

AI4  
copernicus

# Security

Meet the AI4Copernicus Projects  
resulted from the Open Calls (by domain)





## SR4C3

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Company(ies): SISTEMA GmbH , CMC Consulting

Country(ies): Austria, Belgium

Industry: Environmental Services

**Vision:** Using capabilities of EO and ML to support areas difficult to access and gives preliminary analysis of crisis.

**Mission:** To provide spatial resolution enhancement to support precise analysis in a crisis context

**Values:** Excellence, innovation, responsibility

### Achievements:

- AI4Copernicus Open Call Winner #1
- IGARSS etc

## Problem

Identification of the impact of conflicts on environment. Development and use of super resolution for such activity.

## Solution

Single Image Super Resolution of Sentinel-2 images (NRGB composite). Urban monitoring / abandon crop detection on top of it.

## AI Service(s)

- Sentinel-2 spatial resolution enhancement
  - NRGB -> 10m to 3m spatial resolution
- Sentinel-1 / Sentinel-2 fusion for vegetation monitoring (prototype)

## Innovative Aspects

- Spatial resolution enhancement with radiometric consistency
- Applications built on top of AI output

## Target Market(s)

- Climate information services market sector
- Security Services and Earth Observation data services sectors

## Competitors

- Other geospatial data services companies

## Business Model

SISTEMA is currently represented by the three following business models (or a combination of them):

- B2B, B2D and B2G

## Targets

- Extend the target application of the AI components and SISTEMA knowledge in the data services by addressing those market sectors which still show growing opportunities for Big Data Analytics with imagery, such as the Security sector

## Contact us!

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## VALENS

**Companies:**  
VAKE, Leileur BV, NSAS

**Countries:**  
Norway, Belgium

**Industry:** Maritime  
Situational Awareness

**Vision:** To be the global leader in MSA, empowering stakeholders with real-time insights for safer and more secure oceans

**Values:** Trust, Collaboration and Accountability

**Mission:** Advancing maritime safety through comprehensive MSA solutions.

### Achievements:

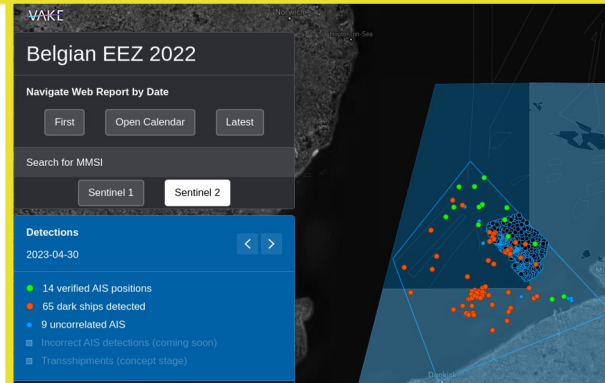
- AI4Copernicus Open Call #1 Winner
- Parsec Open Call #2 Winner

## Problem

Illegal ship-activity at sea goes undetected, posing a threat to security and the environment.

## AI Service(s)

VAKE Pathfinder  
VAKE Overwatch  
Data Fusion Platform



## Solution

By monitoring selected areas with Earth Observation Satellites, non-compliant ships can be found, leading to dispatching of SAR planes for identification and followup

## Innovative Aspects

- Synergies with ship monitoring fusing RF, Sentinel 1&2, inflight data and AIS
- Improved ML models and automatic pipeline analyzing images when available in Creodias

## Target Market(s)

Coast Guards, Shipping, Offshore Asset Owners, Ship Insurance, NGOs

## Competitors

- Legacy AIS monitoring
- Other Downstream analytics companies

## Business Model

B2B/B2G - Subscription based access to APIs and web interfaces

## Targets

- Multiple customers on recurring subscription
- Scalable sales process Leads->Customers
- Matured End-user products with PMF

## Contact us!

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## EO4NOWCAST EO4NOWCAST

Company: Darts Engineering (Artys)

Country: Italy

Industry: Environmental monitoring

**Vision:** To be a protection of society from climate change

**Mission:** To provide solutions for hydrogeological risk management

**Values:** Innovation, excellence, impact, sustainability, flexibility

### Achievements:

- AI4Copernicus Open Call Winner #
- Seal of Excellence/Premio Speciale Cisco/ Solar Impulse Efficient Solution

### Problem

The frequency and severity of extreme weather events are increasing due to climate change, efficient nowcasting solutions are needed to improve the physical safety of people and assets

### Solution

A Decision Support System (DSS), built upon the synergy between EO and ground-based rainfall monitoring products, that elaborates reliable and timely information on the incoming hydrogeological conditions.

### AI Service(s)

- Service 1: to elaborate daily updated, or Near Real-Time, Soil Moisture Index maps (NRT SMI)
- Service 2: to elaborate 5-min updated waterway level predictions basing on NRT SMI and rainfall observations

### Innovative Aspects

High resolution and frequently updated soil moisture maps from EO for multiple propose  
Pluvial flood accurate short-term predictions  
Alert system for fast response

### Target Market(s)

Infrastructure manager, decision makers of municipalities and Civil Protection agencies, system integrators and multi-service providers for public administrations

### Competitors

Companies that provide weather forecasting, environmental monitoring services and decision support systems

### Business Model

- B2B
- Recurrent fee for the EO4NOWCAST service
- Only OPEX

### Targets

By 2028, we aim at covering the 4% of the addressable market at the National scale and 1.6% of the addressable market at the EU scale (9.4M EUR revenues).

### Contact us!

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