



FACT SHEET

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Defence Technology Prize 2019 Team (Research & Development) Award Winner

DSO DATALINK SYSTEM TEAM

DSO National Laboratories

CITATION

The DSO Datalink System Team is responsible for the in-country development and operationalisation of datalink systems for DSO's indigenous guided systems. The key focus of the team is in developing robust solutions for usage in highly challenging operating environments. The end-to-end solutions developed include waveforms, software-defined radio transceivers, and radio frequency front-end and antenna systems for both airborne and ground terminals. Through various projects, the team built up in-country capabilities and established themselves as the technical experts in datalink systems. The systems developed have become enablers for game-changing, system-level capabilities. In recognition of the team's achievements, the DSO Datalink System Team is awarded the DTP 2019 Team (Research & Development) award.

ABOUT THE DSO DATALINK SYSTEM TEAM

With a good mix of experienced and junior staff, the DSO Datalink System team is a multi-disciplinary team with expertise ranging from wireless communications, waveform design, systems design and engineering, and signal processing, to software and hardware development, and systems integration and testing.

TECHNICAL INNOVATION AND OPERATIONAL IMPACT

The DSO Datalink Team has developed various solutions, comprising systems and techniques that allow information to be reliably exchanged between multiple manned and unmanned airborne- and ground-based guided platforms and control centres. This enables timely situational awareness, platform control and mission coordination under highly challenging environments.

MINDEF Communications Organisation

Public Communications Directorate

MINDEF Building, 303 Gombak Drive, #01-26 Singapore 669645 Tel: 9228 6190 Fax: 6769 5139

There were many demanding challenges the team had to address. These included the need for links to be secure, to incur low latency and be highly jam-resistant. Also, the systems also needed to conform to the platforms' requirements to be compact, lightweight, low-powered and able to operate in harsh environments.

The stringent demands required the team to come up with solutions that pushed the limits of the performance envelope, and through time, mature them to a state where there is high confidence in deployment for operational use.

Innovative ideas have been implemented into indigenously-developed waveforms, signal processing algorithms, hardware miniaturisation, power optimisation and antenna design.

The team also adopted software-defined technologies and modular design to enable the datalinks to be developed, adapted and improved in short development cycles for trials and tests.

PROFILE OF TEAM LEADER

Name	Heng Yew Heng
Appointment	Director, Electronic Systems Division
Organisation	DSO National Laboratories
Age	48

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