



Advanced Computer Systems ACS SpA

ILHAM Educational Game (Task 3.3)

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At a glance

Software & System Integration company, founded in 1979

Sites: Rome Matera and Naples (Italy), Darmstadt (Germany)

~10M€ revenues (80% projects, 20% services), ~80 Employees

- Highly specialized technical and managerial profiles
(systems engineering, algorithms & software development, project mgmt)

3 main lines: ACS SPACE, ACS ENVIRONMENT, ACS STUDIO

Focused on Earth Observation - Ground Segment technologies

- As a «Payload Data Ground Segment» specialist, ACS develops ground stations and subsystems/components for satellite data acquisition, dissemination, processing

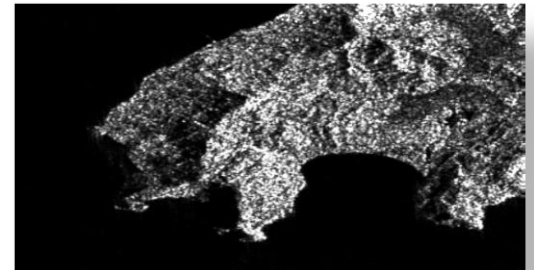
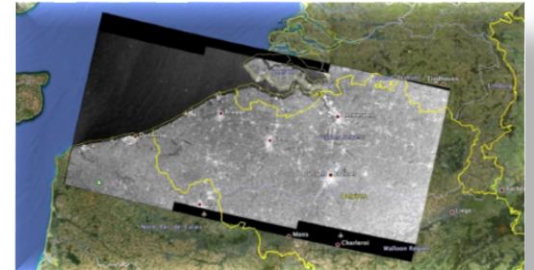
Also active in data processing and application development

- Geospatial data processing / GIS multi-source for monitoring, planning, management of environmental risks and infrastructures

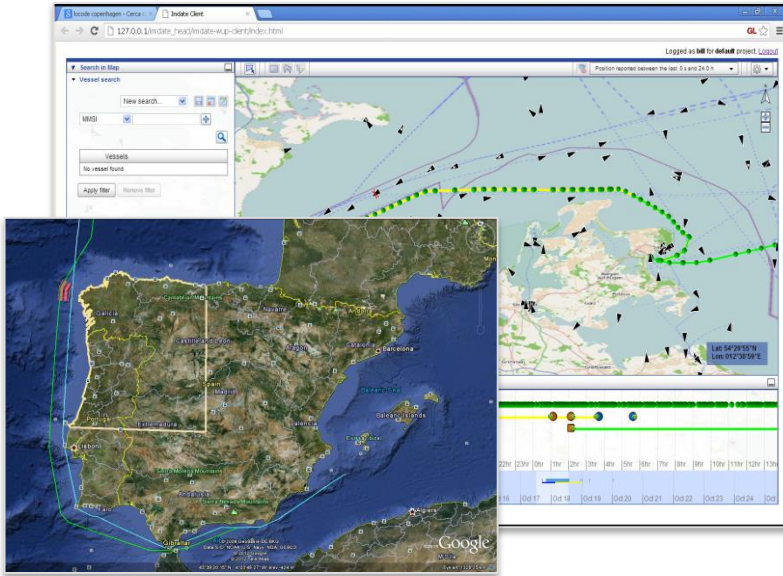
Strong credentials in real-time handling of large data streams

(e.g. traffic monitoring)

- EMSA strategic client for design&integration of core operational systems
- Oracle partner, certified on the most innovative security and big data products
- SONY partner for Long Term Data Preservation



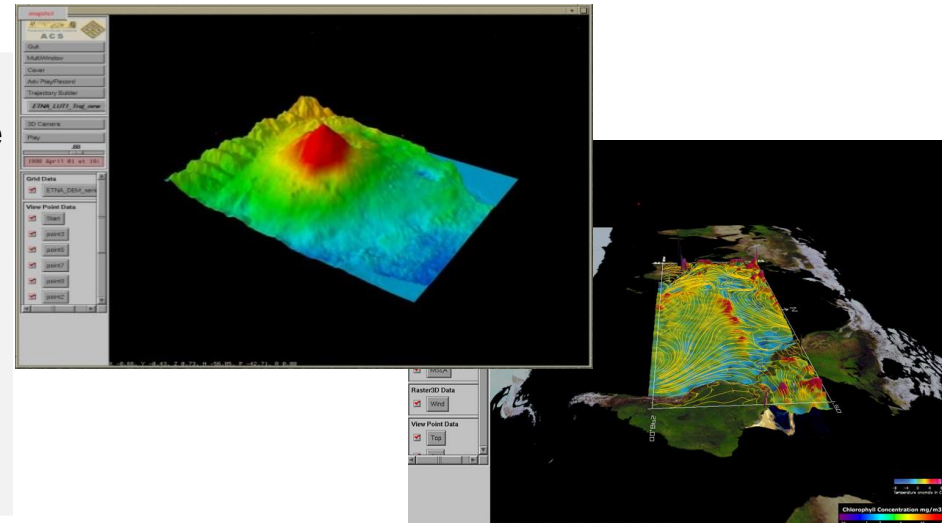
ACS Relevant Experience 1/3



Advanced applications for environmental monitoring

- Satellite based service to rapidly deliver oil spill alert information and satellite images to 24 EU Coastal States
- Maritime Safety and Security system displaying multi-source information in an interactive 3D Web interface that can be configured “on the fly” for a wide range of different end uses

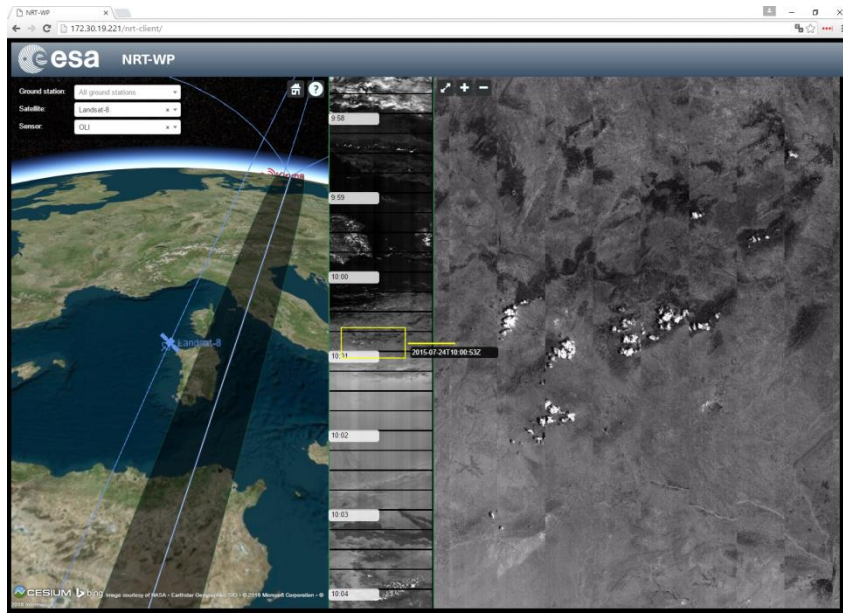
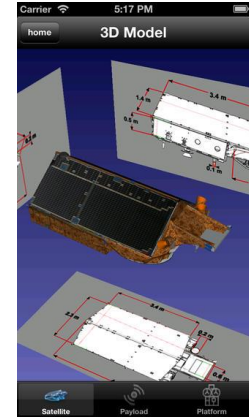
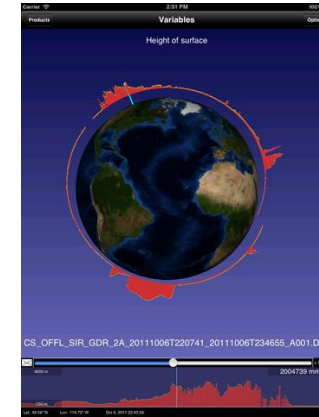
- Broad experience on tailored environmental monitoring applications and systems, in collaboration with top science bodies (eg. CNR, NRD, ENEA,..)
- Custom algorithms with multi-source physical information
- Automatic pattern extraction from images and time-series
- Digital Elevation Models, Desertification, Volcanic / Seismic risks, Oil spills



ACS Relevant Experience 2/3

Mobile Application developed for ESA in order to promote Mission

- News, photos, videos and satellite 3D model
- Mission products selection/download and geo-physical variables 2D/3D display.



Advanced Web HMI for Geospatial applications

- Near-Real-Time satellite imagery display
- WebGL-based HMIs for geo-enabled applications

ACS Relevant Experience 3/2

ACS Studio for multimedia products realization.

They design and develop Virtual Reality applications for visualisation of scientific data, entertainment, artistic and cultural heritage valorisation and distribution.

The majority of these applications are managed by a proprietary real-time rendering engine running.

ACS Studio team has considerable experience in realisation of virtual scenographies for television, modelling, 3D animation and graphics for web.

All these virtual, 3D solutions are result of ACS Studio ability to transform ideas into reality!



ILHAM Edugame main concepts

Companion to traditional technical training

- **Engage players in developing decision-making skills**
- **Problem-solving to deal with structured problems and unexpected events**
- **Players are requested to take actions to solve inter-disciplinary questions relying on acquired knowledge**

“Hands-On” lab

- **Put into practice player’s technical knowledge**
- **Progress from an individual (i.e. farm scale) to a societal level (i.e. land use conflict)**

Edugame structure

Initial Land Management scenario



Take decision

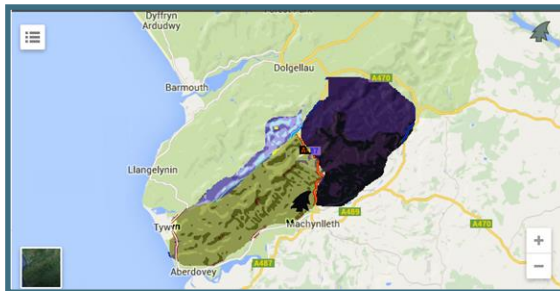
Green Shoots

The map represents species and habitats in a region of about 100 hectares located in north Wales. With the goal to monitor and enhance biodiversity but also improve income from recreational activities on the region, which of the following action you would perform?

- ☐ Plant at least 30 hectares with hedgerow and woodland
- ☒ Plant no more than 10 hectares with hedgerow and woodland
- ☐ Fencing off rivers and streams for at least 5 km
- ☐ Lower taxes on clear lands

Submit

The scenario evolves to a new situation



Scenario is presented within a GIS-like interactive Web app with quantitative map layers representing relevant physical or morphological features.

Questions and options are proposed as multiple-choice items.

An updated scenario is proposed to the user to show the outcome of his/her choice (existing layers are updated, new layers are added). Also an unexpected event could be presented.

A new set of options is presented and the process iterates up to...

Edugame structure

Initial Land Management scenario



Take decisions

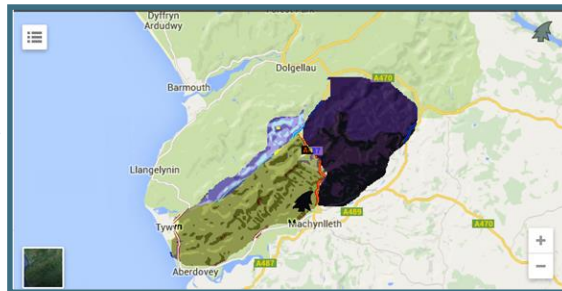
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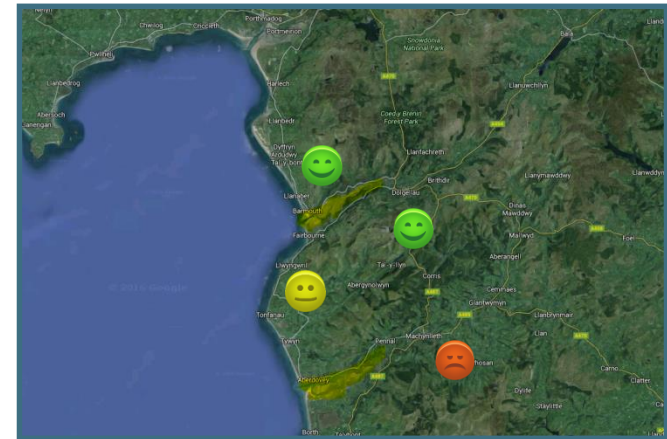
Submit

The scenario evolves to a new situation



GAME OVER

Final scenario simulating the result of the chain of decisions taken



Final state of the region is compared to the initial state under a number of predefined aspects/parameters (maybe a sort of score can also be defined)

Contacts



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