



FACT SHEET

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SAF Harnesses Artificial Intelligence and Data Analytics to Sharpen Sense and Strike Capabilities with Command and Control Information System

The Singapore Armed Forces (SAF), with the support of the Defence Science and Technology Agency (DSTA), has developed and equipped the command post (CP) at Exercise Forging Sabre 2021 (XFS21) with a Command and Control Information System (CCIS). Enabled by a Decision Support System (DSS), the CCIS is designed to enhance the SAF's sense and strike capabilities by shortening the sensor-to-shooter-cycle, and allowing for more accurate and robust decision-making processes.

The CCIS provides commanders with a real-time, accurate situation picture of the sense and strike assets, and the disposition of adversary forces on the battlefield. Leveraging fourth industrial revolution technologies, such as data analytics and artificial intelligence (AI), and weapon-to-target matching algorithms, the CCIS sense-makes information gathered by the sensors and generates warfighting solutions to defend against potential adversaries. Commanders will decide from the proposed solutions and deploy the optimal strike assets to eliminate threats swiftly and effectively. In a highly dynamic battlefield, the CCIS allows the SAF to coordinate and execute responses more efficiently.

Features of the CCIS

The CCIS consists of the following features:

- **Mission Portal**. The mission portal provides commanders with a real-time overview of the status of the SAF's sense and strike assets, which enables them to make decisions more effectively and appropriately deploy 'available' assets to neutralise threats.
- **Recommendations of Warfighting Solutions**. Enabled by the DSS, the CCIS taps on AI to recommend optimal warfighting solutions, such as pairing the most suitable strike assets to eliminate specific types of targets. This alleviates the cognitive workload of our soldiers, especially when tackling unexpected and imminent threats, and allows commanders to coordinate responses with greater precision and accuracy and tightens the reaction time for decision-making.

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- **Mission Parameters.** The warfighting solutions generated by the CCIS are paired with corresponding mission parameters, such as timeliness and survivability. This dashboard provides commanders with an assessment of the effectiveness of the different solutions so they can compare and select the option best suited for specific missions.

Reacting to Unexpected Threats

Real-time sensing of unexpected threats and tracking of the SAF's sense and strike assets by the CCIS also allows commanders to re-role strike assets on existing missions to eliminate unexpected priority threats before completing their original missions, or to reassign another strike asset to complete it. Through this, the SAF, is able to remain agile and nimble and guard against threats decisively in an evolving battlefield.

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