

A women-led startup develops deep-tech for reliable low-cost internet services to rural areas

Astrome, a women-led startup, has developed an innovative wireless product that gives fibre-like bandwidth at a fraction of the cost of fibre to help telecom operators deliver reliable low-cost internet services to suburban and rural areas.

Reaching internet access to remote places in countries like India is difficult because laying fibre is too expensive. There is a need for wireless backhaul products that can deliver low cost, high data capacity, and wide reach. Currently available, wireless backhaul products either do not provide sufficient data speeds or the required range or are very expensive to deploy.

The wireless product called GigaMesh could enable telecom operators to deploy quality, high-speed rural telecom infrastructure at 5 times lower cost. Rural connectivity customers and defence customers who have already signed up for pilots will soon witness the demonstration of this product by Astrome.

The deep tech startup incubated at the Indian Institute of Science (IISc), Bangalore, and supported by DST-ABI Woman Startup Program of the Department of Science and Technology (DST), Government of India proved their millimeter-wave multi-beam technology in the lab in 2018, for which the company has been granted a patent in India and US. Since then, the technology has been converted to a powerful and scalable product called GigaMesh, which can solve much of the last mile connectivity telecom needs of our country. The product has been proven on the field and also integrated with partner products for its upcoming commercialization.

“Indian Institute of Science played a very critical role by helping us connect with investors, providing business mentorship, and giving us space to conduct our product field trials,” said Dr. Neha Satak, Co-founder & CEO at Astrome, while recalling a weeklong trip organized under the DST-ABI woman startup initiative which provided her with valuable inputs from the US VC ecosystem to prepare for the launch in the US market.

Astrome also received the ITU SME Award for the Most Promising Innovative Solution in Connectivity, a major recognition for this product from the International Telecommunication Union (ITU). They also got selected by a prestigious 5G accelerator program called EvoNexus (sponsored by Qualcomm) which will help them launch their product in the global market.

The Multi-beam E-band product, GigaMesh, packs 6 Point-to-Point E-band radios in one, thereby distributing the cost of the device over multiple links and hence reduces capital expenditure. The radio provides long-range and multi-Gbps data throughput at each link. Features like automatic link alignment, dynamic power allocation between links, and remote link formation help operators achieve significant operating expenditure cost reduction.

Astrome is currently conducting a field trial at Indian Institute of Science (university campus). In this field trial, the company has already achieved data streaming at multi-Gbps speeds across the campus.

For more details, Dr. Neha Satak (neha@astrome.co) can be contacted.



Astrome's CEO and Director of Engineering receiving IEEE Technology Startup Award 2020



Picture of GigaMesh deployed at the Indian Institute of Science campus for connectivity trials.