ASPires

Advanced systems for prevention & early detection of forest fires

Images are from: https://unsplash.com

Multi Sensor Module for Fire Detection based on Cameras

Images are from: http://www.optixco.com/

Advanced systems for prevention & early detection of forest fires (ASPires)

NCITES

Multi Sensor Module for Fire Detection based on Cameras

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Mag. Plamen Kirov

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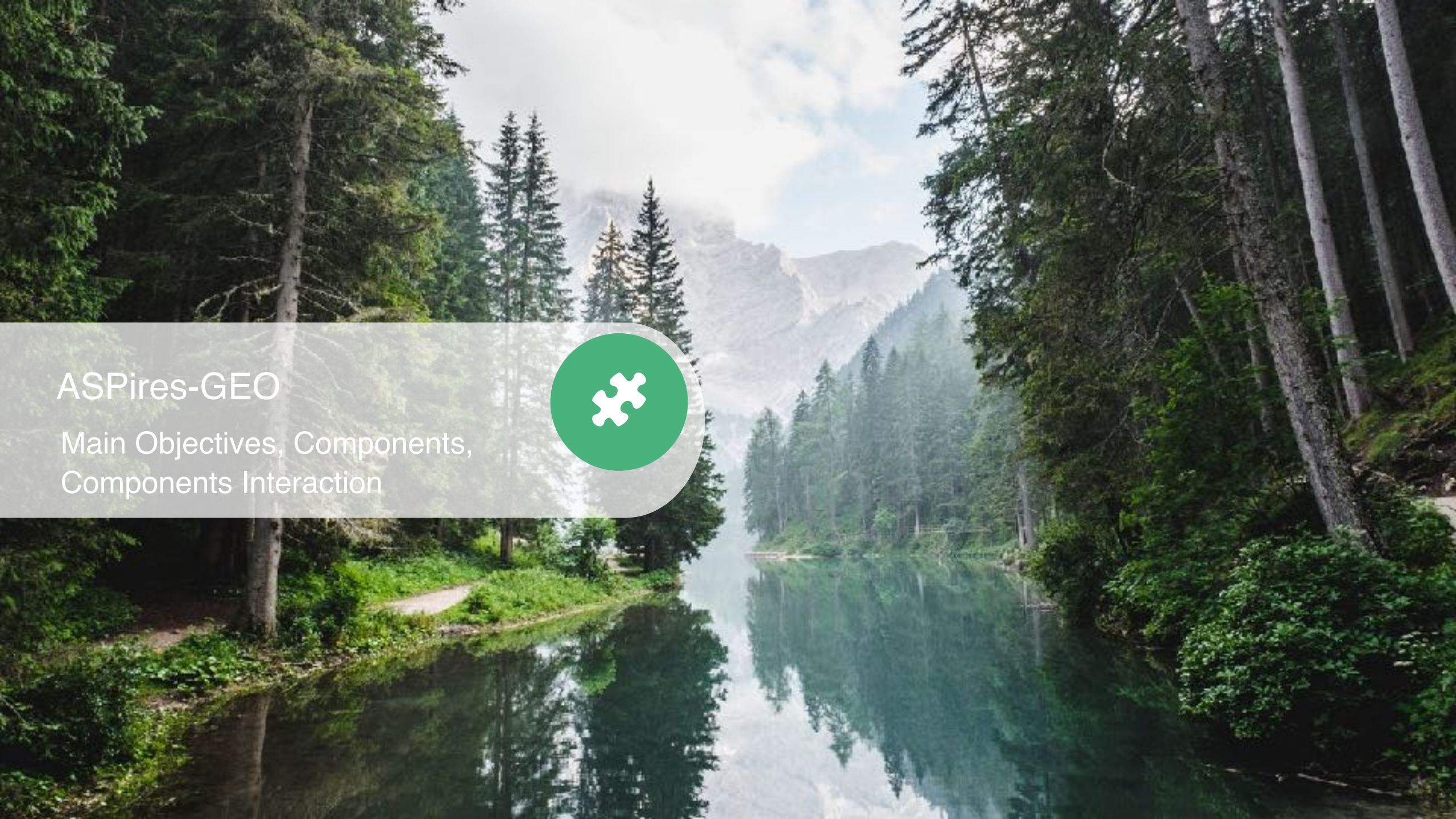


ASPires-GEO

Main Objectives, Components, Components Interaction

Main Objectives

ASPires-GEO is based on already available hardware and software components on the market.

The main objectives are:

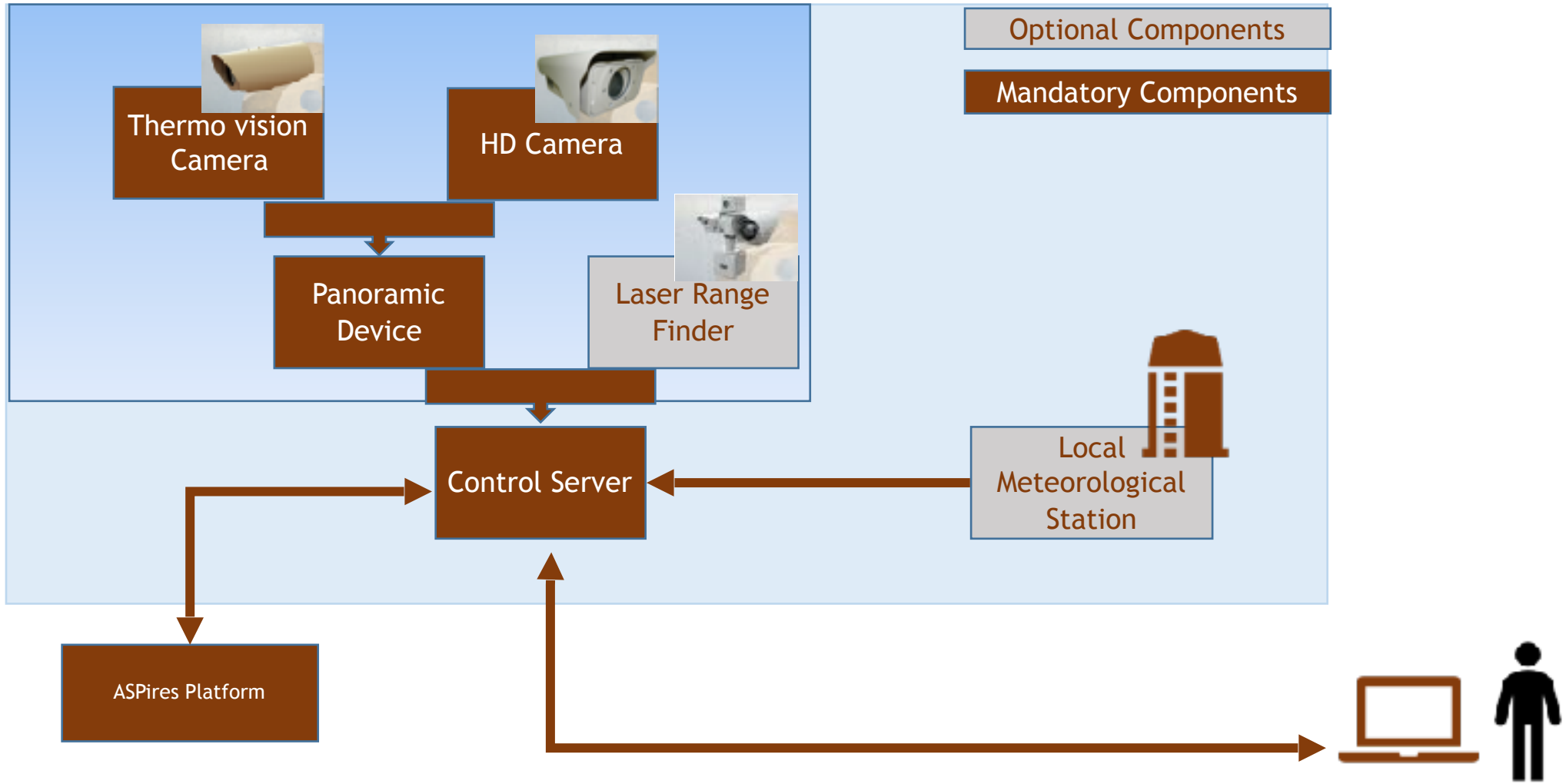
- to build a real model of a stationed monitoring system for early warning of forest fires
- the model will be used to prove the opportunities of the platform ASPires

Components

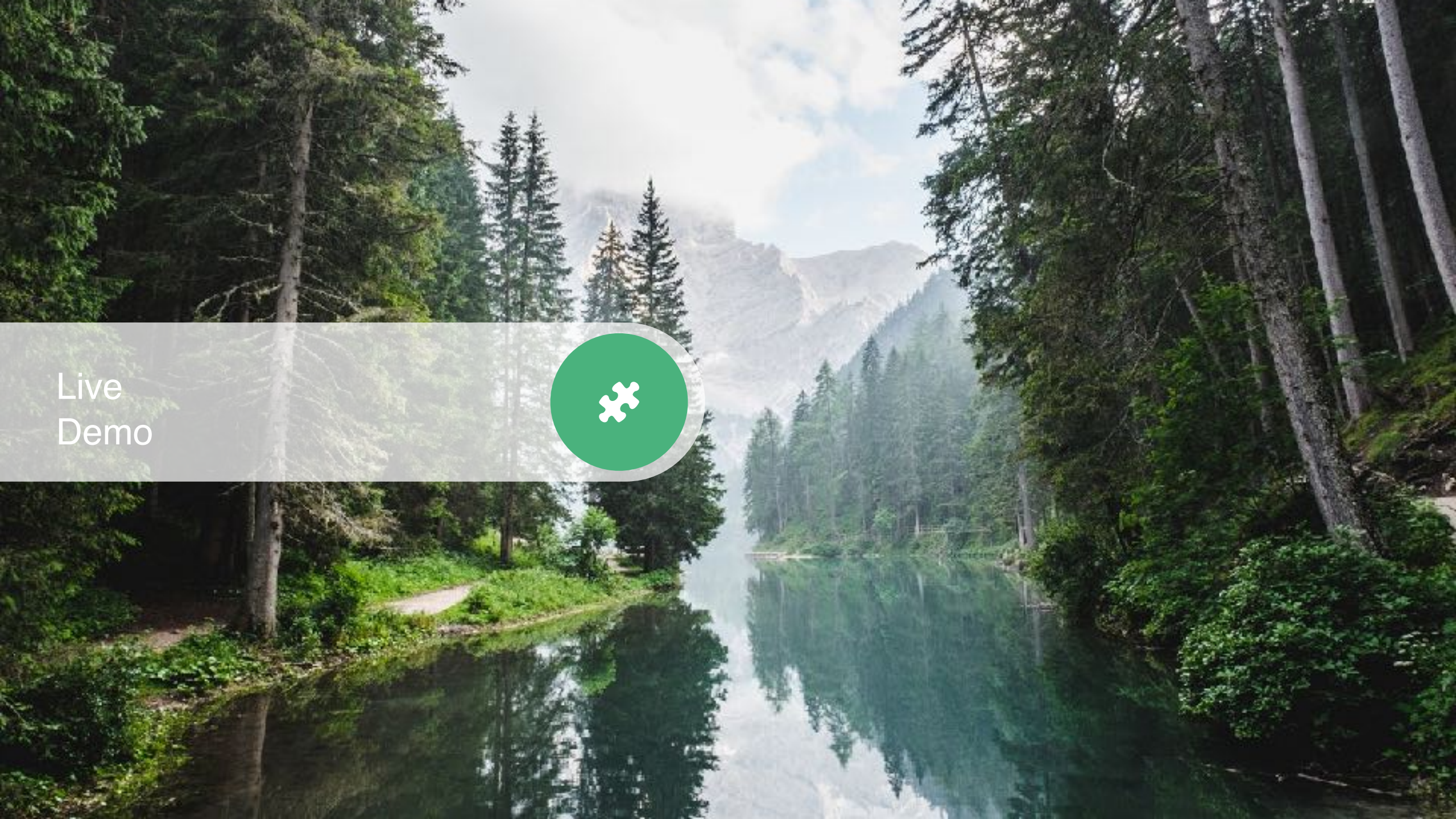
Studies have shown that the main components of such a module are:

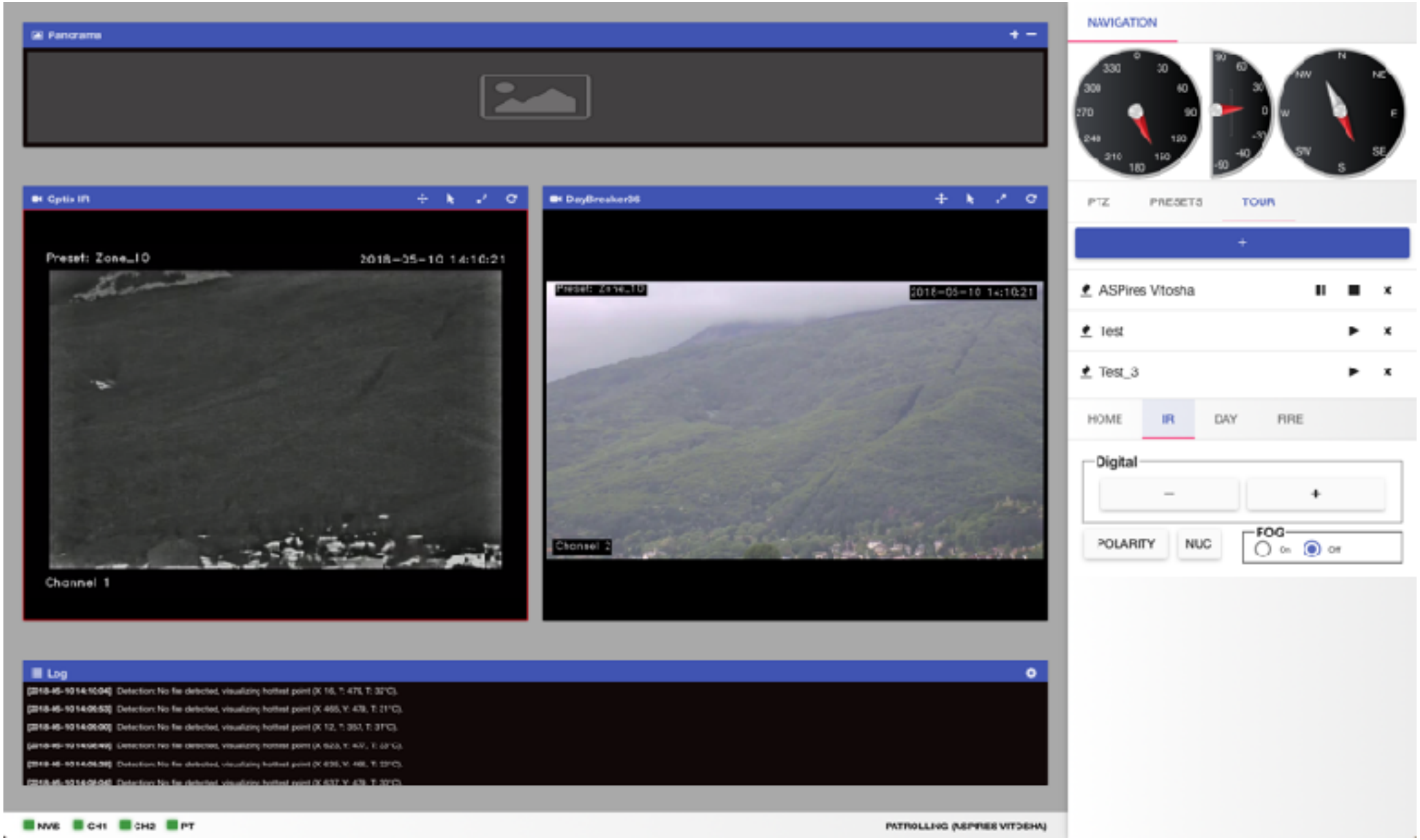
- HD CCD/CMOS and Thermographic cameras
- Pan/Tilt device
- Laser pointer
- Meteorology station
- Intelligent software for fire detection

Components Interaction



- The hardware and software equipment, produced by the Bulgarian company OPTIX, was hired for the experiment.
- The equipment is mounted on the roof of the business building of CANTEK, a Bulgarian company and a member of NCITES.
- https://aspires-geo.aspires.eu


Live
Demo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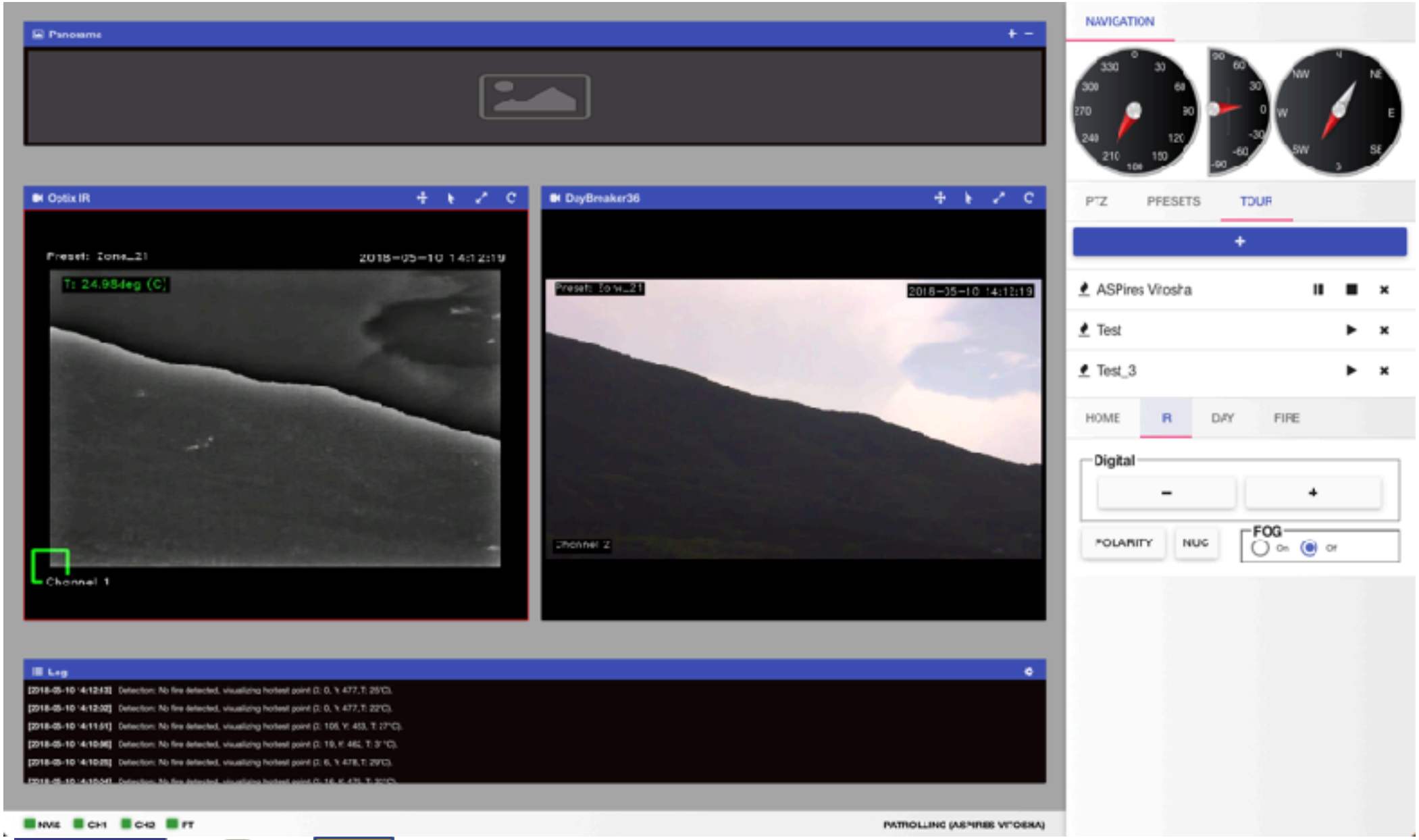
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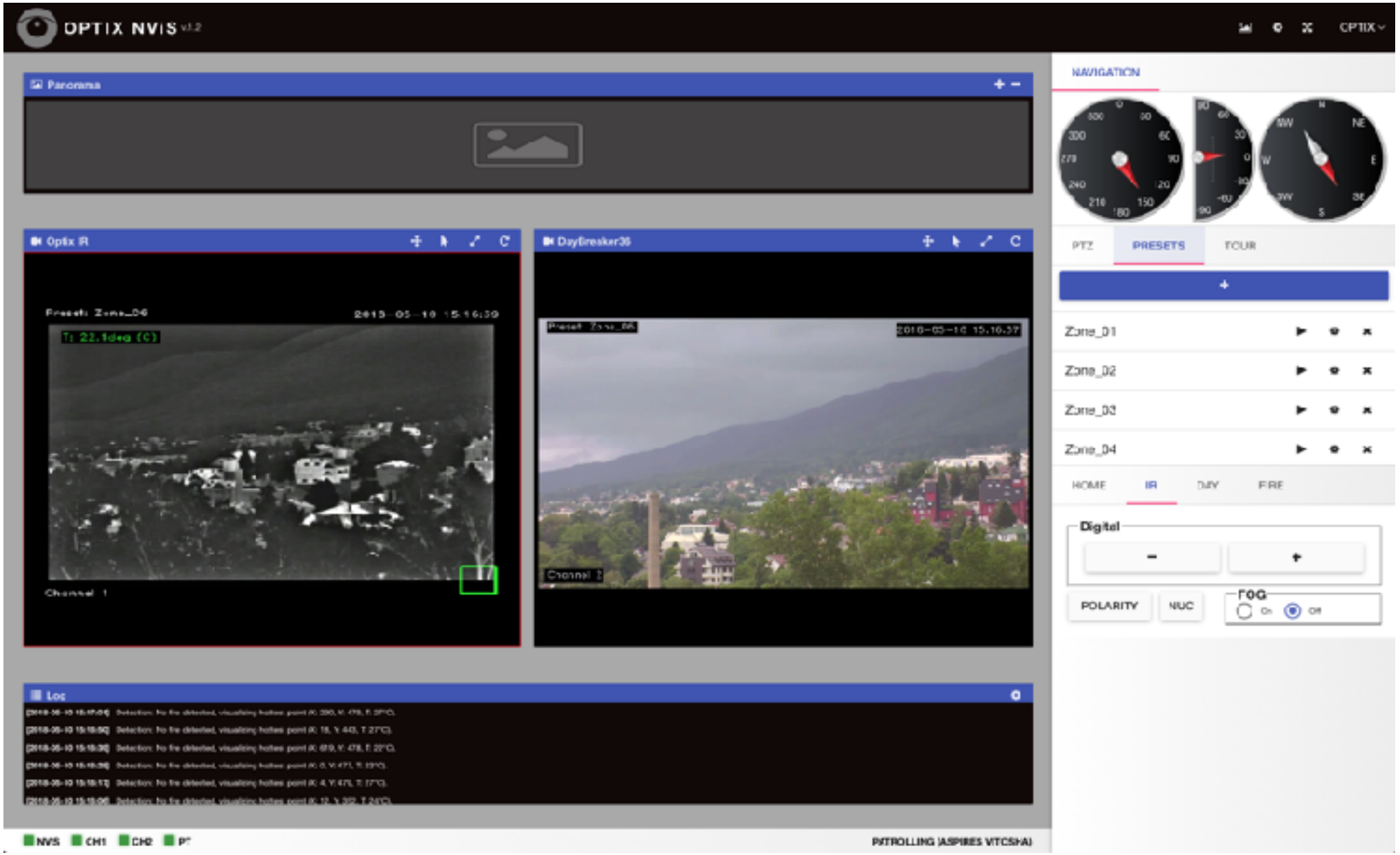
PATROLLING (ASPIRES VIROSHA)


OPTIX NVIS v1.2
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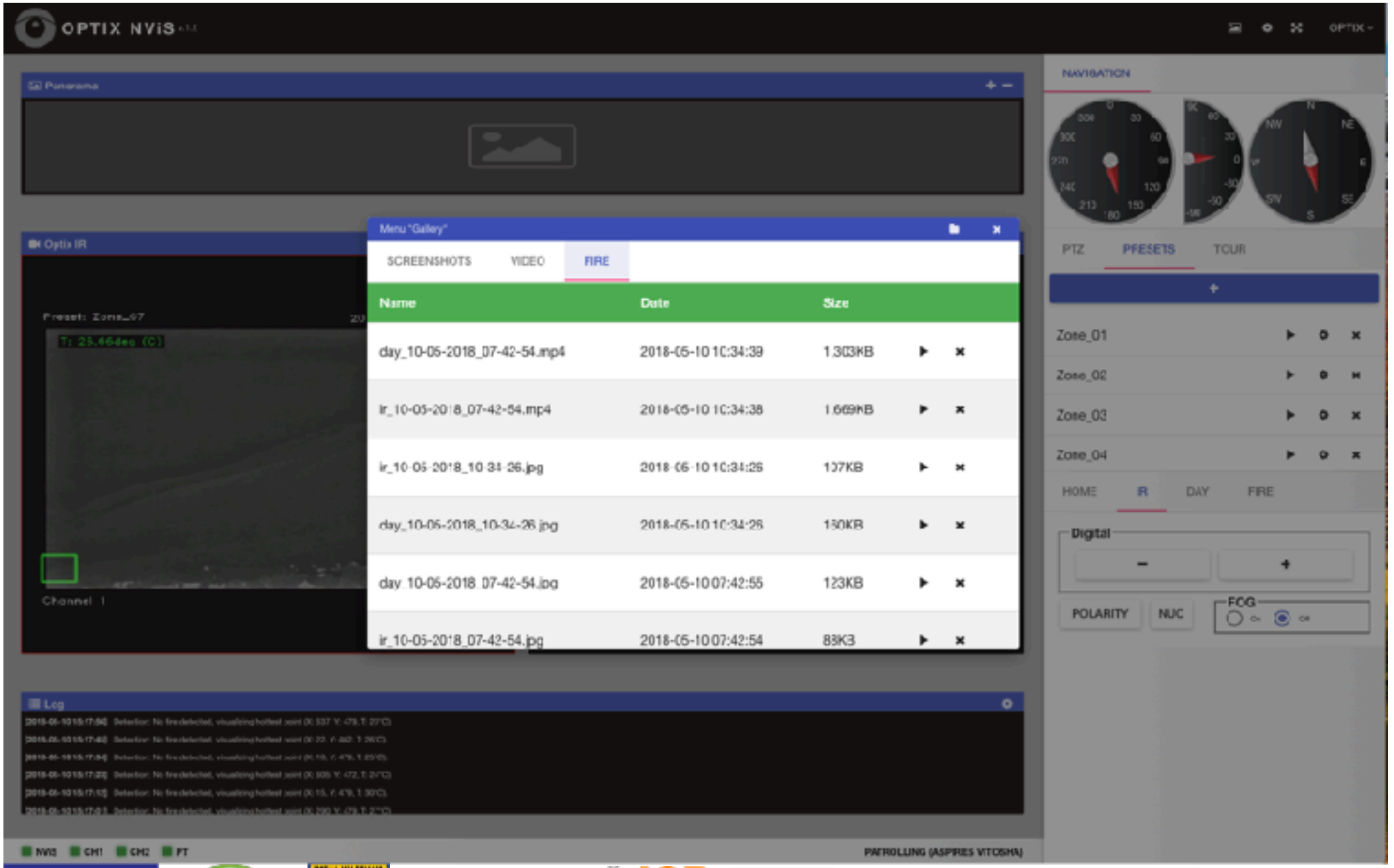
PATROLLING ASPIRES VTCSHA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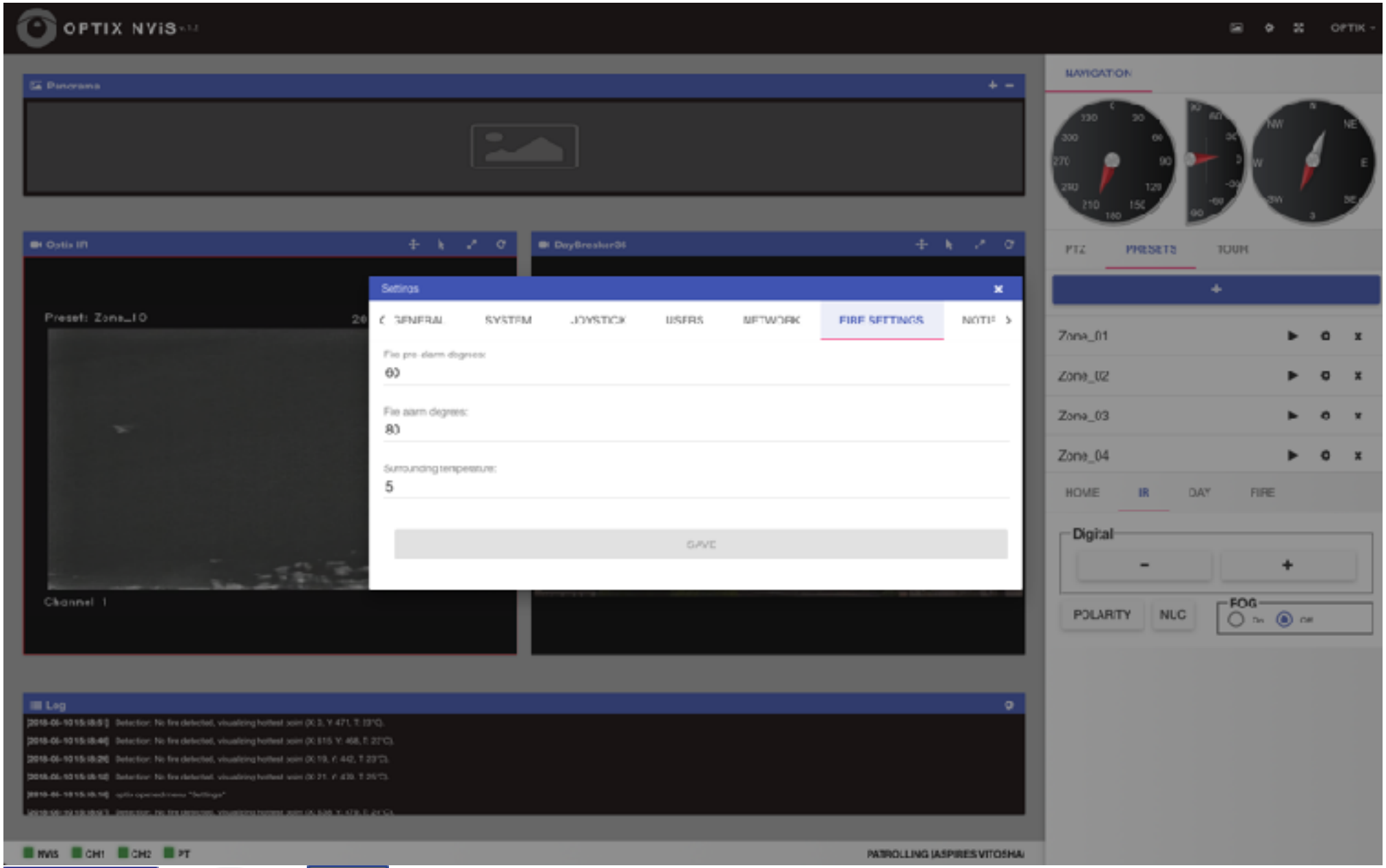
PATROLLING (ASPIRES VTOSHA)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Fire alarm degrees:
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Surrounding temperature:
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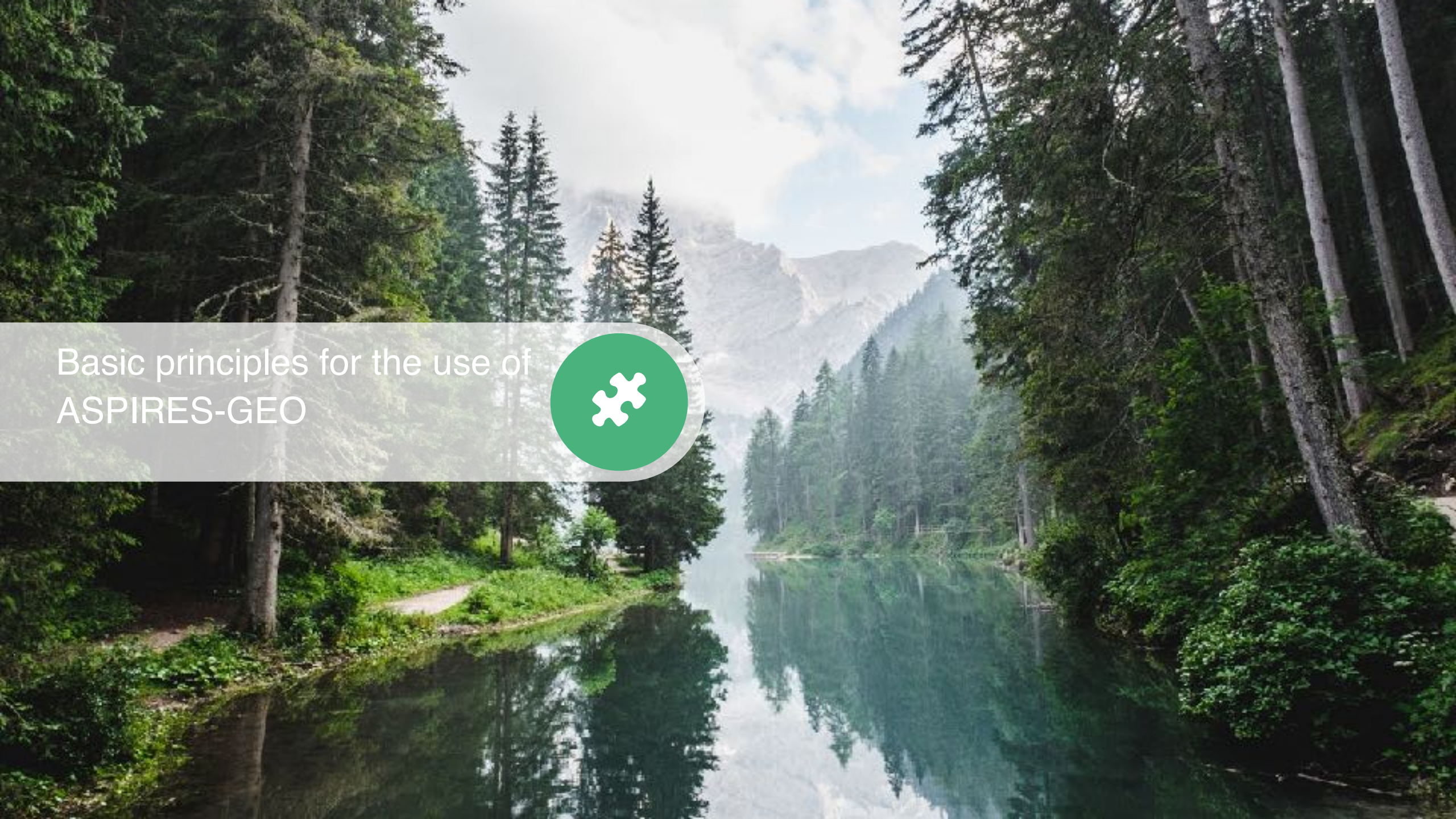
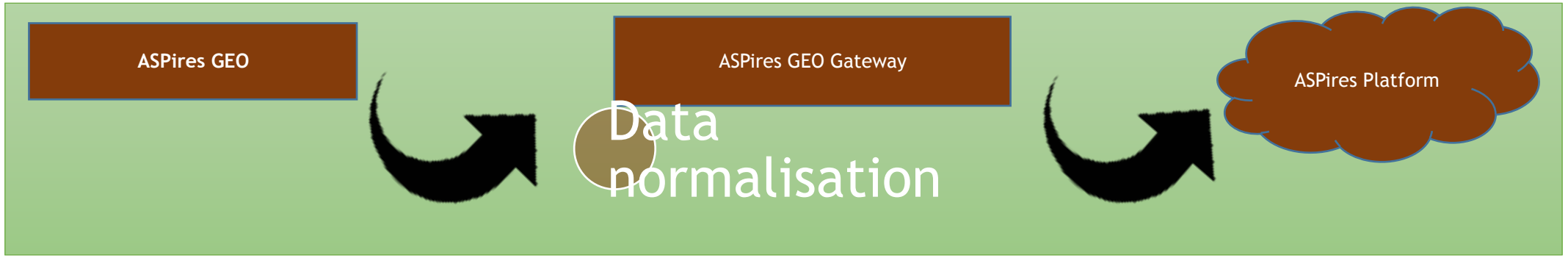
PATROLLING IASPIRES VITOSHA

Basic principles for the use of ASPIRES-GEO

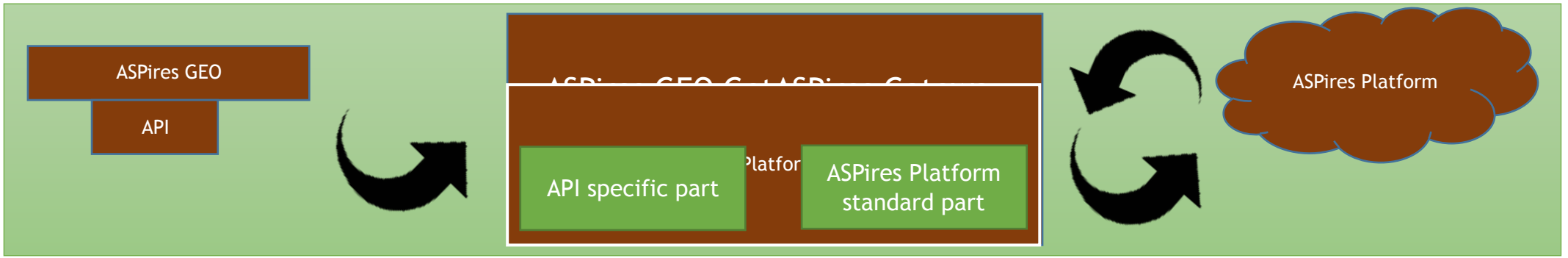


First Principle



- The communication between ASPires-GEO and the ASPires platform is implemented through an intermediary, called ASPires-GEO-Gateway.
- The Gateway concept allows the provision of normalised data to the ASPires platform.
- Data normalisation allows their universal use, both individually and in conjunction with data from other types of sensors.

Second Principle



- ASPires-GEO provides an API interface.
- The API interface is specific to each technical implementation of a monitoring module.
- Through this interface, the data received from the sensors is transmitted to ASPires-GEO-Gateway.
- ASPires-GEO-Gateway includes a specialised ASPires Platform driver.
- This driver is engineered for any existing platform.

ASPires

Thank You !