OPENSIGHT

EMPOWERING GEOSPATIAL
MISSION PERFORMANCE

FLYSIGHT

REAL-TIME ENHANCED SITUATIONAL AWARENESS,
MISSION PLANNING AND DEBRIEFING

FLYSIGHT

FlySight, an Italian SME, is a leading provider of advanced software solutions for Decision Support Systems (DSS) in Aerospace, Defense & Security, and Civil Infrastructure. FlySight specializes in leveraging cutting-edge technologies in Signal Processing and Big Data Analytics to develop state-of-the-art C4ISR systems (Command, Control, Communication, Computer, Intelligence, Surveillance, and Reconnaissance) rooted in Artificial Intelligence (AI) methodologies.

FlySight solutions offer geospatial situational awareness through adaptive data fusion algorithms, catering to avionics, naval, and underwater domains. They seamlessly integrate with existing architectures, adhering to STANAG and OGC standards, and are further enhanced by Deep Learning and Augmented Reality to create innovative ISTAR systems.

FlySight has expanded its global commercial network, ensuring worldwide coverage with headquarter offices in Italy, as well as dedicated sales representatives in both India and Malaysia.
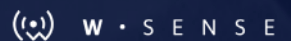
flysight.it

COMPLIANCE
All the processes in the Company are managed according to ISO 9001:2015 and AS/EN/JISQ 9100:2008 quality standards. For the more demanding Military and Space projects FlySight applies the rules and the quality requirements set down respectively by the MIL-STD-498 and by the ECSS standards.

PROUD OF WORKING WITH

MARINA MILITARE · ASI Agenzia Spaziale Italiana · VIGILI DEL FUOCO CORPO NAZIONALE · EUROPEAN DEFENCE AGENCY · CAPITANERIE DI PORTO GUARDIA COSTIERA · esa · POLITIET OSLO POLITIDISTRIKT

LEONARDO · THALES · HENSOLDT Detect and Protect. · SAFRAN · MBDA MISSILE SYSTEMS

DRASS · enel · Terna · TecNav systems · TIM · GRAALtech Robotics. from idea to the sea.

Helica · GUARDIA di FINANZA · entsoe · MOVYON Tech the Future · RINA · W·SENSE

OPENSIGHT

FlySight has introduced OPENSIGHT® to meet evolving mission situation awareness requirements, even for the most critical operations, while keeping workload manageable and providing decisive decision-making support.

OPENSIGHT is a versatile, multi-domain, multi-platform and modular solution with an open-code architecture. It is a cost-effective system that excels in both on-board and on-ground applications. It exploits real-world information within a synthetic environment, creating a Common Operating Picture (COP) for various scenarios, seamlessly managing georeferenced data, and offering innovative geospatial information management solutions.

Designed for easy integration into existing target system architectures according to STANAG guidelines, OPENSIGHT is offered as a Software Development Kit (SDK) that can be extended with the Enhanced Reality System and various plugins. Additionally, the Automatic Target Recognition tool is available as a separate module for specific targeting activities. Turnkey solutions, ready for installation, address specific operational needs in defined mission scenarios.

Space
Services

Integrated Airborne and
Inform Capabilities

Land Support
System

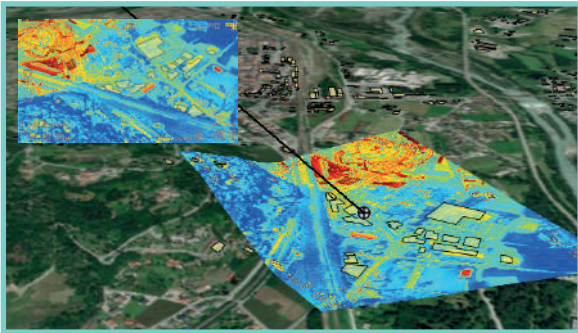Naval Maritime and
Underwater Awareness

MULTI-DOMAIN INTEGRATION

Decision Advantage and Integrated Action
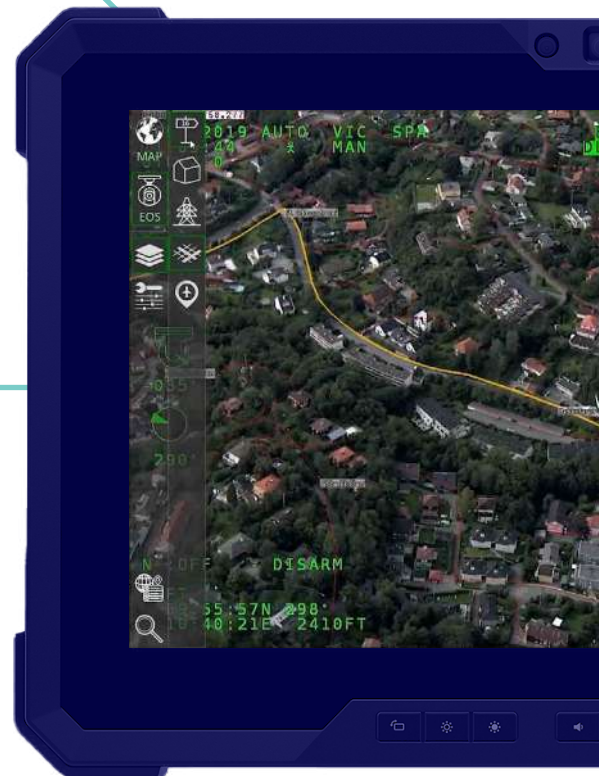
SPACE   AIR   LAND   MARITIME

ADVANCED VISUALIZATION

Layers information from multiple warfighting function onto 3D map display and Augmented Reality views

INTEGRATION CAPABILITIES

Enables seamless integration of new solutions and brings fundamental capabilities to Legacy Command and Control environments
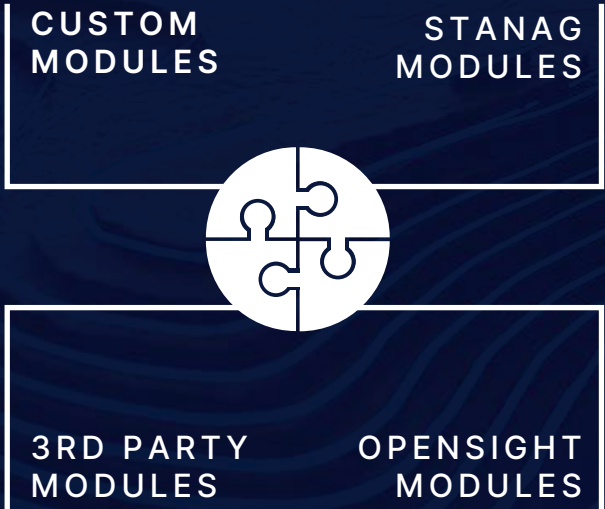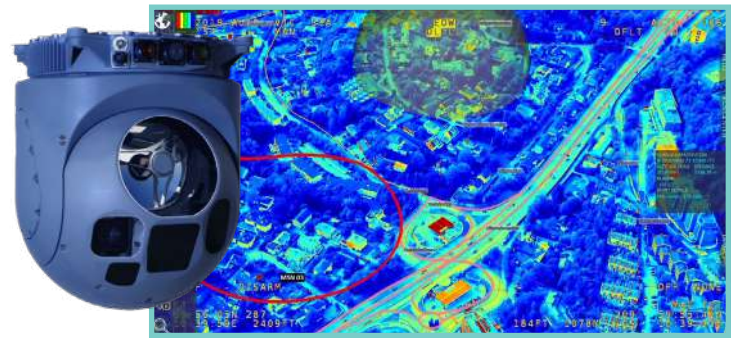
MULTI-PLATFORM

Independent of HW and OS

Windows 11 Windows 10

Ubuntu debian

CentOS

OPEN APPROACH

Built-in interoperability features

CUSTOM MODULES

STANAG MODULES

3RD PARTY MODULES

OPENSIGHT MODULES

REAL-TIME PROCESSING
Processes data from heterogeneous sensors in real-time, including Electro-Optical, Infrared, Hyperspectral, Radar, LIDAR, and SONAR

COLLABORATIVE DECISION-MAKING
Facilitates information and command sharing, ensuring all involved parties a real-time, shared view of scenarios

OPENSIGHT

SOFTWARE DEVELOPMENT KIT

OPENSIGHT is a multi-platform PED (Processing, Exploitation, and Dissemination) system created to provide the best support in decision-making.

The system is offered in the form of a Software Development Kit, providing specific applications while maintaining compatibility with both internal and external systems. It is a comprehensive software suite designed to empower developers to create customized solutions for a variety of theaters and types of Defence and Security operations.

SDK can be offered for different hardware and software platforms, and its modules can be exported as stand-alone applications or libraries. The result is a solution that is intuitive, easy to use, and provides users with an adaptable operating system that integrates advanced capabilities into existing hardware they are familiar with.

Software Development Kit can be quickly deployed and is regularly updated with new customizable features as soon as they are released.
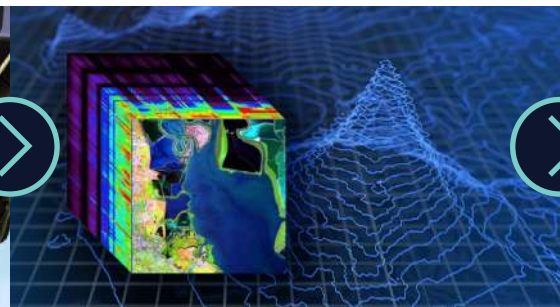
HOW IT WORKS

From Data to Optimal Decision

COLLECT DATA

Data is raw and does not make much sense on its own. OPENSIGHT exploits artificial intelligence and advanced adaptive data fusion algorithms to effectively process raw data from diverse sensors, maximizing its potential to provide valuable intelligence insights

PROCESS INFORMATION

Information is the contextualized data, primed for analysis and analytical methods. OPENSIGHT processes information in real time, guaranteed by STANAG and OCG in already existing architectures, ensuring data is analyzed and optimized for later-stage recognition and strategic frameworks

The Software Development Kit (SDK) also provides the following additional benefits:

Facilitates Development of 3D GIS Applications
Developers can utilize the SDK to build 3D Geographical Information System (GIS) applications, allowing them to create advanced mapping and visualization tools that leverage three-dimensional spatial data. This capability enhances the representation and analysis of geospatial information, offering a more comprehensive view of the operational environment.

Comprehensive Solution with Modular Libraries
The SDK encompasses all the essential libraries required to construct advanced moving-map systems that can display various types of data. This inclusive package streamlines the development process by providing developers with the foundational components necessary for creating sophisticated and dynamic mapping applications.

Standards and Protocols INTEROPERABILITY
The SDK includes support for an extensive range of data standards and technology protocol integrations, such as MIL2525, ARINC424, DVOF, DAFIF, DDS, MQTT, ARINC661, METAF, POSTGRESQL, AIS, AXNES, LIFESEEKER, and ARTEMIS.

Software Development Kit can be extended with the Enhanced Reality System and other plugin.

OPTIMIZES KNOWLEDGE

Knowledge derives from accumulated information, evolving over time. Through advanced machine learning, OPENSIGHT achieves seamless integration of AI and Augmented Reality into diverse operating systems, fostering a synergistic bond for enhanced operator capabilities.

ENHANCE AWARENESS

Awareness evolves from information and acquiring knowledge. From inception, OPENSIGHT is open to challenges, serving as an independent platform ready for seamless integration to enhance operator decision-making and cognitive capabilities.

EXECUTE DECISION

The decision process supported by OPENSIGHT integrates data collection, information analysis, quality assurance, evolving knowledge, and wisdom. User-friendly interfaces provide real-time awareness for optimal real-time action in all missions.

EMPOWERING SITUATIONAL AWARENESS WITH AUGMENTED REALITY AND ADVANCED VIDEO TECH

OPENSIGHT

ENHANCED REALITY SYSTEM

Enabling cutting-edge augmented reality with advanced video acquisition and enhancement.

This includes integrating ARS, video processing, decoding, encoding, restreaming, and all video enhancement features, while allowing for the integration of augmented and mixed reality into existing legacy systems.

AUGMENTED REALITY

FOG SUPPRESSION

IMAGE ENHANCEMENT

HISTOGRAM EQUALIZATION

FALSE COLOURS

SUPER RESOLUTION

- The user can define the desired number of map charts within the dedicated section
- The system manages the maps so that they are also loaded into video sources, allowing the map to be overlaid on the video. By managing the opacity of the cartography, users can compare the video with the map
- Define personalized points of interest, such as real-time representations of streets, buildings, cars, or other specific targets, and view them simultaneously
- Deactivate and reactivate, as needed during the operation, various predefined instances and targets
- Continuous visibility of available functions for specific loaded sources, displayed in the user-friendly interface with dynamic clustering
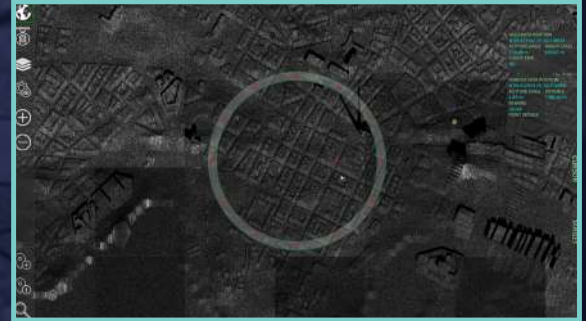
PLUGINS

NATO STANAG 4607
Additional module specifically designed to decode Ground Moving Target Indicator (GMTI) data.

NATO STANAG 7023
Additional module specifically designed to decode NATO images.

By incorporating the STANAG 4607 plugin, you can decode and transmit GMTI data from radar sensor to the OPENSIGHT system, thereby enhancing Situation Awareness and Operational Efficiency.

By incorporating the STANG 7023 plugin, you can decode NATO images, ensuring interoperability and effective data sharing among NATO member countries.

NATO STANAG 4586
Additional Module specifically designed for OPENSIGHT integrating with Unmanned Aerial Vehicle (UAVs), enabling reliable and efficient communication and control.

By incorporating the STANAG 4586 plugin, you can achieve superior video encoding and transmission capabilities, essential for advanced UAV operations.

NDI
Additional Module specifically designed to Encode high-resolution, low-latency video with metadata.

By incorporating the NDI plugin, you can achieve seamless encoding of high-resolution, low-latency video with metadata, ensuring superior video quality and performance while enhancing data integration and operational efficiency.

A PORTFOLIO TO SUPPORT ALL YOUR MISSION

OPENSIGHT

MISSION CONSOLE

Key solution designed for Airborne Platform, leveraging onboard equipment data within an Enhanced Reality setting to optimize Situational Awareness on tactical Display.

MOVING MAP AND AR CAPABILITIES

TAILORED FOR AVIONIC PAYLOAD OPERATORS
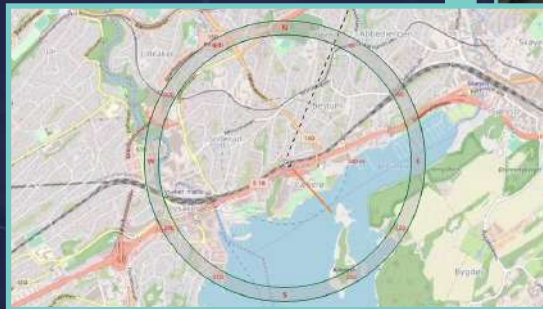
Real-time Video processing and georeferencing

⊕ Efficiency of Mission Execution

Full touchscreen HMI

⊕ Quick and effective interaction

MOVING MAP

- Raster and vector layer data
- Real-time image-over-map
- Search patterns and FOV heatmap
- Direct and inverse geocoding
- MapCreator tool for maps creation
- A424 native compliance

3D RENDERING ENGINE

Augmented Reality 3D engine for real-time vector overlay superimposition (works with custom user data)

GEODATABASE FOR DIRECT AND INVERSE GEOCODING

Geodatabase capabilities for precise and efficient geocoding, both direct and inverse.

OPEN CODE

The real-time Augmented Reality engine with Artificial Intelligence support for airborne payload operators is even faster to integrate into any mission system, thanks to the OPEN CODE provided to SDK users.

The ideal solution to start building on an already established platform, customizing, updating, and improving it even more easily and quickly.

ENHANCED REALITY

- Direct frame grabber interface/ custom plugins for proprietary metadata
- 1080FPS @ 30 FPS scene georeferencing
- Image enhancement modules
- 2D/3D augmented reality real-time engine
- Raster/Video blending

EXTENSIVE ADVANCED SUPPORT FOR AVIONIC CHARTS

3D Moving map with multiple layers support and real-time video-over-map projection

IMAGE PROCESSING FEATURES

Video processing algorithms for image enhancement (equalization, expansion, saturation, dehazing, real-time mosaicing, super resolution, hyperspectral sensor data simulation)

OPENSIGHT

ANALYST CONSOLE

On-ground analysis environment specifically designed for Post-processing and mission debriefing & Real-time supervision of multiple missions.

ALL-IN-ONE ENHANCED REALITY ANALYST MISSION MANAGEMENT TOOLS
TAILORED FOR POST-PROCESSING, DEBRIEFING, REAL-TIME SUPERVISION OF MULTI-MISSION

Access All Levels of Information in a Supervised Environment for Multi-Operation Insights

➕ Efficiency in coordinating real-time missions from the ground and debriefing

Real time acquisition of multiple high resolution NATO-STANAG 4609 streams

➕ Simple and capable record management with multiple criteria

Plan your mission in a supervised environment and identify your targets
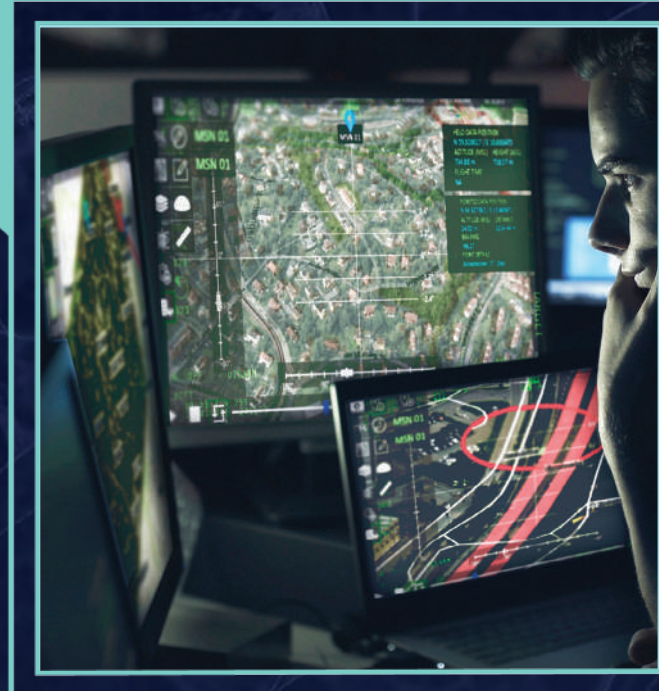
Fly the planned mission and exploit augmented reality capabilities to achieve your goals

Coordinate all the active missions more efficiently, supervising from the ground

Debrief the missions, archive the acquired data and generate automatic reports

OPENSIGHT

UNDERWATER OPTRONIC MAST CONSOLE

Turnkey solution for electro-optical data processing, integrating video processing with Augmented Reality capabilities and Artificial Intelligence support for superior situational awareness. It enhances video quality, merges sensor information, reduces crew workload through Automatic Target Recognition, and utilizes post-processing tools for advanced intelligence capabilities.

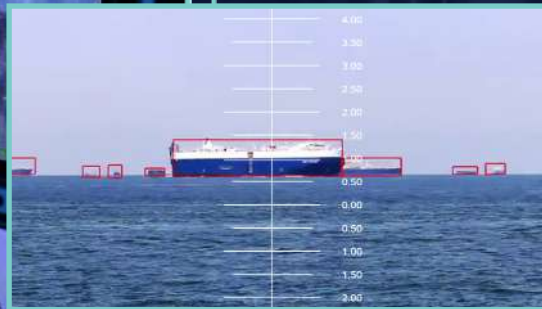### VIDEO PROCESSING CONSOLE WITH AR AND AI CAPABILITIES
TAILORED FOR UNDERWATER AND MARITIME OPERATIONS

Advanced image processing tools and multi-sensor information fusion (visible, LWIR, SWIR, IR)

⊕ Improved situational awareness

⊕ Enhancing the image quality

Advanced post-processing tools

⊕ Post-processed mission data to gather new intelligence

SITUATIONAL AWARENESS BUILT-IN FUNCTIONALITIES

- Auto targeting
- Automatic aircraft warning
- Automatic target detection & classification
- Go-deep range alerting

VISUALIZE THE OPERATIONAL SCENARIO AND FIND MEASUREMENT

- Panoramic representation
- 360° panoramic mosaic (quick-look scan)
- Image mosaicking
- 3D reconstruction
- Digital stadimeter

OPENSIGHT

AUTOMATIC TARGET RECOGNITION

The Automatic Target Recognition system represents a versatile and powerful tool for modern military and civil surveillance operations, combining advanced AI capabilities with flexible deployment options to meet the demands of dynamic operational environments. By leveraging state-of-the-art deep learning technologies, the ATR system maximizes targeting performance, ensuring precise and efficient operations.

Configurable Open Architecture

➕ Stand-alone or Integrated: The ATR can function independently or as an integrated component of the OPENSIGHT Mission Console, offering operational flexibility.

➕ Third-Party Integration: Its open architecture allows seamless incorporation of third-party or proprietary AI networks, ensuring extensive compatibility and adaptability to evolving operational needs.

Advanced AI Capabilities

➕ TensorRT Inference Engine: Optimizes performance through advanced functionalities of the TensorRT inference engine, adhering to the ONNX standard for broad compatibility.

➕ Real-time Processing: Enables real-time inference utilizing GPU acceleration, ensuring rapid and accurate target recognition.

Standards Compliance

➕ Ensures adherence to MISB ST-0903 (VMTI) and seamless integration into STANAG 4609 streams, enhancing interoperability with legacy systems.

## ELEVATE SITUATIONAL AWARENESS WITH ATR LINKED TO OPENSIGHT MISSION CONSOLE

OUTPUT DISPLAY

The ATR's output is displayed within the OPENSIGHT Mission Console, providing operators with both video feeds and mapped georeferenced detections.

INFORMED DECISION-MAKING

This comprehensive operational picture facilitates informed decision-making, improving mission effectiveness and safety.
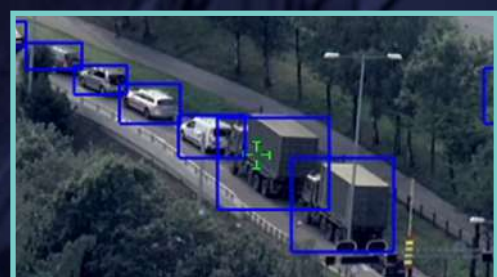
EMPOWERING EVERY PLATFORM
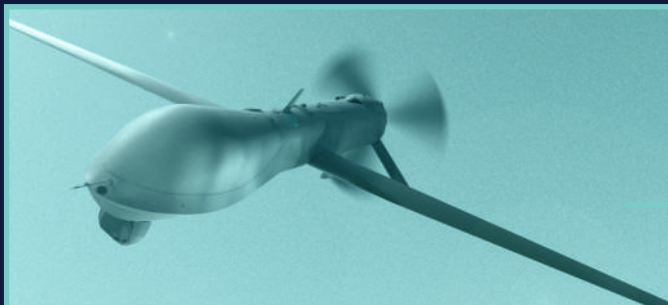# ELEVATING EVERY MISSION

LAW
ENFORCEMENT

INTELLIGENCE,
SURVELLIANCE &
RECONNAINASCE
(ISR)

SEARCH & RESCUE
(SAR)

DISASTER
RELIEF

FIREFIGHTING

MILITARY

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