patients, families and society and increase accessibility to current treatments while developing new medicines for unmet medical needs. Grünenthal's focus on the patient is also the core of our sustainability work with four material topics, all following our vision of a World Free of Pain:

RESPONSIBLE USE OF PAIN MEDICATION

Our approach to the Responsible Use of Pain Medication is built on three pillars that form the basis of our business relationships: strict governance, close involvement of our business partners and education on pain medication for HCPs and patients.

AWARENESS & ACCESSIBILITY

Raising awareness and enabling access to pain medication is a core focus area for us. Our goal is to ensure that pain is acknowledged as a disease in its own right, and therefore to ensure access to appropriate medicine to treat pain. We strive to raise awareness and accessibility via various initiatives that we bundle and boost in one holistic Awareness & Accessibility platform.

The platform is established via three pillars: A global governance structure, globally aligned content and formats, and a communication and training based roll-out plan.

The global governance structure is based on a Global Awareness & Accessibility Working Group that interacts with all relevant decision bodies such as the Executive Board Team, the Commercial Leadership Team and the Corporate Responsibility Board to make strategic and operational decisions on the programme. Furthermore, the Working Group produces content and formats, rolls out initiatives and supports affiliates in implementing the Awareness & Accessibility activities locally.

We streamlined five different categories of Awareness & Accessibility activities and are launching aligned content in orchestrated initiatives in 2023. This launch is executed via a communication and training based roadshow that we will conduct in each of our regional clusters for further cascading.

Grünenthal's five Awareness & Accessibility (A&A) activity categories:

- A&A Awareness Initiatives
- A&A Grants & Donations
- A&A Medical Education
- A&A Patient Programmes
- A&A Studies & Data Generation

RESPONSIBLE INNOVATION

Despite many years of research, there is still pain that cannot be adequately treated. With our R&D, we contribute to the elimination of such unmet needs.

PRODUCT GOVERNANCE & SAFETY

Our products are made to manage pain. Safe products and the highest product standards are essential.

Our Vision – A World Free of Pain

Pain is a major burden for patients and society. According to scientific studies, more than 1.5 billion individuals suffer from chronic pain – which is almost one in five people worldwide[1]. The rapidly ageing population in developing countries is considered a factor that will increase the number of patients with chronic pain worldwide.[2]

As an example, the worldwide prevalence of acute and chronic lower back pain alone increased by 13.5 % between 2010 and 2019.[3] Chronic pain affects the quality of life of many people. It is likely that most people know someone who suffers from chronic pain and while there are many approved treatments for chronic pain, finding the right treatment – one that balances efficacy (how well the treatment works) with the side effects – remains a challenge.

If all other options are exhausted, patients may be offered strong opioids. While these can greatly improve patients' quality of life, they require appropriate regular monitoring and a minimum effective dose approach. We are actively engaged in gaining a holistic view across the value chain to provide all patients with the best possible treatment.

Addressing unmet medical needs in the treatment of all types of pain, and finding and developing new treatment options for breaking the pain cycle, is what drives us in our daily work at Grünenthal.

Our Approach to the Responsible Use of Pain Medication

GRI 3-3

Developing and delivering medicines and solutions that address patients' needs and have the potential to improve their quality of life are our core objectives. Responsible use of pain medication is particularly important to us: it is fundamental that patients receive appropriate pain management, carefully weighing the benefits and risks of the available options.

The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics'). Among the wide range of pain treatments, one option available to HCPs and their patients remains the use of opioid analgesics. As a manufacturer of effective analgesics, including opioids, we are committed to explore and endorse measures that minimise the risk of inappropriate and illegitimate use of prescription opioids – while striving to ensure that individual patients with a clear need for opioid-based pain relief are not denied access.

Our approach to the Responsible Use of Pain Medication has three pillars:

- **First pillar:**
  A comprehensive Governance Structure for Responsible Opioid Usage
- **Second Pillar:**
  The Commitment of our Business Partners
- **Third Pillar:**
  Education on Responsible Use of Pain Medication, with our dedicated Impact Initiative

With these three pillars, we build a comprehensive Opioid Responsibility Framework that regulates our internal processes and at the same time involves our business partners effectively. In addition, we make considerable use of educational measures to inform about pain management and pain treatment. Together, we want to achieve personalised education on responsible use of pain medication, especially for HCPs to improve their patients' outcomes.

1 Treede RD, et al. Pain. 2015 Jun;156(6):1003-1007
2 Ali A, Arif A, Bhan C, et al. (September 13, 2018) Managing Chronic Pain in the Elderly: An Overview of the Recent Therapeutic Advancements; Cureus 10(9): e3293. DOI 10.7759/cureus.3293
3 Global Health Metric Low back Pain; Lancet; Vol 396; Oct 17 2020: 168-169

First pillar: A comprehensive Governance Structure for Responsible Opioid Usage

To anchor our stance on the responsible usage of opioids in terms of governance, the Responsible Opioids Usage Board is set up at senior management as well as at the regional and local level to support the Corporate Executive Board in the continual development of Grünenthal's ethical strategy related to opioids. It acts as a sounding board and escalation body for opioid-related projects as well as carrying out supervision of the local implementation of responsible opioid usage programmes. The Responsible Opioid Usage Board has developed a dedicated framework to ensure streamlined implementation of its programme.

Our Opioid Responsibility Framework

- **Our Opioid Charter**
  Grünenthal pledges not to support the off-label, inappropriate or non-medical use of analgesics, stating that the products are developed, commercialised and distributed in line with highest ethical and scientific standards, according to the Code and industry standards. Our Opioid Charter (The Grünenthal charter on the responsible medical use of opioid analgesics in pain patients) underpins Grünenthal's position on the responsible medical use of opioid analgesics in pain patients. Recognising the increasing pressure on social and healthcare systems caused by the illegitimate use of opioid analgesics, Grünenthal is committed to developing safer opioid and non-opioid analgesics and to reducing the risks of non-medical use of its products to the greatest degree possible

  A public version of the Opioid Charter is available online.

  www.grunenthal.com/en/about-us/products/opioid-products-for-the-treatment-of-pain

- **Our Opioid Communication Guidance**
  The Opioid Communication Guidance lays down principles for promotional content, with a focus on ethical responsibility in relation to opioid usage. It explains what language and imagery can be used in promotional materials, presentations and publications to ensure comprehensive and fact-based contextualisation.

- **Our Opioid Statement**
  Our Opioid Statement is a one-pager that highlights general considerations for the management of pain with any medication that contains an opioid mechanism of action including the risk-benefit profile of opioid analgesics. We use this statement in all opioid related promotional materials, including presentation slides, and video recordings of webinars, to clarify our position for all our stakeholders. The statement has been translated into six languages, covering our relevant target groups worldwide.

Implementation of our Opioid Responsibility Framework

We have initiated several measures to implement our Opioid Responsibility Framework: organisational measures have been put in place; targeted training has been conducted; and a risk-based approach to business partners has been established. Grünenthal has also critically reviewed its involvement in public initiatives and partnerships regarding opioids.

Additionally, we have established a strong review process for all new opioid related material, activities, partnerships and initiatives. All core and key documents with opioid related content, especially those for external use, now need to be reviewed by the ROU Board (Responsible Use of Opioids Board).

To raise Group-wide awareness regarding the responsible use of opioids and foster compliance with the guidelines of the Opioid Responsibility Framework, targeted training for all relevant employees has been and will be conducted annually, with training material translated and adapted for the respective jurisdictions. Furthermore, training on this issue has been integrated into the regular training schedule.

Our goal is the continual development and improvement of Grünenthal's leading Opioid Responsibility Framework.

Number of Employees receiving (Refresher) Training on Grünenthal's Opioid Responsibility Framework

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	ABSOLUTE NUMBER 2022	ABSOLUTE NUMBER 2021[1]
Number of employees that received face-to-face training on Grünenthal's responsible use of opioid-based medicines in the year	**1,462**	**1,559**

1,462 employees received the mandatory (refresher) training on Grünenthal's Opioid Responsibility Framework in 2022.

Second Pillar: The Commitment of our Business Partners

We also commit our partners to the responsible use of our products through the Opioid Responsibility Framework for Business Partners.

We are classifying our commercial Business Partners into three different tiers according to their respective risk level. The risk factors used for this classification include the types of products (for example opioid or psychotropic products), the Business Partner's background and environment, and details of manufacturing and registration and the activities to be performed by the Business Partner.

Depending on the assigned risk level, mitigating measures could be applied such as specific contract clauses, monitoring and audit activities, compliance training and site visits.

Opioid Responsibility Framework for Business Partners Communication and Commitment

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	% IN 2022[1]	% IN 2021[2]
Commercial Business Partners to which Grünenthal's Responsible Opioid Usage Framework was communicated	**100**	**100**
Commercial Business Partners who formally committed to Grünenthal's Responsible Opioid Usage Framework	**78**	**79**
Commercial Business Partners trained by Grünenthal on Grünenthal's Compliance and Responsible Opioid Usage Frameworks	**47**	**29**

1 Accumulated figures (i.e., 2021 and 2022)
2 2021 figures are not in the scope of the limited assurance audit for 2022

By actively communicating the risk level matrix and encouraging communication with our commercial Business Partners, we want to ensure the continual expansion of our network of partners committed to our Opioid Responsibility Framework for Business Partners. Until 2022 the Framework was communicated to 100% of the relevant commercial Business Partners[1] (2021: 100%), and 78% (2021: 79%) have formally committed to the Framework. Our target is to continually expand the network.

This means we have communicated the framework to all relevant commercial Business Partners and most of them have already committed to using it. In addition, 47% of the commercial Business Partners have requested and received voluntary, in-depth training from Grünenthal.

Furthermore, we aim to ensure compliance with the Opioid Communication Business Partner Guidance by regularly reviewing relevant communications and documents.

Clear Processes ensure Business Partners' Compliance with the Opioid Responsibility Framework

	CONTRACT MANUFACTURING ORGANISATION CLIENT	DISTRIBUTOR 2ND CATEGORY	DISTRIBUTOR 3RD CATEGORY
	Commercial Partner that sells its own products partially/totally manufactured by Grünenthal, under a contract manufacturing agreement.	*Commercial Partner that resells Grünenthal's products not including opioid containing products. Commercial Partner performs promotional activities.*	*Commercial Partner that resells Grünenthal's products including opioid containing products and/or non-opioid containing products of which Grünenthal is the Market Authorisation Holder. Commercial Partner performs promotional activities.*
Grünenthal Policies	✗ only best practice sharing	✓ equivalent standards	✓ equivalent standards
Compliance Training	✗ n/a	! ad hoc	✓ annual plan
Materials	✗ n/a	✓ review	✓ review
Transfer of Values	✗ n/a	✗ n/a	✓ pre-review
Monitoring	✗ n/a	! ad hoc	✓ annual plan
Auditing	✗ n/a	! ad hoc	! ad hoc
Termination Rights	✗ no additional rights	✓ additional rights	✓ additional rights

1 Business Partners managed by Headquarters

Third pillar: Education on Responsible Use of Pain Medication, with our dedicated Impact Initiative

Providing transparent education on the risks and benefits of pain medication is central for us in doing business responsibly. At Grünenthal, we have a long-standing tradition of educating HCPs on pain management to deepen understanding of patients' needs, on the one hand, and of the risks and benefits of pain medication, on the other. Therefore, Education on Responsible Use of Pain Medication as one of our Patient Impact Initiatives puts an even stronger focus on the topic.

We educate HCPs and Patients in Pain Treatment and Pain Management with our CHANGE PAIN™ Initiative

Patients in pain need access to appropriate pain management, specifically selected for their individual situation and needs. Physicians need to prescribe pain medications after careful consideration of the benefits and risks, and evaluate all available treatment options. Without proper HCP education on the responsible use of pain medications, there might be a higher risk of inappropriate use, including misuse, abuse and diversion, as well as the risk of addiction.

In 2009 we established our CHANGE PAIN™ initiative in 12 European countries. The initiative is endorsed by the European Pain Federation EFIC and Pain Alliance Europe (PAE). The initiative's mission is to improve patient outcomes by improving pain management through appropriate research, communication and education.

Regarding education, the purpose of the CHANGE PAIN™ initiative is to provide education to healthcare professionals. The goal is to build up know-how on responsible use of pain medicines among healthcare professionals for improved patient outcomes, thereby reducing risks related to misuse of medication, and creating trust among patients and healthcare professionals.

Through the initiative, many tools have been developed to make doctors' daily practice easier, either by completing web-based learning modules or by attending workshops across Europe.

In 2022 we reached 51,784 healthcare professionals through educational events (2021: 1,687) and 591,425 visitors though our educational websites (2021: 92,109). This was part of our effort to educate the healthcare sector about pain management and improve patient outcomes from pain treatment by providing practical tools for pain therapy building on communication and education.

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	ABSOLUTE NUMBER 2022	ABSOLUTE NUMBER 2021[2]
People impacted by our 'CHANGE PAIN™ Responsibly' Hub, including the number of:		
(i) educational event participants (virtual and physical)	**50,786**	**1,687**
(ii) website visitors in the year	**580,968**	**92,109**
Healthcare professionals who received in-person communication about Grünenthal´s Responsible Use of Opioid-based Medicines	**171,849**	**145,980**

2 2021 figures are not in the scope of the limited assurance audit for 2022

Our next goal together with CHANGE PAIN™ is the further expansion of the 'CHANGE PAIN™ Responsibly' Hub. The CHANGE PAIN™ Hub serves as an externally recognised source for credible, balanced and non-promotional educational resources. Furthermore, the Expert Forum will enable healthcare professionals to discuss their challenges related to the Responsible Use of Pain Medication with experts. Our goal is to launch the Expert Forum by the end of 2024.[1] Lastly, we are providing grants for independent external Continuing Medical Education (CME) accredited modules that will complement the Global Hub and the Expert Forum.

The CHANGE PAIN™ Journey of Grünenthal

CHANGE PAIN®
Taking care of pain

Meetig patient needs through
impactful pain medicine education

Coming up next

Q3-4 2024
Expert forum launch

Q4 2023
Develop practical tools for HCPs and patients
Start planning the Expert forum

Q2-Q3 2023
Adjust the plan: From the global www.changepain.com to the local educational initiatives

We are here

September 2022
Launch CHANGE PAIN™: Pain Management hub with initial content

Q1 2023
CME-accredited modules live

1 We are currently shifting towards being more customer centric across the organisation. We are embedding set-up of the Expert Forum in the change process and are therefore delaying its go-live.

Awareness & Accessibility

GRI 3-3

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	ABSOLUTE NUMBER 2022	ABSOLUTE NUMBER 2021[1]
Medical educational (non-promotional and non-branded) events performed or supported by Grünenthal in the year	**111**	**130**
Of which in Europe	**57**	**93**
Of which in the US	**3**	**6**
Of which in Latin America	**51**	**31**
Healthcare professionals supported by Grünenthal to participate in medical educational events (non-promotional and non-branded) in the year.	**8,549**	**12,461**
Of which in Europe	**6,630**	**7,548**
Of which in the US	**52**	**57**
Of which in Latin America	**1,867**	**4,856**
Patient Support Programmes in the year[2]	**17**	**13**
Projects with Patient Organisations in the year[3]	**53**	**30**
Total value invested by Grünenthal on Awareness & Accessibility initiatives in the year (in EUR)	**4.4 million**	No consolidated information available

Our mission is to improve lives by making pain management accessible and by raising awareness of pain as a disease. Two areas of special importance for us are access to adequate treatment of chronic pain and availability of palliative care.
The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').
In 2022, we strengthened our patient centricity and focused on Patient Support Programmes and Projects with Patient Organisations. Our efforts were separated from line business and received particular attention as a separate initiative. Significant resources were invested to raise awareness and to focus efforts on this topic.

Total Value invested by Grünenthal on Awareness & Accessibility Initiatives in the Year (in EUR)[4]

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	NUMBER 2022
Investments by region[4]	
Europe	2,010,759
Headquarters	893,302
US	706,502
Latin America	526,130
Corporate Centre	300,000
Investments by category[4]	
Medical Education	1,831,511
Grants and Donations	645,677
Awareness Initiatives	624,250
Patient Programmes	288,947
Study and Data Generation	39,806

No categorisation done in US

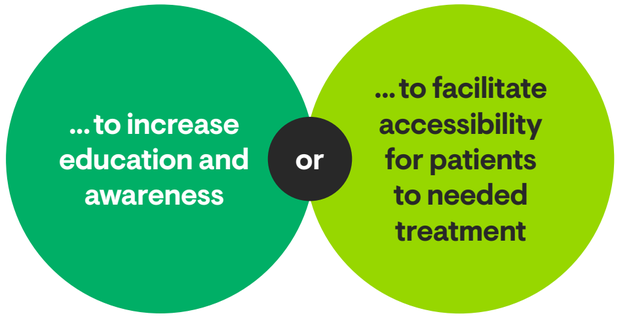
As part of the Awareness & Accessibility platform, in 2022 we introduced a process that provides transparency about total value invested in Awareness & Accessibility initiatives across all countries in globally aligned categories. We are monitoring our Awareness & Accessibility initiatives quarterly and use for example the Commercial Leadership Team as a monitoring body regarding our ambitions in this area.

Due to country-specific management related to Covid regulation, the number of educational events shows differing trends when comparing 2021 with 2022 data. We are confident, however, that our effort to increase patient centricity will soon prove effective and will translate into significantly more patient support programmes and projects with patient organisations.

1 2021 figures are not in the scope of the limited assurance audit for 2022
2 Our Grünenthal Patient Support Programmes (PSP) help patients either directly or via healthcare professionals (HCPs) by increasing disease awareness and enable them to access the most appropriate treatment possible and attain optimal treatment outcomes.
3 The projects can be either led by patient organizations and sponsored by Grünenthal or co-created with them with the goal to raise disease awareness or to provide education and support to patients to better manage their condition (for example patient surveys, disease awareness campaigns, tools and materials for patients).
4 No consolidated information available

What we aim for

> Initiatives of **non-promotional character** and strict public benefits, aiming...



...with strong focus on pain and palliative care.

US Patient Assistance Programme

In the US, we are launching our first Patient Assistance Programme in 2023. It will provide eligible uninsured patients who suffer from Diabetic Peripheral Neuropathy or Postherpetic Neuralgia with access to our non-opioid cutaneous system Qutenza™. This will ensure effective pain relief for patients who would not otherwise be able to benefit from this treatment.

Awareness Measures in Latin America

Grünenthal is committed to being part of the solution to the need for knowledge and proper pain management in Latin America. We joined efforts to generate disease awareness with the endorsement of 22 local pain associations, to promote proper assessment, diagnosis and treatment of chronic pain in the region. In 2023, we will also support initiatives such as Evalúalo, a collaboration of Grünenthal Latin America and the Latin America Federation of Associations for the Study of Pain (FEDELAT).

The generation of data to better understand the impact of chronic pain in Latin America has been another way Grünenthal has contributed. Specifically, we supported research on the prevalence of chronic pain, burden of the disease and cost analysis of chronic musculoskeletal pain in Chile, Colombia, Ecuador and Peru.

Considering the important role of the media in educating the population on health issues, Grünenthal Latin America conducted the third edition of the Latin American Chronic Pain Workshop for Journalists in partnership with FEDELAT and the Stanford Center for Health Education. It brought together reporters from 34 of the most important media organisations in Latin America. Similarly, discussion spaces have been promoted on the impact of chronic pain and possible solutions, in multi-stakeholder forums held in Colombia, Ecuador and Mexico, with the participation of medical societies and authorities, and in alliance with high-impact media.

Ensuring Access to Medication and Palliative Care

We want to continue improving access to medication in situations of low availability to appropriate treatment options to manage pain for all patients in need.

We strive to contribute to access to medication where it is most needed: we have concluded a cooperation agreement with a non-governmental organisation to support its humanitarian efforts to deliver medication for people in crisis regions.

Another of our initiatives is a training programme in Colombia to empower pharmacy employees to handle opioid prescriptions in line with local laws and patient needs. Furthermore, we expand access to palliative care with various initiatives.

The Grünenthal Foundation for Palliative Care

We have a long-standing commitment to preserving dignity and quality of life at the end stage of people's lives. The Grünenthal Foundation for Palliative Care was set up in 1998 to promote science and research in this field, and to support progress in the care of people with severe or terminal diseases in Europe as well as in Latin America. The Foundation has facilitated the creation of the Department of Palliative Medicine at Aachen University Hospital.

With our foundations we promote science and research in the field of Palliative Care

It also promotes improvements in palliative care across Latin America, where only one-third of countries have a specific law related to this field and only half have a national care plan or recognise palliative care as a medical specialty.

In Peru, our work has been supporting a master's degree in Palliative Medicine and Pain Management at the Universidad Nacional Mayor de San Marcos since 2018. This is the country's first academic programme within this field, and two professors were specifically trained to lead the course. 66 professionals have now graduated and are creating palliative care units across Peru. With Grünenthal's support, the Latin American Palliative Care Association (ALCP) held events for the medical community and journalists to raise awareness about the importance of palliative care – as well as the considerable work that is needed to improve quality of life for patients in this region.

Grünenthal Foundation Spain

The Grünenthal Foundation in Spain is a non-profit organisation that seeks to improve quality of life for people suffering from pain in this country. It was founded in 2000 and focuses on three areas: developing knowledge, training patients and their families, and working with public bodies to design and implement health strategies. Through its support for the creation of Spain's only chair of childhood pain, at the Rovira i Virgili University, it has helped boost research in chronic childhood pain.

Grünenthal Foundation Portugal

The Grünenthal Foundation in Portugal's primary purpose is to actively contribute to better pain treatment for the country's population. In line with this mission, it has developed a range of initiatives that promote training and research while also supporting the exchange of scientific knowledge. Since it was founded in 2001, the foundation has contributed to more than 50 investigational projects related to pain and its physiopathology in Portugal.

Raising Awareness – The Societal Impact of Pain platform

SOCIETAL IMPACT OF PAIN (SIP) is a multi-stakeholder partnership led by the European Pain Federation and Pain Alliance Europe, and Grünenthal is one of the main sponsors. The partnership aims to raise awareness about pain and encourage changes to pain policies by providing opportunities for discussion among healthcare professionals, pain advocacy groups, politicians, healthcare insurance providers, representatives of health authorities, regulators and budget holders.

SIP is endorsed by more than 310 European and national patient and healthcare organisations, and collaborates with organisations from other disease areas to advocate for improved management of pain, for example in cancer and rheumatology.

www.sip-platform.eu

Responsible Innovation – R&D for Unmet Pain Needs

GRI 3-3

The development of breakthrough pain treatments and appropriate management mechanisms is what drives us at Grünenthal. Chronic pain is a disease and is one of the most common medical complaints, but despite its prevalence, many individuals still suffer from unrelieved pain and reduced quality of life. There is a huge unmet medical need for improved pain management, but there are gaps in disease understanding including pain targets, biomarkers and patient phenotypes.

The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	2022
Reduce cycle time and resources required for new candidate discovery through machine learning.	First models used in projects – $Na_V1.8$ ongoing, TRPA1 to start in 2023 from Start Lead Optimisation
Improve clinical trial design through ML-based patient phenotyping.	First models developed according to plan for Osteoarthritis and Neuropathic Pain
Improve understanding of treatment effect in clinical studies and post-approval, through objective measurement of mobility and sleep.	Analysis of digital data from the three projects (Qutenza™, Bio2Treat and Mobilize-D) is ongoing; first results available for Bio2Treat

Our Impact Initiative: R&D for Unmet Pain Needs

With our innovations we want to address unmet pain in underserved populations through better use of human data. We therefore established the Impact Initiative R&D for Unmet Pain Needs to build data-driven human disease understanding along the R&D value chain and to enhance our ability to create truly novel medicines for patients in need.
To contribute to this, we have set ourselves the goal of reducing the cycle time and resources required for new candidate discovery through Machine Learning (ML). We will use data science to identify patterns in existing data sets and develop algorithms to discover new potential drugs. We aim to shorten cycle times to producing candidate molecule ready for pre-clinical testing from 18 months to 14 months by 2025. In the reporting year the first models were used in projects ($Na_V1.8$ ongoing, TRPA1 to start in 2023 from Start Lead Optimisation).
Furthermore, we want to improve clinical trial design through ML-based patient phenotyping. Our goal is to have conducted two such trials using this methodology by 2025. We have developed first models according to plan for Osteoarthritis (OA) and Neuropathic Pain (NP) phenotyping. By improving our understanding of the treatment effect of analgesics, we plan to further support patients on their journey to better manage their pain. We plan to use objective digital measurements of patient mobility and sleep to improve the understanding of treatments in clinical studies and post-approval. Our goal is to implement objective mobility and sleep measures in at least one clinical and one post-approval study in chronic pain by 2025 (baseline 1 study). There have been first analyses of digital data from three target projects (Qutenza™, Bio2Treat and Mobilize-D). There are first results available for Bio2Treat, but the analysis is still ongoing.

Promotion of Pain Research

Innovation requires the fostering of research to support early-career scientists and clinicians. Through grants of up to EUR 110,000 provided by Grünenthal and the European Pain Federation EFIC every two years, we support young scientists early in their career in carrying out innovative clinical pain research. Research grants are intended for clinical and human experimental pain research, including innovative educational initiatives aimed at improving diagnosis and treatment of pain. Since the foundation of the EFIC-Grünenthal Grant in 2004, around EUR 1.8 million has been awarded to fund 70 innovative research projects in more than 14 countries.
In addition, to drive patient-centric innovation in chronic pain and neurological disorders and award patient centric and scientifically robust innovation, we support the Brain, Mind, and Pain Patient-Centred Innovation Grant, which awards EUR 60,000 every two years to research proposals to encourage patient-centred innovation that leads to improvements in the life conditions of pain patients.

Product Governance & Safety

GRI 3-3, GRI 416-1

Product quality and safety are particularly important in the pharmaceutical industry. We place the highest demands on the quality and safety of our products and processes and apply intensive risk management and control strategies along all steps of our production.

The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

The pharmaceutical industry is extensively regulated by the EU and national authorities worldwide to ensure that medicinal products are effective and safe to use. Various pieces of legislation set high standards for the content, quality, distribution and promotion of our products, as well as for routine matters such as working conditions. Due to the high product quality and safety standards and the close monitoring in the pharmaceutical industry, Grünenthal is not committed to any additional voluntary codes in the context of product safety.

Our product range includes mature, off-patent medicines that have a long market history and safety record, innovative medicines that are patent-protected and grant us exclusivity to manufacture and market them, as well as developmental products. Our products marketed in the EU focus on pain therapies. Our business includes the following regulated activities: research and development of medicinal products, marketing authorisation, manufacturing, wholesale distribution and supply, pharmacovigilance, and product promotion. Each of these activities is subject to strict regulatory frameworks worldwide.

We place the highest demands on the quality and safety of our products and processes

The regulations that apply also include provisions on quality development, safety and efficacy requirements, risk minimisation activities, labelling (including warnings), approval, manufacturing, distribution, promotion, pricing and reimbursement, marketing, and post-marketing surveillance of medicines. These high standards and strong control mechanisms are designed in a way that risks arising from our products are as low and well managed as possible. In addition, we have a seamless quality management system to ensure the highest quality and product safety along our production processes. Here, too, we strive to meet the highest standards to ensure patient safety. To target the best and most timely detection of new risks or new aspects of known risks related to the use of our substances, including risk minimisation measures in line with industry standards and international/national regulations, we have a high-quality pharmacovigilance system established.

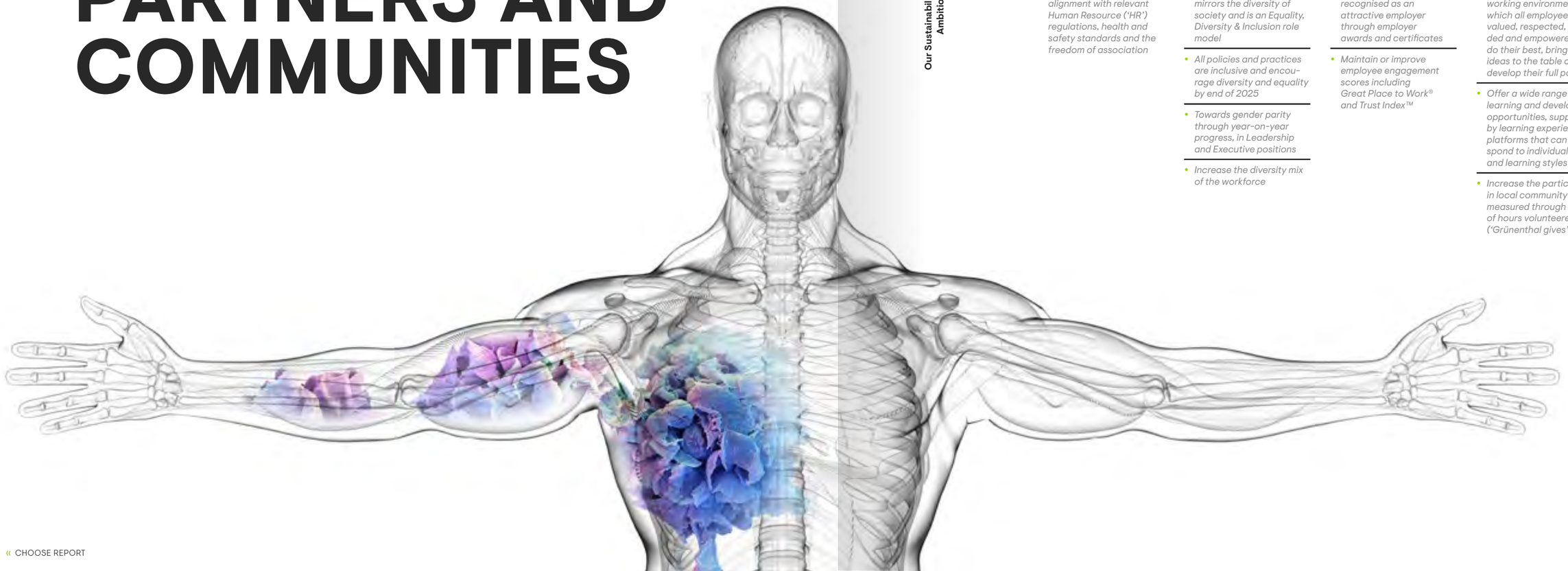
Product Governance & Safety Measures

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	RESULTS IN 2022	RESULTS IN 2021[1]
Number of employees at Headquarters who completed Pharmacovigilance training via eLearning in the last cycle of 12 months	952 of 1,018 employees	27 of 1,018 employees
Percentage of Individual Case Safety Reports performed for Health Authorities within due time	Europe: 98.5 % Latin America: 98.5 %	Europe: 97.9 % Latin America: 88.4 %
Number of external Quality Certifications held by Grünenthal's manufacturing plants	Total: 18 Germany (3) Italy (5) Switzerland (2) Chile (4) Ecuador (4)	Total: 17 Germany (3) Italy (5) Switzerland (2) Chile (3) Ecuador (4)

The last completed cycle of Pharmacovigilance training via eLearning was rolled out to a target population of 1,018 employees in December 2021. In December 2021, 27 employees successfully completed the training and in 2022, 952 employees successfully completed the training, reaching a completion rate of 96.2 % by the end of Nov 2022.

1 2021 figures are not in the scope of the limited assurance audit for 2022

PEOPLE – OUR EMPLOYEES, PARTNERS AND COMMUNITIES



Material Topic	HUMAN CAPITAL FAIRNESS	EQUALITY, DIVERSITY & INCLUSION	ATTRACTIVE EMPLOYER	EMPLOYEE ENGAGEMENT
Our Sustainability Ambitions	• *Assurance of 100 % alignment with relevant Human Resource ('HR') regulations, health and safety standards and the freedom of association*	• *Offer a workplace that mirrors the diversity of society and is an Equality, Diversity & Inclusion role model* • *All policies and practices are inclusive and encourage diversity and equality by end of 2025* • *Towards gender parity through year-on-year progress, in Leadership and Executive positions* • *Increase the diversity mix of the workforce*	• *Grünenthal is globally recognised as an attractive employer through employer awards and certificates* • *Maintain or improve employee engagement scores including Great Place to Work® and Trust Index™*	• *Constantly improving a working environment in which all employees feel valued, respected, included and empowered to do their best, bring great ideas to the table and develop their full potential* • *Offer a wide range of learning and development opportunities, supported by learning experience platforms that can respond to individual needs and learning styles* • *Increase the participation in local community events measured through number of hours volunteered ('Grünenthal gives')*

PEOPLE – OUR EMPLOYEES, PARTNERS AND COMMUNITIES

How can we have a positive impact on the lives of the people we work with, our partners and wider society? To achieve this, Grünenthal drives a vibrant and high-performance culture guided by distinctive Values & Behaviours. We promote this culture, foster trust and promote diversity and inclusion through various initiatives. In addition, we strive to empower our employees to their best and look after their health and well-being, and we contribute to improving the quality of life for people and communities around us. As part of our materiality analysis, we have identified four topics as material in the area of 'People':

HUMAN CAPITAL FAIRNESS

Healthy employees as well as safe working conditions are the basis for our success. To achieve this, we rely on comprehensive health measures and the highest safety standards.

ATTRACTIVE EMPLOYER

We want to create the best possible conditions for our employees both in their professional and private lives. We therefore provide an environment where people can thrive in rich and varied roles, offer growth opportunities and an extensive range of benefits.

EQUALITY, DIVERSITY & INCLUSION

We stand up for diversity, equality and inclusion. We want to increase diversity and equality in our company and equip leaders to role model an inclusive environment.

EMPLOYEE ENGAGEMENT

Fostering a high-performance culture and living our Values & Behaviours is the key to our success. This is why we invest in regularly requesting feedback from our employees to continually improve.

Our Employees GRI 2-7 (headcount)

DATA	2022	2021[1]	2020[1]
Total number of employees	**4,431**	**4,507**	**4,653**
Of which female	2,223	2,297	2,352
Of which male	2,208	2,210	2,201
Breakdown by region			
HQ&GSD[2]:	1,327	1,323	1,394
Europe:	1,277	1,283	1,305
Latin America:	1,641	1,733	1,767
USA:	185	168	87
Asia:	1	-	-
Permanent employees	**4,223**	**4,132**	**4,228**
Of which female	2,139	2,101	2,167
Of which male	2,084	2,031	2,061
Breakdown by region			
HQ&GSD[2]:	1,160	1,176	1,262
Europe:	1,241	1,150	1,189
Latin America:	1,636	1,638	1,690
USA:	185	168	87
Asia:	1	-	-
Temporary employees	**208**	**375**	**325**
Of which female	84	196	185
Of which male	124	179	140
Breakdown by region			
HQ&GSD[2]:	167	147	132
Europe:	36	133	116
Latin America:	5	95	77
USA:	0	0	0
Asia:	0	-	-

DATA	2022	2021[1]	2020[1]
Full-time employees	**4,161**	**4,220**	**4,259**
Of which female	1,977	2,034	2,075
Of which male	2,184	2,186	2,184
Breakdown by region			
HQ&GSD[2]:	1,124	1,114	1,181
Europe:	1,213	1,208	1,226
Latin America:	1,640	1,732	1,766
USA:	183	166	86
Asia:	1	-	-
Part-time employees	**270**	**287**	**294**
Of which female	246	263	277
Of which male	24	24	17
Breakdown by region			
HQ&GSD[2]:	203	209	213
Europe:	64	75	79
Latin America:	1	1	1
USA:	2	2	1
Asia:	0	-	-

Human Capital Fairness

GRI 3-3

Our employees are our greatest asset. Through their contribution every day, they are the foundation for our success. We believe that no company can flourish without ensuring the health and wellbeing of its employees.
In striving to ensure health and wellbeing, we take a comprehensive approach, offering health and safety programmes as well as training across the countries we operate in. In this regard, we comply with the highest standards in the areas of human resources management and occupational health and safety, and often go beyond legal requirements, for example with our comprehensive approach to zero work accidents.

1 2020 and 2021 figures are not in the scope of the limited assurance audit for 2022
2 Headquarters (HQ) & German Sales Division (GSD)

Health and Wellbeing Initiatives

GRI 403-3, GRI 403-6

Maintaining and improving mental and physical health is essential for everyone. We therefore provide our employees with regular training as well as health services and programmes, supporting physical, psychological and social health. Alongside these programmes, we also have company doctors and nurses present on several of our manufacturing sites. Their medical services include preventive occupational medical care, relevant occupational health examinations and vaccination programmes (including for Covid-19). Offerings and services can vary by location.

The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

Occupational Health and Safety

GRI 403-1, GRI 403-2, GRI 403-4, GRI 403-5, GRI 403-7, GRI 403-8, GRI 403-9

We have a clear goal concerning safety: VISION ZERO. Our goal is zero Lost Working Days due to accidents.

To this end, strengthening safety awareness is fundamental. At our manufacturing sites, for example, employees spend time every month observing the safety behaviour of their colleagues and providing constructive feedback.

ISO 45001 and EHS Policy – highest Standards

To maintain the highest safety standards and reach the goal of VISION ZERO, our occupational health and safety management systems at all of our manufacturing sites in Germany, Switzerland, Italy, Equador and Chile were certified according to the ISO 45001 standard.

In addition, we have implemented the 'Policy on Occupational, Safety, Health and Environmental Protection, and Energy' (EHS policy) at all our sites.

Among other things, it sets out obligations to comply with health protection and measures to actively improve occupational safety, and defines accountability and therefore creates a basis for a safe working culture. This EHS policy applies to all our employees and is also binding on our suppliers. To reach our employees in the best possible way and to ensure that the entire workforce is covered by the management system, the document is available in English, German, Italian and Spanish.

Our exemplary comprehensive Health Services and Programmes at our Headquarters in Germany

Physical health

- Various workshops and long-term courses, such as yoga, back ergonomics and active breaks
- Lectures and speeches on topics such as nutrition, sleep and other current health topics
- Cooperation with fitness studios to subsidise membership charges for employees
- Digital sports and health courses via Voiio, a corporate digital platform for private and family life

Psychological and social health

- Offerings around mindfulness and resilience
- Healthy Leadership Life situation coaching
- Occupational Integration Management for the re-integration of employees after longer illness

Our global EHS Network

All our manufacturing sites receive regular EHS audits and standardised risk assessments, to identify risks and find opportunities for improvement.

To ensure that our high standards are met in the best possible way, there are local EHS managers at all our manufacturing sites who act as contacts and sparring partners for the sites. They monitor safety and health regulations, check risks and evaluate potential for improvement with the employees.

The local EHS managers report to the Global EHS unit at our head office in Aachen, Germany. The global unit is responsible for monitoring and guiding to ensure compliance with EHS regulations, and reports on progress and risks to the Corporate Executive Board at regular intervals.

The relevant sites have their own EHS committees, in which the local EHS contacts, employee representatives and the local management team are represented. In addition, meetings between the local EHS managers and the Global EHS team take place at least once a month.

Employees are regularly informed about progress, risks and innovations via global and local town hall meetings. They also have the opportunity to suggest improvements and point out risks.

EHS Training Programmes

To create a prevention mindset, we take precautionary measures through intensive training sessions and regularly inform our employees about relevant safety issues. Depending on the exposure to risks, there are extensive, customised training programmes for all employees, adapted to local conditions. The scope of the training depends on the employee category: employees with specific responsibilities or higher exposure to risks receive more extensive training than, for example, office employees without direct contact with production processes. In addition to regular general EHS training for all staff, for specific responsibilities training of standards includes:

- Site Governance & Assurance
- Contractor Management
- Work at Height
- Lock Out Tag Out
- Hot Work
- Electrical Safety
- Emergency Preparedness
- Confined Space Entry
- Hazardous Materials Handling
- Safety Behaviour
- Safe Operation of Trucks FLTs
- Machine Guarding

Work-related Injuries and Fatalities GRI 403-9

	2022	2021
Work-related fatalities	0	0
High-consequence work-related injuries (excluding fatalities)	18	18
Work-related injuries	29	25

Diversity drives Innovation – Equality, Diversity & Inclusion

GRI 3-3, GRI 405-1, GRI 406-1

Equality, diversity and inclusion is a business imperative embedded in our company Values & Behaviours. Grünenthal wants to provide a work environment where everyone feels respected, welcome and appreciated, irrespective of their identity.

Empowering Diversity & Engagement

During 2022, we launched our first ever Diversity & Engagement strategy. It brings together existing local and global events and initiatives, ranging from our Pride talks through to local Diwali celebrations and graduate recruitment. By focusing on three pillars, the strategy provides a clear plan with global commitments to truly empower, inspire, support and engage all of our people, partners and communities. Each and every person is encouraged to support the initiatives personally – wherever they are based in our organisation and hierarchy. As part of this approach in 2022, we founded an LGBT+ community and increased support for mental health.

We empower our employees to have a positive impact on the results we achieve and on the lives of the patients we serve. We do this by encouraging all of our employees to innovate in every possible way – whether by building our pipeline or implementing new ideas to drive performance along the value chain. (More information on cutting-edge science and technology can be found in our corporate Grünenthal Report.)

Indeed, innovation is one of the key enablers of our success. We are convinced that brilliant ideas leading to innovative solutions can only be generated when diverse teams and leaders, with a variety of different perspectives, capabilities, experiences and ideas, work together. This is why, at Grünenthal, we promote and encourage diversity in all our teams and strive to create a culture of inclusion where all our employees can unleash their full potential.

The thorough analysis of impact as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

Impact initiative: Circle of Trust

Building on a strong foundation, we are committed to expanding our initiatives to foster a culture of trust among employees, partners and the community.

To further strengthen this 'Circle of Trust', we have established a Diversity & Engagement Council in the reporting year. The Council defines strategic Diversity & Engagement goals linked to the Grünenthal business strategy and our cultural mission, govern associated initiatives and monitor impact and therefore strengthen Grünenthal as a trusted corporate brand, an attractive employer and a great place to work.

Our ambitions are high:

- Maintain high levels of engagement at Grünenthal by providing a working environment in which all of our employees feel valued, respected and empowered to develop their full potential and bring great ideas to the table.
- Move towards a workplace that more closely mirrors the diversity of society; become a role model of diversity, inclusion and equality with policies and practices that are inclusive and encourage diversity.
- Be recognised as an attractive employer.
- Build a global framework that will enable our employees to continually drive our purpose externally by cooperating with partners who share our ambitions in ethics, human rights and diversity.

Anti-Discrimination

To prevent discrimination – meaning the unfair treatment of individuals or groups of people based on certain characteristics – and to give all employees the opportunity to seek help should they feel they are victims of discrimination, the Ethics Helpline can be called by anyone in confidence. (For further information please refer to the chapter 'Compliance, Ethics & Transparency'.)

As soon as a case is reported, our Compliance Organisation looks into the matter, following our standardised and state-of-the-art investigation process, in close cooperation with global and/or local HR. In the reporting year, as in 2021, no cases of discrimination were reported to the Ethics Helpline.

Diversity (headcount)

DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES	2022	2021	2020
Corporate Executive Board and Advisory Board			
Gender male:	88 %	88 %	88 %
Gender female:	12 %	12 %	12 %
Under 30 years old	0 %	0 %	0 %
30 – 50 years old	75 %	75 %	75 %
Over 50 years old	25 %	25 %	25 %
Percentage of employees in R&D:			
Gender male:	37 %	37 %	38 %
Gender female:	63 %	63 %	62 %
Under 30 years old	2 %	2 %	4 %
30 – 50 years old	64 %	64 %	68 %
Over 50 years old	34 %	32 %	28 %
Percentage of employees in Global Commercial:			
Gender male:	44 %	44 %	43 %
Gender female:	56 %	56 %	57 %
Under 30 years old	4 %	3 %	4 %
30 – 50 years old	58 %	60 %	63 %
Over 50 years old	38 %	37 %	33 %
Percentage of employees in Global Operations:			
Gender male:	58 %	57 %	55 %
Gender female:	42 %	43 %	45 %
Under 30 years old	13 %	11 %	12 %
30 – 50 years old	55 %	59 %	59 %
Over 50 years old	31 %	30 %	29 %
Percentage of employees in Corporate Functions:			
Gender male:	47 %	47 %	47 %
Gender female:	53 %	53 %	53 %
Under 30 years old	19 %	17 %	18 %
30 – 50 years old	57 %	56 %	55 %
Over 50 years old	24 %	27 %	26 %

Attractive Employer

GRI 3-3

As a global player in a fast-paced, ever-changing market environment, our business success is only made possible by our people. Their ambition, talent and commitment drive our efforts to strengthen our position as a cutting-edge pharmaceutical company.
It is our goal to maintain high levels of engagement with our workforce and to strengthen our company as a Great Place to Work®. We promote a vibrant, high-performance culture which is founded on a shared set of values. These guide our behaviours and decision-making – as individuals and as an organisation. More information on Grünenthal as a Great Place to Work® can be found in our corporate Grünenthal Report.
The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

Flexible Working Models

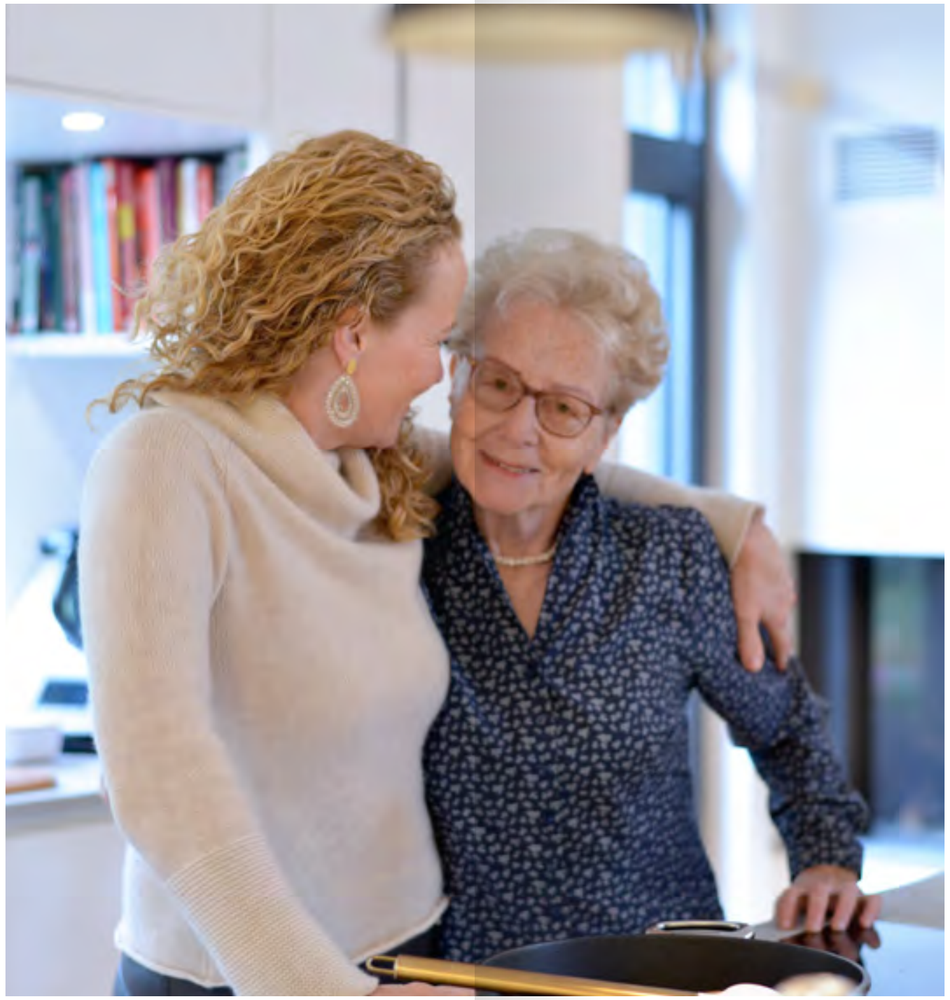
Creating an atmosphere of mutual trust among our employees is particularly important to us. Even before the Covid-19 pandemic, we made it possible for our employees to work from home. Through our hybrid working model, SMARTWORK, which allows for a flexible arrangement of office work and work from home, we can offer a good work-life balance.
For working parents, balancing family life and career is a daily challenge. We help by providing company childcare facilities at our headquarters with space for 70 children, with care in both English and German, and we offer childcare services at some of our other locations.

We help balancing family life and career

Our Remuneration Principles

GRI 2-30

We use a standardised and transparent global process for our remuneration approach. Job scope, market competitiveness and performance are the key elements of our remuneration philosophy.
The use of an established market-based job evaluation system aims to ensure internal and external equity with a consistent approach. All parts of the total remuneration package are based on local market practice. Through comprehensive benchmarking using leading data sources and expert industry advisors in each local market, we aim for competitiveness. Salary and benefits structures are regularly reviewed in view of the respective target groups and business needs.
Grünenthal offers a wide range of additional competitive monetary and non-monetary benefits including healthcare and pension in the context of the local market. Benefits may include medical insurance, company car, fitness allowance as well as membership and service fees, training/education, additional holidays, special discounts and other support.



Grünenthal – a Great Place to Work®

	2022	2020[1]	Since 2017[1]
Trust index			
Global	76 %	76 %	+8 %
Europe	76 %	75 %	+2 %
Latin America	78 %	78 %	+1 %
Headquarters	70 %	70 %	+14 %
Grünenthal is a Great Place to Work®			
Global	81 %	81 %	+9 %
Europe	82 %	82 %	+4 %
Latin America	82 %	83 %	+-0 %
Headquarters	73 %	76 %	+20 %

Our regular employee satisfaction surveys and leadership feedback surveys provide us with continual and actionable insights. Employees can also tell us anonymously what they think about our culture and leadership approach through our Great Place to Work® survey. It gives us a clear benchmark of where we stand and enables us to track our progress.
The 2022 results of the Great Place to Work® survey confirmed the positive trends seen in previous surveys. More than 3,500 of our employees shared their feedback last year, which is a participation rate of 83 % (2020: 85 %)[2].
With 81% of participants stating that Grünenthal is a great place to work, we were able to maintain our high rate from the year 2020 (81 %)[2].
This also resulted in Grünenthal being certified as a Great Place to Work® in 24 entities spread across 19 countries, including our headquarters and all of our manufacturing sites (more information can be found in our corporate Grünenthal Report).

1 2020 and since 2017 figures are not in the scope of the limited assurance audit for 2022
2 2020 figures are not in the scope of the limited assurance audit for 2022

180-degree Pulse Check – Positive Feedback for Management

This positive trend is also reflected in our '180-degree Pulse Check'. To provide targeted leadership feedback for line and project managers on how they drive team performance and development and bring our Values & Behaviours to life, we annually conduct 180-degree Pulse Checks.

The 180-degree Pulse Check conducted in 2022 again confirmed the encouraging results seen in the first two runs in 2020 and 2021, as well as the results of our last Great Place to Work® survey. In the past few years, the results show that we have made significant and, most importantly, sustainable progress on our cultural journey. The high participation rate (92 %) of the 2022 Pulse Check again reflects the open feedback culture we want to promote.

Key Insights from the Results include:

- The vast majority of our employees confirmed that priorities are clear (93 %) and that their manager keeps the team focused on results (90 %).
- Most managers again got very positive feedback about the way they encourage cross-functional collaboration (91 %).
- Last year's improvement related to micromanagement (+17 percentage points compared with 2020)[1] was maintained (82 %).
- Most managers regularly provide feedback on performance and support for active development (81 %). We will continue to focus on further strengthening our performance and development culture.
- Again, 88 % of all responses confirmed that employees would recommend their manager to other colleagues.
- Over 50 % of all feedback contained personal comments which add valuable insights.

Employee Turnover GRI 401-1

NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER	2022	2021[2]	2020[2]
Total number and rate of new employee hires during the reporting period, by gender and region (headcount)[3]			
total number	**674**	520	440
Gender male:	362	273	210
Gender female:	312	247	230
of which			
Headquarters & German Sales Division:	194	88	110
Europe:	223	128	150
Latin America:	215	207	141
USA:	41	97	39
Asia:	1	0	0
Total number and rate of employee turnover during the reporting period, by gender and region (headcount)[4]			
total number	**276**	**277**	**194**
Gender male:	134	114	95
Gender female:	142	163	99
of which			
Headquarters & German Sales Division:	65	72	56
Europe:	76	91	60
Latin America:	122	106	76
USA:	13	8	2
Asia:	0	0	0
Total turnover rate	**6.2 %**	**6.1 %**	**4.2 %**

1 2020 figures are not in the scope of the limited assurance audit for 2022
2 2020 and 2021 figures are not in the scope of the limited assurance audit for 2022
3 New hires (globally) and split by region as in Global HR Report: Germany (HQ/GSD), EU, LatAm, US; only employees who are hired for at least six months are taken into account
4 Turnover (voluntary) globally

Employee Engagement

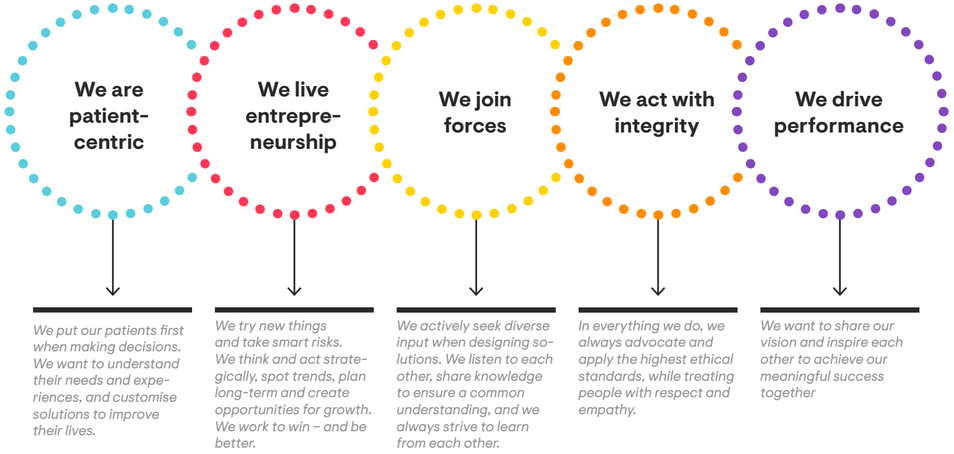
GRI 3-3

Working at Grünenthal is about living our values and contributing to evolve our company culture, every day. We think and act with the patient in mind, we acknowledge that people make the difference, and we team up to create value. This is how we foster Employee Engagement.

The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

Five Values, supported by specific Behaviours, guide our decision-making and provide a clear indication of how we are expected to behave – as individuals and as an organisation.
Wherever Grünenthal has a presence or impact, we must live up to our company Values & Behaviours.

Grünenthal Values & Behaviours



Training and Career Development

GRI 404-2, GRI 404-3

Each and every employee at Grünenthal is considered a talent and we actively promote growth and individual development for all of them, with each employee having a personal development plan, including regular performance and career development reviews. We invest in our people and provide many different learning and growth opportunities, such as taking on new challenges on the job, training, coaching and mentoring programmes. Our ambition as an organisation is to encourage our employees to unleash their full potential.
Each employee sits in the driver's seat of their own development – they own it. We expect them to speak up, make proposals and discuss aspirations, development areas and actions with their managers.
Our leaders also have the responsibility to support the development of their team members by leveraging their strengths, identifying areas for improvement, and providing space and opportunities for growth within their teams. It has to be the ambition of every leader to create a learning environment, applying the 70/20/10 learning model. This model states that 70 % of learning happens on the job, 20 % in interactions with others such as coworkers and managers, and only 10 % of learning happens in off-the-job activities such as training.

To support the 'off-the-job' learning, we offer an extensive range of advanced training courses available through our Learning Management System and other learning platforms (more information can be found in our corporate Grünenthal Report).

Corporate Citizenship

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	NUMBER OF INITIATIVES 2022
Number of Corporate Citizenship initiatives in:	
(i) ad-hoc disaster relief	**3 initiatives:** Financial donations to the Red Cross to support Ukraine and product donations through our partners Action Medeor and Uniklinikum Aachen
(ii) philanthropic activities	**5 initiatives:** Basic research activities at local Aachen University and support of playground at local kindergarden
(iii) healthcare support activities in the year	**5 initiatives:** Focus on support of palliative care, e.g. via palliative care foundation or a local Lions Club that supported a local hospice.

Improving the quality of life of people and communities beyond our core business is a key part of our Corporate Responsibility Programme. It is important to us to give back to society and let people share the success of our business. We have a long tradition of supporting projects and charities that have a positive impact.
In addition to supporting local outreach activities through our Patient impact initiatives, which are closely linked to our core business (see chapter 'PATIENT – THE PEOPLE WE SERVE'), we also support other projects with donations.
In March 2022 we donated EUR 400,000 to the Red Cross to support humanitarian relief efforts in Ukraine and Eastern Europe. In addition, together with our partners Action Medeor and the University Hospital RWTH Aachen, we have provided urgently needed pain medication to the region.

PLANET – THE ENVIRONMENT WE DEPEND ON

Material Topic

ENVIRONMENTAL EXCELLENCE STRATEGY

RESPONSIBLE USE OF RESOURCES

OUR IMPACT ON CLIMATE

Our Sustainability Ambitions

- *Based on the defined environmental strategy, Grünenthal is in the process of implementing the environmental initiatives according to its established roadmap to further develop the complete scope of Grünenthal's operations, supplier production and patient/after-use value chain of our products*

- *Annual reduction of 3 % in normalised energy consumption (kWh/produced units or volume per site)*
- *Annual reduction of 3 % in normalised waste (tonnes/produced units or volume per site)*
- *Annual reduction of 3 % CO_2 emission per site per year (CO_2e/produced units or volume per site)*
- *Reduction of 2 % in water consumption per year (m^3/produced units or volume per site)*
- *We will work with our key suppliers to achieve a commitment to use 100 % renewable power and implement an energy reduction standard by 2030*

- *We want to achieve net zero emissions in Scope 1 and 2 by 2030*

PLANET – THE ENVIRONMENT WE DEPEND ON

We are committed to minimising negative environmental impacts of our global operations. To take sustainable action, we are constantly monitoring our performance and our practices. We aim to constantly improve and successfully adapt to new regulatory requirements. We have therefore devoted our efforts – jointly with our stakeholders such as employees, partners and customers – to reducing our carbon footprint, our resource and energy use, and our waste generation in our value chain. To create a meaningful impact and achieve our goals in a focused way, we have identified three major environmental areas of action in close dialogue with our stakeholders. We have determined their status as material topics to remain valid in light of the described double materiality assessment (financial and impact materiality, see chapter 'Material ESG Topics').

ENVIRONMENTAL EXCELLENCE STRATEGY

Our goal is to further promote environmental sustainability. To manage this, we are continually working on our environmental sustainability strategy based on our impact initiative: Planet – Driving Environmental Sustainability.

RESPONSIBLE USE OF RESOURCES

Responsible use of resources is essential for us and our stakeholders to limit our impact on the environment. In particular, we focus on our energy and water consumption and the handling of production waste.

OUR IMPACT ON CLIMATE

We want to better understand our impact on climate change and take action to reduce it. We therefore calculate our corporate carbon footprint and set ourselves concrete targets for future CO_2 reductions.

Environmental Excellence Strategy

GRI 3-3

The world's limited resources are becoming increasingly depleted, and the environmental footprint of humankind is already more than the planet can sustain. This is why we take responsibility for our impact on the environment.
After conducting our double materiality analysis to assess the impacts, risks and opportunities related to our environmental footprint, we have identified this as a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').
As a result, we have set up a comprehensive environmental management system including governance, processes and responsibilities that will drive progress towards achieving our ambitions in this field.
We follow leading international environmental standards. We collect and analyse data from our manufacturing sites to improve efficiency, reduce energy consumption and cut waste generation.
We continue to implement a comprehensive environmental management system based on the ISO 14001:2015 standard, regulatory requirements, corporate environmental standards, the Sustainable Development Goals, the Greenhouse Gas Protocol and best international practices.
In addition, we continue to develop a robust environmental data management and monitoring system for waste, water, wastewater, energy, greenhouse gas (GHG) data from our manufacturing sites, and Scope 3 GHG emissions.
To push our excellence strategy further, we have carried out a full environmental impact assessment and GHG inventory for our sites and across our entire value chain. We have also created a Planet Roadmap to achieve our ambitious goals. This Roadmap includes GHG emissions reductions, waste reduction and water saving projects, sustainable packaging, responsible sourcing, digitalisation and sustainable product design projects.
In 2022, we developed a Climate Strategy to reduce our carbon footprint.

Planet Governance

In 2022, we have improved our governance structure in respect of our planet topics.
The Planet Committee, attended by project leads for the Planet Roadmap and EHS Managers from global sites, meets monthly. Activities and project outcomes are reported to the Global Operations Board and the Corporate Responsibility Board.
On a more operational level, the EHS Team meets monthly to track performance against KPIs for Global Manufacturing sites with respect to energy, water and waste reduction as well as GHG.

2022 Achievements

An ongoing point of emphasis for improving our environmental performance and working towards achieving our ambitions relates to the development of critical Global Environmental Standards for our manufacturing sites. In 2022, we rolled out the 'Environmental Performance and Data Integrity' standard. With this standard, we emphasize the importance of the management and reporting requirements of all sustainability-related data and we will improve data integrity and reporting processes. Moreover, we launched wastewater projects to support Global Manufacturing sites and established targets for Predicted Environmental Concentration (PEC) and Predicted No-Effect Concentration (PNEC) for API produced by Grünenthal manufacturing sites. The projects are also intended to facilitate further investigation of pharmaceutical in the wastewater process combined with the identification of possible treatment technologies.
In 2022 we also reached out to our affiliate offices, working with them on setting environmental targets based on waste, energy and accident reporting.

> "This forum provides an opportunity to exchange best practices across our global sites, ensuring we work toward the achievement of our global ambitions such as net zero by 2030.
>
> **Forum attendee**

2023 Outlook

As part of the implementation of our #Planet strategy, we continue to work across the organisation to deliver environmental initiatives in the areas of energy and CO_2, waste and water reduction. These projects are tracked and managed within our Planet Roadmap. They cover the full scope of Grünenthal's operations at manufacturing sites.

Impact Initiative: Driving Environmental Sustainability

We anchor our environmental excellence approach with the Planet Impact Initiative 'Driving environmental sustainability'. This Impact Initiative is our holistic approach to bundle all of Grünenthal's environmental initiatives, our suppliers' production and the value chain of our products for patients and after use.

The elements of our comprehensive environmental impact initiative:

- Together with our employees and partners, we are increasing sustainability in our operations, procurement and products across the whole value chain.
- We are reducing CO_2 emissions, water consumption and waste generation from all our operations.
- By establishing projects to reduce packaging and minimise the end-of-life environmental impact of our products, we are taking responsibility for the impact of our products at the consumer and post-consumer stage.

Environmental Impact Assessment (EIA)

As a basis for achieving our goals, defining the current situation and identifying potential for improvement, we conducted an environmental impact assessment (EIA) with an external partner. With this EIA, we identified the most important environmental impact areas for Grünenthal and its products.

To support the analysis, we follow the Future-Fit Business Benchmark methodology, which is based on the best available scientific evidence. The initial focus of the project is on the environmental side of sustainability, and so some adjustments were made to the framework. The results of the analysis are reflected in the following reporting on resource consumption and climate impact.

Our environmental Goals

- Annual reduction of 3 % in normalised energy consumption (kWh/produced units or volume per site)
- Annual reduction of 3 % in normalised waste (tonnes/produced units or volume per site)
- Reduction of 2 % in water consumption per year per site (m3/ produced units or volume per site)
- We will work with our key suppliers to achieve a commitment to use 100 % renewable power and implement an energy reduction standard by 2030
- We want to achieve net zero emissions in Scope 1 and 2 by 2030
- Reduction of 3 % CO_2 emission per site per year (CO_2e/produced units or volume per site)

Responsible Use of Resources

GRI 3-3

Within our own operations we have a direct influence on responsible use of resources. While the EIA revealed that the impact of Grünenthal's own production is relatively small compared with the supplier and after-use phases, this is where we can directly contribute by setting and achieving ambitious targets.

During 2022 we have developed corporate environmental standards to have the same management approach for responsible use of key natural resources at our manufacturing sites. They are: waste management standard, wastewater management standard and water management standard.

In addition, lessons learned from minimising the impacts of our own operations can be used in setting requirements for suppliers and contract manufacturers.

Our focus in the area of sustainable operations is on energy and water consumption and on the reduction of waste. Overall, we aim to contribute to a reduction of our CO_2 emissions, which are elaborated under 'Our impact on Climate'.

The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

Energy Consumption

Globally, energy consumption is the dominant contributor to climate change. According to the most recent report of the Intergovernmental Panel on Climate Change (IPCC), published in March 2023, more than 75 % of global GHG emissions are caused by the energy sector, including industry, transport and buildings.[1] To minimise our emissions, we collect and regularly analyse data from our production sites so that we can continuously improve resource efficiency and reduce our energy consumption.

9.5 %

reduction of energy consumption

Total Energy Consumption[2] GRI 302-1

	2022 IN kWh[3]	2021 IN kWh[4]	CHANGE IN %
Total energy consumption	**115,514,172**	**127,628,001**	**-9.5 %**
of which from non-renewable sources	101,500,180	110,950,645	-8.5 %
of which from renewable sources	13,977,480	16,677,356	-16.2 %
Electric consumption	22,027,902	23,583,365	-6.6 %
Heating consumption (measured at one manufacturing site)	6,733,000	8,300,000	-19 %
Cooling consumption	validated values to be expected as soon as measurement equipment is available		
Steam consumption (measured at one manufacturing site)	7,156,000	8,500,000	-15.8 %

1 Intergovernmental Panel on Climate Change (IPCC; March 21, 2023) Synthesis Report of the IPCC Sixth Assessment Report (AR6) – Summary for Policymakers. https://report.ipcc.ch/ar6syr/pdf/IPCC_AR6_SYR_SPM.pdf
2 The scope covers all our manufacturing sites in five locations (Aachen consists of Aachen Site and API Site) including the administrative buildings located on the campus. Affiliate offices are not included.
3 2022 figures for energy consumption are not in the scope of the limited assurance audit for 2022 as such, but in this case the figures have been audited because they serve as basis for the calculation of energy intensity, which is in scope of the limited assurance audit for 2022
4 2021 figures are not in scope but audited as they were used for calculation of GHG which was under limited assurance

Energy Intensity

GRI 302-3, GRI 302-4[1], GRI 302-5

The Energy Intensity is measured differently at the various manufacturing sites.

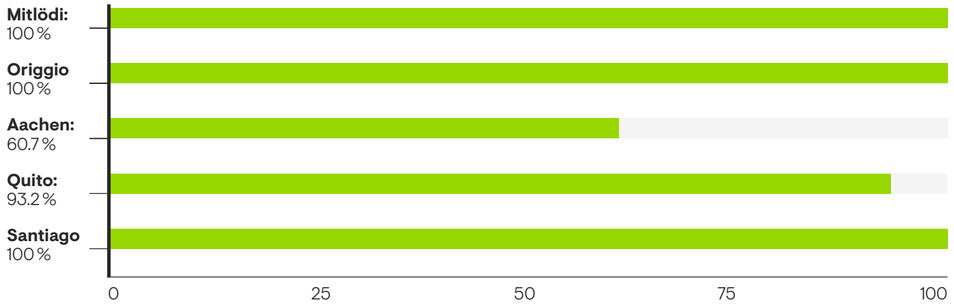
- For sites producing Active Pharmaceutical Ingredients (API sites in Aachen and Mitlödi): kWh/tonnes
- For sites producing pharmaceutical goods (Aachen, Santiago and Quito): kWh/1,000 packs produced
- For sites producing multiple tablets (Origgio): kWh/1,000,000 tablets produced

Energy Intensity and Reduction (Production Facilities[2])

SITES	UNITS	ENERGY		
		2022	2021[3]	Change in %
Aachen Site	(kWh/1,000 packs)	92	109	-15.4
API Site (Aachen)	(kWh/tonnes)	220,318	149,463	+47.4[4]
API Site (Mitlödi)	(kWh/tonnes)	49,459	51,856	-4.6
Origgio Site	(kWh/1,000,000 tablets)	14,289	13,921	+2,64
Quito Site	(kWh/1,000 packs)	169	198	-14,65
Santiago Site	(kWh/1,000 packs)	374	253	+47.8[5]

1 This GRI standard is not in the scope of the limited assurance audit for 2022
2 Energy sources used in this calculation include electricity, gas and oil. The scope covers all our manufacturing sites in five locations (Aachen consists of Aachen Site and API Site) excluding the administrative buildings, campus and R&D facilities located on the campus. Affiliate offices are not included.
3 2021 figures are not in the scope of the limited assurance audit for 2022
4 The Aachen API 2022 increase is due to the manufacturing process at the site. Due to a reduction in production volume and the type of product produced in 2022, where there was a higher liquid content which increased the weight, the energy intensity of the API product was higher per tonne.
5 In 2022, there was a reduction of production volume by 40 % at the Santiago site. Consequently, this affected the energy intensity for the site – reduced production combined with a residual energy baseload at the site.

Renewable Electricity per Site as % of total Electricity purchased (2022)



The largest global energy source at Grünenthal is currently gas, which is mainly used to generate electricity and heat. Overall, 101,500,180 kWh (2021: 110,950,645 kWh) of our energy consumption currently comes from non-renewable sources. 22,027,901 kWh (2021: 23,583,365 kWh) of our energy consumption comes from conventional electricity. This means a total reduction of 8.2 % in energy consumption compared with the previous year.

The share of renewable energy is 13,977,479 kWh (2021: 16,677,356 kWh) in total and 12 % of the total share of energy. In terms of energy consumption, reducing the impact on the environment by improving energy use is essential. To achieve our goal of net zero emissions in scope 1 and 2 by 2030, we need to reduce our energy consumption and increase the use of renewable energy.

Green Energy Transition

Our manufacturing sites in Mitlödi (Switzerland), Santiago (Chile) and Origgio (Italy) are using 100 % renewable electricity.
Priority projects for the next years are heat pump projects and photovoltaic installations. In Origgio, the installation of solar panels has already been started.

Targeted Measures to reduce Energy Consumption

Energy reduction measures were delivered through planet roadmap initiatives and projects. Key projects implemented in 2022 to decrease energy consumption included the installation of PV modules on the roof of our archive containers in Mitlödi, generating renewable electricity to use on our site as well providing shade to the roof area and reducing the temperature inside the containers to reduce air-conditioning requirements.

Our projects on energy efficiency in buildings focus on optimising cooling systems and heating, ventilation and air-conditioning systems in Aachen, Quito and Origgio.
In 2023 we will publish a corporate energy management standard to standardise the management approach and minimum processes requirements to be established to manage, optimise and minimise the use of energy in Grünenthal's manufacturing activities.

Water Consumption

GRI 303-1, GRI 303-2, GRI 303-4

In general, the production of medicines involves a relatively high intensity of water consumption. Water, being an increasingly valuable, limited resource, is therefore closely monitored at our manufacturing sites. We have also included water-related risks in our EIA.

Water Consumption GRI 303-3, GRI 303-5

	UNITS	2022	2021	CHANGE IN %
Aachen				
Third-party water	megalitres	50.12	65.58	-23.6
Quito				
Groundwater	megalitres	29.78	28.77	+3.5
Mittlödi				
Third-party water	megalitres	4.63	4.7	-1.5
Origgio[1]				
Third-party water	megalitres	66.45	60.3	+10.5
Santiago				
Third-party water	megalitres	37.16	45.16	-17.7
Total water consumption	megalitres	188.13	204.51	-8.0
of which water consumption from areas with water stress (Santiago)	megalitres	N/A	45.16	N/A
of which water consumption from areas with water stress (Aachen and Origgio) - Progress on Level of Water Stress – 2021 Update | UN-Water (unwater.org) 2022	megalitres	116.56	N/A	N/A

1 In 2022 the production of a new product and related increase in staff has increased the water volumes required. We are closely monitoring this and looking for alternative technologies to reduce consumption.

Water Stress Risk Assessment shows Risks in some Areas

The term 'water stress' describes the ability to meet or not meet the demand for freshwater. The water stress concept incorporates both human and environmental factors. It is, compared with pure water scarcity, a more comprehensive and broader concept. Water stress considers several aspects, such as water availability, water quality, water accessibility or the existence of sufficient infrastructure and affordability of water. Both water use and withdrawal provide useful information and insights into relative water stress.
We are continually analysing the regions in which our production sites are located, and the risk for the sites in Switzerland and Ecuador were classified as 'low'.
However, the water stress level for Germany, Santiago and Origgio are rated as 'medium to high' as according to Progress on Level of Water Stress – 2021 Update | UN-Water (unwater.org).
This fact-based, transparent monitoring enables us to identify possible measures to improve our water management at each site.

Water Management at our Sites

The local EHS managers at the production sites are responsible for the monitoring of water consumption and wastewater. Overall, water consumption at Grünenthal was reduced by 8 % in the reporting year compared with the previous year.
At our sites, water is drawn primarily from the public water supply. Our site in Chile has its own well to ensure water supply. We are conscious of the difficult situation with a fully privatised water supply in Chile. We are therefore taking an active role as a responsible water consumer in our site's local communities. Globally, we are continuously working to reduce our water consumption and have set ourselves internal targets.

Water Discharge

Not only does water consumption play a decisive role, but also the discharge of wastewater. The production of pharmaceutical products generates pollutants that often cannot simply be discharged into the wastewater system and require special treatment.
In 2022 a global wastewater standard was rolled out. This set out guidance for the management of wastewater as well as requirements of sampling and reporting wastewater quality against local discharge consent requirements.
In 2023 we are undertaking a Pharmaceuticals in the Environment (ecotoxicity) assessment for sites to set additional global targets for waste water parameters.
Depending on the location, we have individual approaches for treatment and control before discharge into the municipal sewer system. Furthermore, each site has local discharge requirements. The details are recorded globally and made available at each site.
Special standards apply to those who manufacture Active Pharmaceutical Ingredient. Here, increased requirements apply to the measurement and reporting of active ingredient volume and effluent disposal.

Example: Wastewater Treatment in Switzerland

For many years, our production site in Switzerland has needed to meet strict regulations for wastewater purity. A special process is used to purify wastewater from the chemical synthesis of active ingredients, for example. In this process, ultraviolet light is used to oxidise biologically active substances or other contaminants to form non-toxic, biodegradable substances. This makes it possible to legally dispose of wastewater via the municipal sewer system.

To demonstrate our compliance with wastewater purity regulations, each batch of processed wastewater is analysed and any contamination is balanced out. The local authorities had previously set limits for the volume of specific substances that could be discharged annually, and they set limits for weekly discharge volumes in 2022.

Our well-established processes for treating, analysing and monitoring wastewater ensure that our site meets the highest standards. We frequently go far beyond regulatory compliance – and achieve wastewater purity that is significantly better than official limits.

Waste

GRI 306-1, GRI 306-2

In our corporate activities, waste is generated in particular in production. The waste generated at our production sites also includes a larger amount of hazardous waste produced during the manufacture of pharmaceutical products. These are removed from our sites by registered waste companies and disposed of mainly by incineration, and in some cases with heat recovery. The EHS manager at each site manages the contracts with these specialist companies. Grünenthal has a normalised waste reduction target of 3 % per year and a zero waste to landfill target.

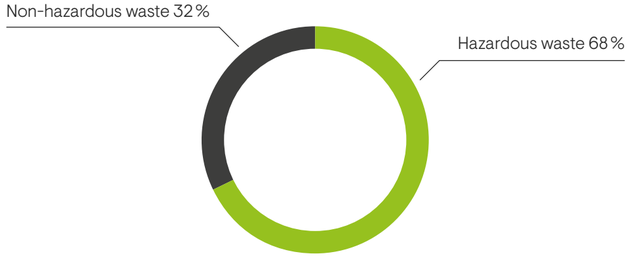
Waste generated in tonnes GRI 306-3, GRI 306-4, GRI 306-5

	2022	2021	CHANGE IN %
Waste generated in tonnes	**6,280**	**6,687**	**-6.1**
of which hazardous waste	4,297	4,699	-8.6
of which incineration with energy production (1)	610	1,479	-58.8
of which incineration without energy production	3,146	3,474	-9.5
of which recycling	2,487	1,747	+42.4
of which landfill	0[1]	0	N/A

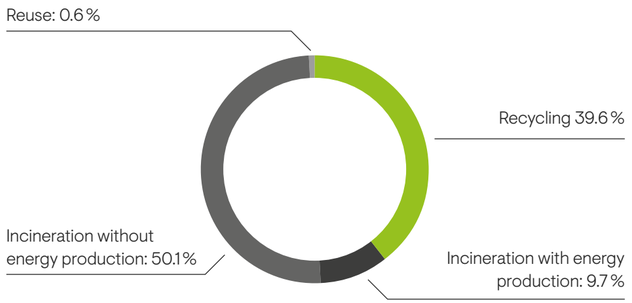
1 2.27 tonnes of insulation material was removed at Grunenthal Germany, not related to our manufacturing processes, and disposed of according to German KrWG – Kreislaufwirtschaftsgesetz (2012) as recommended by the local environmental agency. This is the only recommended disposal method for this type of material. The global manufacturing sites continue to operate with no landfill waste disposal.

Waste Categorization

Waste types (2022)



Waste treatment (2022)



Managing hazardous and non-hazardous Waste

The onsite operations teams collaborate with the onsite EHS manager on waste management. Waste data is provided to the EHS manager by waste suppliers. Reporting of waste data occurs monthly in an EHS meeting and quarterly in a management review. Data is continuously managed in the EHS IT system and therefore made available to the EHS global team.
The local EHS manager at the operating sites is responsible for ensuring that waste is disposed of in accordance with local requirements. The disposal of pharmaceutical waste (for incineration) is accompanied by a member of Grünenthal to ensure that the disposal complies with legal obligations. For example, a site employee accompanies the truck with hazardous waste until it arrives at the company that incinerates the products. The authorities perform an inspection for narcotics in both raw materials and finished products and for non-narcotics in finished products to verify that the quantity, batches and concentrations are correct.
In Mitlödi, Switzerland, Grünenthal only works with contractors that are listed in the national list of disposal companies (VEVA), and some of them are also ISO 14001 certified. We have an online tool for VEVA and a database where each legal disposal contractor is listed with the type of waste they are allowed to dispose. Each hazardous waste disposal is accompanied by a disposal certificate and also recorded in the database and all site disposal activities are submitted annually to the authorities locally via an online tool. Visits to the contractors also take place to ensure highest standards.

Our Goal: optimise Waste Streams

As part of the Planet strategy, packaging and sustainability have been included within the main pillars from 2022 onwards, with the aim of increasing the proportion of recycled material and the recyclability of our packaged pharmaceutical products.

Our Impact on Climate

GRI 3-3[1], GRI 305-1, GRI 305-2, GRI 305-3, GRI 305-4[1], GRI 305-5

Climate change is one of the most acute threats to humanity and requires intensive efforts from all of us. At Grünenthal, we want to contribute to reducing CO_2 emissions and become climate neutral in the medium to long term. As a first step, we have set ourselves the goal of achieving Net Zero Emissions for our own sites and our direct emissions by 2030. This means that we want to reduce our direct CO_2 emissions in Scope 1 and our indirect energy-related emissions in Scope 2 to such an extent that they are climate neutral. Scope 1 comprises mobile and stationary combustion and fugitive emissions and Scope 2 includes electricity used at our five global production sites and for car mobility.

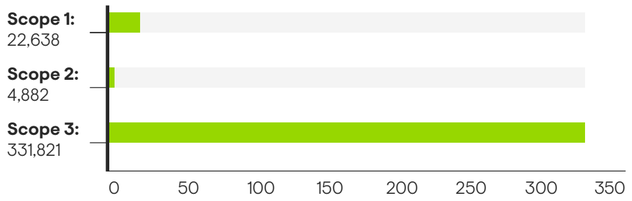
The thorough analysis of impacts as well as the risks and opportunities associated with this topic as a part of our double materiality analysis has proven it to be a Material Topic (see chapter 'ESG Management Approaches and Materiality Analysis, Material Topics').

Our Carbon Footprint

As part of our reporting in the Responsibility Report 2022, we updated our GHG inventory and disclose our latest CO_2 emissions data. In contrast to the overall methodology of reporting 2022 numbers, for GHG we cover the most recently available emissions from the fiscal year 2021. This is due to the fact that 2022 figures are collected by external providers, such as gas- or electricity providers, and were not yet available to us in time for this report.

The 2021 greenhouse gas inventory was again carried out and verified by Nordic Sustainability. All calculations have been made in line with the GHG Protocol Corporate Accounting and Reporting Standard, which provides requirements and guidance for companies and other organizations preparing a corporate-level GHG emissions inventory. An 'operational control' methodology was selected to determine control. This is defined by the Science Based Targets when, a company accounts for 100 % of the emissions from operations at which it has the full authority to introduce and implement operating policies. It does not account for any of the emissions from operations in which it owns an interest but does not have operational control. The baseline for 2020 was recalculated based on improved data quality for total number of sold products and associated downstream transportation. The updates for the baseline and the latest inventory for 2021 are shown below. This impacted the emissions related to Scope 3.

CO_2 Emissions (tonnes of CO_2e)



1 This GRI standard is not in the scope of the limited assurance audit for 2022

Due to internal improvements and an increased maturity in Grünenthal's sustainability journey, several new data sources have been included. These are as follows;

- Refrigerant gasses
- Working from home emissions
- Several more office locations as well as moving several office emissions from Scope 3 to Scopes 1 and 2
- End of life treatment of sold products

4 % of the data in category "purchased goods and services" were omitted. Purchased goods and services emissions were calculated based on spend data (including inflation).

The analysis of Scope 1 and 2 showed that emissions from our facilities and the energy they require account for a share of close to 7 % of our total greenhouse gas footprint, and cars in Grünenthal's fleet for less than 1 %. The calculation focused on our five manufacturing sites worldwide and affiliate offices in 19 countries.

By reducing its energy consumption by more than 8.2 % in gas and electricity due to investments in energy efficiency projects, lower production volumes (up to -40 %) and the transition to more renewable energy at our production sites (for example Mitlödi (Switzerland), Santiago (Chile) and Origgio (Italy) started using renewable electricity), Grünenthal was able to reduce its CO_2 emissions in Scope 2 in 2021 by 60.76 % compared with 2020. Also, the calculations for our greenhouse gas emissions, applying the GHG Protocol methodology, show that total emissions in Scope 2 are significantly reduced when using market-based emissions as it incorporates the renewable electricity Grünenthal purchases and reflects the country-specific electricity grid mix improvements in reducing CO_2.

To reduce our carbon footprint in Scope 1 and 2 even further, we want to continue to increase our share of renewable energy and greatly reduce our gas consumption. Our goal is to move away from gas towards full electrification and the sole purchase of renewable energy.

Breakdown of CO_2 Emissions

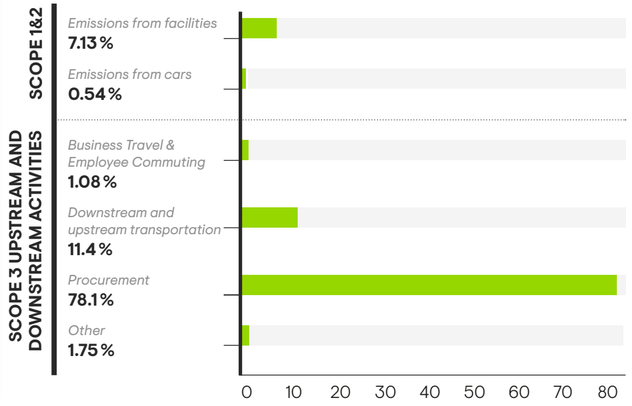
SCOPE AND SOURCE	2021 (t CO_2e)[1]	2020 (t CO_2e)[2]	2020 (t CO_2e)[2]	CHANGE IN %
		like-for-like 2020-2021[3,4]	*As reported in Responsibility Report 2021/22*	*like-for-like 2020-2021*
Scope 1	**22,638**	**22,102**	**22,102**	**2%**
Mobile combustion	1,944	2,247	2,247	-13%
Stationary combustion	19,305	19,855	19,855	-3%
Refrigerant losses	1,389	-	n/a	n/a
Scope 2	**8,513**	**12,442**	**12,442**	**-32%**
Electricity at sites (market based)[5]	4,882	Not reported in 2020	Not reported in 2020	-
Electricity at sites (location based)[6]	8,513	12,436	12,436	-32%
Cars	0.13	6	6	-98%
Scope 3	**331,821**	**340,586**	**435,015**	**-3%**
Purchased goods and services & capital goods	279,999	301,609	316,870	-7%
Fuel and energy	4,234	3,800	3,800	11%
Upstream transportation	6,116	5,007	5,007	22%
Waste from operations	216	279	279	-23%
Business travel	1,099	1,153	1,153	-5%
Employee commuting	2,761	765	765	261%
Upstream leased assets	Included in Scope 1&2	1,426	1,426	n/a
Downstream transportation	34,741	26,546	105,714	31%
Processing of sold products	n/a[7]	-	n/a	n/a
End of life	1,837	-	n/a	n/a
Downstream leased assets	Included in Scope 1&2	1	1	n/a
Total CO_2e emissions	**362,972**	**375,130**	**469,559**	**-3%**
Carbon intensity (Total CO_2 emission/number of full-time employees)	86.4	88.08	104.2	-2%

For Scope 1 emissions (all direct emission from activities of an organisation or under their control) the following subsections are applicable to Grünenthal: mobile combustion; stationary combustion and fugitive emissions. Particularly relevant are refrigerant leaks which were calculated based on refrigerant volume and DEFRA 2021 refrigerant gas specific carbon factor. For fleet data, the extrapolation method was used based on 8 months of actual data.

For Scope 2 emissions (indirect emissions often from electricity purchased and used directly by the organisation) the following sub-categories are applicable to Grünenthal:

- Electricity used on site
  Grünenthal directly controls facilities around the world. All manufacturing sites and affiliate offices provided total electricity usage over the year as well as the percentage of renewable electricity provided by their utility provider. To comply with the location-based reporting, these total usages have been multiplied by country specific electricity carbon factors, where possible, and the next best factor where the data was lacking. Further calculations including the percentage of renewables have been calculated to comply with market-based reporting standards. Where data was unavailable (for example, no separate energy meter in Grunenthal offices in shared office buildings) an average based on the occupancy was used. This average utilised the Chartered Institute of Building Service Engineers (CISBE) industry averages. The appropriate average selected for Grünenthal was a standard air-conditioned office with good practice electricity and fossil fuel use.
- Electricity used by cars
  Grünenthal has utilised electric vehicles for some of its owned fleet. These have been captured in Scope 2 as the electricity to charge them is taken directly from Grünenthal operated facilities.

Breakdown of CO_2 Emissions



1 In contrast to the overall methodology of reporting 2022 numbers, for GHG we cover the most recently available emissions from the fiscal year 2021. This is due to the fact that 2022 figures are collected by external providers, such as gas- or electricity providers, and were not yet available to us in time for this repor
2 2020 figures are not in the scope of the limited assurance audit for 2022
3 The baseline for 2020 was recalculated based on improved data quality for total number of sold products and associated downstream transportation.
4 Due to a change in the methodology applied by our external provider, in this column we are displaying the 2020 figures as calculated on the basis of the 2021 methodology to allow for a comparison with the 2021 figures which were only available to us based on the new methodology.
5 The location-based method uses the average emission intensity of the grids in which the electricity consumption takes place ((https://ghgprotocol.org/sites/default/files/Scope2_ExecSum_Final.pdf))
6 The market-based method reflects the emissions of electricity that a company has chosen to use based on their electricity contracts. It allows to calculate emissions using provider-specific factors from the electric utilities' providers (https://ghgprotocol.org/sites/default/files/Scope2_ExecSum_Final.pdf)
7 Excluded from Inventory -Grünenthal produces a huge variety of intermediate products. Due to their many applications and the structuring of data, the associated GHG emissions cannot be tracked in at this stage.

The indirect emissions from upstream and downstream activities within the value chain in our current calculation of Scope 3 amount to 78 % from procured goods and services ('Procurement'). Within the procurement emissions category the main influencing factors are:

- Manufacturing and third-party supply (37 %);
- Packaging material and production materials (25 %).

As the purchase of products and services ("Procurement") is the largest contributor to overall CO_2 emissions, it is an essential part of our strategy to achieve greater supplier involvement. This includes developing a supplier selection policy to identify suppliers with a better carbon footprint. In addition, we want to encourage innovation in our suppliers' business models that contribute to CO_2 savings. See the section below for details regarding our newly launched Responsible Sourcing Programme.

The greenhouse gas inventory revealed that user pick-up accounts for the second largest share of emissions. This category describes the journey that product users make from their home to pharmacies or hospitals to receive the product. The influence and relevance for Grünenthal on this distribution channel category is very limited. We are currently taking an observing role on the developments of consumer distribution channel strategies in the relevant markets.

In the current state of our Scope 3 calculations, inbound and outbound transportation account only for about 11.4 % of the total carbon footprint, including the so-called 'Last Mile Distribution' (LMD). This means the transport of our products from the inventory-storage facilities to our customers, often being wholesalers, hospitals or other facilities. In last year's report, we were not yet able to include LMD into our calculation, but had indicated that doing so would have a significant impact.

Our external logistics providers provided the data and consolidation of purchased upstream transportation and distribution services currently in scope. They provided a detailed breakdown of their trips as well as the methodology chosen to calculate GHG emissions. Calculations are made using the GLEX Framework, which allows using both distance- and fuel-based reporting.

Around 1% of the total emissions in Scope 3 arise from waste from operations and end of life treatment of sold products.All business travel, including hotel night stays, and all different modes of transportation as well as the commute of employees result in approximately 1% of the greenhouse gas emissions.

Trees for our Planet

PERFORMANCE INDICATOR (GRÜNENTHAL DEFINED METRICS)	ABSOLUTE NUMBER 2022	ABSOLUTE NUMBER 2021
Number of trees planted as part of Grünenthal's #TreesForOurPlanet campaign	11,130	10,033

In 2021 Grünenthal celebrated its 75th anniversary and to commemorate this event we began our #TreesForOUrPlanet campaign. In 2021 we had the target to plant 7,500 trees and through multiple global team events were able to beat this target and planted over 10,000 trees. This project will be continued over the years ahead. We therefore aim to yearly increase the number of trees we plant and invite our employees to join to increase our effort. We also ensure that species have been selected to ensure they enhance the local biodiversity and guidance is provided from forestry experts. Although trees absorb carbon dioxide, helping with the defence against climate change, the planting of these trees are not calculated as a carbon offsetting project for Grünenthal.

My Green Lab Certification

In December 2022, Grünenthal's Research labs at the company's headquarters in Aachen received My Green Lab® certifications after a comprehensive assessment of current practices such as cold storage, lab infrastructure, employee awareness and sustainable purchasing practices. My Green Lab is a non-profit organisation whose programme is recognised by the United Nations Race to Zero campaign as a critical measure of progress towards a zero-carbon future. It is considered the gold standard for laboratory sustainability best practices worldwide.

Sustainable Procurement

As our Corporate Carbon Footprint shows, the biggest negative impacts of our business activities can be found in our supply chain. Therefore, in 2022 a Responsible Sourcing Programme was initiated with the objective to ensure the Grünenthal Environment, Social and Governance standards with our relevant suppliers and set the environment ambitions in terms of renewable energy with our strategic suppliers. We have a network of more than 10,000 suppliers and around 82 % of the total spend is located in North America and Europe (direct suppliers).

The Responsible Sourcing Programme (RSP) will increase transparency and help create a positive ESG impact in our supply chain and connected local communities. More generally, it is our tool to contribute to the 1.5°C goal of the Paris Climate Agreement, meet increased regulatory requirements such as the German Supply Chain Act, and foster Grünenthal's attractiveness to our stakeholders, such as investors.

The Programme has two impact areas along Grünenthal's upstream value chain. Environmentally, it will help reduce net GHG emissions by building a strong collaboration with our strategic suppliers to work on the transition to renewable energy, waste reduction and improving water usage standards. Regarding social and governance impacts, the RSP will enforce fair working conditions and avoid forced labour in our supply chain, improve tolerance and foster diversity.

Grünenthal's Code of Conduct for Business Partners is the DNA for the Responsible Sourcing Programme. It defines Responsible Sourcing Principles, which stress value beyond savings in supply chain decisions, improve suppliers' ESG data transparency, foster a development and collaboration mindset among suppliers, and leverage the industry ecosystem to drive change.

The operational execution of responsible sourcing at Grünenthal is a six-step cycle. First, the responsible sourcing principles are fully integrated in our procurement process and decision-making. Next, suppliers' ESG risks and impacts are assessed and targets defined jointly. Their compliance is then verified, for example via audits and self-assessments, or public sources. In an effort to help our suppliers become more responsible along with us, collaboration and innovation with our suppliers is a key focus. Their ESG progress is assessed and the best performers rewarded. As last step, we will analyse and report on the progress of the Responsible Sourcing Programme.

Responsible Sourcing Programme

Our RSP is a work in progress. In 2022, a new ESG TPDD assessing the Environment, Social and Governance impact of our suppliers was launched and applied to new suppliers. We also identified 282 suppliers in high-risk countries with spend above EUR 50,000 a year (around 3% of total suppliers). A data verification through a self-questionnaire and the results of the ESG TPDD will be implemented in 2023. Further, in 2023 we will train internal stakeholders, and start assessing our suppliers, to identify the key suppliers in terms of ESG and their most pressing risk and impact areas. In 2024, the focus will be on collaborating and finding solutions to improve their ESG capabilities, as well as monitoring their progress. This process will be started with the other suppliers in the following year.

Sustainable Products and Packaging

At Grünenthal, while we ensure our packaging provides necessary protection and safety for the drug and to the patients, we carefully monitor carbon footprint and GHG emissions of our packaging to minimise negative environmental impact. In the first instance, we have established a sustainable packaging strategy which explores and drives progress toward a circular system for packaging across primary, secondary and tertiary packaging and delivers improvement throughout the packaging value chain. We explore and implement opportunities of recyclable packaging systems for various dosage forms according to sustainability packaging guidelines. At our Aachen site, for example, we have successfully implemented high content of recycled material in the secondary packaging. We are also proud to commit to a long-term strategy for sustainable packaging which will benefit both people and planet.

AUDIT OPINION

Limited assurance report of the independent practitioner regarding the corporate responsibility reporting

To Grünenthal Pharma GmbH & Co. KG, Aachen/Germany

Engagement

As requested, we have performed a limited assurance engagement on selected indicators in the corporate responsibility report 2022 that were marked with a line on the left side in the report for the period from January 1 to December 31, 2022 (further "CR report"/"CR reporting") of Grünenthal Pharma GmbH & Co. KG, Aachen/Germany ("the Company").

We do not express a conclusion on the information that is marked as excluded, external sources of documentation, interviews or expert opinions stated in the sustainability reporting.

Responsibilities of the Executive Directors

The executive directors of the Company are responsible for the preparation of the CR report in accordance with the principles stated in the Sustainability Reporting Standards of the Global Reporting Initiative (hereafter referred to as "GRI Principles").

These responsibilities of the executive directors include the selection and application of appropriate methods for CR reporting and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of a CR report that is free from material misstatement, whether due to fraud or error.

Responsibilities of the Independent Practitioner

Our responsibility is to express a conclusion on selected indicators in the CR report based on our work performed within our limited assurance engagement.

Our audit firm applies the Quality Assurance Standard: Quality Assurance Requirements in Audit Practices (IDW QS 1) promulgated by the Institut der Wirtschaftsprüfer (IDW). We have fulfilled the professional responsibilities in accordance with the German Public Auditor Act (WPO) and the Professional Code of Conduct for German Public Auditors and Sworn Auditors (BS WP/vBP) including the requirements on independence.

We conducted our work in accordance with the International Standard on Assurance Engagements 3000 (Revised): Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000 (Revised)), developed and approved by the IAASB. This Standard requires that we plan and perform the assurance engagement so that we can conclude with limited assurance whether matters have come to our attention to cause us to believe that the selected indicators in the corporate responsibility report of Grünenthal Pharma GmbH & Co. KG for the period from January 1 to December 31, 2022, has not been prepared, in all material respects, in accordance with the GRI Principles. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement; consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. The choice of assurance work is subject to the practitioner's professional judgment.

Within the scope of our limited assurance engagement, we notably performed, among others, the following procedures and other work:

- Gaining an understanding of the structure of the sustainability organization, and of the stakeholders' engagement
- Inquiries of relevant personnel involved in the preparation of the CR report about the preparation process and about the internal control relating to this process
- Identification of potential risks of material misstatement concerning the information in the corporate responsibility report
- Analytical evaluation of the information in the CR report
- Comparison of disclosures with corresponding data in the consolidated financial statements, the annual financial statements and the combined management report Assessment of the presentation of the information
- Assessment of the presentation of the information

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Practitioner's conclusion

Based on the work performed and the evidence obtained, nothing has come to our attention that causes us to believe that the selected indicators in the corporate responsibility report of Grünenthal Pharma GmbH & Co. KG for the period from January 1 to December 31, 2022, has not been prepared, in all material respects, in accordance with the GRI Principles.

We do not express a conclusion on the information that is marked as excluded, external sources of documentation, interviews or expert opinions stated in the sustainability reporting.

Restriction of Use

We issue this report as stipulated in the engagement letter agreed with Grünenthal Pharma GmbH & Co. KG. We are liable solely to Grünenthal Pharma GmbH & Co. KG, Aachen/Germany, and our liability is governed by the engagement letter agreed with the Company as well as the "General Engagement Terms for Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften (German Public Auditors and Public Audit Firms)" (IDW-AAB) in the version dated January 1, 2017. We draw attention to the fact that the assurance engagement was performed for the purposes of Grünenthal Pharma GmbH & Co. KG and the report is solely designed for informing Grünenthal Pharma GmbH & Co. KG about the findings of the assurance engagement. Therefore, it may not be suitable for another than the aforementioned purpose. Hence, this report should not be used by third parties as a basis for any (asset) decision. We are responsible solely to the Company. However, we do not accept or assume any responsibility to third parties. Our conclusion was not modified in this respect.

Cologne/Germany, April 21, 2023

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

Sebastian Dingel ppa. Arne Vilmar

GRI CONTENT INDEX

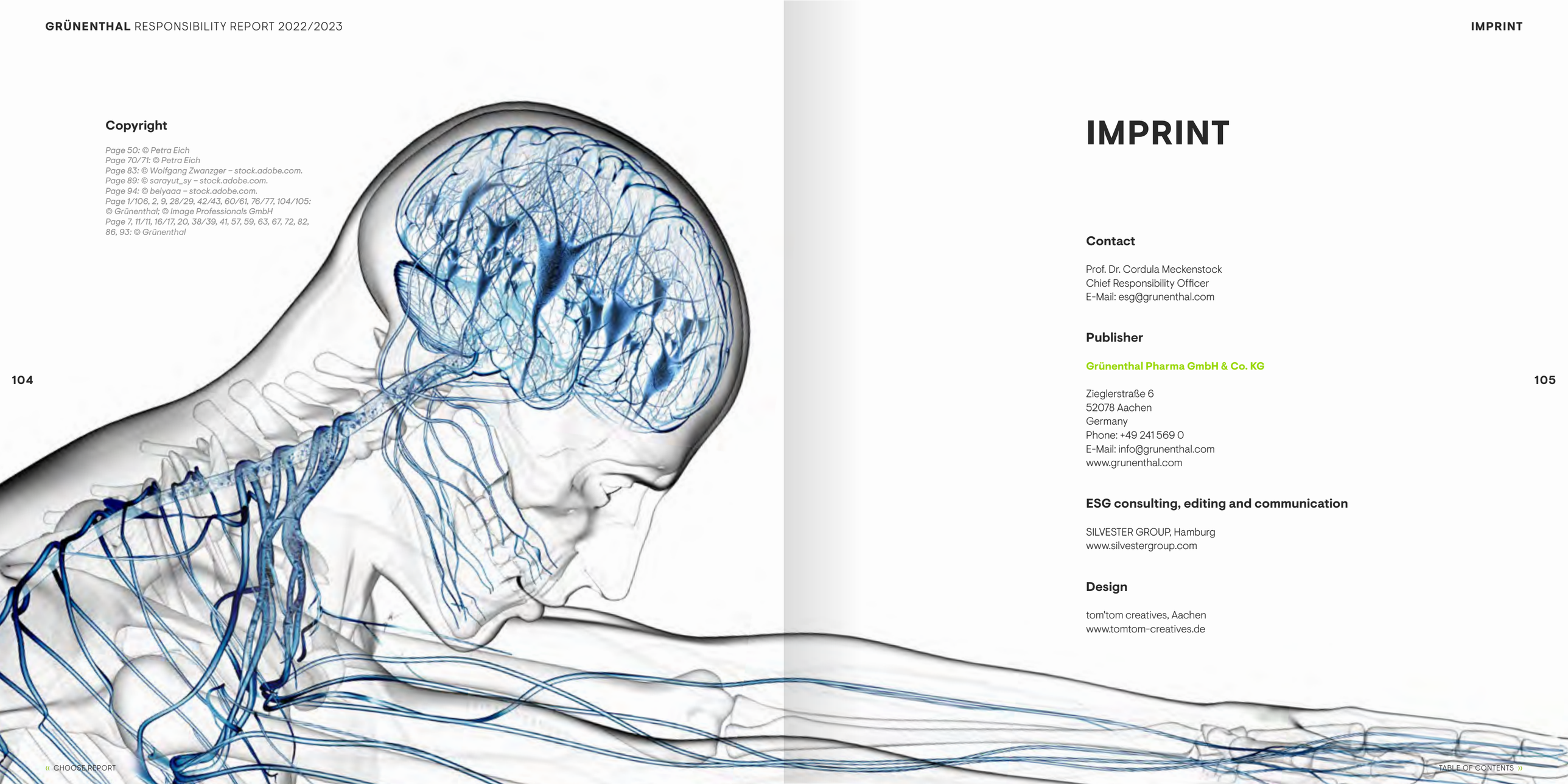
Statement of use	Grünenthal has reported in accordance with the GRI standards for the period 01.01.2022 – 31.12.2022
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	Not applicable

GRI STANDARD	DISCLOSURE	PAGE	COMMENTS	UN GLOBAL COMPACT PRINCIPLES
General Disclosures 2021				
GRI 2: General Disclosures 2021	2-1 Organizational details	3, 4, 26		
	2-2 Entities included in the organization's sustainability reporting	4		
	2-3 Reporting period, frequency and contact point	3		
	2-4 Restatements of information	3		
	2-5 External assurance	3		
	2-6 Activities, value chain and other business relationships	4		
	2-7 Employees	64		
	2-8 Workers who are not employees	-	No disclosure as there is no consolidated data available. The hiring of freelancers, consultants, etc. is not centralised.	
	2-9 Governance structure and composition	26		
	2-10 Nomination and selection of the highest governance body	26		
	2-11 Chair of the highest governance body	26		
	2-12 Role of the highest governance body in overseeing the management of impacts	25		
	2-13 Delegation of responsibility for managing impacts	25		
	2-14 Role of the highest governance body in sustainability reporting	25		
	2-15 Conflicts of interest	30		
	2-16 Communication of critical concerns	30		
	2-17 Collective knowledge of the highest governance body	25		
	2-18 Evaluation of the performance of the highest governance body	27		
	2-19 Remuneration policies	27		
	2-20 Process to determine remuneration	27		
	2-21 Annual total compensation ratio	-	No disclosure as no consolidated data is available.	
	2-22 Statement on sustainable development strategy	6		
	2-23 Policy commitments	30		
	2-24 Embedding policy commitments	30		
	2-25 Processes to remediate negative impacts	30		
	2-26 Mechanisms for seeking advice and raising concerns	30		
	2-27 Compliance with laws and regulations	33		
	2-28 Membership associations	15		
	2-29 Approach to stakeholder engagement	14		
	2-30 Collective bargaining agreements		There are no collective bargaining agreements at Grünenthal. For detailed information on our remuneration policies, please see p. 70	

GRI STANDARD	DISCLOSURE	PAGE	COMMENTS	UN GLOBAL COMPACT PRINCIPLES
Material topics				
GRI 3: Material Topics 2021	3-1 Process to determine material topics	17		
	3-2 List of material topics	18		
Material topic: Compliance, Ethics & Transparency Excellence				
GRI 3: Material Topics 2021	3-3 Management of material topics	30		1, 2, 3, 4, 5, 10
GRI 205: Anti-corruption	205-1 Operations assessed for risks related to corruption	33		
	205-2 Communication and training about anti-corruption policies and procedures	33		
	205-3 Confirmed incidents of corruption and actions taken	33		
GRI 206: Anti-Competitive Behavior	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	33		
Material topic: Responsible Use of Pain Medication				
GRI 3: Material Topics 2021	3-3 Management of material topics	45	Own disclosure	
Material topic: Product Governance & Safety				
GRI 3: Material Topics 2021	3-3 Management of material topics	58		
GRI 416: Customer Health & Safety	416-1 Assessment of the health and safety impacts of product and service categories	58		
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	33		
Material topic: Responsible Innovation				
GRI 3: Material Topics 2021	3-3 Management of material topics	56	Own disclosure	

GRI STANDARD	DISCLOSURE	PAGE	COMMENTS	UN GLOBAL COMPACT PRINCIPLES
Material topic: Awareness & Accessibility				
GRI 3: Material Topics 2021	3-3 Management of material topics	52	Own disclosure	
Material topic: Human Capital Fairness				
GRI 3: Material Topics 2021	3-3 Management of material topics	65		
GRI 403: Occupational Health and Safety	403-1 Occupational health and safety management system	66		
	403-2 Hazard identification, risk assessment, and incident investigation	66		
	403-3 Occupational health services	66		
	403-4 Worker participation, consultation, and communication on occupational health and safety	66		
	403-5 Worker training on occupational health and safety	66		
	403-6 Promotion of worker health	66		
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	66		
	403-8 Workers covered by an occupational health and safety management system	66		
	403-9 Work-related injuries	67		
Material topic: Employee Engagement				
GRI 3: Material Topics 2021	3-3 Management of material topics	74		
GRI 401: Employment	401-1 New employee hires and employee turnover	73		
GRI 404: Training and Education	404-2 Programs for upgrading employee skills and transition assistance programs	74, 75		

GRI STANDARD	DISCLOSURE	PAGE	COMMENTS	UN GLOBAL COMPACT PRINCIPLES
	404-3 Percentage of employees receiving regular performance and career development reviews	74, 75		
Material topic: Equality, Diversity & Inclusion				
GRI 3: Material Topics 2021	3-3 Management of material topics	68		6
GRI 405: Diversty and Equal pportunity	405-1 Diversity of governance bodies and employees	68		
GRI 406: Non-Discrimination	406-1 Incidents of discrimination and corrective actions taken	68		
Material topic: Attractive Employer				
GRI 3: Material Topics 2021	3-3 Management of material topics	70	Own disclosure	
Material topic: Environmental Excellence Strategy				
GRI 3: Material Topics 2021	3-3 Management of material topics	79	Own disclosure	7, 8, 9
Material topic: Responsible Use of Resources				
GRI 3: Material Topics 2021	3-3 Management of material topics	81		
GRI 302: Energy	302-1 Energy consumption within the organization	81		
	302-3 Energy intensity	82		
	302-4 Reduction of energy consumption	82		
	302-5 Reductions in energy requirements of products and services	82		
GRI 303: Water and Effluents	303-1 Interactions with water as a shared resource	84		
	303-2 Management of water discharge-related impacts	84		
	303-3 Water withdrawal	84		
	303-4 Water discharge	84		
	303-5 Water consumption	84		
GRI 306: Waste	306-1 Waste generation and significant waste-related impacts	86		
	306-2 Management of significant waste-related impacts	86		
	306-3 Waste generated	86		
	306-4 Waste diverted from disposal	86		
	306-5 Waste directed to disposal	86		
Material topic: Our Impact on Climate				
GRI 3: Material Topics 2021	3-3 Management of material topics	88		7
GRI 305: Emissions	305-1 Direct (Scope 1) GHG emissions	88		
	305-2 Energy indirect (Scope 2) GHG emissions	88		
	305-3 Other indirect (Scope 3) GHG emissions	88		
	305-4 GHG emissions intensity	88		
	305-5 Reduction of GHG emissions	88		
	305-6 Emissions of ozone-depleting substances (ODS)	-	The emission of ozone-depleting substances is not significant at Grünenthal.	
	305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	-	The emission of NOX and SOX is not significant at Grünenthal.	



IMPRINT

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