Society Chapter Events

The Marine Technology Society (MTS) India Section & IEEE Ocean Engineering Society

2nd Techsurge2018 on "Technology and Innovation for Sustainable Fishing"

The Marine Technology Society (MTS) India Section in association with the Bay of Bengal Programme - Inter-Governmental Organisation (BOBP-IGO), Fisheries Department, Govt. of Tamil Nadu, National Institute of Ocean Technology, Chennai and IEEE Ocean Engineering Society, organized the 2nd Techsurge 2018 on the theme of Technologies and Innovation for Sustainable Fishing (TISF)', at Hotel Crowne Plaza, Chennai, India on 10 August 2018.

This event is a prelude to the proposed mega event 'Oceans'2022to be organized by MTS and IEEE OES in Chennai, Tamil Nadu in 2022.

Dr. R. Venkatesan, Chairman MTS India& Head, Ocean Observation Systems, National Institute of Ocean Technology welcomed the gathering and spoke on the growth of MTS India Section and its success in promoting awareness, understanding, advancement and application of marine technology. He said that more than 125 delegates representing 41 organizations that include Navy, Coast Guard, Department of Fisheries and NGOs are attending the 2nd Techsurge 2018 to discuss the present and futuristic technology for Safety, Security, Navigation and Technology for sustainable fishing. The event provides them a common platform to share their views on field-level applications of the technologies and challenges.

The message provided by the Minister of Fisheries, Government of Tamil Nadu was read. The message said that fisheries sector plays a pivotal role in food supply, providing food security and also as the primary source of employment and livelihood to the coastal communities. Various development initiatives coupled with the conservation and management measures based on strong scientific principles is promoting the growth of the sector in the State.

Dr. M. A. Atmanand, Director, National Institute of Ocean Technology (NIOT), in his address said that the Techsurge aims to find high tech solutions for improving, optimizing the resource utilization, fishing expenditure and to increase the overall efficiency of the fishing sector in a sustainable manner. The Techsurge provides a platform for exchange of information on recent innovations in technologies for sustainable fishing and also the up-coming cutting-edge technologies covering areas such as safety, security and navigation, which would be very much useful to the user groups.

Dr.Yugraj Singh Yadava, Director, Bay of Bengal Programme, Inter-Governmental Organisation (BOBP-IGO) said that the need for sound technologies and innovations in fisheries, especially in the marine fisheries sector, is being felt much more now than in the past 5 – 6 decades. Increased fishing effort is leading to over exploitation of the resources. In these challenging circumstances, events such as 'Techsurge' can provide a platform for knowledge exchange, sharing information on field-level experiences, networking of stakeholders and practitioners operating in different fields and at different levels, and also providing an opportunity for students and young professionals to hear the developments and interact with people with wider experiences in the sector.

Two technical sessions (1) Communication for Fisheries and (2) Regulation, Experience & Safety were held and experts from Weather Dock, Germany, Inmarsat India, NIOT, CMFRI, Tamil Nadu Fisheries, BOBP-IGO, Indian Coast Guard, COBHAM SATCOM, NCCR and Norinco made presentations covering the present and the futuristic technologies for safety, security, navigation and technology for sustainable fishing.

Student poster competition on technology development

Student poster competition on technology development was also held during this event. Students from SRM, Alpha College of Engineering, CUSAT, Sri Sairam Institute of Technology, Chennai, Andhra University, Bannari Amman Institute of Technology, Sairam College of Engineering, Bangalore, SSN College of Engineering, New Horizon College of Engineering presented their posters.

The Jury for the Student Poster Competition announced the following awards:

- First prize to Sri Sairam Institute of Technology, Chennai for their theme on "Use of Block Chain Technology to Reinforce Sustainable Fishing".
- Second prize to Andhra University for their theme on "Automated fish feeding and monitoring system for cage culture by using autonomous surface vehicle platform".
- Third prize to Sri Sairam College of Engineering, Bengaluru for their theme on "Our Aquaculture Monitoring AUV".

Panel discussion – Technology and Innovation for Sustainable Fishing (TISF)
(Moderator: Cmde. S. Shekhar, Rapporteur: Mr. R. Sundar)

A panel discussion was held under the theme of 'Technologies and Innovation for Sustainable Fishing (TISF)', with Cmdre S. Shekhar moderating the session and Mr. R. Sundar, Scientist-C, NIOT as the rapporteur. The panellists included: DIG Donny Michael, TM, Indian Coast Guard; Dr. R. Kirubagaran, Former Scientist, NIOT; Dr. Y. S. Yadava, Director, BOBP–IGO; Dr. V. Sampath, Former Project Director, ICMAM; Dr. S. P. Sharma, Director, Indo-Australian Chamber of Commerce; Shri A. Antony Xavier, Dy. Director of Fisheries, Tamil Nadu; Dr. R. Narayana Kumar, Principal Scientist, CMFRI; and Dr.Tune Usha, Scientist-F, NCCR.

Know Your Robot Types

The rate of adoption of robotics will depend, in part, on the type of robot required for a specific use case. Several types of robots exist today, each with a differing set of functionality and applications. Examples and potential uses include:

INDUSTRIAL ROBOTIC ARMS: Led by the automotive industry, robotic arms revolutionized manufacturing, with their efficiency at repetitive tasks requiring high degrees of accuracy and repeatability.

COBOTS: Collaborative robots, or cobots, are designed to operate safely around or with humans.

MOBILE/WHEELED UNMANNED ROBOTS: Capable of locomotion through an environment, typically using wheels.

AUTONOMOUS VEHICLES: Specific implementation of wheeled robots that aim to revolutionize transportation and delivery.

HUMANOID ROBOTS / LEGGED ROBOTS: Use bipedal or quadrupedal locomotion to traverse uneven terrain and obstacle-filled environments.

DRONES/UNMANNED AERIAL VEHICLES: Unmanned aircrafts that can be remote-controlled, semi-autonomous or fully autonomous.

AUTONOMOUS UNDERWATER VEHICLES: Allow for aquatic inspection, maintenance and exploration in ocean environments unsuitable for humans.

SOCIAL ROBOTS: Can interact and communicate with people or other machines by following a set of social behaviours and rules.

EXOSKELETONS: Physically augment human performance allowing for increased stamina, consistency and/or strength.

Alphabet CEO planned Hyperloop-like system for bikes: Google parent Alphabet's CEO Larry Page was reportedly working on a Hyperloop-like system code-named Heliox that would propel bicyclists in a tube system to commute faster. It consisted of a plastic tube, snaked around a circular track, hundreds of feet in the air. It was designed to propel bicyclists at rapid speeds by pumping helium and oxygen into the tube.

BMW unveils self-driving motorcycle concept: BMW has unveiled a self-driving bike concept that not only drives on its own but can also start off, lean into turns and deploys the kickstand without human intervention. Based on BMW R 1200 GS bike, the concept is a test bed for improving rider safety. It will help BMW bikes determine if a situation is dangerous in the future.