A close up of a logo

Description automatically generated**Product / Service:** Medical Apparatus

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|  | **Negative Impacts / Risks** |  | **Positive Opportunities** |
| **Environmental** | * **Production of Medical Devices**: Involves energy-intensive processes and the use of non-renewable materials, including plastics and metals, impacting biodiversity through mining activities. * **High Carbon Footprint**: The manufacturing of devices and equipment generates high carbon emissions and water use. * **Single-Use Equipment**: Many medical devices are designed for single use, leading to increased medical waste and more frequent delivery (fuel use). * **Disposal of Hazardous Materials**: Medical equipment, particularly those with electronic components, can produce hazardous waste if not properly disposed of. * **Sterilization Energy Use**: Autoclaves and other sterilization equipment consume significant energy. * **Packaging Waste**: Excessive use of sterile packaging for medical devices contributes to landfill waste. | * **Energy Efficient Equipment**: Opportunities to adopt medical devices with energy-efficient certifications (e.g., EnergyStar) to reduce operational carbon impact. * **Recyclable and Reusable Materials**: Implementing programs for recycling equipment components and using reusable versions (e.g., stainless steel surgical tools instead of plastic). * **Order Consolidation**: Reducing delivery frequency to minimize emissions. * **Reduced Packaging**: Implementing recycled and minimal packaging solutions for medical devices. * **Computer modelling techniques and digitalisation**: Opportunities to replace physical apparatus used in research and teaching with software |
| **Social** | * **Supply Chain Issues**: International manufacturing may involve labour concerns such as poor working conditions, low pay, or human rights abuses. * **Patient Health Risks**: Improper disposal of hazardous medical equipment can lead to public health hazards. * **Noise and Congestion**: Frequent deliveries may increase noise and traffic congestion. | * **Consolidated orders & deliveries** (including shared contracts) – reduce congestion & noise * **Ethical Sourcing Programs**: Engage with suppliers who meet ethical labour standards and offer fair pay. |
| **Economic** | * **High Cost of Equipment**: Advanced medical technology requires significant financial investment. * **Disposal and Maintenance Costs**: Expenses related to proper disposal of hazardous devices and the maintenance of reusable equipment. * **Energy Costs**: High energy consumption from sterilization and diagnostic devices increases operational costs. | * **Bulk Purchasing Agreements**: Consolidating suppliers and orders to reduce costs and delivery charges. * **Shared Use of Equipment**: Universities can share or lease specialized devices, reducing costs per facility. * **Energy Efficient Devices**: Investing in energy-efficient technology reduces long-term operational costs. * **Extended Equipment Lifespan**: Proper maintenance practices can extend the life of devices, reducing the frequency of purchases. |