

Hyperspectral Sensor Management for Reconnaissance Missions

Environmentally Aware Detection Architectures for UXO Detection



Typical Sensors on tactical UAV

- VIS daylight cameras and / or IR
- Live-Video for optical real-time analysis
- Simultaneous drone operation and data analysis



Camouflage Material

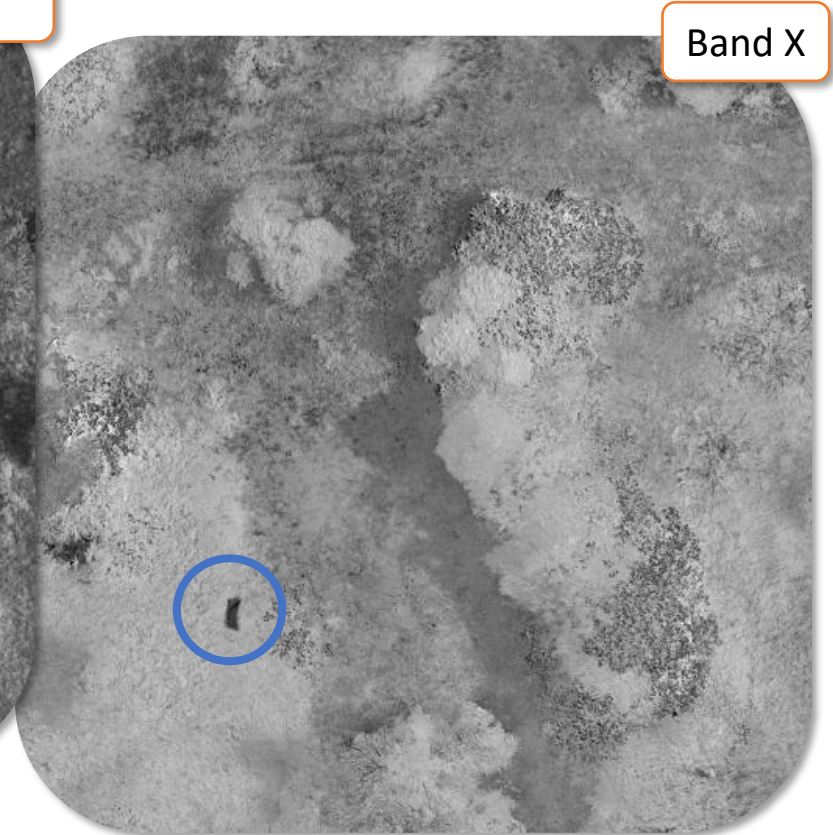
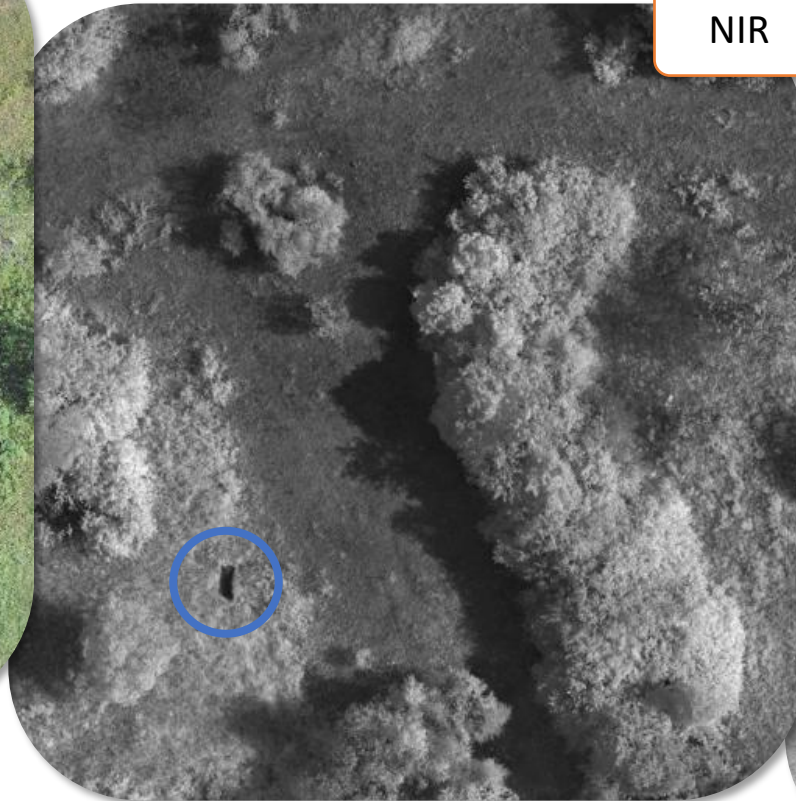


UXO





Example



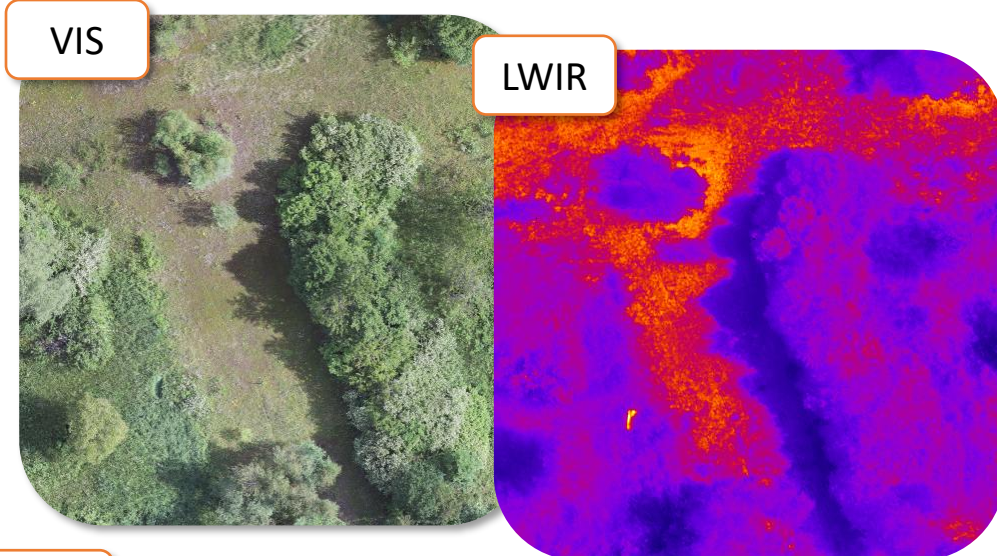


Specim AFX10 & AFX17

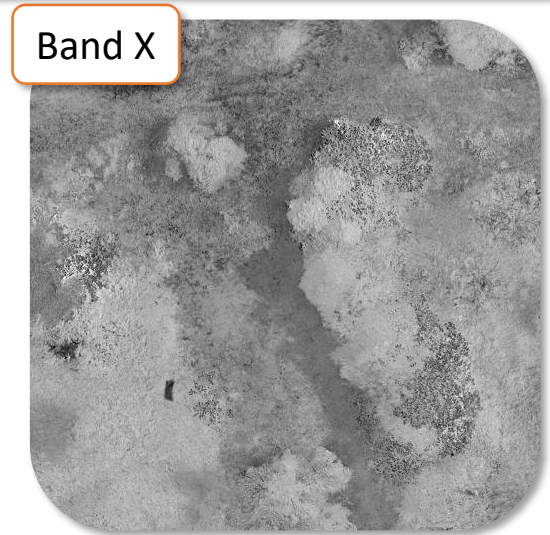
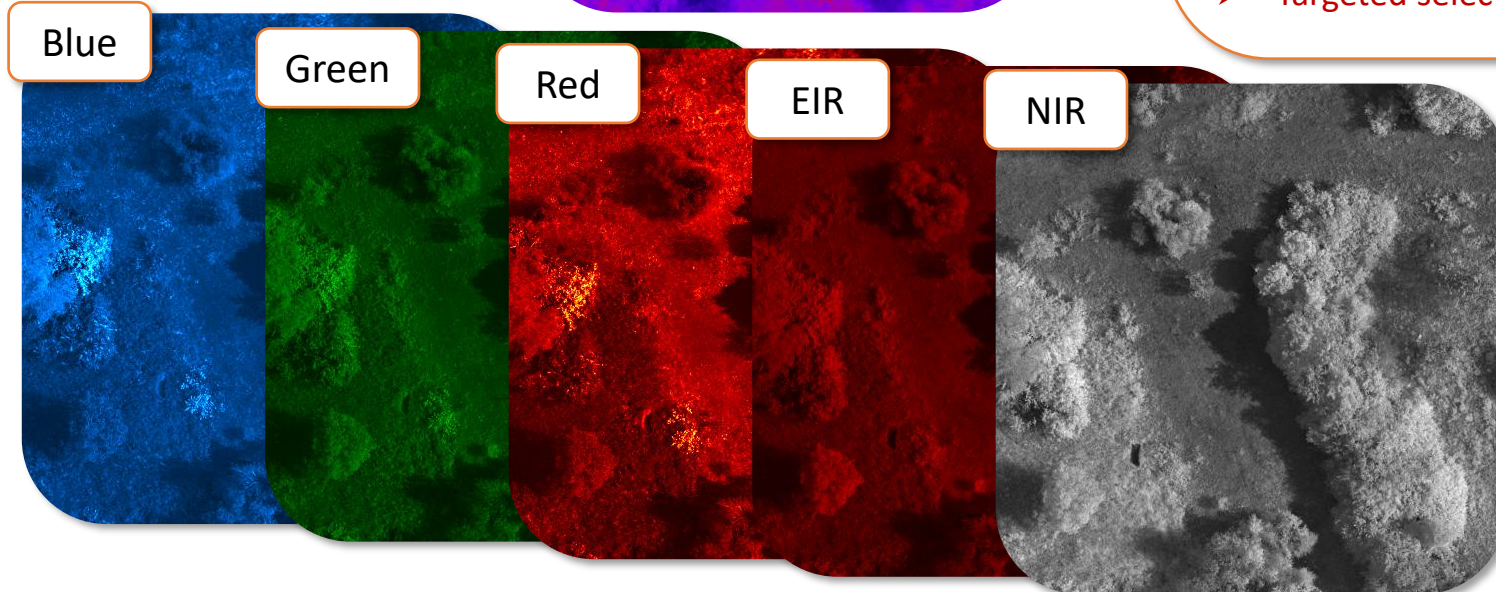


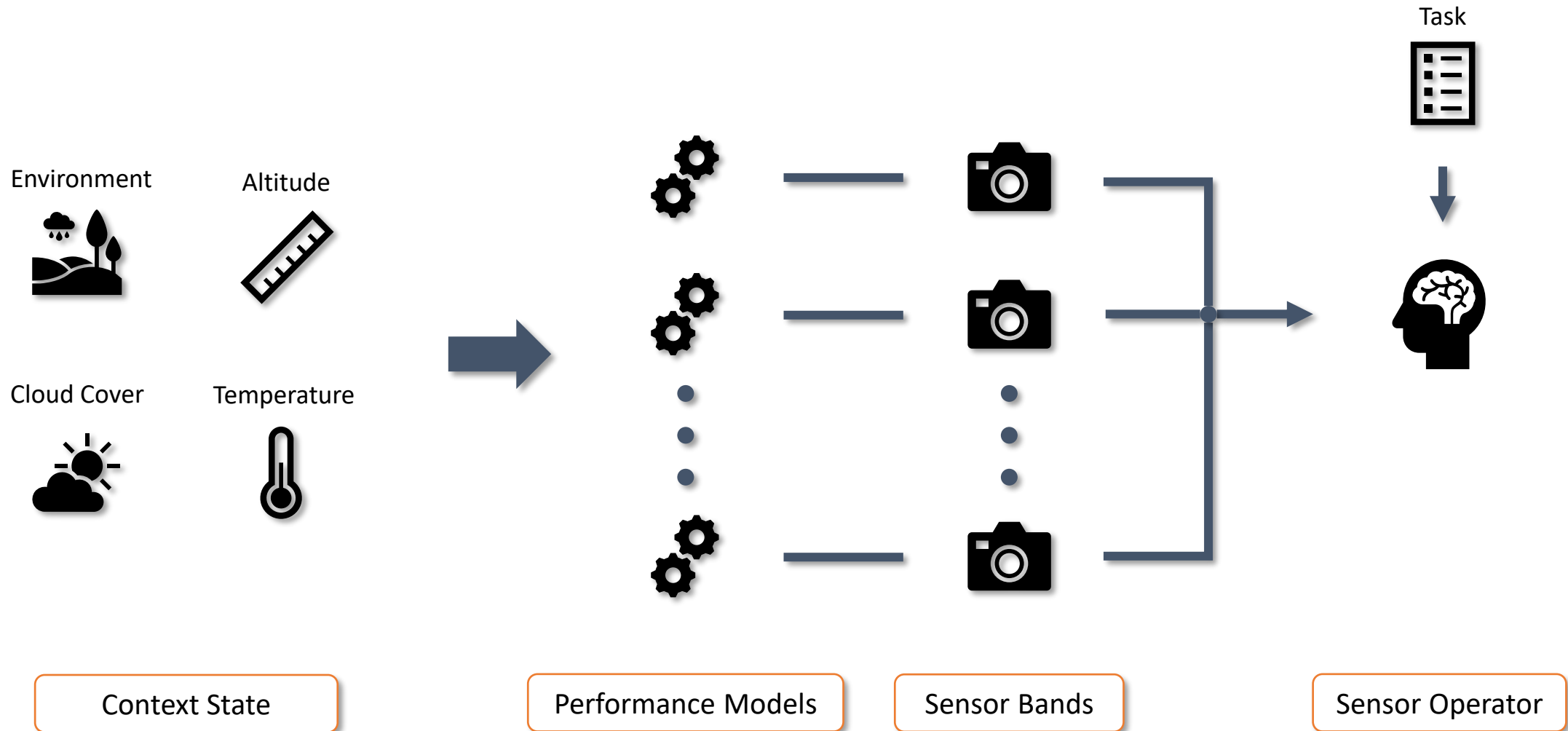
- 400nm – 1700nm
- 448 Bands

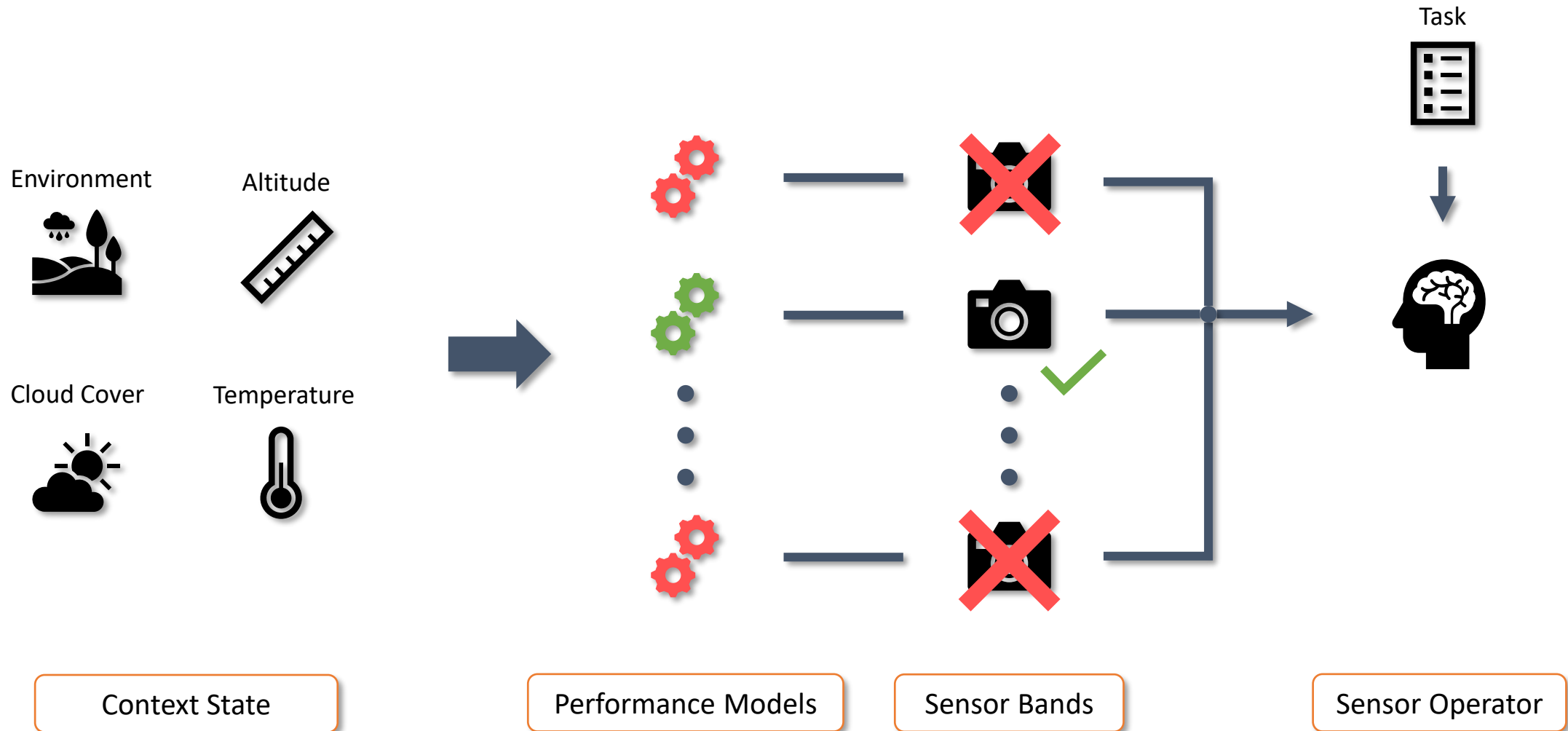


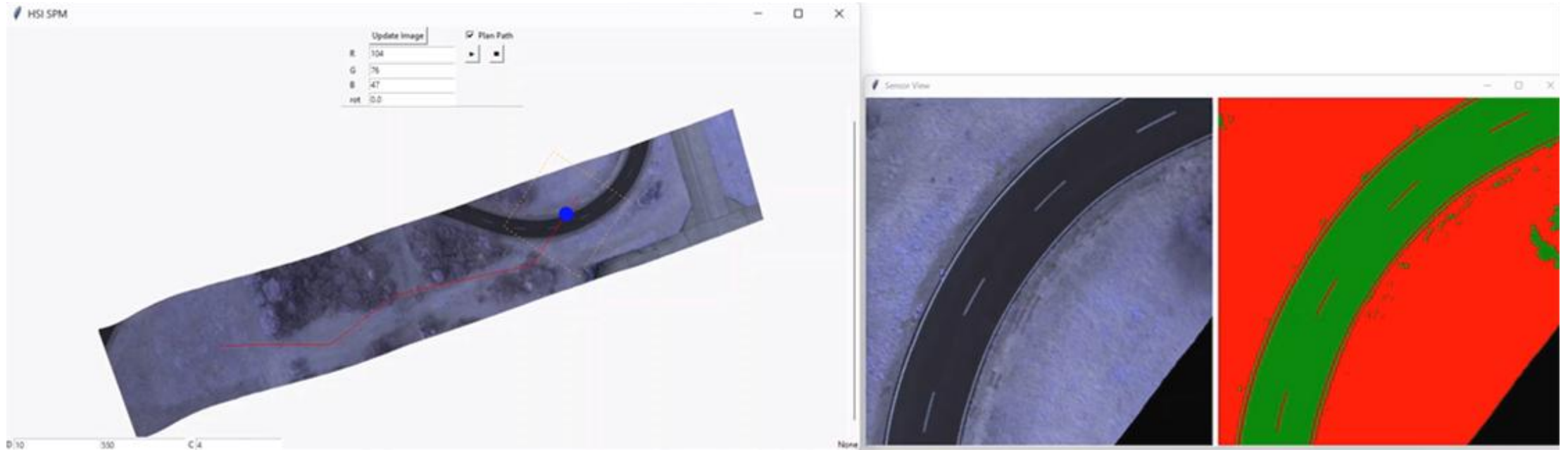


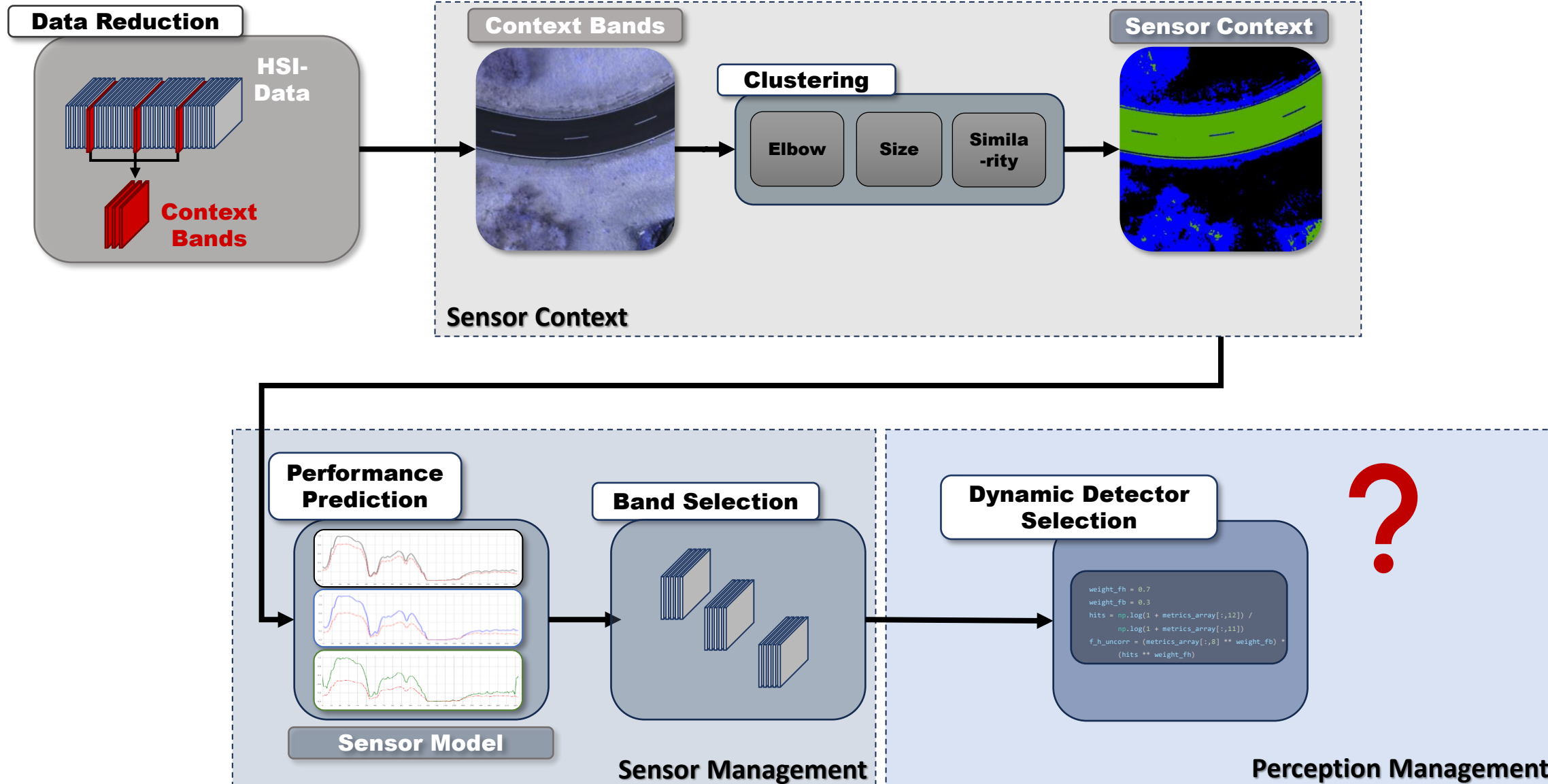
- **Information changes** with band, environment and target
 - Processing all bands causes :
 - High **computational costs**
 - **Not necessarily** better **detection**
 - Static use of detector:
 - **Unstable** performance
 - **Low detection** performance
- Targeted selection of bands and detectors

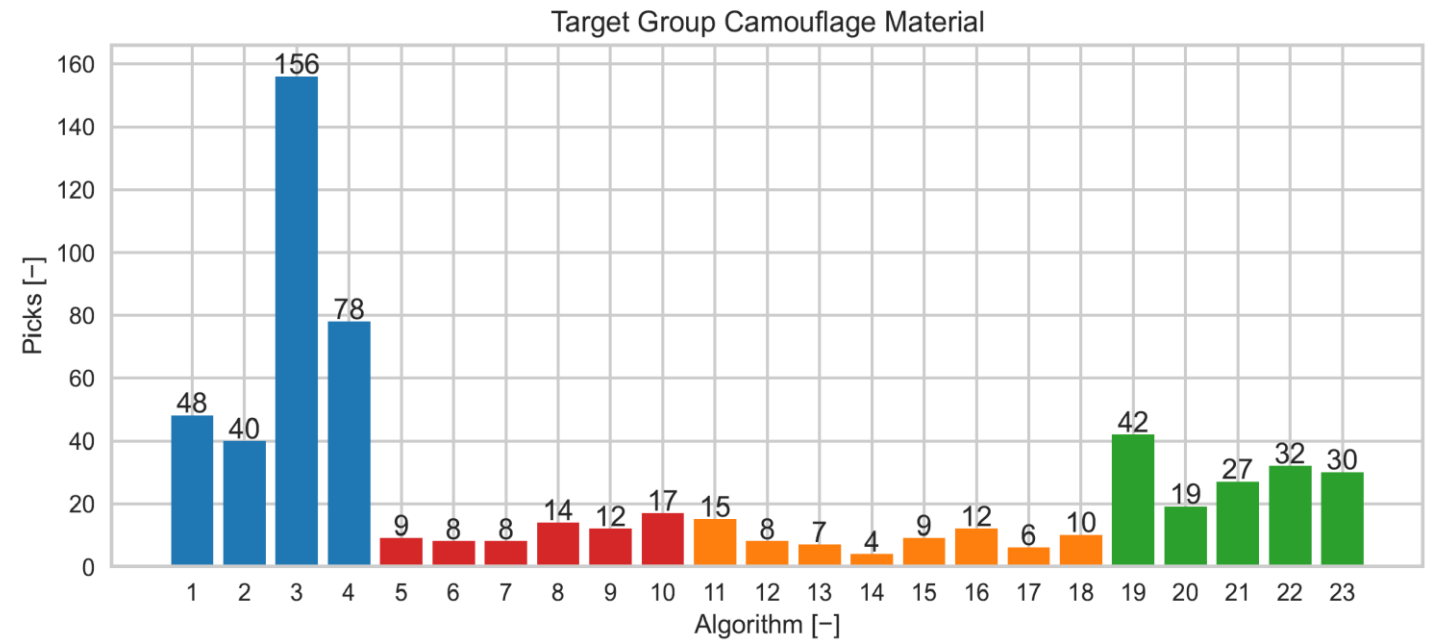
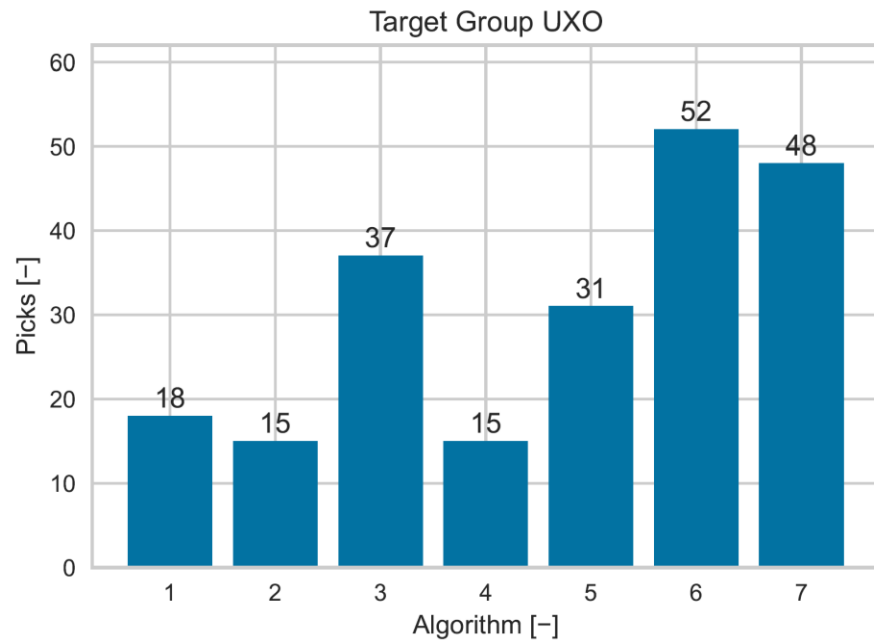






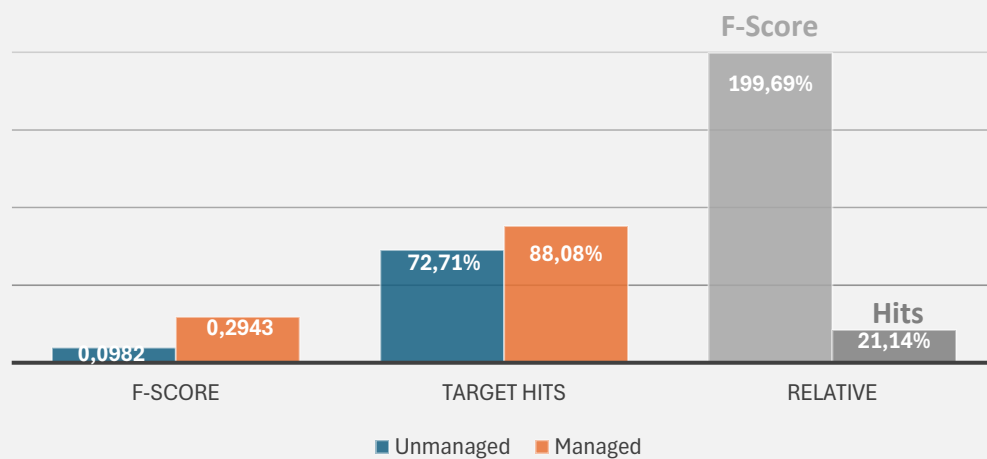






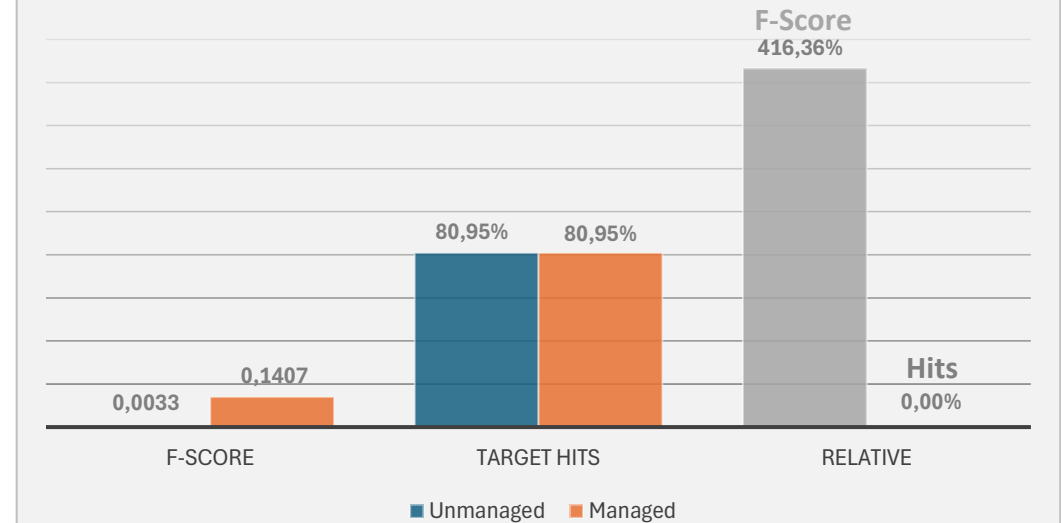
Camouflage

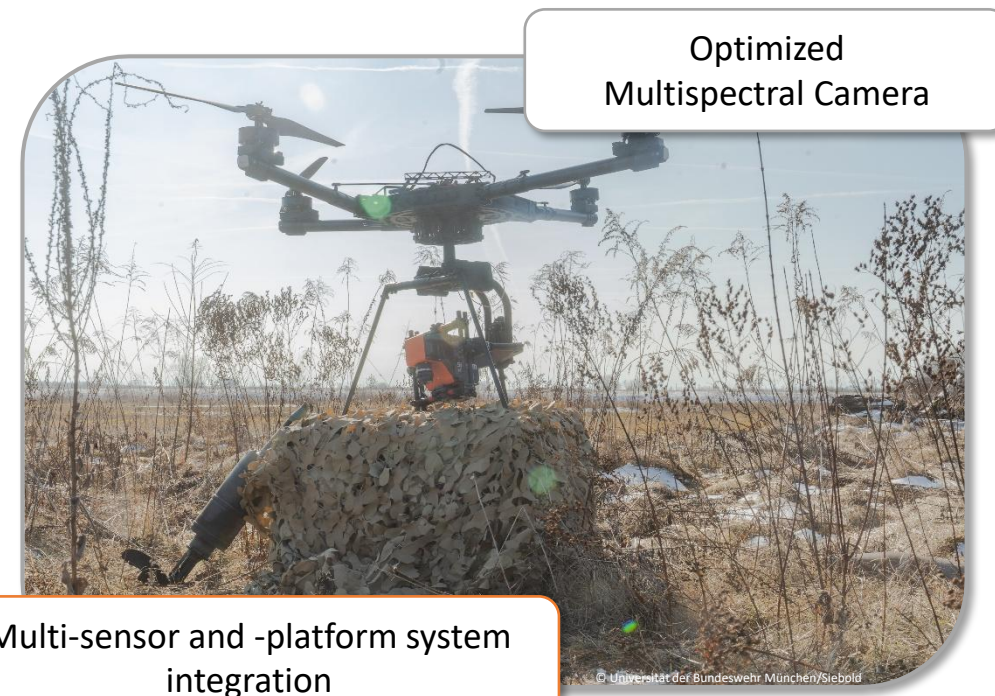
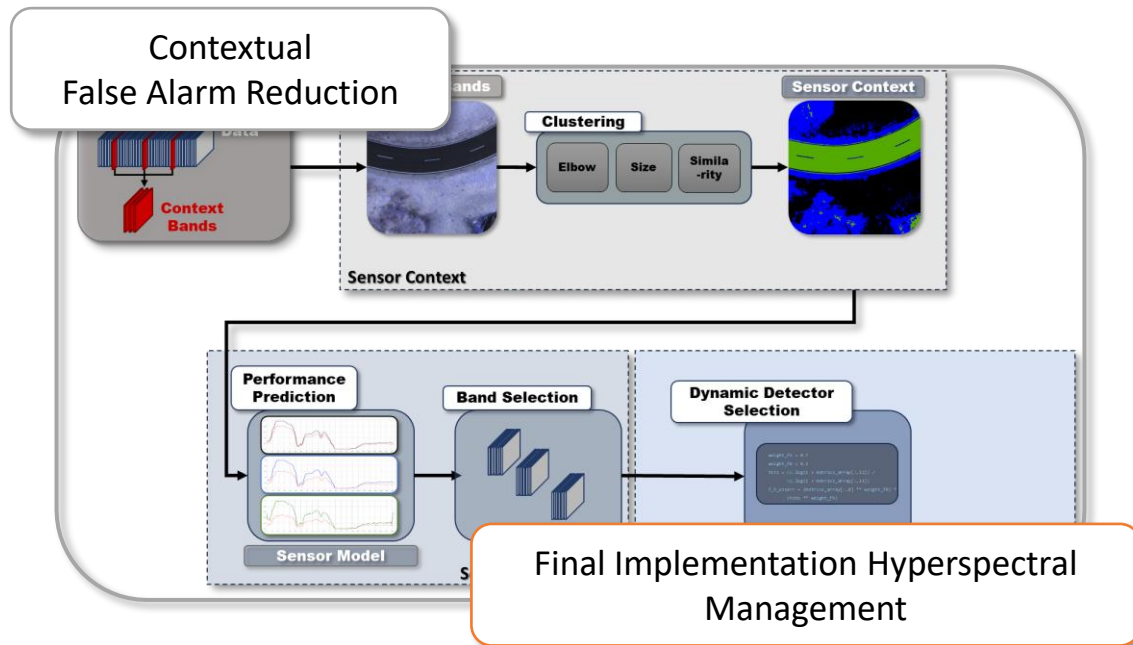
Detection Performances



UXO

Detection Performances





Multi-sensor and -platform system integration

Thank you for your attention!

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