

ENVOMED80

Case Study



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Introduction

Envomed is an engineering company that has developed a solution for on-site treatment of hazardous biomedical waste generated at Health Care Facilities (HCF), which eliminates the need for costly and polluting off-site disposal. Envomed's solutions are designed to support healthcare institutions to accelerate their transition to a low-carbon economy, adopt circular-economy principles, and align with the global trend toward resilient cities.

While most existing off-site technologies rely on incineration, and on-site solutions are typically based on "boiling waste" at high temperatures, Envomed introduces a different approach. The company's innovative technology is a non-heat solution that utilizes shredding and sterilization through Liquid Phase Technology (LPT). As a result, the technology is more efficient, reliable, and safe while demonstrating improved environmental performance compared to common alternatives.

About Nibbana Israel

Nibanna Israel is a sustainability-focused consultancy specializing in greenhouse gas (GHG) accounting and carbon management solutions. The firm helps organizations measure, track, and reduce their carbon footprint through data-driven methodologies and industry best practices. With expertise in GHG inventories, regulatory compliance, and sustainability strategy, Nibanna Israel supports businesses in navigating the transition to a low-carbon economy.

Main Objectives

The purpose of this case study is to provide an objective overview of the value Envomed brings to healthcare facilities by illustrating how its technology performs under different regulatory and operational conditions. Drawing on experiences from Northern Europe and Israel, it presents practical insights from installation teams and site operations, demonstrating how the system integrates into existing workflows, while supporting compliance, efficiency, and safer waste-management practices.

The two distinct, yet representative, target markets – Northern Europe and Israel – were selected to reflect diverse regulatory environments and operational conditions. Northern Europe has advanced regulations for the privacy issue in laboratory medical waste treatment, while Israel is focused on reducing medical hazardous transportation volume to landfill and reducing hospital expenses.

ENVOMED80: About the Machine

Envomed provides an advanced on-site biomedical waste treatment solution, for hospitals and laboratories, based on patented shredding and chemical oxidation process. The unit treats infectious medical waste at the point of generation, by converting infected medical waste into safe municipal waste with recycling potential. Liquid effluent is discharged as wastewater meeting regulatory limits for microplastics and pH levels.

It operates at approximately 1 kWh of direct machine energy consumption per cycle and requires around 50 liters of water. The process utilizes Peracetic Acid (PAA) as the primary sterilization agent, with an estimated monthly consumption of 150 liters, generating a small amount of consumable waste in the form of empty plastic containers (average of 0.5 kg per 33 cycles). The

closed system produces no noise or smell during operation and is fully digital and paperless. Routine maintenance includes periodic servicing and knife replacement, and the machine has a life expectancy of over 10 years.

By treating waste on-site, the Envomed solution eliminates the need for external collection and off-site processing, thereby reducing biohazard risks, supply chain requirements and transportation emissions. The technology is designed to achieve 6-log spore reduction sterilization (including complete pathogen neutralization), while avoiding any option of cold spots and insuring performance reliability, full material destruction, and up to 80% of hospital waste \ 90% of laboratory waste volume reduction; thus supporting hospitals and healthcare facilities in improving environmental performance, logistics efficiency, and infection control compliance. This, along the potential to save around 50% in sustainable biomedical waste (BMW) treatment costs by reducing operational costs, electricity consumption, and can ultimately achieve an estimated 90% reduction in greenhouse gas emissions compared to traditional off-site treatment.

Built-in Cloud Based Data logger

Envomed's product offers significant economic and sustainable value to customers by treating medical waste according to the highest efficiency, efficacy and safety standards. To ensure Envomed's proactively addressing regulatory requirements. Envomed integrated a built-in data logger and secure cloud platform provide healthcare facilities with full transparency, traceability and compliance assurance in medical waste treatment. Every cycle is automatically recorded, including time, load parameters, sterilization data, and validation metrics, ensuring traceability from waste input to the final stage of the cycle event – a safe output. This real-time monitoring not only safeguards against human



error but also delivers instant access to performance reports, compliance documentation, and sustainability metrics. By leveraging cloud connectivity, Envomed enables facility managers and regulatory bodies to remotely verify operations, streamline audits, and demonstrate measurable reductions in risk, cost, and environmental impact, all with the confidence of a digitally validated process.

Envomed's Biomedical Waste Management Technology

Envomed's machine treats biomedical waste on-site using a shredder, liquid sterilization and separation. At the core of Envomed's process is "Biocetic", an organic sterilizing agent composed of peracetic acid (PAA) and hydrogen peroxide. Biocetic has a broad-spectrum effect, neutralizing bacteria, viruses, fungi, and spores. The combination of shredding and Liquid Phase Technology (LPT) ensures complete and reliable sterilization, consistently meeting STAATT Level IV with a 6 log₁₀ spore reduction. During the process, the Biocetic sterilant breaks down into non-toxic substances, leaving both the treated medical waste and the liquid safely neutralized before disposal into standard drainage and solid waste. This approach supports a high level of safety, efficiency, and sustainable biomedical waste (BMW) management.

What is Liquid-Phase Treatment (LPT)?

LPT is an innovative process that replaces "heat and pressure cooking" technologies in sustainable biomedical waste (BMW) management. LPT enables uniformity of sterilization, eliminating the risk of cold spots and offers simple, cheap, and highly reliable product testing without the need for an external laboratory. The validation is done by sampling liquid with an envelope of litmus paper, a simple process that can be done by any operator. LPT facilitates the design for a more compact and safer on-site machine, resulting in reduction in energy consumption, lack of bad odor, and shortened cycle times.

The 3 Pillars of Envomed: Safety, Efficiency, and Sustainability

Safety

Envomed systems are designed to ensure a high standard of operator and site safety, in line with international guidelines. Unlike steam-based systems, it does not generate heat, steam, or internal pressure. The use of Liquid Phase Technology (LPT) ensures thorough sterilization by shredding waste and mixing it in liquid disinfectant, eliminating the risk of cold spots or incomplete treatment. Each cycle achieves STAATT Level 4 – the industry highest accepted performance standards – delivering a consistently 6-log spore reduction sterilization performance. The system also supports a clean, odor-free, mold-free, and low-hazard working environment.

By enabling immediate on-site sterilization, the system eliminates the need to store infectious waste for days, reducing exposure risks for healthcare staff and patients and preventing the spread of pests and secondary hazards. This not only enhances occupational and public health, but also supports broader sustainability goals, as safe waste handling and reduced biological risks are essential components of environmental and social responsibility – significantly lower than other available technologies.

Safety is also compliance with regulations. Envomed's technology shreds any personal identification labels found on vials or packaging, aligning with HIPAA Privacy requirements. Read more about it under "The Regulative Framework".

Savings

With immediate heating to 40°C and no cooling phase required, Envomed completes a full treatment cycle in under 20 minutes. Traditional heat-based systems typically require longer

heating and cooling periods. The shorter cycle time allows faster throughput is demonstrating best efficiency per size and volume and maintaining a steady workflow in healthcare settings.

Sustainability

Among on-site medical waste treatment technologies, Envomed presents a particularly sustainable approach. It reduces the volume and risk of biomedical waste transportation in comparison to offsite methodologies and significantly reduces electricity consumption versus alternate onsite solutions. The process itself requires less than 0.0125 kWh per liter of raw waste and altogether achieves up to 90% reduction in greenhouse gas emission per tonne of medical waste.

The Environmental Aspects

On-Site Machine

Traditional waste management practices include storing live pathogens in hospitals and laboratories, then transporting them to off-site treatment facilities through villages, cities, and communities – a practice which poses significant risks to public health in and around the hospital. Medical waste may remain exposed and overflowing for hours or even days before collection, increasing the risk of scavenging by rodents, cats, birds, and other pests while it waits for transport. Envomed's on-site machine allows medical facilities to reduce the necessary supply chain needed for properly disposing of medical waste. Instead of transporting medical waste from the medical facility to a sterilization center, and then to the landfill, Envomed's machine converts hazardous waste into sterilized and un-recognizable municipal waste. The converted waste, that afterward is directly sent to the landfill, reaches up to 70-80% less volume of the original waste.

While the disposal process becomes more efficient, shorter supply-chain also saves on transportation costs and results in approximately 75% in emissions volume according to Envomed reports.

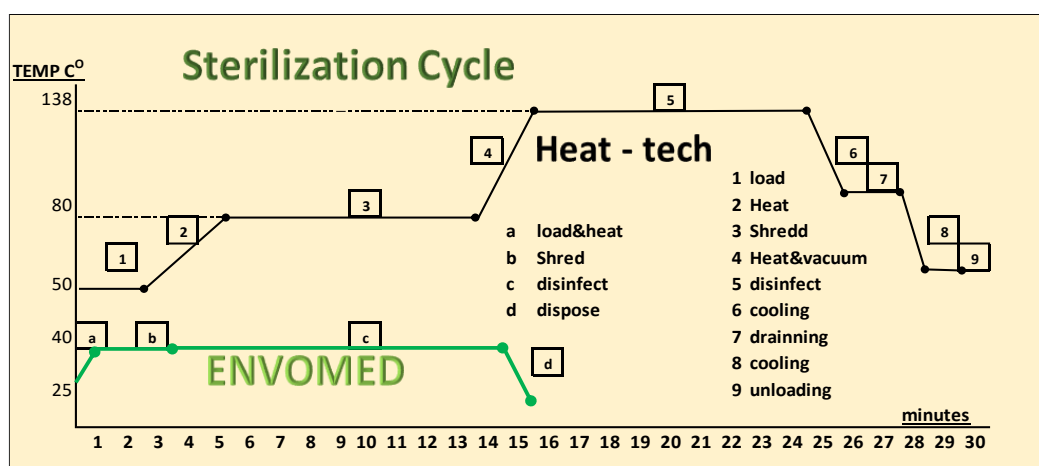
Machine Processing Temperature and Time

Envomed's machine operates at a processing temperature of 40°C, compared with electric autoclaves, steam autoclaves, and electric microwave systems that typically require around 138°C. Old incinerators use only 800 Celsius and lack minimum filtration. New modern incinerators may require temperatures of approximately 1,200°C and are equipped with reasonable filtration. Therefore, modern incinerator treatment is much more expensive today, endorsing the shift to a more efficient on-site treatment.

Because Envomed's processing temperature is considerably lower, the energy required to reach and maintain operating conditions is relatively minimal, which in turn lowers associated with greenhouse gas emissions. In addition, the waste treated with Envomed's machine does not require on-site temperature-controlled storage prior to collection, which can further reduce electricity use and cost.

Envomed's machine can hold up to 80 liters of waste and completes a full cycle in an average of less than 20 minutes. In comparison, typical autoclave and microwave systems may require around 45 minutes per cycle, while incineration processes can take up to 120 minutes.

See chart: Envomed's Non-Heat & LPT Technology vs. High-Heat On-Site Technologies.



Based on Envomed's internal data, the system operates with short cycle times, low processing temperatures, and relatively low electricity consumption. These characteristics are associated with reduced emissions, efficient use of space, and a high processing capacity relative to its physical footprint. The system is also designed to require minimal floor area within healthcare facilities, and thanks to the machine's operational simplicity, automative nature, and safe design – the Envomed80 does not require a full-time operator, and there is no need for a dedicated employee as an operator.

Key environmental characteristics (Envomed data):

- Short operating time
- Low processing temperature
- Reduced electricity demand
- Lower associated emissions
- No bad odour
- Efficient performance relative to equipment size
- High capacity relative to equipment size
- Limited space requirements
- Compact overall footprint
- LPT assures reliable results on every cycle

Energy & Consumption

Envomed's system consumes approximately 125 kWh of electricity per treatment of 1 tonne of raw medical waste, corresponding to ~54 kg CO₂e per tonne (Scope 2, based on a 0.435 kg CO₂e/kWh grid factor). In comparison, alternative treatment technologies frequently report energy consumption in the range of several hundred kWh per tonne, depending on technology configuration, operational scale, and energy source.

Alignment with UN Sustainable Development Goals

In 2015, the United Nations introduced 17 Sustainable Development Goals (SDGs). These goals reflect and define the global development agenda in the areas of environment, society, and economy through 2030. Envomed's essence is contributing to the global effort to promote all SDG goals.

Good Health and Well-Being

Maintaining public health and well-being is a core principle of Envomed's mission. The company provides a safe pathogen treatment solution designed to minimize secondary infections in medical facilities and reduce the risk of spreading resistant diseases. Envomed manages waste-related health risks effectively, improving health resilience, and reduces morbidity.

Clean Water and Sanitation

Envomed developed an innovative BMW treatment method that does not affect public water hygiene. Its solution reduces hazardous materials discharged into sewer systems, water sources, or soil, otherwise discharged as a result of landfill or heat-based treatments. The sterilization process significantly limits hazardous materials released into the environment and produces wastewater suitable for treatment in conventional wastewater systems. The system supports safer sanitation and responsible management of hazardous materials.

Industry, Innovation and Infrastructure

Envomed's Cleantech solution is transforming the waste management sector by enabling sustainable treatment across key parameters. The approach promotes efficient resource use, minimizes environmental impact compared to traditional technologies, and supports a transition beyond the linear waste disposal model.

Sustainable Cities and Communities

As urban development expands and waste facilities move closer to populated areas, untreated waste can attract pests and emit greenhouse gases, posing risks to public health and contributing to the climate crisis. By sterilizing and shredding waste before it reaches landfills, Envomed reduces environmental impacts on urban areas and supports safer, more resilient communities.

Responsible Consumption and Production

Envomed offers an innovative solution for environmental medical waste management, reducing pollution to air, water, and soil while protecting community health. The process meets strict sterilization standards, ensuring that waste sent to landfills is neutral and pathogen-free.

On-site treatment enables source separation, shredding, and the potential repurposing of sterilized materials into recycled raw materials, when possible. The system consumes minimal electricity, water, air pressure and space while producing reduced medical waste volume. By replacing outdated heating technologies with a resource-efficient alternative, Envomed lowers environmental impact and supports green procurement and sustainable operational practices.

Climate Action

Envomed's solution reduces the carbon footprint of medical waste across the entire value chain, from waste generation through on-site treatment and final disposal. Treating medical waste prior to landfilling reduces gas formation associated with untreated waste awaiting transport. In addition, volume reduction through shredding enables more efficient transportation, contributing to lower emissions throughout the waste management chain.

The Regulative Framework

Envomed carefully considers all relevant regulations surrounding medical waste treatment. This includes both general industry guidelines and country-specific requirements. As a baseline, the adapted operations complies with local rules, including those governing the use of peracetic acid (PAA), wastewater discharge, the management of plastic containers, and monitoring of energy use and GHG emissions. It is also recognized that regulatory frameworks differ across regions.

Occupational Safety Guidelines (OSHA) for Handling Medical Waste

A safe working environment is required to ensure the well-being and safety of medical facility employees throughout the handling, transporting, and disposing of medical waste. This policy is mandated for both on-site and off-site medical waste management programs.

Heat technology inevitably creates high internal pressure in the sterilization chamber. High heat, high pressure and the use of steam pose a danger to an untrained worker. In traditional practices, workers handling medical waste requires them to be thoroughly trained in occupational safety.

By using LPT, Envomed fosters a safe environment that any worker can operate with simple and quick training, created through following standards and regulations for bloodborne pathogens.

Digital Traceability and Compliance Assurance

Envomed included built-in integrated data logger and secure cloud platform provide healthcare facilities with full transparency and compliance assurance in medical waste treatment. Every cycle is automatically recorded, including time, load parameters, sterilization data, and validation metrics, ensuring traceability from waste input to final safe output (read more under “Built-in Cloud Based Data logger”). All information collected is confidential, only the client can decide who has access to the information.

This real-time monitoring not only safeguards against human error but also delivers instant access to performance reports, compliance documentation, and sustainability metrics. By leveraging cloud connectivity, Envomed can enable facility managers and regulatory bodies to remotely verify operations, streamline audits, and demonstrate measurable reductions in risk, cost, and environmental impacts – all with the confidence of a digitally validated process.

HIPAA Privacy Regulations

To ensure that medical information remains confidential, Envomed complies with HIPAA privacy regulations which handle private medical information, including, but not limited to medications, infusion equipment, blood collection tubes, sample containers, and sharp tools.

Adaptation to Local Regulations

Regulatory frameworks differ across regions, and Envomed adapt its operations to comply with local rules, including those governing the use of peracetic acid (PAA), wastewater discharge, the management of plastic containers, and monitoring of energy use and greenhouse gas emissions.

In Northern Europe, for example, managing waste on-site has introduced additional regulatory provisions that apply to the facility managing the waste – and the machine ensures full compliance with those as well (read more under “Envomed’s Machine in Northern Europe”). Drawing on these insights, Envomed adopts a conservative regulatory approach, consistently applying the stringent standards across jurisdictions.

In Israel, the machine has been recognized by the Ministry of Health and Environmental Quality, but each installation still requires specific approval for the installation and a trial period. Envomed holds a permanent license from the Israeli Ministry of Health. In order to maintain it, a sample is brought to the Ministry of Health testing laboratory every month.

Envomed's Machine in Northern Europe – Case Overview

Installation Timeline and Location

Envomed installed one of its first-ever machines in Northern Europe in 2021. The system was deployed at a hospital and has been operating smoothly for five consecutive years, supported by the local Envomed distributor and routine maintenance services.

Why the Hospital Chose Envomed?

The hospital needed an on-site solution that would allow it to dispose of medical waste while complying with privacy and data-protection regulations. This included handling medical accessories that may contain personal information, such as medication containers and packaging, infusion equipment, blood-collection tubes, and sample containers. HIPAA-aligned privacy requirements (adopted by the hospital's policies) mandated secure handling and destruction of any materials containing protected health information (PHI). An on-site, closed-cycle solution like Envomed enabled the hospital to meet these requirements while reducing reliance on external contractors.

Regulatory Context in Northern Europe

Northern Europe maintains strict regulations for receiving, handling, and disposing of medical waste. Envomed's machine was selected in part because it fully aligns with these standards.

Key regulatory aspects include:

- **Use of Peracetic Acid (PAA)** through Liquid Phase Treatment (LPT), which is approved across the EU and widely used in Northern Europe for medical and veterinary hygiene applications.
- **Permit requirements** under the Environmental Protection Act (527/2014) for handling specific categories of medical waste.

- **Mandatory labelling, packaging, and tracking**, ensuring full traceability from point of origin to destination.

The Envomed system supports compliance by providing digital traceability and transparent cycle records accessible to operators and permitted stakeholders.

Challenges Encountered in Northern Europe

The primary challenges identified during the early deployment included:

- Ensuring strict adherence to northern European regulatory procedures for accepting and documenting medical waste
- Seamless integration with the hospital's existing workflows
- Adapting staff practices to an automated on-site treatment system rather than relying on external collection and incineration

Unlike sites with space or infrastructure constraints, the main challenges in Northern Europe were procedural and regulatory, not spatial.

How Envomed Helped Resolve the Challenges

Envomed addressed these challenges through:

- Short training for hospital staff regarding proper use, documentation, and regulatory compliance
- Providing continuous support via the local distributor and timely maintenance
- Implementing digital traceability that aligned with local documentation and reporting laws
- Easy installation due to minimal infrastructure requirements (3*5 room, sewage, electricity, water and compressed air)
- Ensuring smooth operation through automated cycle logging, validation metrics, and cloud-accessible data

Waste treatment using Envomed led to economic savings and maximized operational efficiency. Over time, the system demonstrated consistent reliability and helped the hospital streamline its waste-management processes.

Operational Outcomes

During five years of operation, the European installation has produced several measurable results:

- Conversion of biomedical waste into municipal waste, making ENVOMED80 the final treatment point
- Significant savings in operational and waste-management costs
- Reduced environmental impact compared to off-site treatments
- Verified sterilization performance through LPT technology
- Improved transparency and accountability due to full traceability

Practical Lessons & Recommendations – Northern Europe

Ensure early alignment with national regulations

Northern Europe enforces detailed requirements for accepting, documenting, and treating medical waste. Hospitals adopting on-site treatment should confirm permit obligations early (i.e. Environmental Protection Act 527/2014) and align waste flows with national labeling, packaging, and tracking standards.

The easier to operate – the safer

The experience shows that operational success depends on routine work. In general, operating the Envomed machine is simple and safe. Staff quickly understood how to load waste correctly, follow documentation requirements, and maintain consistent workflows. Nowadays, there is no

dedicated operator in Northern Europe. The machine is being operated by any hospital orderly or cleaning employee. All that needs to be done is to load and press the “Start” button.

Integrate digital traceability into hospital reporting systems

Envomed’s data logging and cloud accessibility supported compliance with traceability expectations in Northern Europe. Hospitals should plan for how digital cycle records will interface with existing reporting, audit, and compliance processes.

Use existing infrastructure efficiently

Where infrastructure is already present (e.g., drainage, water, electricity, compressed air), installation can be streamlined. Planning site selection early helps reduce installation time and minimize operational disruption.

Anticipate workflow adjustments when shifting from off-site to on-site treatment

Transitioning from contractor-based waste collection to continuous on-site cycles may require updates to internal processes. Hospitals benefit from preventing the accumulation of untreated waste on-site by defining clear waste-handling routines and designating responsible staff for cycle oversight.

Maintain proactive preventive maintenance

Long-term reliability in Northern Europe was supported by scheduled maintenance and responsive support from the local distributor. Hospitals should incorporate preventive maintenance cycles into their facility-management routines to minimize downtime.

Recommendation Summary Based on the Northern Europe Case

The experience from the deployment in Northern Europe demonstrates that successful implementation of on-site biomedical waste treatment depends on early alignment with national

regulatory requirements, structured and recurring staff training, and strict adherence to waste-segregation procedures. The system used by Envomed showed the importance of integrating digital traceability for documentation and audits, as well as maintaining routine preventive maintenance to ensure long-term operational stability.

With these elements in place, on-site treatment can function as a reliable, compliant, and environmentally responsible alternative to off-site transport and incineration. The Northern Europe case illustrates how such systems can reduce environmental impact, support circular-economy practices, and enhance resilience in healthcare waste-management processes.

Envomed's Machines in Israel – Case Overview

Envomed's machine at a University Medical Centre was installed in 2020 as part of an initial pilot program. Over time, and following continuous performance validation, the hospital expanded the system to three ENVOMED80 units.

Why the Hospital Chose Envomed

One of Israel's largest tertiary hospitals faces a challenge of growing volume of hazardous biomedical waste. Traditional off-site treatment, collecting, transporting, refrigerating, and incinerating infectious waste, creates operational, safety, and environmental challenges.

The hospital sought an on-site solution that:

- Required minimal site preparation
- Operated without odor, noise, steam, or pressure
- Reduced reliance on external contractors
- Improved safety for staff and patients

Envomed's machine met these requirements, offering a cost-effective, low-heat, liquid-phase treatment method that could fit within the hospital's existing infrastructure.

Initial Challenges

Although the machine itself is compact, integrating a new treatment system into a busy hospital environment required careful planning.

Key challenges included:

- limited available space
- Adapting existing utilities (electricity, water, compressed air, drainage)
- The need to replace a waste-storage area with an active treatment area
- Frequent early stoppages caused by improper waste segregation and human error

These challenges are common when transitioning from external contractors to internal treatment workflows.

How Were the Issues Resolved?

Envomed assigned an engineer to be on-site daily for several months. The engineer operated the machine, monitored performance, and responded immediately to malfunctions.

Through this close collaboration:

- **Staff received hands-on training**

Hospital staff were trained directly on the machine through daily operation sessions with an Envomed engineer. This included sessions on how to load waste correctly, identify unsuitable items, respond to alerts, and document each cycle. Over time, the team became fully independent in routine operation and first-line troubleshooting.

- **Waste-segregation practices improved**

Many early issues were traced to incorrect waste segregation. For example, mixing general waste, metals, or non-treatable materials with infectious waste. Continuous guidance, clear labeling, and

structured training sessions helped staff adjust their workflows. As a result, the waste inputted to the machine became more consistent and appropriate for treatment.

- **Incidents related to knives, metal parts, and prohibited items were nearly eliminated**

At the beginning of the pilot, the machine often stopped due to hard materials such as titanium parts, surgical instruments, or large metal components mixed into the waste stream. After staff training and improved segregation, these incidents decreased significantly. This led to fewer operational interruptions and reduced wear on the shredder components.

- **Machine reliability increased steadily**

With correct waste input and better user familiarity, the number of stoppages, alarms, and mechanical interventions dropped over time. Daily logging allowed the team to detect patterns, adjust operational routines, and schedule preventive maintenance. As a result, the machine began running more consistently, with prolonged periods of uninterrupted operation – a key factor for operational and economic efficiency. Continuous learning, daily logging of performance data, and joint troubleshooting helped optimize the treatment process and reduce maintenance needs. Following the successful pilot conclusion, the hospital operated three units that have completed over 125,000 cycles and treated more than 2.5 million liters of biomedical waste on-site.

Operational Outcomes

- Reliable on-site treatment workflow was established: ~80% reduction in treatment costs
- Significant improvement in waste handling practices: ~80% reduction in the volume of waste transported to landfill
- Noticeable operational and environmental benefits: The hospital recorded reductions in treatment costs, transport-related risks, odors, mold, and pests.
- Improved sterilization consistency through Liquid Phase Treatment (LPT)

- Elimination of risks associated with heat, steam, and pressure
- >90% reduction in carbon footprint compared to traditional treatment methods
- The machine demonstrated durability and operational stability

Practical Lessons & Recommendations – Israeli Deployment

The Israeli pilot provides several practical lessons that may assist other hospitals planning to introduce on-site biomedical waste treatment.

Separating waste is essential

Continuous attention to proper waste segregation is essential, as early interruptions were largely caused by prohibited materials, such as metals or large components, entering the waste stream.

Ongoing training will prolong machinery durability

Staff turnover means that structured, recurring training is necessary to maintain consistent operation and prevent user errors.

Infrastructure is not limiting installment

Infrastructure considerations, including limited space, utility access, and the conversion of existing storage areas into treatment spaces, also remain important factors during implementation.

Preventative maintenance is key

Maintaining routine preventive maintenance and consistent operating procedures is critical for sustaining long-term system reliability.

Recommendation Summary based on the Israeli Case

The experience gained from Envomed's deployment at the University Medical Centre demonstrates that to ensure successful implementation, facilities should plan for structured staff training, strict waste-segregation practices, and routine preventive maintenance. Allocating suitable space and utilities in advance will further streamline integration. For hospitals across Israel, adopting similar on-site systems may reduce dependence on external contractors, lower operational and transportation risks, and significantly decrease carbon emissions associated with off-site incineration.

As the Israeli healthcare system continues to expand and modernize, on-site treatment technologies can serve as a practical, scalable solution for improving safety, efficiency, and environmental outcomes in biomedical waste management.