

FINDING SOLUTIONS

The Seafood and Fisheries Emerging Technologies Conference is about exploring the future.

Technology that was considered impractical or even impossible just a few years ago may be realistic and viable today. This event is about finding solutions to complex fisheries challenges by connecting technology providers with fisheries and seafood supply chain professionals in a forum that fosters a mutual and global vision toward solving the conservation and management challenges our world's fisheries are faced with today.



ILLUMINATING THE SUPPLY CHAIN

The forum will explore the latest emerging technologies addressing supply chain traceability and transparency. It will explore how this technology might be used to leverage market pressure against illegal fishing and human rights abuses in the seafood supply chain.

DEVELOPED IN COLLABORATION WITH:

WWW.SEAFOODANDFISHERIES
EMERGINGTECHNOLOGY.COM

For more information contact Alfred 'Bubba' Cook,
acook@wwf.panda.org, phone: +64 (0)27 833 0537.

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Why are we here
To stop the degradation of the planet's natural environment and
to build a future in which people live in harmony with nature.
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2019

SEAFOOD AND FISHERIES EMERGING TECHNOLOGIES (SAFET) CONFERENCE

**FEBRUARY 13-16, 2019
BANGKOK, THAILAND**



RAPID ADVANCEMENTS - NEEDED RESPONSE

In little more than a half a century, fishing has evolved from small single sailing vessels using tools relatively unchanged since the bronze age to massive fleets of huge steel-hulled vessels capable of catching and storing hundreds of metric tons of fish in a single set.

Today, fishing vessels use high efficiency diesel engines, an electronics array reminiscent of a science fiction starship to find and track schools of fish, and sophisticated and specifically engineered refrigeration capacity including Ultra Low Temperature freezers that can instantaneously freeze and store product at less than -20C.

Unfortunately, government regulatory and enforcement authorities have struggled to keep up with the rapidly evolving fishing technologies and increasing effort in the fishing fleets, often relying on the same tools that have traditionally been used since the beginning of modern fisheries management including paper-based reporting and at-sea boarding and inspection.

Thus, the technology and effort employed in modern fishing fleets has largely outpaced the ability and capacity of fisheries regulatory and enforcement authorities to apply, monitor, and enforce regulatory requirements in the fishery.

However, with new advances in satellite, computer, communications, and materials technologies, it has become possible to manage fisheries more effectively and efficiently. Satellite and drone surveillance, real-time electronic reporting, on board electronic monitoring of fishing activity using cameras, and innovative supply chain tracking tools stand to revolutionise the ability of authorities to not only better conserve and manage fisheries resources, but also address illegal fishing and human rights abuses more effectively.

Although global fisheries support an industry worth tens of billions of USD each year, fishing capacity and effort continues expanding beyond the levels that most scientists believe is unsustainable. Existing monitoring, control, and surveillance measures and technologies are unable to keep up with this rapid expansion. Therefore, the future of global fisheries management could lie in the ability of the fisheries managers to harness the power of these new technologies for the benefit of the resource and the people who depend on them.

EMERGING TECHNOLOGIES IN FISHERIES

UNMANNED SURVEILLANCE VEHICLES -

An Unmanned Surveillance Vehicle (USV), may include aerial, terrestrial, or aquatic vehicles sometimes referred to as "drones." These devices may be controlled either autonomously by onboard computers or by the remote control of a pilot located elsewhere. USVs could potentially supplement or replace manned aerial surveillance operations or some patrol boat surveillance functions.

ELECTRONIC REPORTING - Electronic reporting through wireless systems connected by satellite could facilitate real or near-real time data reporting, which would revolutionize fisheries management and enforcement.

ELECTRONIC MONITORING - Electronic Monitoring (EM) may encompass a variety of tools, but generally involves the use of video monitoring and onboard sensors to observe and assess fishing activities.

BIG DATA/ARTIFICIAL INTELLIGENCE - New technologies produce voluminous amounts of information, but existing infrastructure is unable to adequately handle these new and expanding sources of information. A combination of Big Data Analytics and AI could provide solutions.

INTEGRATED SATELLITE REMOTE SENSING - Vessel Monitoring Systems (VMS), Automatic Identification Systems (AIS), Synthetic Aperture Radar (SAR), and Visible Infrared Imaging Radiometer Suite (VIIRS) use satellites to collect information used to monitor fishing activity. These tools make the ocean more transparent and illegal fishing more detectable.

TRACEABILITY TECHNOLOGY - Automated data capture technologies ranging from Radio Frequency Identification Devices (RFID) to Quick Response (QR) codes to Near Field Communications (NFC) devices will more effectively automate supply chain data entry while new decentralised databasing systems utilising blockchain technology will improve the reliability and trust of the information collected.