

## Innovative indigenous solution to biomedical waste menace

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**New Delhi:** The path breaking product, OptiMaser has the capacity to revolutionize the drive against looming threat of biomedical waste in the country, says its promoting company, SS Medical Systems. It calls the technology another big step towards realizing a massive movement of the Prime Minister Mr Narendra Modi to create a Clean India “Swachh Bharat”

The developers of the technology claim that the OptiMaser is a cost effective than other available option as it has very low operating and running costs. Although initial cost is higher than the other prevalent technology (autoclave), yet its extremely low running and maintenance cost makes it the most viable option with latest technology and easy to operate uber features. Total market size for this product is approximately Rs 72 billion.

“OptiMaser technology’s inception is from Microwave based Medical waste Disinfection System which is a state of art. Its only available competitor was Autoclave, a 100-year-old, steam disinfection technology. In this age of digitization this was a futuristic technology with unique features,” says Monish Bhandari, Executive Director, SSMED.

“The OptiMaser being premium product, we are only targeting a niche market size of 4-5% (Approx 3.6 Billion). We have our manufacturing unit in industrial area and cyber hub in vicinity of National Capital region of India,” he added.

Currently the actual running production capacity is 50 units per month, but the company management says they have all infrastructural and manpower amenities to ramp it up to double its capacity.



Mr Monish Bhandari, Executive Director-SSMED with Mr Alok Dhawan, Director – IITR (in the

middle) with the team post signing of the MOU.

The company has further partnered with Council for Scientific and Industrial Research's only Indian Institute of Toxicology Research (CSIR-IITR) to synergize its technology for infection control. Under an agreement signed in Lucknow on 2nd June 2017 between Dr Alok Dhawan (Director IITR) and Mr Monish Bhandari (Executive Director SSMED), a top notch team headed by India's leading scientists including Dr Rishi Shanker, Mr Monish Bhandari and Dr Mohan Kamthan will now work closely with OptiMaser and its clinical applications.

The Microwave Assisted Clinical group headed by Dr Rishi Shanker, will research within strict stipulated time on microwave's clinical application. OptiMaser in turn will incorporate these clinical references into instant commercialization at its state of art two manufacturing facilities located at Gurugram (Haryana) & Lucknow (UP). The tech group shall collectively work on the Class A drugs desynthesis/ inactivation, Rice Husk Disinfection, Cages Disinfection, Dialyzer Disinfection for reuse, Blood Bag Disinfection, T. Linen Sterilization, Plastic tubing sterilization for reuse and Metal items sterilization for reuse.

### Challenges

Every new technology takes its own time to get into the commercial flow, people need to be educated and then only the technology becomes profitable. Microwave for disinfection is a completely new domain for Indian Medical fraternity, and thus it at times creates a road block for us to change the preset norms and mindsets of people. The only indirect technology competitor of OptiMaser is a 50% cheaper 100 year old steam disinfection technology, Autoclave.

### Opportunities

There is a varied range of opportunities for us as technology as this field is almost unexplored. We have recently signed an MoU with India's Only Toxicology Research Lab IITR (Indian Institute of Toxicology Research) to enhance this technology to a different tangent all together.

The few segments that the company is targeting includes rice husk disinfection, animal-house cages disinfection, dialyzer disinfection, blood bag disinfection, linen disinfection, plastic tubing sterilization for reuse, metal items sterilization, class A drugs desynthesis or inactivation, seeds disinfection and pesticide or insecticide eradication from food.

### Way forward

As per Prof Alok Dhawan, Director, IITR, the product fully developed would entirely disrupt the existing technology of autoclave. "OptiMaser consumes 1/10<sup>th</sup> of the power with Zero Emission... mobile.. and completely destroys all harmful bacteria instantly, he said.

Test runs for the aforesaid cycles would be initiated in July 2017 with ethical validation proposed from leading institutes in India, Singapore and Europe.

While OptiMaser has been developed in collaboration with the Government of India, its injunction as a policy prescription is still pending. The company therefore expects following from the government that the OptiMaser be made mandatory for "Kaya Kalp". It must be made mandatory instead of autoclave in all HCFs having more than 100 beds across the country. The company also has requested the mandate for MEA (Ministry of External Affairs) grant-in-aid projects besides credits for being "true" Make In India international break through. It

expects R&D funds allocation for development of microwave technology under CITAR as well.