SUSTAINABILITY REPORT 2023

Communication on Progress (COP)

materialise.com

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materialise
innovators you can count on

Our Statement of Continued Support

To our stakeholders:

Since Materialise was founded in 1990, we've strived to make a sustainable difference for a better and healthier world. In 2017, we pledged our commitment to the United Nations Global Compact, its Ten Principles, and seventeen SDGs. During that period, we were confident we were taking both a natural and important next step. And now, a few years later, as we become increasingly aware of the effects of climate change, we're proud of the progress we've made. We're also aware, however, there's still plenty of work to be done to create the world we envision and fulfill our overarching mission.

In 2021, we strengthened our support of the UNGC by adding two important new cornerstones to our sustainability program. We launched a new, longer-term 2025 objective, 'Empowering the Choice for Sustainability,' and committed to setting science-based targets through the Science Based Targets initiative (SBTi). In 2023, we followed up on this commitment and submitted our near-term science-based targets.

We also took the first concrete steps toward our roadmap. In October, for the second year in a row, we put sustainability in the spotlight by coordinating a company-wide Sustainability Day. This internal event covered our progress with the roadmap and the current and upcoming initiatives we've organized to raise awareness, enthusiasm, and engagement within our offices worldwide — allowing everyone at Materialise to understand and get behind our sustainability strategy.

This year, our seventh anniversary with the UNGC, I am pleased to confirm that Materialise reaffirms its support of the United Nations Global Compact and its Ten Principles in the areas of Human Rights, Labor, Environment, and Anti-Corruption. And with this annual Sustainability Report/COP, we summarize the progress we have made against these principles to date and pledge to continually improve their integration into our business strategy, culture, and daily operations.

Continually setting the bar higher, pushing the boundaries of innovation and creativity, and supporting the planet and those around us are aims that are enthusiastically embraced at all levels of our global organization. Together, we will continue on our journey to make the world a better, healthier, and more sustainable place.

Fried Vancraen
Chairman of the Board

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OUR COMPANY

About Materialise

When Materialise was founded in 1990, our goal was to enable new uses for the extraordinary potential that 3D printing offers. Since then, we have leveraged our experience to create a range of software solutions and 3D printing services that empower sustainable 3D printing applications.

Our open, secure, and flexible end-to-end solutions enable flexible industrial manufacturing and mass personalization in various industries — including healthcare, automotive, aerospace, eyewear, art and design, wearables, and consumer goods.

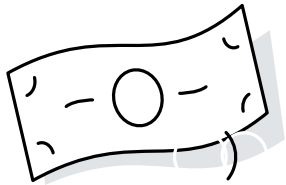
Headquartered in Belgium with a public listing on the NASDAQ stock exchange and more than 2400 people in 21 countries worldwide, Materialise combines one of the largest groups of software developers in the industry with one of the largest 3D printing facilities in the world. Ultimately, we empower our customers to transition towards a digital manufacturing process and to launch innovations that have the potential to forever change the faces of their industries.

THE MATERIALISE MISSION

The Materialise mission has remained unchanged since our company was founded by Chairman of the Board and former CEO Fried Vancraen more than 30 years ago.

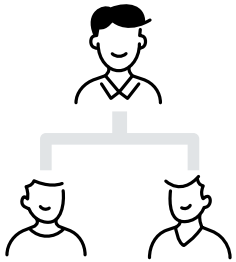
> "Our mission is to innovate product development that results in a better and healthier world, through our software and hardware infrastructure, and an in-depth knowledge of Additive Manufacturing."

MATERIALISE AT A GLANCE*

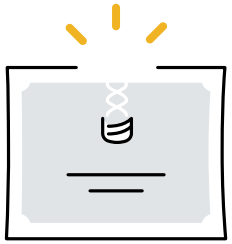


256
million EUR
annual revenue

2,400+
employees

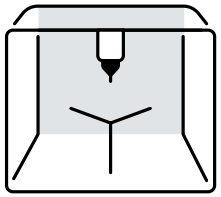


3
business units
reporting structure

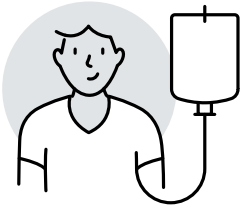


476
patents granted

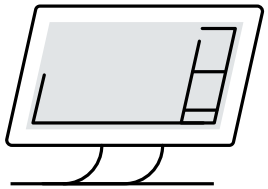
21
countries
we're active in



2.1M+
parts printed in 2023
by our Manufacturing
services



55K+
patients helped with per-
sonalized planning and
medical devices in 2023.



6,350
active users of our
Magics software

ORGANIZATIONAL STRUCTURE

Materialise NV is a publicly-held corporation which trades on the NASDAQ stock exchange.

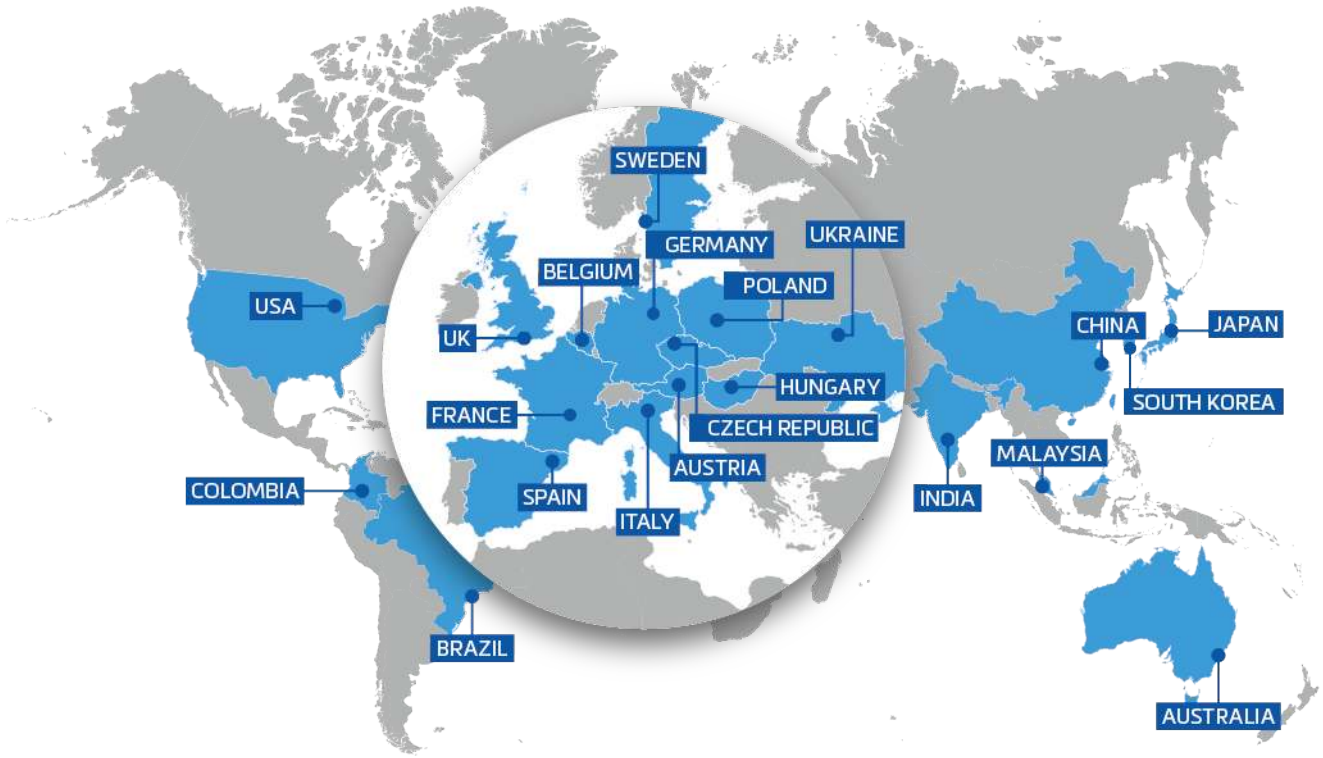
We operate in 21 countries worldwide with headquarters located in Leuven, Belgium.

Most of our offices are subsidiaries and include the Materialise companies ACTech, Engimplan, Materialise Motion and RapidFit, as well as the joint venture Tianjin Zhenyuan Materialise Medical Technology.

Our main manufacturing facilities are located in Belgium, Germany, Brazil, Czech Republic, Poland, and USA.

Materialise is divided into 3 business units: Manufacturing, Software, and Medical.
The results from our worldwide operations are reported in consolidated form and according to these business units.

Full details can be found in our annual report:
investors.materialise.com/sec-filings



OUR 3 BUSINESS UNITS

SOFTWARE	MANUFACTURING	MEDICAL
Dedicated 3D printing tools for: Design fixing, data & build preparation Quality and process control & simulation E-commerce Production planning, logistics and operations management	Certified Manufacturing Digital Supply Chains Rapid Prototyping Design & Engineering Consulting Services Industry specific solutions, including for aerospace, automotive, eyewear, footwear, healthcare, and industrial equipment	3D printing at point-of-care 3D surgical planning Personalized medical devices 3D medical image-based research and engineering

Materialise Magics 3D Print Suite • Materialise CO-AM Software Platform • Materialise Mindware • Materialise Mimics Innovation Suite • Materialise Phits Suite

www.materialise.com

Fair Business Practices & Governance

LEADERSHIP

In 2023, Materialise had a ten-member Board of Directors, including our Executive Chairman, Peter Leys, and our company founders, Wilfried Vancraen and Hilde Ingelaere, who also served as CEO and Executive Vice President, respectively. The Executive Committee was comprised of 11 members. As of January 1, 2024, Brigitte de Vet-Veithen was appointed the new CEO of Materialise by the Board of Directors, and Fried now has a new role as the Chairman of the Board.

Further details are publicly available on the governance pages of our investor relations website: **investors.materialise.com/board-of-directors** and **investors.materialise.com/management**

SUSTAINABILITY MANAGEMENT

Our corporate sustainability team, which manages and executes our sustainability program, is primarily based in our headquarters in Leuven, Belgium. In 2023, the team was headed by Leen Kuijken, Head of Sustainability and Corporate PMO, who reports to our COO and convenes with the CEO and Executive Chairman at least on a bi-monthly basis.

In 2023, the sustainability team consisted of 33 part-time members, including a full-time coordinator, as well as local sustainability champions ("Ambassadors") at HQ and in all our international entities.

GUIDELINES & POLICIES

Code of Conduct & Ethics

The Materialise Code of Conduct & Ethics was created to provide guidelines for conducting the business of Materialise to the highest standards of business ethics. This Code of Conduct & Ethics applies to all Materialise directors, officers, consultants and other employees, and the Code of Conduct & Ethics has been incorporated into the Materialise training program to ensure that all employees have read and understand what is expected.

The Materialise Code of Conduct & Ethics supports all the Ten Principles of the UN Global Compact and is available publicly on our website at:

investors.materialise.com/governance-documents

Connected to this Code of Conduct & Ethics we operate an anonymous hotline, available 24 hours per day, 7 days per week, which employees can call should they have any concerns or questions.

Making a difference in Additive Manufacturing starts with trust

We consider it essential to be transparent about the security, quality, and environmental, social, and corporate impact of all our products and services. That's why we have three pillars of **trust**: impact, information security, and quality.

To ensure we have a lasting impact and a sustainable supply chain, environmental, social, and corporate governance is ingrained in everything we do. Sustainability is how we think, feel, and act as a collective and is a key element of our mission and shared vision to create a better and healthier world.

To achieve our vision of 'Empowering the Choice for Sustainability,' we've applied common policy principles to act as core features of our corporate management system. These principles encompass quality management, environmental management, information security and privacy management, and other aspects of our business.

Finally, organizations are no longer asking whether Additive Manufacturing (AM) is a valuable manufacturing method. Companies from various industries undoubtedly recognize the impact of this technology; they just need a little guidance on how to use AM successfully to make a difference. Our industry-leading software, robust quality management system, and state-of-the-art AM infrastructure and expertise offer a solid base, allowing our customers to build future solutions based on quality, reliability, and repeatability.

Quality Management

For 3D printing to live up to its full potential and transform businesses and lives, three elements need to align: quality, reliability, and repeatability. This means we are continuously improving ourselves, enabling every employee and manager at Materialise to make a commitment guaranteeing quality in compliance with regulatory requirements.

We provide the backbone for 3D printing technology, and by implementing the **Materialise Management Systems Policy**, we are able to deliver high-value products, services and knowledge to our customers in our three main areas of expertise: manufacturing, software and medical.

Delivering quality services and solutions requires a deep understanding of our customers' needs, together with careful planning, organization, and monitoring to ensure we keep meeting those needs. Over the years, Materialise has continuously improved its quality management system, and we're proud of the certifications that are proof of our efforts.

Materialise values quality management principles according to ISO 9001:2015, with a strong focus on customer satisfaction and continuous improvement. On a regular basis, we perform customer surveys or customer journey workshops to receive customer input. This triggers and enables us to constantly improve the entire organization.

Materialise touches individual lives with our medical devices and every resulting story is personalized. Each step in designing and manufacturing personalized medical devices and medical device software follows the regulatory focused quality management system for medical devices compliant to ISO 13485:2016 to ensure safe and effective products.

As providers of high-quality prototypes, production tools and cutting-edge software, we've already enjoyed a long collaboration with the aerospace industry. Since adopting specific aerospace industry standards, we have received EASA Part 21G and EN9100:2016 certification. This allows authorized delivery of airworthy additive manufactured end-use parts.

Specifically at our ACTech facilities, in addition to our ISO 9001:2015 certification, we are both a DNV approved manufacturer of iron castings for ships and offshore, and an EN 15085-2 CL1 certified producer of parts for rail vehicles.

Environmental Management

As a 3D printing company with industrial and medical production facilities, Materialise has a responsibility towards the environment around us and we're moving towards a sustainable future with our environmental management system (EMS).

Our EMS allows us to understand, address and minimize our ecological footprint. With this policy at our headquarters in Belgium, in our ACTech operations in Germany, and at our Polish facilities, and our ISO 14001:2015 certificates, we are making a commitment to protect the environment and to comply with European environmental legislation, regulations and customer-specific requirements in all of our operations, processes and services.

LRQA CERTIFIED ISO 14001

We understand the environmental impact our production causes, which we're trying to minimize. We address this by committing to protect the environment by:

- Reducing waste through recycling and first-time-right production
- Reducing raw material usage
- Using water and energy efficiently
- Minimizing the use of harmful solvents
- Encouraging environmentally friendly commuting
- Reducing our 2019 carbon footprint levels by 55% by the end of 2029

But we know we can keep doing better. We remain committed to continual improvement and each year, we set relevant targets, measure, review and report our performance.

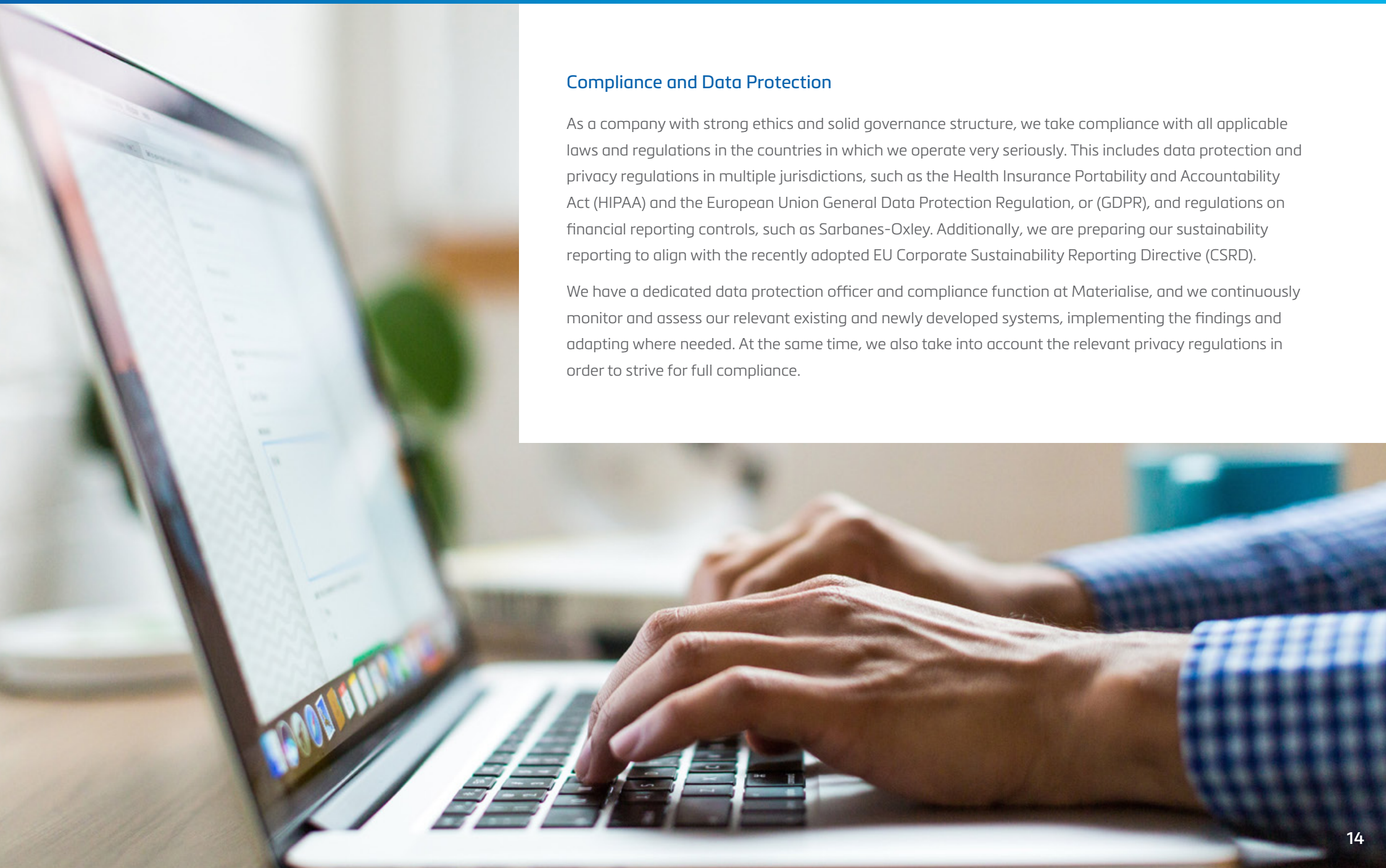
Information Security

We understand the need for confidentiality and privacy, integrity, and the availability of information, regardless of its source and form. That's why we're committed to assessing our information security and privacy risks and addressing them appropriately.

In 2023, we achieved ISO 27001 certification for our medical online services and successfully renewed our TISAX label for our automotive activities. In 2024, we are following up on this by extending our ISO 27001 certification scope and obtaining ISO 27701 certification for privacy management.

In terms of security, it's built into everything we do and is prioritized with four layers of our information security roadmap: secure products and services, secure data, secure infrastructure, and incident readiness. We readily comply with applicable laws and regulations and support compliance where possible. At the same time, we also provide the proof customers need via certifications, external audits, and customer audits.

For more information, please see our **Management Systems Policy** or visit our **Corporate Trust page**.



Compliance and Data Protection

As a company with strong ethics and solid governance structure, we take compliance with all applicable laws and regulations in the countries in which we operate very seriously. This includes data protection and privacy regulations in multiple jurisdictions, such as the Health Insurance Portability and Accountability Act (HIPAA) and the European Union General Data Protection Regulation, or (GDPR), and regulations on financial reporting controls, such as Sarbanes-Oxley. Additionally, we are preparing our sustainability reporting to align with the recently adopted EU Corporate Sustainability Reporting Directive (CSRD).

We have a dedicated data protection officer and compliance function at Materialise, and we continuously monitor and assess our relevant existing and newly developed systems, implementing the findings and adapting where needed. At the same time, we also take into account the relevant privacy regulations in order to strive for full compliance.

Our Sustainability Strategy

WE SUPPORT

UN GLOBAL COMPACT

Sustainability is a key part of our mission. It's how we think, feel, and act as a company and community of creators and visionaries. We're consistently thinking of ways to reduce our environmental impact and advance 3D printing in a sustainable way. Our ethos is to empower customers to consider more sustainable business models and drive positive outcomes for the environment, business, and society as a whole.

PRIORITY SDGS

In 2023, we continued focusing on the six priority Sustainable Development Goals (SDGs) that we had identified in 2020: Good Health & Well-Being (3), Decent Work & Economic Growth (8), Industry, Innovation & Infrastructure (9), Responsible Consumption & Production (12), Climate Action (13), and Partnerships for the Goals (17).

EMPOWERING THE CHOICE FOR SUSTAINABILITY

Since 2021, our longer-term objective is to take the 3D industry to a new level and 'Empowering the Choice for Sustainability'. At Materialise, we are always asking, "What can we do to make 3D printing more sustainable?"

We are committed to:

- Reducing the negative impact of our operations and driving positive outcomes for business, society and the environment.
- Empowering our customers to imbed sustainability into their operations and the solutions they offer.
- Innovating continuously, developing new solutions to reduce waste, enable mass personalization, and optimize the unique advantages of 3D printing.

Sustainability Reporting

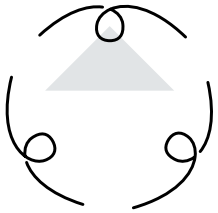
Sustainability reporting supports transparency. It helps us share our story, and even more importantly, understand how we're doing and how we can do better. This 2023 report is our seventh, compliant with United Nations Global Compact requirements, and outlines the progress we have made against the seventeen SDGs and each of the Ten Principles of the UNGC. To the extent they are available, performance indicators and quantitative data are also provided. Unless otherwise stated, the data refers to our financial year ending December 31, 2023. Wherever possible, this report covers the worldwide operations of Materialise. Where worldwide data is not available, it is indicated. At a minimum, this report covers about 30% of our employees (HQ), aiming at all times to reach 100%.

Preparation for the upcoming Corporate Sustainability Reporting Directive (CSRD) started in 2021, where we created a first, impact materiality assessment and matrix, identifying six materiality topics that where externally validated by a diverse group of stakeholders. We will publish our first CSRD-compliant report in 2026 over 2025 data, in line with the legal requirements.

Also, for the sixth year in a row, Materialise operations were assessed by EcoVadis, resulting in a bronze medal.

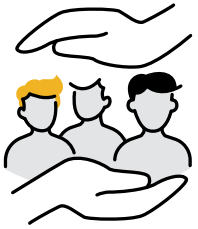
Materialise is among the very few companies in our industry reporting in a consistent, structured way, always with a focus on improving and achieving best practices.

Carbon

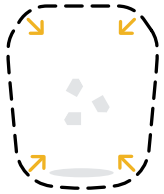


Diversity & inclusion

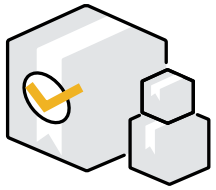
Ecodesign & innovation for sustainability



Employee engagement and well-being



Material use efficiency & waste reduction



Sustainable procurement

Sustainability Roadmap

Based on the impact materiality matrix, we created a sustainability roadmap — a strategic plan that outlines the key targets for the materiality topics over the coming years. These objectives include earlier targets, such as our well-known ambition to reduce our carbon footprint by 55% by 2029, compared with our company's absolute emissions in 2019.

Our targets are increasing the circularity of our production, focusing on the following:

- Sustainable procurement and supply chain
- Further reducing waste compared to output
- Investing in the recyclability of our end products

We're using our sustainability roadmap to keep track of the goals that we want to achieve. The initiatives and progress we've carried out so far in the roadmap are communicated regularly to our employees via our Sustainability Day, a global internal event. This year's event focused on company-wide and individual actions we could all take to encourage more sustainable behavior, as well as informing our employees about the achievements we managed to accomplish thanks to their support. Over the next few years, we'll continue to follow and execute the initiatives to realize our ambitious targets.

Sustainability Day In Our Offices Worldwide

ACTech

CO_2 literacy was a crucial activity at ACTech, one of our main production sites. Employees gained a better understanding of the impact of our production activities. There were also some fun and informative sustainability challenges for the group to undertake.

Japan

The Japanese office focused on diversity, equity and inclusion (DEI) by organizing an info session on unconscious bias recognition. Afterward, a sustainability-themed dinner was organized to continue the discussion.

Ukraine

The Ukrainian office focused on educating employees on DEI. This topic is gaining momentum at Materialise and is considered an important initiative for our company.

Colombia

Our Colombian colleagues received personal cutlery to reduce single-use items at the office.

In addition, they decided to educate themselves on the conservation and preservation of marine biodiversity, working with *"Fundación Malpelo y Otros Ecosistemas Marinos"*, an NGO dedicated to protecting and caring for marine and coastal areas in Colombia by adopting coral reefs. The office also collaborated with The Ocean Lung and *"Fundación Tortugas del Mar"* to liberate sea turtles.

Engimplan

Engimplan celebrated sustainability over two days with a meaningful blend of action and education:

- A speech from a member of Rio Claro's Environment Secretariat shed light on the city's initiatives, including waste collection and recycling, tree donation, tree planting counseling, and animal rescue programs.
- Employees planted ten fruit trees in the company's green area, symbolizing the offset of their yearly paper consumption.

Malaysia

Sustainability Day in the Malaysian office was a vibrant mix of education, competition, and action:

- Planting trees
- Promoting public transport
- Sustainability-themed bingo
- A sustainable-themed fashion show
- Sustainability keynote speeches by experts
- Distributing reusable coffee mugs to employees

USA

The US office decided to participate in the local initiative, 'The Greening of Detroit.' A total of 95 trees were planted in a small neighborhood in downtown Detroit, and several local companies and volunteer groups participated, including twenty colleagues from the Plymouth office.

OUR SUSTAINABILITY PRIORITIES

People: Fostering Opportunities for People to Grow & Thrive

Our ability to provide innovative solutions and applications relies on the talented people both within Materialise as well as those throughout our global supply chain. We owe our success to our people and one of our primary objectives is to ensure work environments where all employees feel safe and healthy, empowered to grow and thrive.

To effectively support our 2400+ workers in more than 21 countries worldwide, our people strategy is based on:

- Safe and healthy office and production facilities
- Employee policies to support diversity, equity and inclusion
- Training and development
- Wellness and lifestyle support
- Supply chain policy with rigorous Human Rights requirements and controls

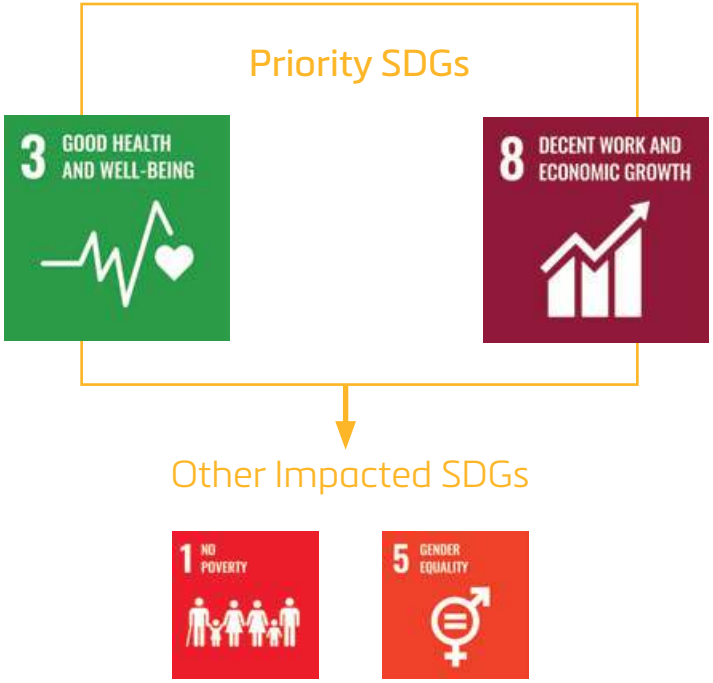
In 2023, for the fourth consecutive year, Materialise completed the program to achieve certification for excellence in employee conditions by the Top Employer Institute. The Top Employer designation for Belgium, where our HQ is located, was awarded to us again in January 2023. In August 2023, our Malaysian office received the 'Great Place to Work' certification.

top EMPLOYER BELGIË BELGIQUE BELGIUM 2023 CERTIFIED EXCELLENCE IN EMPLOYEE CONDITIONS

Great Place To Work. Certified SEP 2023-SEP 2024 MY

Related UNGC Principles

PRINCIPLE 1	Businesses should support and respect the protection of internationally proclaimed human rights; and
PRINCIPLE 2	make sure they are not complicit in human rights abuses.
PRINCIPLE 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
PRINCIPLE 4	the elimination of all forms of forced and compulsory labor;
PRINCIPLE 5	the effective abolition of child labor; and
PRINCIPLE 6	the elimination of discrimination in respect of employment and occupation.



SAFE AND HEALTHY OFFICES AND PRODUCTION FACILITIES

Ensuring a safe and healthy working environment is one of our top priorities and we consider health and safety to be a shared responsibility between employees at all levels within our global organization. At Materialise HQ, there is a committee for 'Protection and Prevention in the Workplace' which is comprised of representatives from both the general workforce and management and meets regularly to manage all concerns related to health and safety. For our international offices, the health and safety programs have been created according to local needs and requirements.

All Materialise offices and facilities around the world are safe, suitable and sanitary, and comply with local needs and legislation. In addition, as stated in our Code of Conduct & Ethics, all employees are required to comply with all health and safety laws, regulations and policies relevant to their positions. We take this very seriously, and failure to comply can result in not just civil and criminal liability but also termination of employment.

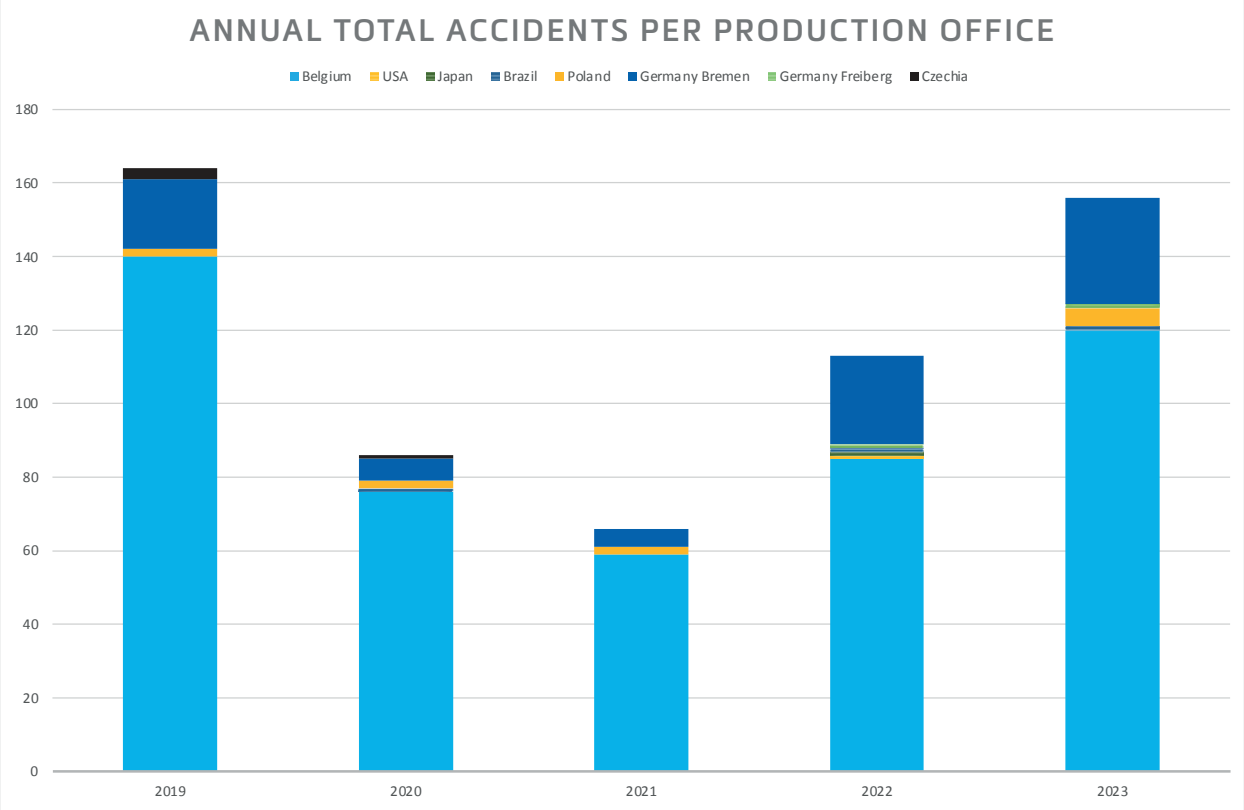
We've invested heavily in renovating our production facilities, such as our dedicated finishing area at Materialise HQ in 2022, so that every product we work on is up to scratch. The revitalized production area intelligently uses the space within the building. Noisy equipment was isolated in a separate area to create a more engaging working environment for our colleagues. Due to this and other measures, the area will save energy and other facility costs.

And it's not just at HQ; in the summer of 2023, Materialise opened a new metal 3D printing factory in the US for the production, cleaning, and cleanroom packaging of personalized titanium CMF implants and guides. By producing locally, we eliminate the shipping time from Europe to the US, decreasing our lead time by a couple of days and simplifying customs and FDA clearance procedures. This shortened lead time creates new market potential and attracts additional case volume of personalized medical devices, which are more sustainable than standard devices because they minimize time in the operating room and revisions. On top of that, we have shifted the production of US cases to the local plant, resulting in a CO_2 reduction by eliminating air transport from Europe to the US.

In 2022, we made a commitment to invest 23 million euros over a three-year period to support our team at ACTech with the acquisition of an additional production facility to meet the demands of automotive. By doubling ACTech's production capacity, they'll be able to align with two major trends in the industry: the shift to electrification and companies turning to ACTech for fast and reliable prototyping solutions for a variety of small series parts, such as engines that use alternative fuels like hydrogen, biofuels, and other energy sources. The new plant includes investments in isolation, energy generation with solar panels, energy saving installations and heatpumps, aiming to minimize the CO2 emissions from its production activities. On top of that, the investments will improve the working conditions of our employees.

We have Materialise production facilities in Belgium, Brazil, the Czech Republic, Germany, Japan, Poland, and the USA. In 2023, a total of 156 occupational health and safety accidents were registered across all facilities in those countries. Accidents include all occurrences arising out of, or in the course of, work that resulted in injury or ill health, irrespective of severity. The total number represents an increase over 2022 but remains below the level of the last pre-COVID year in 2019, while production activities have increased over the same time period. Our management systems ensure that corrective actions are taken to decrease risks.

Given the lack of a uniform definition of reportable accidents across different jurisdictions and the sensitivity of data for some of the other indicators (such as long-term absences due to illness), we have decided to implement new counts as of this year. We have now switched to accidents statistics for all of our production offices worldwide, with historical data added for the past years. We define accidents as every occurrence arising out of, or in the course of, work that resulted in injury and ill health. "Injury and ill health" are defined as an adverse effect on the physical, mental, or cognitive condition of a person. This includes occupational disease, illness, and death. Accidents include those where there is no non-conformity. Not all accidents are reportable to authorities.



ANTI-HARASSMENT WORKPLACES

Materialise prohibits harassment based on race, color, religion, national origin, sex (including pregnancy), sexual orientation, age, disability, veteran status or any other characteristic protected by law, in any form, whether physical or verbal and whether committed by supervisors, nonsupervisory personnel or non-employees. Harassment may include, but is not limited to, offensive sexual flirtations, unwanted sexual advances or propositions, verbal abuse, sexually or racially degrading words, or the display in the workplace of sexually suggestive or racially degrading objects or pictures. Where harassment or discrimination is uncovered, prompt corrective action is taken, which may include disciplinary action by Materialise, up to and including, termination of employment.

In addition to the anonymous hotline connected to our Code of Conduct & Ethics, free, confidential counselling and support is also available to all our worldwide employees. At our HQ in Belgium, this is provided through our internal Confidential and Prevention Advisors as well as the external company IDEWE. In our USA office, there is an Employee Assistance Program (EAP) available 24/7 provided by ComPsych, and since 2021, a similar EAP was rolled out to our remaining offices via Pulso Europe.

EQUAL OPPORTUNITIES & DIVERSITY

Diversity, equity, and inclusion (DEI) is an important topic for businesses aspiring to be high-performing companies. It impacts a business's productivity, flexibility, and creativity, traits we demonstrate every day at Materialise. That's why we formed a DEI Working Group, an action point taken from our 2023 Sustainability Day. The group is represented by colleagues from all our offices around the world. Creating a global DEI team reflects our commitment to constantly innovate within our industry and among other high-performing companies.

In addition, forming a strategy and adopting a DEI initiative will ensure that we continue to have a diverse and open workforce based on an inclusive culture. Our DEI Working Group will act as a focal point where employees can send feedback on how we can adapt and support everyone to grow. And the group will also offer resources and potential learning tracks for people to help increase our employees' understanding of DEI. Adopting a DEI mindset will encourage new ideas and will help us reflect on ways we can improve and better serve our ever-expanding customer base.

With more than 2400 employees across 21 countries worldwide, Materialise embraces differences, respecting all people equally, and believes that a diverse workforce is crucial to our business success. As outlined in our Code of Conduct & Ethics, we are committed to providing equal opportunity and fair treatment to all individuals on the basis of merit, without discrimination because of race, color, religion, national origin, sex (including pregnancy), sexual orientation, age, disability, veteran status or other characteristic protected by law.

We do not participate in any form of forced or compulsory labor, including within our supply chains. Employees have the right and are free to join trade unions.

Employees must comply with all applicable labor and employment laws relevant to their jobs and are aware that a failure to do so can result in civil and criminal liability, and termination of employment.

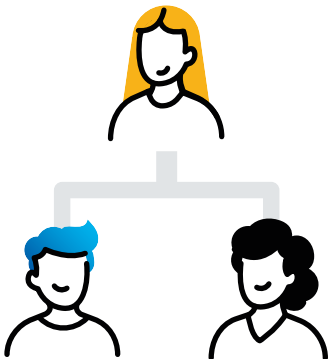
Also in 2023, there were complaints on our anonymous hotline and they were treated as the policy sets out. At Materialise HQ, which are our primary office and production facilities, about 40% of our workforce were women, and our 674 employees represented 46 different nationalities. Looking on a worldwide basis, our +2400 employees represented over 58 different nationalities, and women represented about 38% of our workforce. For further details, please see the charts below.

Gender Diversity Materialise Worldwide

2022 2023

women in workforce

36% → 38%

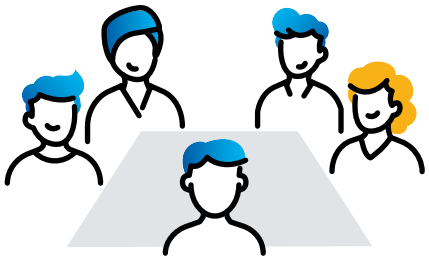


women in people management positions

36% → 38%

women on Executive Committee

40% → 40%



women on Board of Directors

20% → 20%

COMPENSATION, TRAINING & DEVELOPMENT

Materialise has a formalized wage band system to ensure 'equal pay for equal work'. The system conforms to national legal standards and is regularly benchmarked against industry standards. This system is fully in place in our operations worldwide. In addition, based on local needs, more than 70% of our worldwide employees also benefit from additional medical insurance and retirement provisions.

The progress of our people is essential for their development and is beneficial for our customers and our continued success. To ensure that all employees have the opportunity to shape their careers, grow, and develop, Materialise has a formal performance evaluation system, with a continuous feedback mechanism during the year and a comprehensive training program. In 2023, we continued to offer a wide variety of learning and development initiatives, tapping into the diverse learning styles of our population. Furthermore, we made other significant changes, including:

- The completion of LEAD, our development program, which supports and develops upcoming and current managers with direct people management responsibility.
- Coaching initiatives because we believe in the power of coaching. We continue to train our managers in this leadership style while allowing our innovators to be coached via the digital platform CoachHub. This platform offers a 1-on-1 coaching journey with an experienced business coach.
- Empowering our people in their learning activities by broadening their access to the right materials and online content libraries. LinkedIn Learning remains our most popular platform, with an activation rate of 91%.

This shows our employees are eager to learn continuously. Also, for employees who need specific skills not provided by those platforms, we've bought licenses to access KodeKloud and Udemy to answer particular learning needs.

WELLNESS AND LIFESTYLE SUPPORT

We want to create a better and healthier world with an energized, motivated, and happy workforce. That's why we offer a variety of programs to help employees live healthy lives, focusing on three areas: physical, mental, and social well-being.

Our physical initiatives include no-smoking policies, flu shots, a variety of exercise classes, and bike leasing programs. Not to mention larger, more team-based activities that are sporty in nature, such as the Brussels Ekiden Run and our annual soccer tournament. In addition, we keep our employees fueled with fresh fruit deliveries and hydrated with kitchens that include fresh drinking water, tea, and coffee.

For mental well-being, we've set up an employee assistance program (EAP), a user-friendly platform that connects professionals with employees that need support with maintaining, improving, or restoring mental resilience. We've also promoted our new guidelines for a healthy meeting culture to all our employees, not to mention organized webinars that provide tips on how to focus when working from home effectively and training sessions on strengthening resilience.

Finally, for social well-being, we're fully committed to a hybrid work policy, enabling employees for whom homeworking is possible to continue to choose the best ways to work, organize, collaborate, and balance their personal and professional lives. Working remotely blurs the boundary between our employees' personal and professional lives and can heighten the feeling of isolation. Therefore, our employees can work 60% from home and 40% at the office to reduce risks of social isolation. We also reinforce a healthy work-life balance with our "Right to disconnect" policy. Employees have the right to be contactable only during their official work hours.

Additionally, we're continuing to provide tips and tricks on how to be connected and to get the most out of team meetings and events. Multiple initiatives are in the pipeline to foster a safe, collaborative team dynamic, and a dedicated team events budget is foreseen. Plus, building this safe environment lets one of our values flourish, which is transparent integrity. To support this value, on a yearly basis, we have organized Feedback February initiatives, providing training sessions on how to give, ask, and receive feedback. The project aims to help people recognize and appreciate their colleagues and also teach them how to give honest and constructive feedback.

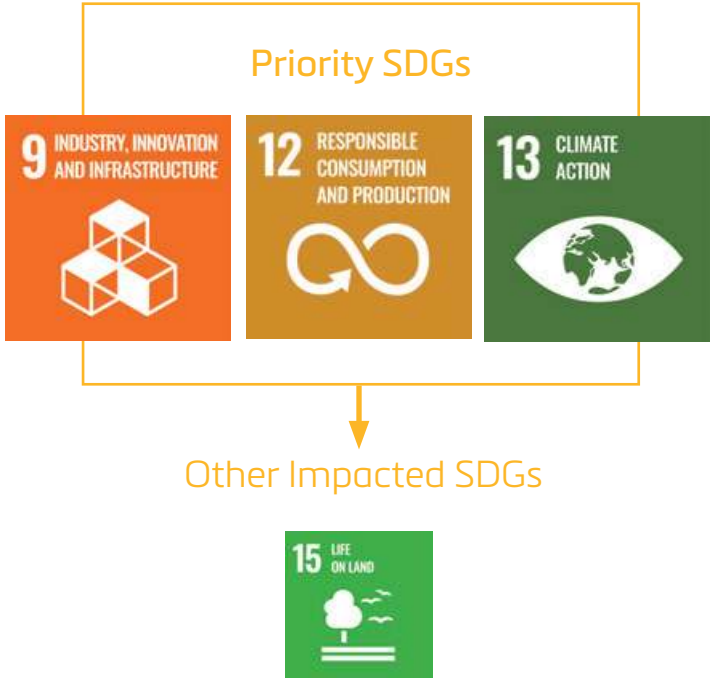
SUPPLY CHAIN

At Materialise, we recognize that success isn't just because of our direct employees; many people along our supply chains contribute, too. The Materialise Supply Chain Policy fosters sustainable procurement, supporting the values that shape and drive us as a company: innovation, integrity, quality, co-creation, and people. Our global Supply Chain Policy includes the UN's Human Rights requirements to ensure that our suppliers respect internationally recognized human rights. In tandem, it requires them to be aware of and eliminate any violations throughout their own supply chains. The latest version of our **Supply Chain Policy** is on our website and was updated in 2023 with improved definitions and an integration of our Modern Slavery Statement. These adjustments further increased our understanding of potential risks related to human rights violations and other threats hampering sustainability within our supply chain.

Planet: Minimizing Environmental Impact & Supporting our World

The world is facing critical challenges connected to climate change. Protecting the planet is both our responsibility and a necessity. Seeking opportunities in every corner of our business and new ways to empower our customers and suppliers, our planet strategy is based on:

- Cutting our carbon footprint and committing to net zero
- Rethinking and reducing
- Managing our environmental impact
- Investing in research



Related UNGC Principles

PRINCIPLE 7	Businesses should support a precautionary approach to environmental challenges;
PRINCIPLE 8	Undertake initiatives to promote greater environmental responsibility; and
PRINCIPLE 9	Encourage the development and diffusion of environmentally friendly technologies.

CUTTING OUR CARBON FOOTPRINT

In 2023, for the fifth year in a row, we completed our annual Carbon Footprint Assessment for our worldwide operations. The assessment followed the Greenhouse Gas (GHG) protocol guidelines.

During 2023, we also performed a recalculation of our baseline CO_2 emissions. The recalculation was based on new insights, more accurate emission factors, and an increased scope of emissions sources, resulting in our 2019 baseline shifting to 20,2 tonnes of CO_2e. These new emission factors are solely related to a more accurate calculation and not to any changes in our technology or energy usage. Fine-tuning this measurement proves we're fully committed to hitting our ambitious target of reducing 55% of our emissions (in absolute value) by 2029.

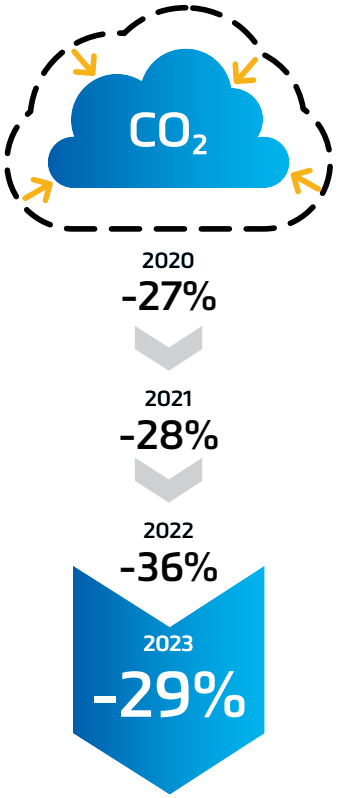
Carbon Emissions Materialise Worldwide:

	Scope 1	Scope 2	Scope 3	TOTAL
2019	1.87	4.75	13.54	20.16
2020	1.36	3	10.28	14.65
2021	1.38	3.48	9.58	14.45
2022	1.77	0.16	10.83	12.77
2023	1.57	0.16	12.5	14.23

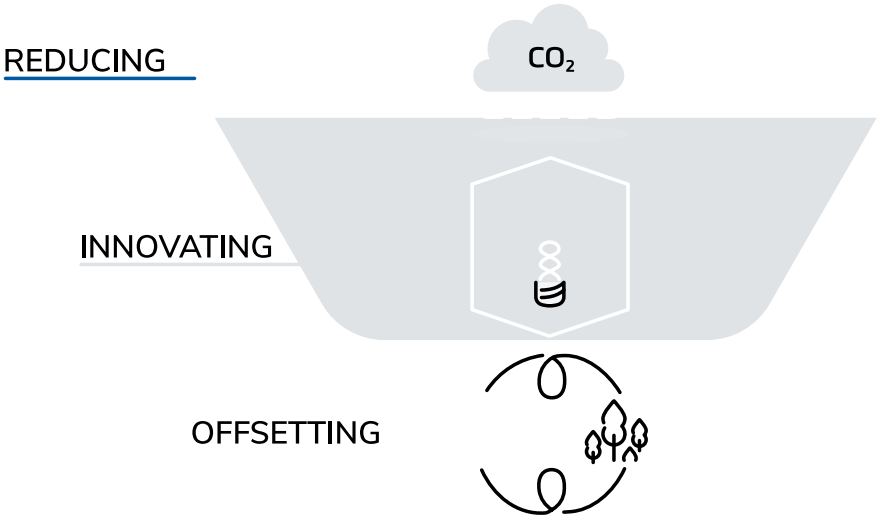
in thousands of tonnes of CO_2e

Our 2023 CO_2e emissions showed a reduction of 29% compared to our baseline year, which was about 7% less than achieved in 2022. Our emissions increased by 1,460 tonnes of CO_2e in absolute numbers compared to 2022. This was due to our investment in a new metal 3D printing factory in the US, a facility responsible for around 1,600 tons of CO_2e. Additionally, our emissions from business travel increased by approximately 400 tonnes of CO_2e. Overall, we noticed a general trend post-COVID-19: increased business travel, employee commuting, and company car use.

In 2023, we substantially reduced our emissions from company vehicles by around 225 tonnes of CO_2e based on the initial results of our company policy regarding switching to electric vehicles (EVs). We also reduced 300 tonnes of CO_2e in our raw materials, reflecting improved efficiency and constant improvements in our processes.



OUR THREE-TIERED APPROACH



We are committed to making our and our customers' operations more sustainable. Using the following approach, we innovate sustainable solutions, reduce waste, manage our environmental impact, and aim to ultimately achieve net zero carbon emissions.

REDUCING

From the beginning, our main focuses were on the largest contributors to our footprint — scope 2 and scope 3 emissions (GHG Protocol). We completed a switch to 100% renewable energy in our production facilities in 2022, drastically reducing our scope 2 emissions. Now, we're concentrating on reducing scope 3 emissions with initiatives such as a carbon flight budget and sustainable travel policy.

INNOVATING

We continuously research and innovate new production methods and products that reduce our carbon footprint, such as Bluesint PA 12 — a 3D printing method that uses 100% recycled powder.

OFFSETTING

Although we are fully committed to reducing our 2019 carbon footprint by 55% before 2029 — and strive to eventually reach net zero — we realize that we depend on many other economic parties to achieve this objective. We will put forth every effort to reach our goals, but we understand that these factors mean that reducing emissions might go slower than anticipated. In such cases, we will temporarily offset the remaining emissions. We are currently investigating and initiating CO_2 compensation projects, focusing on projects in countries where we are present.

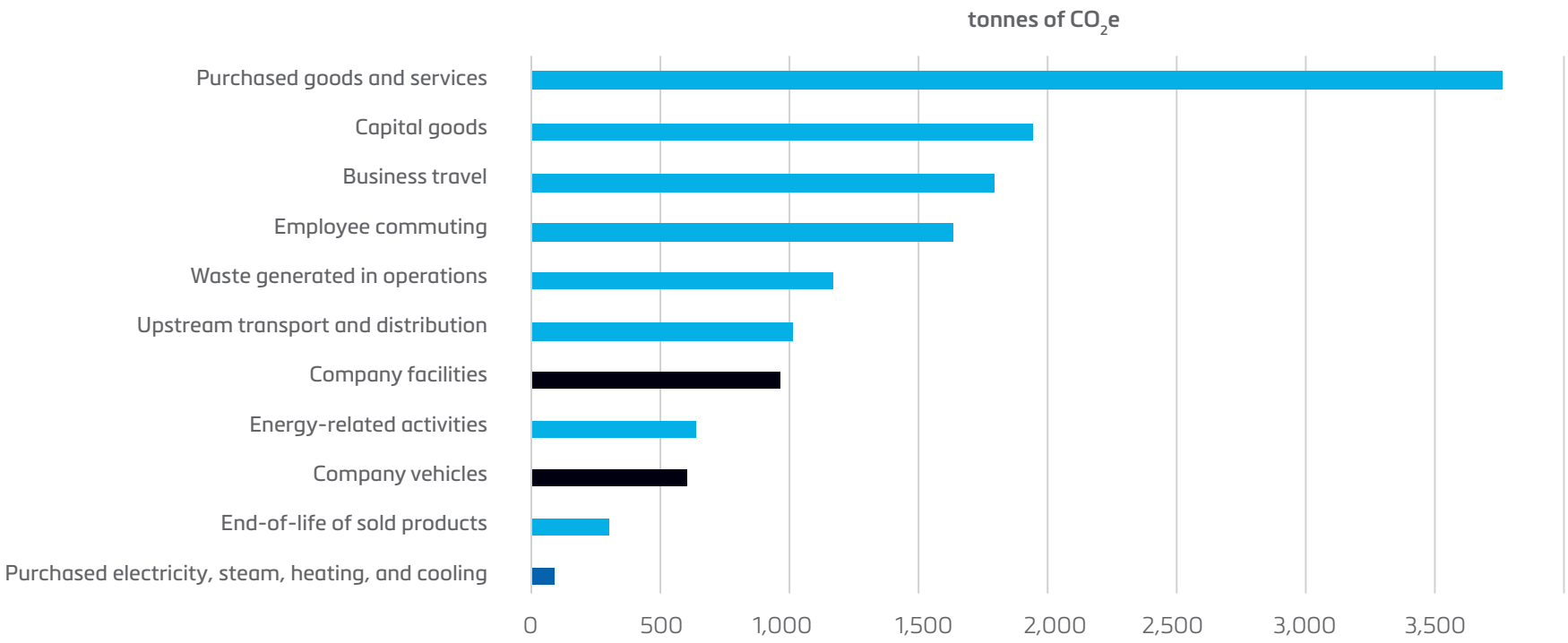
2023 PROGRESS

By the end of 2023, we reached a 29.4% reduction of our 2019 emissions. Looking at the intensity per employee and per million-euro revenue, we see a reduction of approximately 37% and 47.5%, respectively. These relative values show that we are increasing our CO_2 efficiency per employee and per unit of revenue.

	Emissions	Employees	Intensity per employee	Revenue (M€)	Intensity per M€ revenvue
2023	**14232 t CO_2e**	**2,437**	**5.84 t CO_2e**	**256**	**55.59 t CO_2e**
vs. 2022	+11.43%	0.00%	+11.45%	+10.34%	+0.01%
vs. 2019 (baseline)	-29.40%	+11.80%	-37%	+34.56%	-47.50%

EMISSIONS PER GHG-P CATEGORY

In 2023, purchased goods and services accounted for approximately one quarter of our emissions. We understand that moving forward, the more efficient our production, the lower our emissions. That's why we're funneling our energy into further innovation within our software and data platform to optimize 3D printing process efficiency. Furthermore, it will be necessary to pursue projects with our suppliers to tackle the impact of our feedstock — as the lion's share of the emissions are related to the production of the printing powders.



Business travel and the office commute also equal roughly one quarter of our overall emissions, which we'll continue to decrease through policies we have in place to limit less critical travel. Thanks to the use of renewable energy in all of our offices, the impact of purchased electricity now has the least influence, whereas it was a major contributor to emissions in 2019.

OUR SBTI AND NET-ZERO COMMITMENT

Committed member of the Belgian Alliance for Climate Action

In 2020, Materialise joined the Belgian Alliance for Climate Action (BACA) and in 2021, as an extension of this membership, we signed and submitted the 'Business Ambition for 1.5ºC Commitment Letter' to the Science Based Targets initiative (SBTi) and joined the UN Race to Zero.

By signing this letter, we have committed to aligning our climate mitigation targets with the most ambitious aim of the Paris Agreement and to what science dictates is necessary to reduce the destructive impacts of climate change on human society: to reach net-zero global emissions by 2050 at the latest in order to limit global warming to 1.5ºC.

We submitted our near-term science-based targets in June 2023, and they were validated in early 2024. Our official near-term science-based target language is: 'Materialise NV commits to reduce absolute scope 1, 2 and 3 GHG emissions 55% by 2029 from a 2019 base year'.

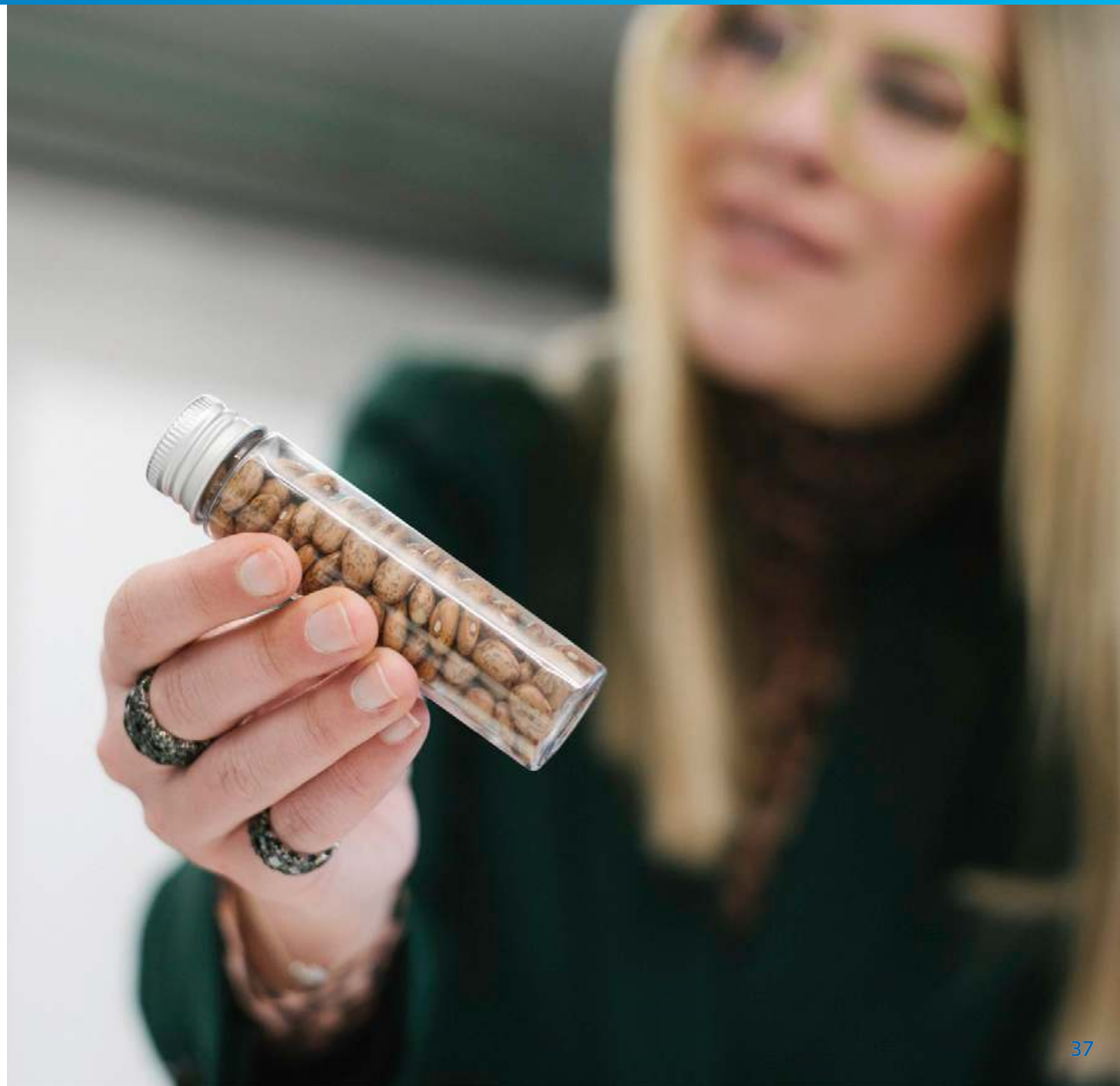
RETHINKING & REDUCING

By rethinking our production and consumption habits, we can minimize waste in all its forms – time, energy, material – and increase reusing and recycling. One of our goals is to streamline our processes and through dynamic collaboration and innovative products, support our customers to do the same.

In 2023, we continued reducing the impact of the emissions linked to our printing powders by investing even more into recycling, rejuvenating, and downcycling powder waste, further reducing the use of virgin powder. We also conducted a powder flow mapping for our most commonly used plastic 3D printing powder: PA12. The main aim was to discover inefficiencies in our process regarding the use and reuse of powder. Our biggest takeaway was that we have identified opportunities to reduce around 80 tonnes of waste material per year. For example, through optimizing waste powder separation and valorizing unused powder fractions.

Additionally, we discovered that only a fraction of the energy is needed to rejuvenate reused PA 12 powder compared to producing new powder. Using the rejuvenated powder in our processes in 2023 saved us 189 tonnes of CO_2 compared to the emissions related to virgin powder. These savings are in addition to the continuous reduction of CO_2 when using our Bluesint technology — a process that makes it possible to print with up to 100% re-used powder.

We keep investing in PA 11, a bio-sourced powder from castor beans used in our eyewear production. A life cycle assessment in 2022 taught us that creating PA 11 results in only half of the CO_2 impact compared to its oil-based counterpart, PA 12. However, the PA 11 material scored significantly worse than PA 12 on parameters, such as the impact on freshwater, land use, and environmental toxicity, although these non-carbon impacts are much harder to measure. We believe the aggregate impact of PA 11 is still better than PA 12's, and we'll also invest in reducing powder waste for PA 11 as we've done for PA 12.



Supporting Sustainability: Materialise Manufacturing

We hate waste at Materialise, so we're constantly exploring ways to increase reusing and recycling at our facilities and offices. Additionally, our goal of streamlining processes through collaboration and product innovation has led to many breakthroughs. Powder flow mapping for PA 12 to reduce tonnes of waste material, using Bluesint technology in PA 12 to print with up to 100% reusable powder, and investing in bio-sourced PA 11 powder to halve our CO_2 impact are all examples of our commitment to supporting sustainability within our Manufacturing unit. The table below shows other products and services we've developed to maximize AM's benefits while reducing waste in all its forms.

TYPE OF PRODUCT/SERVICE	MATERIALISE PRODUCT/SERVICE	SUSTAINABILITY BENEFITS
Co-creation, consultancy, design, and engineering services	Mindware and design & engineering services	• Optimizing processes and reducing waste • Designing integrated vs. multi-component parts to minimize assembly and reduce energy consumption • Identifying (spare) parts for AM to reduce stock & implement order-on-demand • Developing new products to address environmental and/or societal issues • Innovating new streamlined business models
Localized small/complex series manufacturing	Certified Additive Manufacturing services using renewable energy	• Enabling the production of sustainable solutions that couldn't be produced otherwise • Reducing carbon footprint and climate related impact as compared to traditional manufacturing techniques
Sustainable manufacturing materials	Bluesint PA 12 Biobased plastic PA 11	• Reducing Laser Sintering powder waste and CO2 emissions (PA12) • Reducing CO_2 emissions from Laser Sintering powder production by about 50% (PA 11 as compared to standard PA 12)
Mold production for prototype/small batch casting	ACTech 3D Furan sand mold printing	• Reducing sand waste by printing with 40% used sand
On demand production services and software	OnSite, i.materialise	• Reducing stock risk and waste

HOW AM'S DESIGN FREEDOM EMPOWERS SUSTAINABLE DUAL-FUEL HYDROGEN TECHNOLOGY

AM is widely considered to be a sustainable production method, but its real impact is in the sustainable innovations it enables. CMB.TECH is one such beneficiary. They used design for AM (DfAM) to create a metal 3D-printed injection ring that converts diesel engines into hydrogen-diesel dual-fuel combustion engines, reducing emissions by up to 80%.

Printed in aluminum using selective laser melting (SLM) to match the materials preferred by most engine manufacturers, it fits right into its environment. Not only did this choice result in a very lightweight part — it weighs in at only 654 g — metal 3D printing proved approximately 25% cheaper than casting.

CMB.TECH created a proof of concept through Materialise OnSite, our online ordering platform, followed by several test pieces, before moving to volume production. They realized that the best way to mix the hydrogen and air was with an internal ring structure, and the only feasible way to develop it quickly and easily was with AM. CMB.TECH discovered that they couldn't easily incorporate certain design features into anything made through casting or any other traditional manufacturing process.

Using our specialized new product introduction (NPI) process for AM, we manufactured parts that converted a fleet of trucks.

As the world embarks on a dual-fuel revolution, CMB.TECH can comfortably produce the parts they need, safe in the knowledge that they can rely on AM and its intrinsic benefits. Short lead times will allow them to order on demand, lessening risk and storage costs, while our strict manufacturing processes ensure they'll get the quality they require every time.

The company's next steps will focus on continued development — optimizing the design, expanding the project to different applications, and reducing materials and costs where possible. We're happy to collaborate with them and strengthen this relationship built on trust, integration, and a common goal: to make the world a better and healthier place.

Supporting Sustainability: Software Innovations

Software has played a significant role in shaping the AM industry, transforming the technology from a method used solely for prototyping to a flexible, industrial manufacturing process. AM can produce complex, end-use parts or even personalized, 3D-printed implants, depending on the design specifications. And its ability to cater to a variety of applications is down to advancements in AM software development.

Our commitment to innovation, research, and development has led to new software solutions that optimize machine capacity, minimize waste, and reduce energy consumption. Software innovation enables us and our customers to adopt more efficient workflows, resulting in the adoption of more sustainable processes. Taking this into consideration, we've taken a two-pronged approach to software innovation, creating solutions that satisfy AM's present and long-term future.

Materialise Build Processor (BP) provides a seamless connection between software and hardware to help machine owners get the most out of 3D printers, simplify the printing process, and significantly improve productivity. For example, using our next-generation BP for insoles can reduce build times by up to 20%. During an AM printing process, a lot of energy is needed to transform the raw material in solid material. We've also seen that companies that use our Build Processor Software Development Toolkit (BP SDK) can truly optimize this energy delivery during the printing process, for instance in laser-based printing processes, reducing the build time by optimizing the beam toolpath and decreasing their energy consumption dramatically.

Materialise Quality and Process Control , a module within CO-AM, allows companies to transform AM process monitoring and quality data into actionable insights using AI and IIoT connectivity. QPC is a secure, collaborative, open system that enables users to demonstrate process stability and quality control and prove that critical parts can be produced with AM.

QPC Layer Analysis, a module within the Materialise CO-AM Software Platform, takes the guesswork out of metal AM and uses AI to fail fast — automating the analysis of build failures to scrap defective parts earlier in the production cycle. Post-processing and quality inspection processes can result in up to 70% of part costs, so as well as being a cost-effective tool, QPC Layer Analysis can help companies be more eco-conscious, producing fewer builds, which results in less material usage and lower CO_2 emissions. The QPC system will also have more modules, such as Process Lab, a tool that collects data related to part quality data. Printing the optimal number of coupons means companies can reduce the volume of test parts to print — reducing waste even further. And there will be more QPC modules in the near future.

Another tool that's optimizing the printing process is e-Stage for Metal+, a new module for Materialise Magics, our powerful data and build preparation software. With e-Stage for Metal+, support generation will be automatically generated, reducing the amount of material used for support structures and mitigating human error, which can increase material usage. These modules show how we're tackling the challenges companies face regarding AM ROI, which impacts sustainability. Along with these present innovations, we're reinventing fundamental solutions so that our customers can embrace the new opportunities found in Factories of the Future. Our vision uses technology like AI, automation, machine learning, and more to interconnect and streamline all the systems needed to produce an AM part quickly, repeatably, and at scale. We've rebuilt our Manufacturing Execution System (MES) from the ground up to allow our customers to establish an entire 3D print factory. This will have a considerable impact on their and AM's sustainability. Tracking parameters such as time saved, energy usage, and other data will be much easier, increasing the reliability, cost efficiency, and process management of a print factory — and a company's CO_2 footprint. Innovation and sustainability are core values at Materialise, and our software solutions are a key way we can ensure we fulfill both within our facilities and, more importantly, for our customers.

TYPE OF PRODUCT/SERVICE	MATERIALISE PRODUCT/SERVICE	SUSTAINABILITY BENEFITS
Design and printability	Magics	Improve production efficiency, automate repetitive tasks, optimize print success rates, and reduce waste material with industry-leading data and build preparation software.
	3-matic	Generate lattices, create textures for an aesthetic finish, and achieve post-topology optimization to minimize material usage and waste.
	AM Workflow Automation	Automate data and build preparation workflows to prevent human error and boost production efficiency.
	Build Processor (BP)	Slice and send jobs to 3D printers based on machine-specific strategies or optimize custom scan path strategies with our software development kit (SDK) to increase machine capacity and reduce energy consumption. Build a next-generation BP with our configurable and modular BP SDK. Easily integrate optimized Build Processors into Magics with our Machine Manager to maximize machine capacity.
Workflow software	Order Management System	Centralize order requests, ensure on-time delivery, and streamline pre-print workflows with the Magics integration to boost production efficiency.
	Manufacturing Execution System (MES)	Plan and manage the entire AM process to maximize throughput, optimize capacity, and gain complete visibility across your operations.
	Data Analytics & Reporting	Leverage business intelligence to gain insights, drive demand, optimize costs, and enable sustainable growth plans while de-risking AM deployment

TYPE OF PRODUCT/SERVICE	MATERIALISE PRODUCT/SERVICE	SUSTAINABILITY BENEFITS
Process control and monitoring	IIoT	Connect 3D printers and auxiliary equipment to the cloud to monitor real-time sensor data with alerts and ensure production parameters meet specifications.
	Quality & Process Control (QPC)	Transform AM process monitoring and quality data into actionable insights using AI and IIoT connectivity — and demonstrate process stability throughout your AM workflow. Auto-detect and quantify defects in 2D layer data and map them to 3D models — and reduce manufacturing costs and identify scrap even earlier in the production chain.
Services	Partnerships	Integrate critical workflows into your solutions, powered by third-party software and hardware vendors, 3D printer OEMs, or build apps with our APIs to create harmony in your workflows and increase efficiency throughout your production.
	Consultancy	Work with our experts to translate your business challenges into 3D printing opportunities and identify the applications that can help you meet your needs and sustainability goals.

ENVIRONMENTAL MANAGEMENT SYSTEM

As previously mentioned on page 12, Materialise runs a company-wide environmental management system (EMS) that seeks to understand and above all minimize our effect on the environment. With this policy in place at our headquarters in Belgium, in our ACTech operations in Germany, and our Polish facilities, and our ISO 14001:2015 certificates, we are making a commitment to protect the environment and to comply with European environmental legislation, regulations and customer-specific requirements in all our operations, processes and services.

Materialise employees receive environmental awareness training and are actively encouraged to participate in our EMS. To ensure engagement, compliance, and continuous improvement, every year, we set relevant targets, measure, review and report our performance. For example, at Materialise HQ, in 2023:

- Water consumption measured in liters per day per full-time employee continued to decrease in 2023 to 12.67, a drop of 1.5%.
- In 2023, at least 35% of the employees at HQ used a bike for (part of) their commute.
- In 2023, our gas use increased by 9.7% compared to 2022.
- Our continued focus on quality further ensured waste production was minimized.
- The 1051 solar panels on the roof in HQ generated over 215,000 kWh of energy
- We continued cultivating our green spaces in 2023. In Leuven, we planted over 500 flower bulbs and nurtured the hedge that now surrounds our office, consisting of around 150 flowering and berry-carrying bushes. At Engimplan, ten fruit trees were planted in the company's green area. Finally, in the US office, a total of 95 trees were planted by 20 of our colleagues as part of **"The Greening of Detroit"** initiative.

As well in 2023, for the sixth year in a row, Ecovadis has assessed Materialise operations worldwide. We were awarded a silver medal for our ACTech operations and a bronze medal for our remaining facilities in recognition of our EcoVadis CSR rating, putting us in the top 28% of all the companies they rank.

IMPACT OF OUR PRODUCTS

At Materialise, we recognize that research is critical in clarifying our impact and ensuring that we invest in the most relevant innovations and technologies to make the 3D printing process more sustainable.

In 2022 and 2023, we invested in life cycle assessments (LCAs) to assess the impact of some of our verticals, like insoles and eyewear. The results showed that on some occasions and for specific applications, AM is a more sustainable option when decreasing the series size of a product or part. However, AM is not a definitively more sustainable choice per se. In some cases, it has a worse impact on your carbon footprint. Despite these findings, each time we make the process a bit more energy efficient or consume fewer materials, we move the tipping point for sustainability in the right direction. In addition, using an LCA approach to assess a product's impact teaches us valuable lessons about the end-of-life implications of our products.

Also, with the CSRD set to commence in 2025, and with more customers interested in the carbon footprint of the products they've ordered, we've increased our internal efforts to objectify our products' carbon footprint, starting with our biggest production lines in 2023.

WHAT A SUSTAINABLE SUPPLIER MEANS FOR MATERIALISE

Our **Supply Chain Policy** requires that our suppliers be accountable for both their own impact as well as the impact of their supply chains on not just society and the economy, but also on the environment. Therefore, we developed a definition on what a 'sustainable supplier' means for Materialise: 'a supplier that ensures a systematic approach to uphold ethical and transparent business conduct, commits to reducing emissions and environmental impacts, and promotes a circular economy while respecting human rights and fair labor conditions and fostering positive social contributions'.

Prosperity: Building a Just, Inclusive & Healthy Society

At Materialise, we recognize the important role we play, not just in relation to our workers and the environment, but also to the communities around us and those in which we operate. We are committed to helping create a more just, inclusive, and healthy society. And we are also committed to sharing our know-how, technology and resources to empower meaningful, sustainable change.

Related UNGC Principles

Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.

SUPPORTING HEALTHCARE

Around the world, healthcare systems influence enormously the well-being of billions of men, women, and children. At Materialise, we have a profound understanding of the critical role these systems play in keeping our communities strong, healthy, and happy. With our 3D expertise, we aim to provide support via a sustainability strategy focused on:

- Getting it right the first time
- Helping patients who have no other options
- Providing solutions for lower income populations

Getting It Right the First Time

Materialise is recognized as a pioneer and world leader in personalized medical devices. These devices include shoulder, forearm, hip, knee, and cranio-maxillo-facial (CMF) surgical guides and implants all designed and 3D printed based on the anatomical data of the patient. In other words, they are specifically designed to accurately fit.

As one of the first companies to introduce virtual surgical planning and personalized solutions into the operating room, and helping patients and surgeons all over the world, we have seen firsthand the impact personalized medicine can have. By adding more predictability into the surgical setting, it can enable surgeons to get it right the first time, helping to reduce the number and duration of treatments, improving lives, saving costs*, benefitting society and the environment through reduced travel and hospital stays, and freeing up valuable healthcare resources, which can then be redirected to others in need. In total in 2023, we printed more than 55,000 personalized medical devices and implants. By 2025, we aim to be helping 80,000 patients per year.

Lung cancer is the leading cause of cancer-related deaths worldwide. In 2021, Materialise partnered with the company Zhenyuan (Tianjin) Medical Appliances Technology to create a new lung cancer surgical planning software for Chinese surgeons. As Materialise is committed to tackling lung cancer on a much wider scale, in 2023, we launched a platform for planning lung cancer surgery in Europe: Mimics Planner for Thoracic Surgery. We also launched a similar platform in the US in January 2024.

This new 3D planning software provides a 3D visualization of the lung and helps thoracic surgeons identify candidates for lung segmentectomies, accurately visualizing their patient's unique anatomy to create a personalized surgical plan to best treat their unique case. By providing an accurate view of the tumor and its surrounding structures that are not visible on CT scans, the software can also help the surgeon safely remove the full tumor (no more, no less) and potentially save more healthy lung tissue.

In 2023, we developed an AI-enabled, cloud-based software specifically designed for planning transcatheter aortic valve replacement (TAVR) procedures, which was launched in the EU and US markets in 2024. The software reduces clinical planning effort and provides clinicians with deeper 3D anatomical insights and risk assessments, allowing them to review, edit, and maintain complete control over the case.

* Tack P, et al. Do custom 3D-printed revision acetabular implants provide enough value to justify the additional costs? The health-economic comparison of a new porous 3D-printed hip implant for revision arthroplasty of Paprosky type 3B acetabular defects and its closest alternative. Orthop Traumatol Surg Res (2020), https://doi.org/10.1016/j.otsr.2020.03.012

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Helping Patients Who Have No Other Options

In addition to getting it right the first time, personalized medicine can also allow for the treatment of even the most challenging clinical conditions. With the latest technological developments in both the devices and advanced surgical planning, it can make previously impossible cases, possible, and patients who were denied treatment due to the limitations of standard care, can benefit, even leading in some cases to a drastic improvement in the quality of life.

Clinical evidence showed the high accuracy of maxilla repositioning through Materialise Personalized Solutions' titanium LeFort I guides and plates without the use of another positioning device, such as a surgical splint. The **study** also concluded that a reduction of 30 - 45 minutes in overall surgery was achieved. Furthermore, using Materialise Personalized Solutions for orthognathic surgery leads to more accurate results compared to traditional methods. Going forward, we aim to make our tools more and more user friendly and accessible to clinicians and surgeons and expand our reach to help more and more patients.

Providing Solutions for Lower Income Populations

Materialise is also focused on making personalized medical solutions more accessible to hospitals and people in developing and more remote areas. 3D printing and technology has a significant role to play in delivering care to lower income groups where standardized care is not sufficient or available, and funding is limited.

The Kikuchi project supports social classes on low incomes by providing dental care to those who can't afford it. Patients are seen weekly and are prepared for their procedures free of charge — depending on the pathology indicated for surgery.

Many people travel long distances to receive this care. In some cases, they are "riverside" patients and residents of towns around Castanhal-PA, a city in Brazil's northern region.
The Kikuchi project relies on dental students who regularly volunteer their time on Wednesdays to help treat these patients.
They examine and carry out all the necessary treatments for the surgery; however, the material (i.e., the plates and screws) is insufficient. That's why we're happy to support them with the equipment they need, as the on-site medical team and hospital are already committed to the goal of this project.

Funding for 40 orthognathic surgeries has been approved, which we estimate will result in:

- 160 4-hole "L" plates
- 160 4-hole straight plates
- 40 chin plates
- 1,520 screws
- Approximately 3 (full-/part-time) surgeons
- 12 student volunteers
- Treatment for 40 patients

Also in 2023 Materialise expanded its program to bring personalized solutions closer to or at the point-of-care (POC) by continuing to assist with implementing 3D printing services directly in hospitals and medical centers. Having a dedicated facility in-house can expand access to the technology, as well as lower overall costs, making it more affordable. POC services can also support innovation initiatives, reduce lead times, and by eliminating the need for shipping, reduce carbon emissions. At the end of 2023, around 470 hospitals worldwide implemented 3D printing at the point of care using Materialise's software and services — an increase of 4.5% from 2021.

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Supporting Healthcare: Materialise Medical Innovations

TYPE OF PRODUCT/SERVICE	MATERIALISE PRODUCT/SERVICE	SUSTAINABILITY BENEFITS
Personalized medical devices	aMace Glenius	• First time right surgery, which can lead to fewer revision surgeries and a better patient outcome • Reducing the need for multiple implants in the operating room: lowering waste and avoiding re-sterilization
	Materialise Personalized Solutions	• Materialise Personalized Solutions for orthognathic surgery lead to more accurate results compared to traditional methods • Materialise Personalized Solutions for orthognathic and zygoma reconstructive surgery lead to highly accurate results and shorter operative time • Patients report a significant improvement in quality-of-life outcomes one year after surgery with Materialise Personalized Solutions for TMJ • Porous implants provide an optimized design while reducing materials
Personalized medical instrumentation	Knee guides CMF guides	• Supply chain optimization: shipping only what's needed and reducing stock in hospital • The surgery time can be reduced up to 13 minutes* with knee guides when compared to using only conventional instruments • Up to 75% instrument reduction in the operating room
Software for 3D printing at the point of care	Mimics Innovation Suite Mimics Imprint	• Enabling the production of devices such as anatomical models at or close to the point of care lowering the carbon footprint of transportation • Provides people in more remote areas with access to the technology and makes personalization more affordable
Virtual surgical planning	SurgiCase Shoulder Planner SurgiCase Knee Planners Lung Cancer Planning Software	• Reduces materials stock by not having to always print 3D models • Helps surgeons to decide on which device fits best before surgery or intervention, reducing stock in the operating room
Virtual patient services	Adam	• Accelerating R&D and reducing the amount of pre-clinical studies by predicting in vivo performance and safety of a device
Anatomical Models		• Clearer insights in surgical planning which can lead to reduced time in the operating room, increased patient safety and shorter hospital stays. • Using AR or VR digital models can provide a better view on patient anatomy and reduce waste – a
AR capabilities (Augmented Reality)	Mimics Viewer	• Enhanced viewing possibilities for anatomical models or surgical plans • Reduces materials stock by not having to print 3D models

*Pietsch M., Djahani O.et al (2012) Custom-fit minimally invasive total knee arthroplasty: effect on blood loss and early clinical outcomes. Knee Surgery, Sports Traumatology, and Arthroscopy 36.

CHARITABLE ACTIVITIES

A key part of our sustainability program involves supporting NGOs, non-profits, and grassroots initiatives around the world, focusing on projects that engage our people and/or technology to improve lives and empower meaningful, sustainable change. Below are two of our key projects from 2023.

Focusing on Sustainable Projects: Reforestation and Peat Restoration Projects

Our commitment to reducing our CO_2 footprint leads us to other sustainability projects worldwide. We're investing in the Lignaverda reforestation program in Africa, working with local leaders to prevent desertification, promote equality in the community, and reinvest profits into youth education.

Additionally, we're supporting the restoration of peatlands in Ukraine — vegetation that can store seven times as much CO_2 as forests and promote biodiversity — and we're exploring more peat restoration projects in countries like Malaysia and Colombia.

Ukraine Solidarity

In the face of the ongoing conflict in Ukraine, Materialise remains steadfast in its commitment to supporting over 300 colleagues in Ukraine and contributing to the broader relief efforts. A Solidarity Taskforce was set up in 2022: a group designed to coordinate and streamline any fundraising initiatives organized by our employees to support our Ukrainian colleagues and their families. A variety of actions has followed its formation:

Colleagues in Materialise Medical initiated a project to assist doctors in treating injured patients. The project has grown over time, collaborating with surgeons from the USA and Canada who came to Ukraine to contribute to orthopaedic and CMF surgeries. The team's dedication has resulted in the successful treatment of approximately 557 injured people in 2023, including creating and producing patient-specific implants to help 41 patients. Additionally, Engimplan provided a significant number of medical instruments to Lviv Medical Hospital and Lviv Children's Hospital.

Materialise Ukraine has also continued its tradition of assisting those in need by providing medical and educational equipment, as well as supporting colleagues affected by the war with support in the form of open communication, emotional resources, and empathetic leadership to foster a workplace culture that prioritizes well-being.

Finally, Materialise's commitment goes beyond material aid. Financial support, solidarity events, donations, charity events, and volunteering initiatives all form part of the comprehensive approach to supporting colleagues and Ukraine during these

ANTI-CORRUPTION

Materialise has a zero tolerance policy with regards to any form of corruption, extortion, or bribery. Our Supply Chain Policy, as outlined on page 29, requires that our suppliers behave ethically and promote ethical behavior throughout their supply chains. And as mentioned on page 9, our Code of Conduct & Ethics clearly outlines our guidelines for doing business consistent with the highest standards of business ethics. All employees, directors, officers, and consultants are expected to adhere to these standards. Failure to do so will result in appropriate discipline, which may include civil damages, criminal fines, and termination of employment or removal from our board.

The specific areas that our Code of Conduct & Ethics covers include, but are not limited to: Conflicts of Interest, Insider Trading, Relationships with Suppliers, Relationships with Customers, Gifts and Entertainment, Financial Reporting, Compliance with Laws and Regulations including Laws Covering Bribery & Kickbacks, and Government Interactions. **Our Code of Conduct & Ethics** is publicly available and employees can anonymously report any suspected incidences of corruption to the already mentioned hotline. We only contribute to industry/sector associations. Contributions to political parties are not allowed by Belgian legislation.

Partnerships & Certifications: Working together to create a meaningful difference

At Materialise, we believe partnerships are critical to making a meaningful difference, significant change can't be made in isolation, and we collaborate with numerous organizations around the globe to achieve our sustainability objectives.

AMGTA

Not long after the Additive Manufacturer Green Trade Association (AMGTA) launched in 2019, Materialise joined as a participating member. The AMGTA is a non-commercial, unaffiliated organization open to any additive manufacturer or industry stakeholder that meets certain criteria relating to sustainability of production or process, and aims to promote the environmental benefits of AM over traditional methods of manufacturing.
www.amgta.org

BACA

Recognizing that organizations have a major role to play in addressing the climate crisis, Materialise was among the first to join the Belgian Alliance for Climate Action (BACA). Formed by WWF and The Shift, BACA serves as a platform and support for companies that are serious about their climate ambitions and champions the setting of 'science-based' targets to reduce greenhouse gas emissions.
www.belgianallianceforclimateaction.org

EcoVadis

EcoVadis is a universal sustainability ratings provider, creating a global network of more than 100,000 rated companies. Materialise joined the EcoVadis platform in 2017. Our most recent score awarded us a Bronze medal in June 2023, putting us in the 72nd percentile of all companies ranked.
www.ecovadis.com

Leuven 2030

Materialise is a supporting member of Leuven 2030. Leuven 2030 is a non-profit organization focused on creating a climate-neutral future for the city of Leuven, Belgium where Materialise HQ is located. With similar ambitions, we regularly work together, sharing knowledge and serving as sparring partners.

www.leuven2030.be

Hubi & Vinciane

One of the official charities of choice of Materialise, Hubi & Vinciane partnered with Materialise to create the Benin Summer School project which provides university scholarships to young West African entrepreneurs to stimulate the local economy and social progress.
www.hubi-vinciane.be

The Shift

Materialise has been a member of The Shift since 2017. Originally the local chapter of the UN Global Compact, The Shift today is the Belgian meeting point for sustainability, and in collaboration with its members and partners, aims to bring about the transition towards a more sustainable society and economy.
www.theshift.be

KU Leuven University

Materialise has a long-standing relationship with KU Leuven university, including collaborating on numerous projects such as our first Carbon Footprint Assessments. KU Leuven is the largest university in Benelux.
www.kuleuven.be

SIGN Fracture Care

The official charity of choice of our US office, SIGN gives the injured poor access to fracture surgery by donating orthopaedic education and implant systems to surgeons in developing countries.
www.signfracturecare.org

South Pole

In 2022, Materialise collaborated with South Pole on sustainability focused research, specifically a life cycle assessment (LCA). South Pole develops and implements comprehensive emission reduction projects and strategies that turn climate action into long-term business opportunities for companies, governments and organisations around the world.
www.southpole.com

SBTi

The SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

The Science Based Targets initiative (SBTi) drives ambitious climate action in the private sector by enabling organizations to set science-based emissions reduction targets.

www.sciencebasedtargets.org

Top Employers Institute

In January 2023, for the fourth consecutive year, Materialise became one of only 87 companies in Belgium to receive 'Top Employer' certification, awarded by the Top Employers Institute. The Top Employers Institute is considered the global authority on recognizing excellence in people practices.
www.top-employers.com

2023 Highlights

February

Awarded the Top Employer for Belgium 2023 for the fourth year in a row and was certified as a Great Place to Work at Materialise Malaysia.

Raised money for our Solidarity Fund by hosting a special Radio Connect for Ukraine — our annual radio marathon that connects our colleagues globally.

January

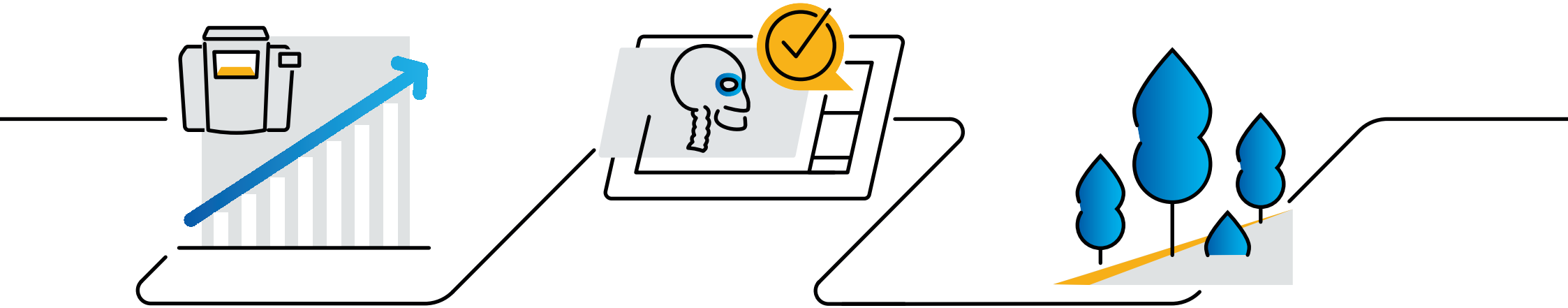
Launched QPC Layer Analysis tool: a module that allows you to auto-detect and quantify defects and anomalies earlier in the production cycle and cut up to 70% of part costs from time-intensive post-processing and quality inspection processes.

March

Defined and gave guidance on what a sustainable supplier means for Materialise.

May

Developed 3D technologies that played a pivotal role in the world's first-ever successful whole-eye transplant.

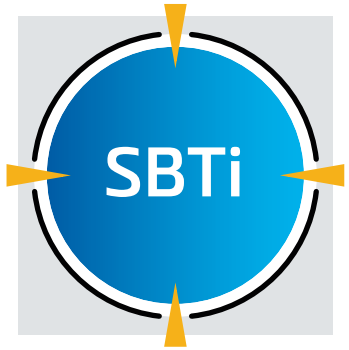


April

Partnered with EOS to help them adopt the CO-AM Software Platform into their existing infrastructure to improve the efficiency of AM production across their global facilities.

June

Signed a business statement supporting the EU Nature Restoration Law, which aims to set in place the necessary policy frameworks to restore nature and align our climate and nature ambitions.

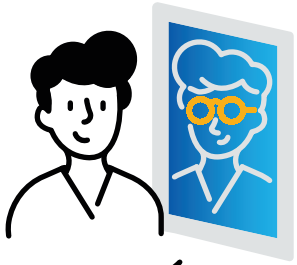


July

Submitted our near-term emission reduction targets to the Science Based Targets initiative, a 55% emissions reduction by 2029, building further on our ambition to reduce 55% by 2029.

August

Opened a new medical 3D printing facility to accelerate the delivery of patient-specific medical implants to patients in the US.

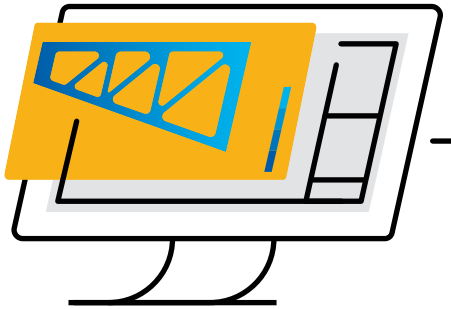


September

Showcased Materialise's Eyewear Fitting Suite: a platform that allows opticians to take a detailed scan of a customer's face to build an exact 3D digital model — offering retailers the chance to keep a digital inventory for on-demand production to minimize stock risk and support more sustainable operations.

Invited to discuss the role intellectual property (IP) plays in paving the way for a greener and more sustainable future at the World Trade Organization Public Forum.

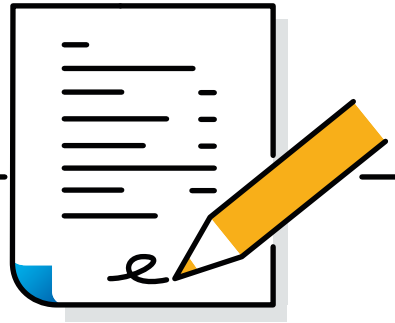
Launched our first-ever dedicated carbon footprint report.



October

Partnered with Ansys to introduce their simulation technology, Ansys Additive Suite, into Materialise Magics.

Organized our second Sustainability Day with joint online and offline initiatives presented to our offices globally.



November

Launched the Quality & Process Control (QPC) system: software that allows businesses to build confidence when producing 3D-printed end-use parts and demonstrate process stability throughout their AM workflows.

Signed the Leuven City Climate Charter to support the city's transition to a low-carbon future.

Launched our internal diversity, equity, and inclusion (DEI) working group so that Materialise remains a workplace that's open, diverse, and connected, where everyone is respected, supported, and valued.

December

Named "Company of the Year — Corporate" at the 3D Printing Industry Awards.

2024 Objectives

In 2024, we will continue to build on the foundation we laid in the preceding years and put further focus on our established 2025 objective, 'Empowering the Choice for Sustainability.'

In this context, our 2024 objectives include but are not limited to:

- Execute the program to reach the targets defined in our sustainability roadmap.
- Expand our work on diversity, equity, and inclusion by leveraging our new, company-wide working group
- Submit our long-term science-based targets for validation with the Science Based Targets initiative (SBTi).
- Conduct our yearly carbon footprint assessment and work towards our near-term science-based target
- Continue to invest in sustainability research, focusing on efficiency of our raw material usage.
- Renew our Top Employer certification for our HQ and the Great Place to Work certification awarded to our office in Malaysia.
- Conduct our double materiality assessment in light of the CSRD
- Start measuring our carbon footprint at a product-level.

Empowering
the Choice for Sustainability

2023 Sustainability Report

Communication on Progress (COP)

For more information, please contact us at:
sustainability@materialise.com

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For more information about the intended use of the medical devices marketed by Materialise, please refer to our **website** and to the instructions for use of our medical devices.

materialise.com
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materialise
innovators you can count on