

ST Engineering Showcases Tech and Innovation Advancements at Singapore Airshow 2024

Appendix: Factsheet on Cluster Highlights

Aviation Cluster

- **AirFish Wing-in-Ground (WIG) Craft**

The AirFish WIG craft converges aviation design and marine design to enable safe, swift and sustainable coastal travel and logistics. Gliding above water by utilising air pressure and aerodynamic forces, the AirFish WIG craft can fly at up to three times the speed of existing marine craft, bringing speed and time savings to operators. While the AirFish family of WIG craft is developed to serve the maritime public transport, parapublic services and luxury transport markets, it can also support military missions with potential applications being amphibious operations, insertion of special forces during operations and sensor payload deployments.

- **757 Passenger-to-Tanker (P2T) aircraft**

An extension of its existing capabilities in aircraft conversion, the Group is developing the world's first Boeing 757P2T aircraft for aerial firefighting. Designed to carry up to 7,000 gallons of fire retardant or water with a custom-designed retardant dispensing system, the 757P2T is capable of combating wildfires with greater resource efficiency compared to existing firefighting airtankers. The prototype aircraft is currently in the engineering design phase, with conversion work planned to start in mid-2024 and entry into service by early 2026.

- **DrN-Series Drones and DroNet**

DroNet is a drone-agnostic operating platform capable of integrating autonomous and multi-function Unmanned Aircraft System (UAS) networks. The new DrN-series drones are equipped with longer endurance payloads that can be used with DroNet to support:

- Medium-to-high risk operations with higher payload capacity
- Shore-to-ship deliveries through winch system capabilities

- Safer and more efficient defect inspection in hard-to-access power infrastructure through advanced AI technology

Defence Cluster

- **Terrex s5**

The new Terrex s5 is a production-ready, 8x8 armoured fighting vehicle with a hybrid electric drive (HED) option. Designed to be future-ready, the Terrex s5 is equipped with advanced avionics and AI to support operations as well as an increased payload. With the ability to transverse various terrains, the Terrex s5 is fully integrated with the most powerful engine, alternator and battery system in the Terrex family to date.

- **Multi-Role Unmanned Ground Vehicle (UGV)**

The Multi-Role UGV is a next-generation modular transport vehicle that features customisable electrical modularity through technological integration, ensuring enhanced adaptability. With a fully electric design, digital architecture and exportable power capability, it offers modularity and effortless payload insertion, significantly enhancing operational efficiency. The towable feature enables on-the-move regenerative charging, serving as a versatile tool for logistics and material transport, aiding in environmental disasters, industrial spaces and event infrastructure.

- **40mm Low Velocity Automatic Grenade Launcher**

Designed to be remotely operated and mounted on light tactical vehicles or UGVs, the world's first 40mm Low Velocity Automatic Grenade Launcher (40mm LV AGL) is capable of rapidly firing NATO-standard 40mm LV rounds. When loaded with 40mm LV Less-Than-Lethal rounds, the 40mm LV AGL is the ideal force multiplier for homeland security forces to achieve swift dispersion of large crowds while minimising collateral damage. Personnel safety is enhanced by allowing engagement at a greater standoff distance compared to conventional less-than-lethal hand grenades. The 40mm LV AGL's unique electric-driven belt feeding system also allows users to remotely clear jammed rounds as an added safety precaution.

- **New Generation Assault Rifle**

Building on the legacy of the SAR21, the New Generation Assault Rifle is the Group's next generation bullpup assault rifle. It preserves the advantages of a bullpup rifle including compact form factor for superior manoeuvrability and closer centre of gravity to the body for easier weapon control, while incorporating features that users have grown accustomed to. Maintaining the same compact size as the SAR21, the New Generation Assault Rifle is equipped with ergonomic fire controls and adjustments such as ambidextrous ejection, adjustable buttstock and cheek rest.

- **7m Unmanned Surface Vessel**

The 7m Unmanned Surface Vessel features a catamaran hull design with superior sea-keeping and high-speed manoeuvrability. Adaptable to any mothership, its current iteration serves as a firefighting vessel to work in tandem with heavy firefighting vessels for enhanced search and firefighting operations. It also integrates advanced sensemaking features encompassing predictive diagnostics, condition-based maintenance and decision support systems.

Smart City Cluster

- **AGIL® Smart Energy Building**

AGIL Smart Energy Building is a next-generation suite of smart energy solutions that enables building owners to take a whole-of-building approach in energy optimisation to accelerate building decarbonisation. Powered by IoT, AI, machine learning and automation, it comprises an integrated suite of energy optimisation solutions for building cooling, energy recovery, lighting, building automation and GHG emissions tracking. With its modular and scalable design, AGIL Smart Energy Building can be easily integrated in brownfield and greenfield buildings and can also be scaled to multiple buildings within an estate or township to aggregate energy savings.

- **5G Smart Rail Operations**

The integration of 5G technology into the Group's Smart Metro solutions will bring enhanced connectivity, operational efficiency and safety to rail operations, and pave the way for digital rail innovations that will transform the future of rail and passenger experience. With remote digital access, real-time data transmission and seamless communication

between trains and ground control, rail operators will be able to efficiently monitor, manage and maintain train systems, enable accurate location tracking and swift incident response while enabling passengers quicker access to real-time travel information on the go.

- **Guideway Transit Inspection Service**

The Guideway Transit Inspection Service provides an accurate and efficient one-stop automated inspection solution for monitoring, analysing and predicting guideway transit infrastructure condition. Revolutionising transit infrastructure maintenance, its customisable, multi-functional design adapts to diverse transit environments to ensure tailored assessments while its real-time monitoring capability facilitates predictive maintenance and prolongs infrastructure lifespan.

- **Tolling and Congestion Pricing Solutions**

The Group's advanced tolling and congestion pricing solutions help cities address traffic congestion by enhancing traffic flow and optimising road usage while reducing carbon emissions and air pollution. Its latest all-overhead digital tolling systems leverage AI to provide highly accurate and reliable vehicle detection, classification and image capture throughout toll zones.

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