

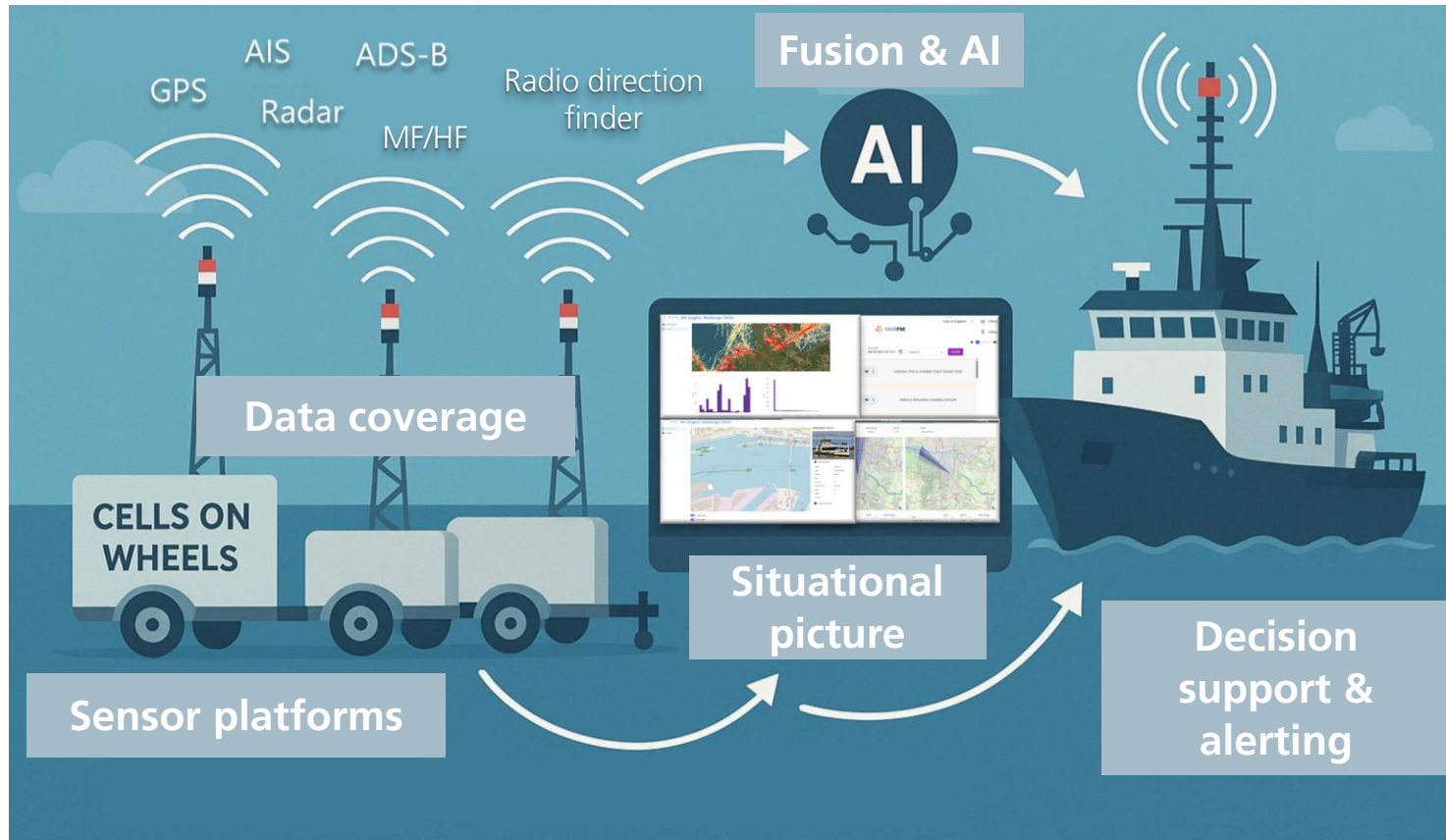


KIRMES – mobile AI for real-time security

Philipp Sedlmeier
Fraunhofer CML

HORIZON-CL3-2025-02-CS-ECCC-02
New advanced tools and processes for Operational Cybersecurity

KIRMES – mobile AI for real-time security



Added value for users

1. Flexible & adaptive security concepts



2. Real-time situational awareness



3. Enables faster reaction times



Threat detection and analysis for critical maritime infrastructure

Using sensor data to strengthen maritime resilience

- Real-time detection and analysis of threats to critical maritime infrastructure from sea, land and cyberspace
- Local control over all data through stationary and mobile sensors
 - Mobility at sea through research vessel, on shore by cells on wheels
- Detailed situational picture due to variety of sensors
 - AIS, ADS-B, radio direction finder, GNSS, Radar, ...
- Automated risk assessment by explainable AI and analytics
- Defending against hybrid threats
 - Currently strong dependance on GNSS-based navigation
 - Jamming/spoofing of GNSS as critical threat to cyber-physical systems
- Deployment of decision support tools for KRITIS operators
 - Faster reaction times reduce incidents' consequences
 - Strengthens cooperation between operators and authorities



HORIZON – tools and processes for operational cybersecurity

Testing and validating

- KIRMES research as development module in larger projects
- Testing and validation environment for application development in maritime critical infrastructure

Developing cybersecurity

- Extend capabilities for threat analysis in cyberspace
- Develop detection and defense mechanisms for cyber-physical system
- Enhance the situational picture beyond the maritime scope
 - Sensor fusion
 - Risk assessment

