MOTAC

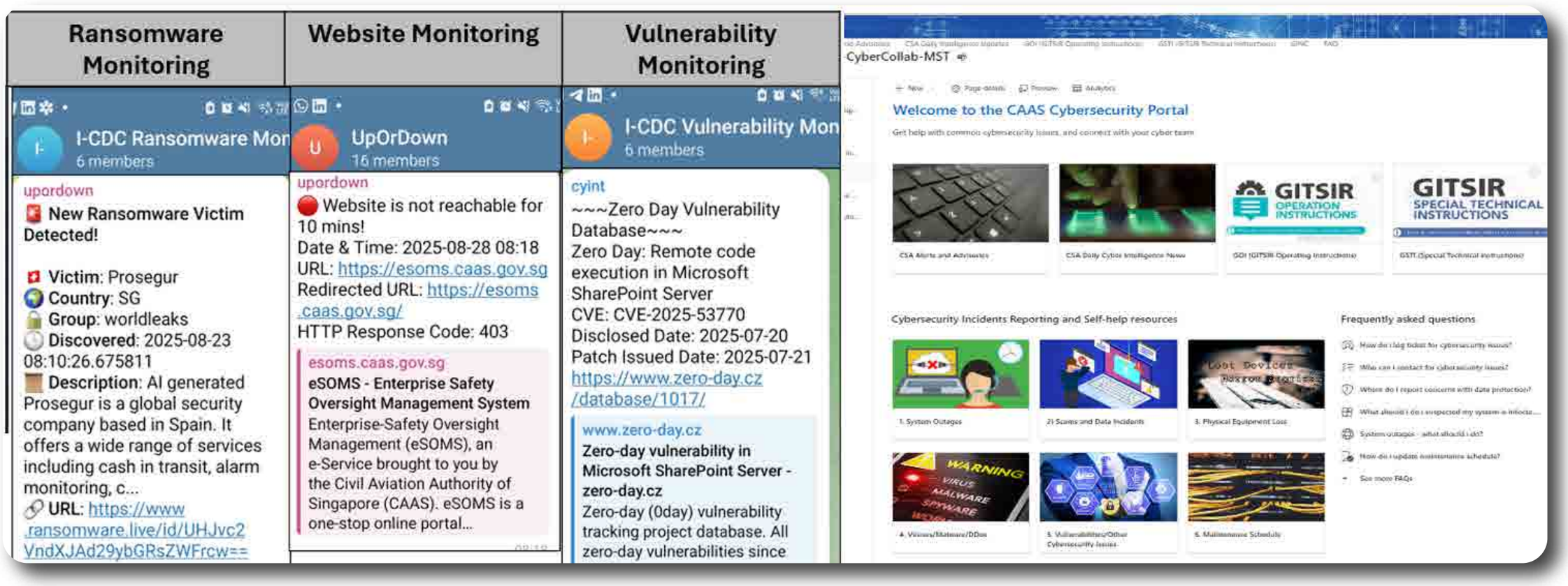
Ministry of Transport Awards Ceremony 2025/26

MINISTER'S VALUE-FOR-MONEY ACHIEVEMENT AWARD

CAAS
Civil Aviation Authority of Singapore

MERIT AWARD

MANAGING EVOLVING CYBER THREATS TARGETING THE AVIATION SECTOR



PROJECT TEAM

Kee-Vin Ho	Advisor
Alan Ong	Team Leader
Jasmine Ang	Member
Wong Kok Yong	Member
Teo Wai Kiat	Member
Lim Kim Chong	Member
Charisse Tan	Member

OVERVIEW | NEED FOR PROJECT | SOLUTION | IMPACT

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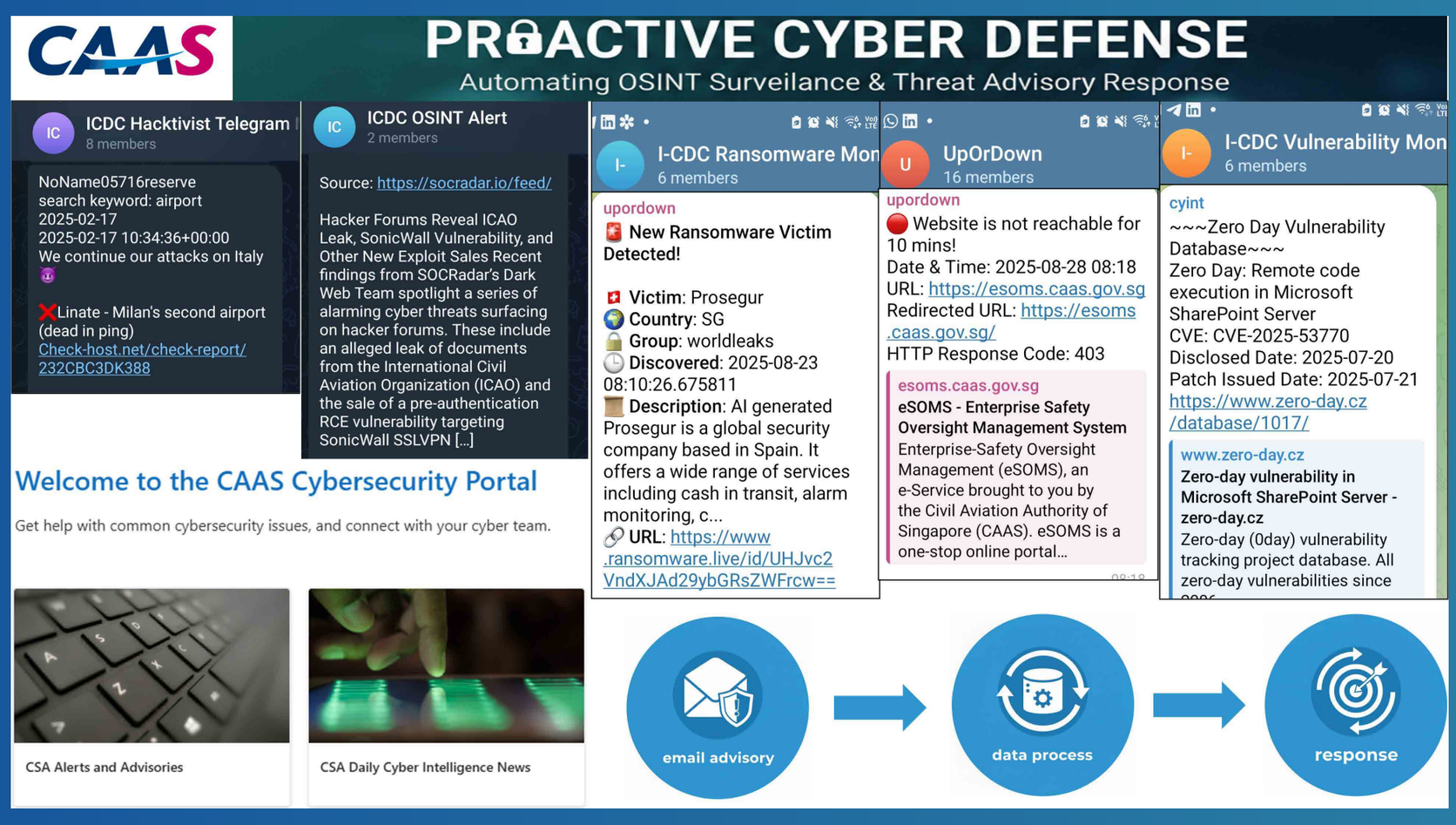
NEED FOR PROJECT



- CAAS, as the critical information infrastructure (CII) sector lead for the aviation sector, aims to enhance aviation sector cyber threat awareness by providing early warning detection and enabling faster sectoral response through cybersecurity monitoring and threat intelligence sharing.
- The evolving cyber threats required new detection methods as these involved threats beyond the conventional nation-state threat actors. In recent years, hacktivists had targeted both the aviation sector and Singapore. They organised their attacks via Telegram groups.
- The CAAS team envisioned ways to detect and disseminate information and their responses efficiently for CAAS and the sector stakeholders.

PROBLEM STATEMENT

Need to provide early warning detection and enable faster sectoral response by automating open source intelligence (OSINT) surveillance and threat alert and advisory response.

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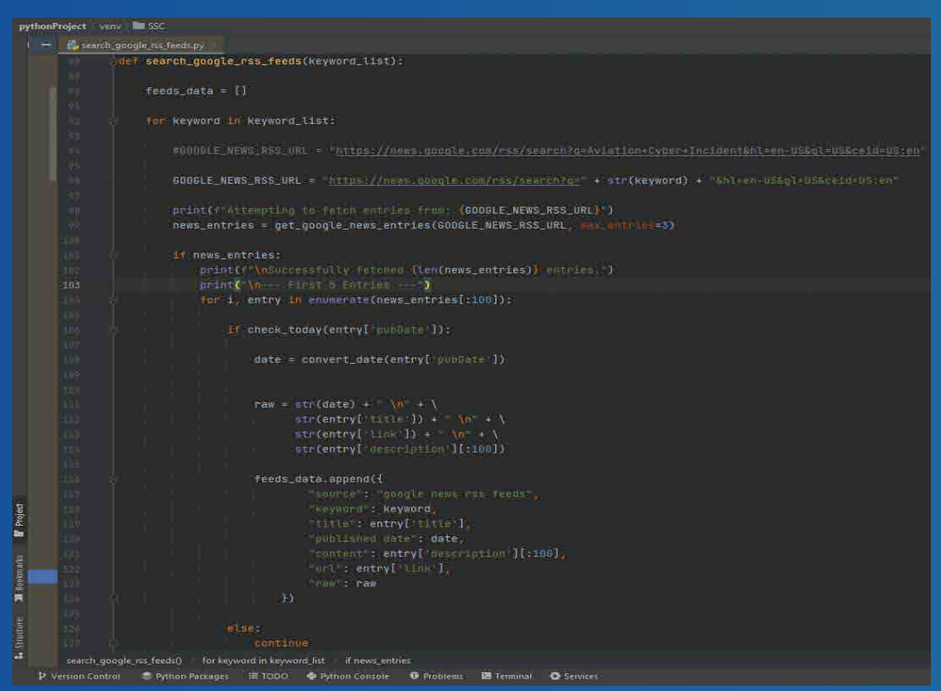
SOLUTION



- Wrote codes to automate monitoring of open source platforms for intelligence via APIs, RSS feeds, web scraping and custom scripts, and send notifications to respective Telegram groups.
- Designed an automation process on a Robotic Process Automation (RPA) platform to process and respond to email alerts and advisories, and develop a centralised SharePoint portal for alert collation and management.

SOLUTION STATEMENT

Developed in-house solutions to automate: 1) monitoring of open source intelligence for cyber threats relevant to the aviation sector and providing notifications on a messaging platform; and 2) processing email alerts and advisories from cybersecurity authorities and responses.

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IMPACT

Economy

- Eliminates the need to procure separate external threat intelligence platforms
- **13,400 annual man-hours saved** by automated monitoring and collation
- Central solution saves aviation sector members **$2.2M**

Efficiency

- **Prompt identification** of cyber threats and risks
- Eliminates human intervention, **reducing the risk of human error**
- Reduces manual monitoring and collation requirements, allowing human analysts and CAAS officers to **focus on high-value tasks**

Effectiveness

- Sectoral cyber threat awareness beyond traditional system monitoring, enabling **timely preventative measures**
- Correlation of identified cyber threats and risks with systems' activities to **identify possible indication of compromise and impact**
- Sectoral information can be used by CSA and MINDEF to **enhance national cyber threat awareness**

- In-house developed solutions achieved cost savings, and the automation achieved productivity gains by eliminating manual processes and enabling early warning and faster sectoral response.
- **Cost savings: $2.20mil**
- **Time savings: 13,400 man-hours.**

OUTCOME STATEMENT

CAAS benefitted from substantial cost and man-hours savings, prompt identification of cyber threats, and enhanced sectoral cyber threat awareness beyond traditional system monitoring, leading to timely preventative measures.