

# New Technology Enablers for the RSAF's Smart Airbase of the Future

The Republic of Singapore Air Force (RSAF) has taken steps in its transformation to become future-ready with smart airbase developments. Apart from existing initiatives, the RSAF continues to explore & leverage on advancements in technology to enhance effectiveness & efficiency in its base operations.

## ENHANCED MUNITIONS LOADING FOR FIGHTER AIRCRAFT

The loader provides **manpower savings of up to 66%** as it requires only one person to operate. Its omni-directional Mecanum wheels makes it **highly manoeuvrable in tight spaces** and the use of data analytics and robotics allow for **better performance, greater precision and efficiency in munitions loading**.



## AUTOMATED INSPECTION & PROACTIVE MAINTENANCE

Existing aircraft hangar sensors are **enhanced with improved AI algorithms to better classify and detect defects**. Unmanned Ground Vehicles are on trial and plans are in place for trials of the Smart Fleet Management System on improved performance and aircraft maintenance insights.



## EXPEDITIOUS RUNWAY DAMAGE ASSESSMENT & REPAIRS

Remote deployment of self-organised drones will **reduce manpower and time required for runway damage assessments** whilst ensuring crew safety. Enhanced with AI, the drones can **detect, classify and share data on the damage in real-time** to increase situational awareness.



## AUTOMATED LOGISTICS & PERSONNEL TRANSPORTATION

Autonomous vehicles will be used for daily logistics and transportation operations. This **frees up manpower resources for better organisational effectiveness**.



## ENHANCED AIRBASE SECURITY

Self-organised drones will be deployed for perimeter patrols. Capable of detecting, identifying and tracking targets, the drones can provide **real-time situational displays via live-video feeds to enhance base security**.



## ENHANCED AIRBASE SITUATIONAL AWARENESS

Data collected by base systems and drones is **shared real-time** and processed by Decision Support Systems through data analytics and AI to sense-make and recommend solutions. With enhanced situational awareness, the Base Command post will allow commanders to make **timely and robust decisions on complex airbase operations**.

