Press Release

Product Developed under CSIR-New Millennium Indian Technology Leadership Initiative (CSIR-NMITLI): A Unique Public -Private - Partnership (PPP)Programme

A humble beginning towards Prime Minister's "Made in India and Reach Global" Strategy

Confocal Microscopes are used to obtain three dimensional features at microscopic level and play vital role in scientific understanding of nano-materials, biological objects etc. At present, these are only available at limited number of science laboratories in India due to their prohibitive cost. As science advances, Scientists want to also understand the spectroscopic behaviour of materials and this can be achieved only using Broad Spectrum Confocal Microscope. The unique nature of supercontinuumlight makes spectral coverage for all forms of confocal microscopy and for fluorescence imaging over wide range of wavelength. Here, the confocal microscope is illuminated using a Supercontinuum Light Source. At the global level, there are only a few Supercontinuum Source manufacturers as well as Confocal Microscope manufacturers. While using the broadband source, the optics has to be carefully designed to take care of chromatic aberrations too.

M/s Vinvish Technologies Pvt. Ltd., a Technopark Company at Thiruvananthapuram and CSIR - Central Glass and Ceramic Research Institute (CSIR-CGCRI), Kolkata have jointly undertaken the challenge under the CSIR-New Millennium Indian Technology Leadership Initiative (CSIR-NMITLI)Programme and indigenously designed and developed such a complex Broadband Confocal Microscope. The Supercontinuum Source uses patented photonic crystal fiber technology developed by CSIR-CGCRI,Kolkata. Only a handful all over the world has this capability and facilities. M/s Vinvish Technologies Pvt. Ltd. has used its optoelectronics and product design expertise to design and develop reflective type optical configuration for the Confocal Microscopy as well as the Supercontinuum Source and their complex integration. This is now a plug and play system, where advanced algorithms are integrated for smooth operation.

This is a first of its kind in India and is designed to make it affordable to the researchers. A few laboratories have already expressed their intention to procure the developed product.

This broad spectrum Confocal Microscope is planned to be manufactured at the manufacturing facility of M/s Vinvish Technologies Pvt. Ltd. at Kinfra Park, Thiruvananthapuram.

This project is an ideal and successful example of a hand in hand participation programme of a private industry and a publicly funded CSIR's laboratory,that too in a very highly advanced technology area. This will be a humble beginning towards our Honourable Prime Minister's "Made in India and Reach Global" strategy.

It gives me great pleasure to announce the launch of a new product namely, "Broadband Confocal Microscope" developed under CSIR-New Millennium Indian Technology Leadership Initiative (CSIR-NMITLI) Programme which started in 2001 in the regime of the then Hon'ble Prime Minister of India , Sh. AtalBihari Vajpayee Ji. This developed product is unique and have multiple applications in Biomedical Imaging and analysis; Spectroscopic finger printing of samples with microscopic details; Structural analysis and Resonant scanning up to 1024 x 1024 pixels, said Hon'ble Minister of State (IC), Science & Technology and Earth Sciences & Vice-President, CSIR.

It's a matter of pride for CSIR as an implementing agency of the National Programmeof NMITLI to develop and demonstrate two world class products under one project, namely (i) Supercontinuum Light Generating Source; and (ii) Broadband Confocal Microscope under one of the projects launched by it. The 1st product was launched on the CSIR Foundation Day on Sept 26, 2013 and the 2nd product is presented before you today. It may be mentioned that these products have been designed and developed in a record time of 2 years. The project was relentlessly steered, monitored and guided by the team of senior and veteran experts comprising of (i) Prof. AjoyK Ghatak, Former Professor at Physics Deptt., IIT Delhi; (ii) Prof. DD Sarma, Chairman, SSSCU, IISc, Bangalore&Distinguished Scientist, CSIR-NISE; (iii) Dr. Suresh Das, Director, CSIR-NIIST, Thiruvananthapuram; (iv) Prof. K Porsezian, Head, Department of Physics, Pondicherry University, Puducherry; (v) Dr. Raj Singh, CSIR-CEERI,

Pilani; and (vi) Prof. I Manna, Director, IIT, Kanpur. The project team consisted of Dr. SK Bhadra, Chief Scientist, CSIR-CGCRI, Kolkata; and Dr. Ramadas MR Pillai, CMD, Vinvish Technologies Pvt. Ltd., Thiruvananthapuram.I would also like to congratulate the NMITLI Team,Dr. Sudeep Kumar, Head, NMITLI and Coordination Scientist, Dr. Hari Om Yadav, Sr. Scientist, at CSIR HQrs for successfully managing the project, said Dr. PS Ahuja, Director General, CSIR.

“The support received from CSIR-NMITLI, Government of India both technically and financially is appreciated and is the driving force that has made this dream a reality today”. The Steering Committee Advisors and Monitoring Committee Members were of great help in bringing this programme to such a great height. “The collaborative research and development support by the Scientists at CSIR-CGCRI is commendable” says Dr.RamadasPillai, CMD, Vinvish Technologies Pvt. Ltd. “We see a niche market globally and plan to take it to the international level. We have strong technical and economical unique selling points over other global players in the market” comments Dr. Ramadas.

“The enthusiasm put in by Vinvish Team under Dr. Ramadas has helped us to deliver the photonic crystal fibers of global standard and quality and our team is committed towards indigenous development in high technology areas” says Dr.ShyamalK Bhadra, ChiefScientist at CSIR-CGCRI, Kolkata. “We feel satisfied to see our efforts getting into global market as products”, he adds.

Vinvish Technologies Pvt. Ltd. is engaged in design, development and manufacturing of high technology optoelectronic products like Fiber Lasers, Photo Dynamic Therapy Laser, various optoelectronic sources etc.

CSIR-CGCRI is one of the CSIR’s laboratories and the Fiber Optic Group is the pioneer in design and development of advanced optical fibers like Photonic Crystal Fibers, Specialty doped Fibers etc. This group always link their research programs with private industries to commercialise their R&D efforts.