Belimed's approach to sustainability

Belimed Sustainability Report 2024

Foreword

Welcome to the Belimed 2024 Sustainability Report. As Engineers of Confidence and global leaders in infection control solutions for the healthcare and life sciences sectors, we are acutely aware of the impact that our operations and products have on the planet and its people.

Belimed, along with our holding company the Metall Zug Group, has a strong focus on sustainability and has implemented an ongoing program of sustainable activities for our employees, society and the environment. This report marks another step in our ongoing journey towards sustainability, reflecting our commitment to creating a more sustainable, healthier world through our actions and innovations.

In recent years, we have embarked on a transformative journey towards integrating sustainability into the core of our business operations. Our 2022 and 2023 reports outlined ambitious goals and the strategic initiatives we launched to achieve them. The ISO 14064 standard for monitoring of energy consumption and waste consumption is another recognition of our efforts.

In the past few years, we have noticed an increase in environmental initiatives within the healthcare sector. Notably, more of our hospital projects have sought corporate sustainability commitment at the design or tender stage, thus emphasizing the benefits of environmentally friendly equipment and solutions. Moreover, the market's shift towards valuing energy-efficient equipment and sustainable solutions presents a challenge that we have actively embraced.

We invite you to explore our initiatives, achievements and ongoing commitment to sustainability as we collectively strive for a greener and more sustainable future.

Sincerely,

Nataša Mikuš
Sustainability Manager
Belimed

1 Introduction

The key challenge for businesses and industries lies in implementing long-term sustainable policies while maintaining competitiveness.

In today's rapidly changing climate, sustainability has become a critical concern across various industries. Climate change is damaging human health today and will have a greater impact in the future. The Lancet has called it the 'biggest global health threat of the 21st century.' Did you know that the healthcare sector is accountable for 4.4% of global net emissions? To put this in perspective, if the healthcare sector was a country, it would be the fifth-largest emitter on the planet[1].

We only have one planet on which to live, therefore addressing global climate issues and conserving the planet for future generations plays a significant role while ensuring high-quality care for patients. While vastly differing in scale, each nation's health sector directly and indirectly releases greenhouse gases while delivering care and procuring products, services and technologies from a carbon-intensive supply chain[1].

Despite being a significant contributor to global greenhouse gas emissions, the emissions footprint of the healthcare industry has been largely ignored in climate change discussions until recently[2]. According to recent studies, operating theaters consume 3-6 times more energy than the rest of a hospital, thus making them a major contributor to carbon emissions and waste generation[3]. The carbon footprint of a single operation can range from 6 to 814 kg of carbon dioxide equivalents, with electricity use and the procurement of consumables being identified as major hotspots[3].

Surgical equipment, in particular, accounts for a significant portion of the carbon footprint in operations. Shifting toward a greater use of reusable equipment has been recognized as a critical strategy in reducing environmental harm. However, even for low-carbon procedures such as cataract operations, the carbon contribution from equipment remains high[4].

2

Global initiatives in sustainable healthcare

The carbon footprint of one typical cycle of a washer/disinfector and sterilizer is 3.74 and 12.13 kg CO_2 per cycle respectively[4].

2.1
Global initiatives in sustainable healthcare

Hospitals worldwide are making significant strides towards environmental sustainability, from adopting renewable energy projects to transforming clinical practices.

To achieve sustainability goals in healthcare, it is also crucial to optimize the reprocessing, decontamination and packaging processes. To date, limited studies have addressed the carbon footprint and financial cost of these processes. However, the health sector as a whole needs to respond to climate change by taking proactive steps to reduce carbon emissions.

It is estimated that around 313 million surgical procedures are performed annually worldwide. The carbon footprint of one typical cycle of a washer/disinfector and sterilizer is 3.74 and 12.13 kg CO_2 per cycle respectively[4]. Sterilizing instruments as part of sets and using low-carbon energy sources can help reduce the environmental impact[5].

Some hospitals worldwide have made significant changes in this regard: from renewable energy projects to changes in clinical practice. England's National Health Service (NHS) has successfully decreased its environmental impact in the health and social care sector by 18.5% since 2007. The ambition is to reduce it by 80% by 2050.

3
Belimed projects

We successfully met the target to increase throughput by 25% and achieve efficiency savings of 25%.

3.1
Belimed projects

Belimed is committed to providing advanced, reliable and resourceful products that prioritize safety, efficacy and smart resource use.

GoMedical, Uruguay

Belimed is proud to have been a part of project in Uruguay's GoMedical central sterile supply department (CSSD), where various Belimed equipment is installed. However, GoMedical is also environmentally conscious. The modern CSSD is equipped with intelligent lighting. By maximizing natural light, it is able to achieve the highest efficiency and energy savings. GoMedical has its own plant for recycling all the water from the sterilization equipment, which results in savings of 280,000 liters of water a month[6].

Yeovil District Hospital, UK

In September 2023, Belimed completed a project at Yeovil District Hospital[7], Somerset in the UK, where we have five washer-disinfectors of the latest generation (WD 290IQ), three modern steam sterilizers (MST-H), and one large washer (CS 750S), as well as our digitalization solution SmartHub.The installation of the new machines means we successfully met the target to increase throughput by 25% and achieve efficiency savings of 25%.

4

Belimed sustainability goals

Sustainability – everyone is talking about it – we are doing something about it!

4.1
Belimed sustainability goals

As part of our corporate strategy and Vision 2025 program, Belimed has set a number of corporate sustainability goals for our business. Our SMART Sustainability goals are tracked regularly.

Climate and energy

Reduce CO_2 emissions at production sites, based on greenhouse gas absorption (+ CO_2 levy to compensate remaining emissions).

Optimize Belimed **warehouse and office** areas and reduce waste.

More efficient instrument reprocessing based upon performance data.

Employees

Increase the **internal promotion** rate in all Belimed locations (and promote diversity).

Provide **leadership training** and measure employee engagement.

Promote well-being of staff and encourage flexible working conditions.

Products and services

Implement energy and water saving features in all **new product developments.**

Increase **customer service satisfaction** (NPS) in all regions.

Promote **Total Cost of Ownership** (TCO) by life-cycle methods and digitalization.

Society and value creation

Instill in all staff basic values and key principles in all staff **(Code of Conduct).**

Promote locally-sourced materials and promote **recycling** methods.

Involve **major and local suppliers** in new sustainability programs.

Communication

Launch training and education **(e-Learning)** for staff and customers.

Regular updates and metrics for sustainability initiatives.

Interact with customers via **social media** (tutorials, best practice, innovation).

5
Products and services

Products and services

Hospitals tend to consume 2.5 times the amount of energy compared to standard office buildings[11]. This is significant incentive to decrease the expenses associated with operations and maintenance across all areas and equipment.

Belimed has embraced this shift towards sustainability by implementing long-term business policies.

Our production facilities in Switzerland and Slovenia are constantly introducing innovative measures to reduce our carbon footprint. We recognize the importance of preserving resources and strive to develop products that are efficient and reliable.

Our commitment to sustainability extends beyond our manufacturing practices. We provide comprehensive support to our customers, assisting them in selecting the most energy-efficient equipment and offering sustainable solutions that align with their long-term goals. We understand that businesses face challenges in balancing economic success with environmental responsibility, and we are here to provide expert guidance and solutions.

We offer a wide range of Reprocessing Solutions that enable hospitals to achieve their goals for cost control, operational efficiency, patient safety, productivity and sustainability, while offering the best possible medical care experience.

5.1
Sustainable products and machines from Belimed

Belimed manufactures a wide range of reliable and efficient washer-disinfectors, sterilizers and assessors, which it adapts to the individual needs of each CSSD.

Steam sterilizer MST-H and MST-V

Our steam sterilizers stand out in the industry for their modern space-saving design, economical use of resources and seamless connectivity for fully digital CSSDs. We are also focused on resource sustainability. The MST-H and MST-V version sterilizers have an optional connection to the facility's chilled water system. When chilled water is used to cool the sterilizer condensate, cold water consumption is reduced by as much as 95%. When the sterilizer is not connected to the facility's chilled water system, the technologically advanced vacuum pump contains a gas ejector that allows for improved drying while reducing the amount of cold water consumed.

Washer-disinfector WD 290 IQ

The Belimed WD 290 IQ washer-disinfector is designed with sustainability in mind. It offers significant environmental benefits through its energy-efficient operations, which help reduce overall energy consumption and lower carbon emissions. Additionally, the washer's water conservation features contribute to minimizing water usage, making it an environmentally responsible choice. The machine's intelligent design and modern control technology also enhance its sustainability by ensuring efficient and error-free processes, ultimately reducing resource wastage and operational costs.

CS 750

Our CS 750 cart washer comes with highly efficient tank system, coupled with an on-demand rinse water heater, which reduces the use of water – which in itself is 90% recycled – to about 20.83 liters per cycle. This unique combination also eliminates the need to cool drain discharge water, thus conserving water and reducing operating costs.

5.2
The importance of scheduled service and maintenance

The highest expenses in terms of repairs typically arise from breakdowns, encompassing emergency fixes and the cost of time and materials. Belimed Prevent™ and Predictive Maintenance Services capitalize on this availability by empowering customers to be able to prevent minor issues from evolving into major failures, which could result in costly downtime.

Implementing scheduled maintenance at regular intervals, either based on equipment cycles or seasonal schedules, is an effective strategy for reducing hospital costs. This approach, known as preventive maintenance, aims to mitigate system failures by addressing potential issues before they escalate. Taking this concept further, predictive maintenance utilizes digital data to analyze the unique characteristics of equipment and the operation of a CSSD. By monitoring this data, operators and managers are alerted to any changes in equipment performance, allowing them to proactively address maintenance needs before problems arise.

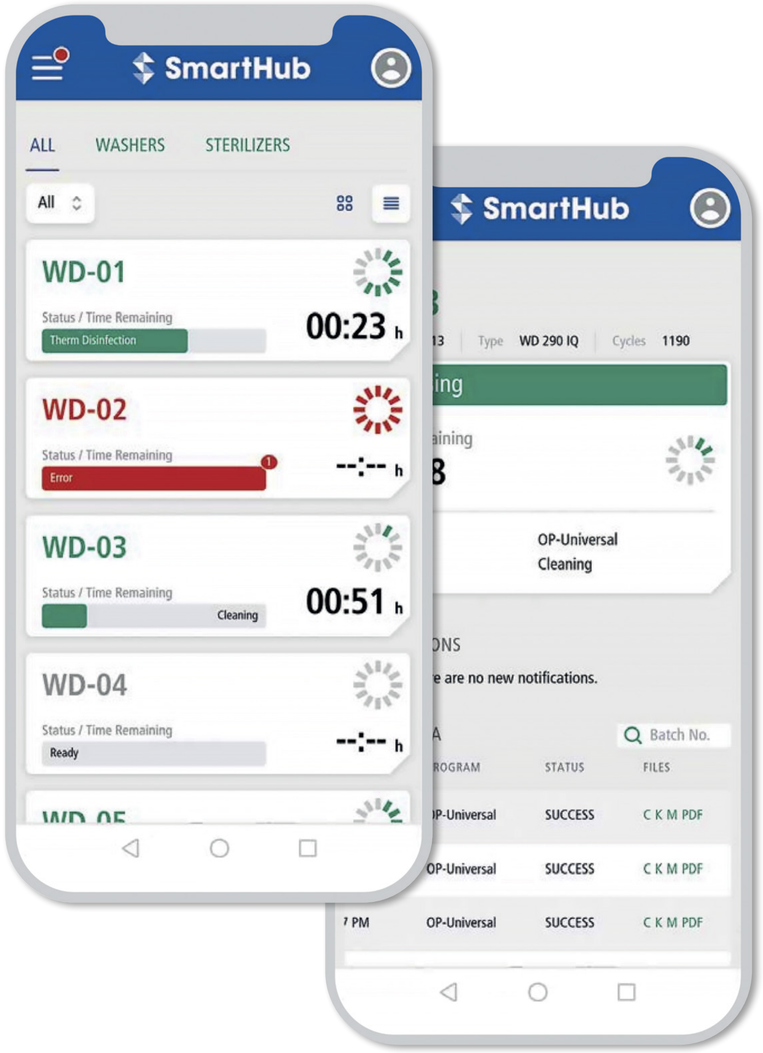
We are currently running a pilot project to implement Remote Service. The purpose of this project is to diagnose faults remotely as a first step in solving problems. This helps us reduce transportation time by reducing the number of visits, thus reducing CO_2 emissions while providing customers with a more effective and faster service.

5.3 Optimizing workflow with our Planning Compass

Effective planning and design of CSSDs is not only crucial in terms of delivering exceptional patient care but also to lessen the burden on the environment. This tool can instantly calculate the appropriate equipment type, spacing requirements and utility consumption based on just a few inputs from the user. It can also recommend optimal quantities of equipment to ensure an efficient workflow. It provides comprehensive reports and data-driven insights that can support customer case and demonstrate the value of these investments.

By analyzing the specific needs of CSSDs, it suggests the most efficient equipment mix to enhance productivity and elevate the quality of patient care. Furthermore, this tool allows different options to be compared, thus enabling customers to select the one that best suits their unique requirements.

5.4
Digitalization with SmartHub Orbit



Digitalization has dramatically reshaped how we work, interact and live, providing substantial gains not only for companies but also hospitals and CSSDs by simplifying, accelerating and enhancing our work. We advocate for smart, data-informed CSSDs within intelligent, digitized hospitals, promoting contemporary and digital operations, augmenting work productivity and ensuring a safer and more manageable CSSD work environment.

Digitalization propels us towards the envisioning and realization of future CSSDs that are smarter and more sustainable. Belimed's sterilizers and washer-disinfectors generate up to two million data points per cycle, encompassing aspects such as program choice, quantities of chemical doses, temperature, water volume, operational durations and water conductivity.

SmartHub is a software solution designed to capture all pertinent machine data in real-time from any Belimed device.

SmartHub enables paperless work, because the batch documentation is digitally archived and seamlessly accessible. By embracing our paperless work solutions, the CSSD, which operates 10 machines running 12 cycles a day, can save an impressive 193 folders of paper or 540kg of paper annually. Not only does this translate to a significant reduction in the space required for storing paper files by 17 meters of shelves, but it also symbolizes the preservation of 13 trees and an astonishing conservation of 28,000 liters of water every year.

Additionally, the ability to directly view and analyze data in SmartHub using the Analytics functions saves time and offers resources optimization.


CLEAN MAE
Mild Alkaline Enzyme Cleaner
e5L
CLEAN MA
Mild Alkaline Cleaner
e5L
CLEAN NE
Neutral Enzyme Cleaner
e5L
BRIGHT RDA
Rinse and Dry Aid
e5L
BRIGHT BP
Bedpan Cleaner
e5L
NEUTRA 1
Neutralizer
e5L
CARE Lubricant WD
Instrument Lubricant
e10L
CARE SR
Scale and Rust Remover
e5L
Bellmed | Protect
CLEAN
Pre Treat

5.5
Sustainable consumables

All our chemical cleaning and disinfection solutions are designed to ensure optimal reprocessing of medical devices while complying with international regulations to ensure safe and efficient cleaning and disinfection.

Our exceptional products include our enzyme-based detergents, which have been carefully developed for the expert cleaning of surgical instruments. These enzymatic cleaners guarantee a comprehensive and efficient cleaning performance and effectively remove all organic residues.

Belimed offers a wide range of chemicals for maintenance and care. These solutions are designed to support the continuous operation and longevity of your washer-disinfectors and ensure optimal performance over time.

For CSSDs that still use lubricants in their washer-disinfectors, we have a sustainable and efficient solution – Belimed Protect™ CARE Lubricant WD, an efficient and highly effective solution. This lubricant has been developed in line with sustainable reprocessing practices and offers several properties: It is steam-permeable and therefore fits seamlessly into the steam sterilization process without compromising its effectiveness. The lubricant is silicone-free and offers a sustainable alternative that is in line with responsible environmental practices. It is also biodegradable, embodying the fusion of efficiency and environmental awareness in a single product and contributing to sustainable and responsible use.

By prioritizing the use of organic alternatives, hospitals can ensure the safety and efficacy of their cleaning practices while minimizing potential harm to both human health and ecological systems.

6

Climate and energy initiatives

6.1 Climate and energy initiatives

Sustainability is Belimed's key strategic priority. In order to operate in a responsible and sustainable way, we have completed some very interesting and diverse projects.

Metall Zug and all its companies and sites emitted a total of 10,586t CO_2 in 2023. This includes Scope 1 (heating and operating energy for owned and leased buildings, owned and leased vehicles, loss of refrigerants), Scope 2 (purchased electricity) and Scope 3 (business flights). CO_2 emissions increased by 9.3% compared to previous year.

6.2
Embracing solar power

At the end of 2023, we installed solar panels at our production facility in Grosuplje, Slovenia. With a capacity of 720 kW, the solar power plant will generate approximately 800 MWh of electricity. This output will account for nearly 40% of the total electricity consumed by the Grosuplje production facility and will contribute to a substantial reduction in our energy costs. The implementation of the new solar power plant will also have a profound impact on our carbon footprint. The new solar power system is reducing our CO_2 footprint (carbon footprint) by 567 tons of CO_2. This corresponds to the annual CO_2 emissions of 126 gasoline-powered cars or the amount of carbon that 9,375 tree seedlings absorb in 10 years.

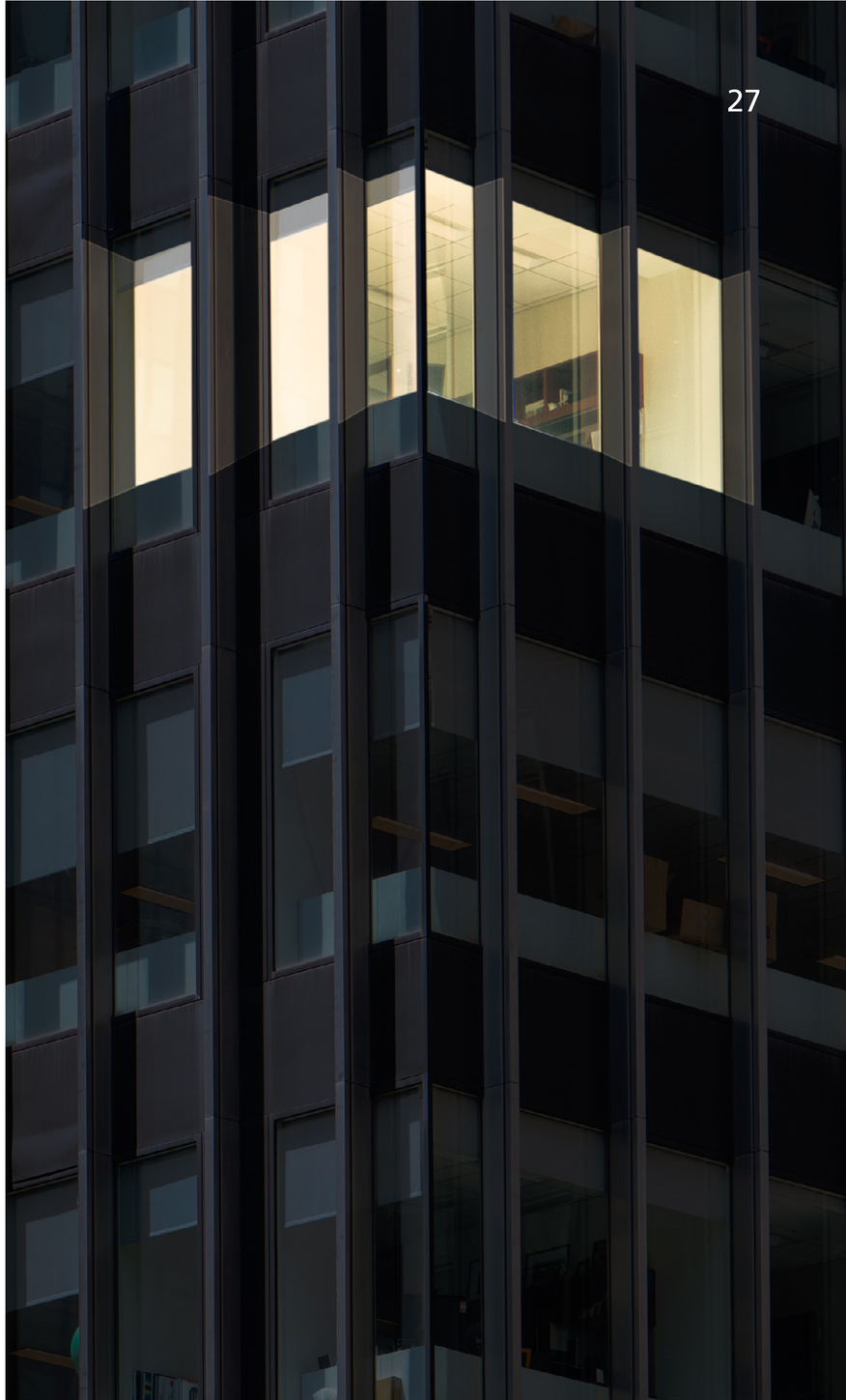
The refurbishment of our Mühldorf office resulted in an almost 6% reduction in electricity usage during the 2023 fiscal year.

6.3 Various ways we are saving energy

The electric lightbulb is widely regarded as one of humankind's most significant creations. However, did you know that nearly 40% of all energy waste originates from ineffective lighting systems? According to the International Energy Agency's 2019 report[8], the demand for electricity in the industry and building sectors combined exceeds 90% globally. In his 2017 thesis, Nyback[9] pointed out that a quarter of the electrical power used in manufacturing facilities goes towards powering building technology systems. Therefore, we have invested heavily in LED lighting at our Belimed Grosuplje production facility, as these lights use up to 75% less energy.

These highly efficient lights now make up 70% of our lighting system. Not only do they consume less energy, but they also have a longer lifespan, thus reducing the frequency at which they need to be replaced and minimizing waste.

We replaced the old laser cut machine in Grosuplje, Slovenia in 2023 with a new one, resulting in energy savings of approximately 50%.



6.4
Smart cooling and heating systems

At Belimed Infection Control in Slovenia we have also implemented an automated system that utilizes outside temperatures for cooling whenever possible. By intelligently opening windows and taking advantage of natural ventilation, we are able to reduce reliance on energy-intensive cooling systems. This not only lowers electricity consumption but also promotes a healthier indoor environment.

Another notable achievement in our sustainability efforts is the utilization of waste heat from our compressors. We have implemented a system that captures this waste heat and repurposes it for heating sanitary water. This innovative solution not only reduces our reliance on conventional heating methods but also minimizes energy wastage.

Also, by increasing the activity of the groundwater heat pump, we were able to achieve a substantial increase of around 8% in the renewable share of heating and operating energy, resulting in a significant sustainability boost with a total of 1.9 GWh generated.

6.5
Enhanced sustainability in shipments and warehousing

Our products are delivered to our customers worldwide. Knowing that freight transportation makes up 8% of global greenhouse gas emissions[10], we have been reducing our transportation carbon footprint for years. We have an active program for bundling transportation routes. Examples include the bundling of equipment and spare parts deliveries to the same address per day. This strategy has led to a decline of over 10% in total shipments compared to the years 2021 and 2022. The consequent reduction in weight and volume directly contributes to a decrease in CO_2 emissions.

Belimed exclusively collaborates with eco-friendly logistics partners for its shipments, spare parts and chemical warehousing needs. For instance, the DHL Group meticulously monitors all Belimed consignments, quantifies our annual carbon footprint, and categorizes our products according to ISO 14064 – Greenhouse Gas Certification.

In 2023, Belimed US reduced greenhouse gas emissions by changing the mode of shipment for service orders from express (air) to ground transportation. This reduced express shipments by air by 19% compared to 2022, resulting in 7.3 million fewer kilometers of air freight from the prior year. Based upon estimates of 500g of CO_2 emissions per km of air freight and 105g of CO_2 emissions per km by truck, we managed to lower our CO_2 emissions by 2.9 million kg compared to 2022. By relocating the central location for consumables distribution, we have saved more than 30,000kg of CO_2 than planned.

We are focused on continuing to reduce the reliance on air freight to meet daily business needs in 2024, and we have reduced the target for this year by a further 2%.

6.6 Material and resource efficiency

Earth's resources are limited and we are doing our best to use as little as possible. We use 100% recycled paper, which is produced using 60% less energy than paper from fresh wood pulp. This allows us to save 1 to 1.7 trees by using 100kg of recycled paper.

Other initiatives include the use of padded envelopes for small parts (reducing freight costs and CO_2 emissions), dedicated recycling stations and the use of shock-absorbing paper-padding.

Small torn pieces of cardboard used for the separation of metal parts have been replaced by reusable foam pads. Belimed uses 100% FSC (Forest Stewardship Council) certified sawn wood and wood chips within its equipment packaging.

Despite having a larger service order volume, Belimed US reduced the number of service orders by 2,500 shipments from 2023 compared to 2022. Similarly, the total number of shipments for orders to service technicians also decreased by 2,500 from the previous year. This not only streamlines operations but also results in less cardboard packaging and dunnage waste.

These advantageous outcomes demonstrate our commitment to efficiency and smart resource use, thus further solidifying our position as a provider of advanced, reliable solutions.

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Engineers of Confidence.

Belimed is headquartered in Zug, Switzerland. With 10 Belimed companies throughout Europe, North America and China and many authorized partners, Belimed is represented worldwide by a strong network in over 80 countries.

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