

All Condition Operations and Innovative Cockpit Infrastructure

New projects developing avionic systems and flight deck operations
28-Sep-2010

Ivchenko-Progress
Zaporozhe, Ukraine (Запоріжжя, Україна)

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A European Commission Seventh Framework Programme

This document is produced by the ALICIA consortium and the research leading to these results has received funding from the European Community's Seventh Framework programme (FP7/2007-2013) under grant agreement no ACP8-GA-2009-233683



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■ **Mission**

- Starting 10 years ago, InterConsulting is a System Engineering Company specialized in Aerospace, Defence and Industrial Automation market by providing value added solutions and services.

■ **Core values**

- Quality, Reliability and “know how” of our specialists
- Capability to build and share innovative proposal and/or projects
- Network of relationship with qualified companies, able to provide components and/or technologies to be customised and integrated

■ **Business areas**

- Mission and Safety Critical Applications
- Command & Control
- Network and Communication
- Security and Logistics

- **Website** www.inter-consulting.it
- **HQ** Rome

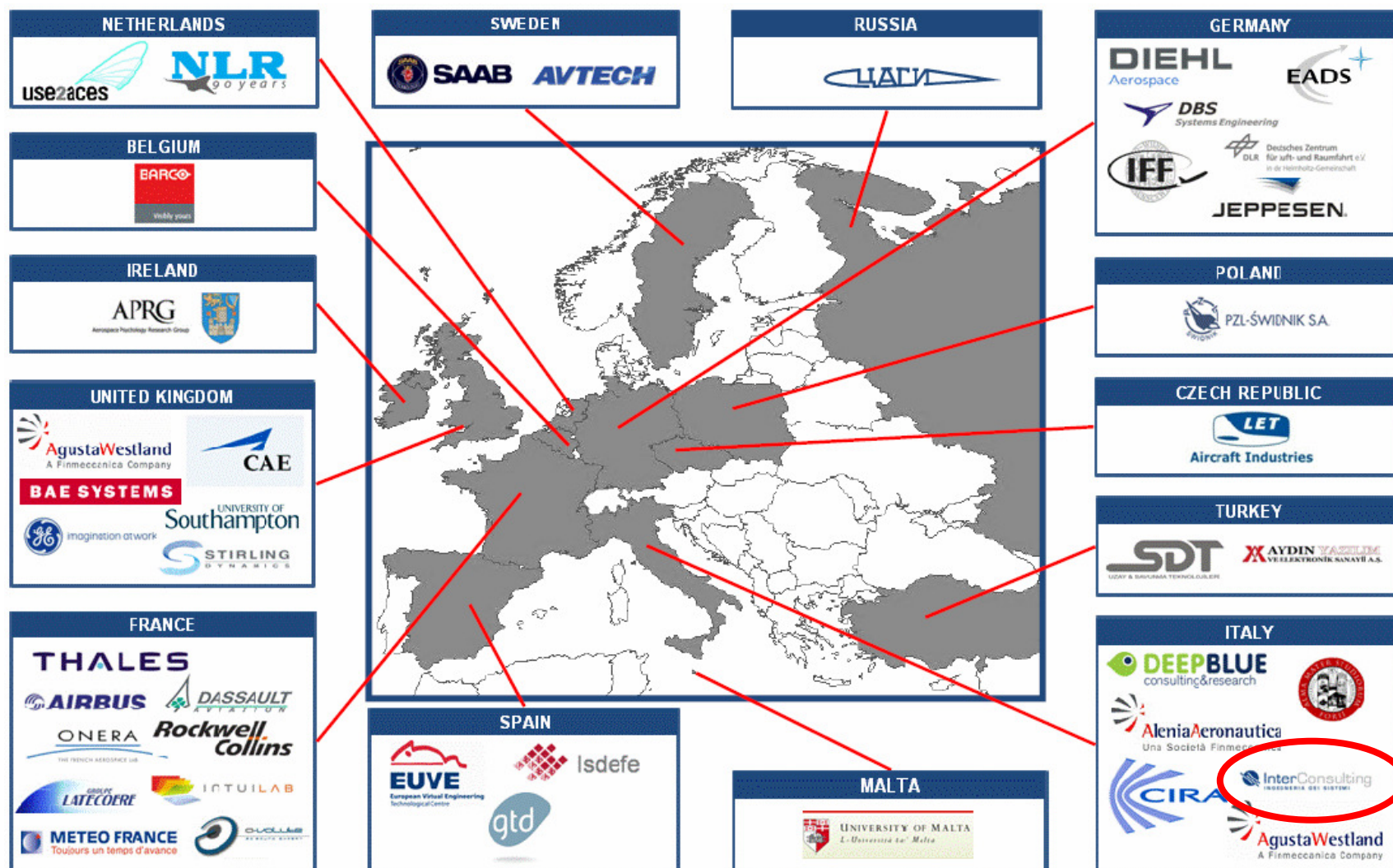
ALICIA - The project



- **Started** September 2009
- **Finishes** August 2013
- **Duration** 48 months

- **FP7** > Cooperation > Transport (including Aeronautics)
- **Level 2** Overall Value: 46.7M Euro , EC Grant: 27.8M Euro
- **Coordinator** Mr. Neil Harris, AgustaWestland
- **Website** www.alicia-project.eu

Partners



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- The ALICIA consortium has been formed from 42 partners
- Consortium Balance:
 - Platform Integrators (8)
 - System / Equipment Suppliers (8)
 - Technology Specialists (8)
 - Research Organisations (7)
 - Universities (5)
 - Experts (6)



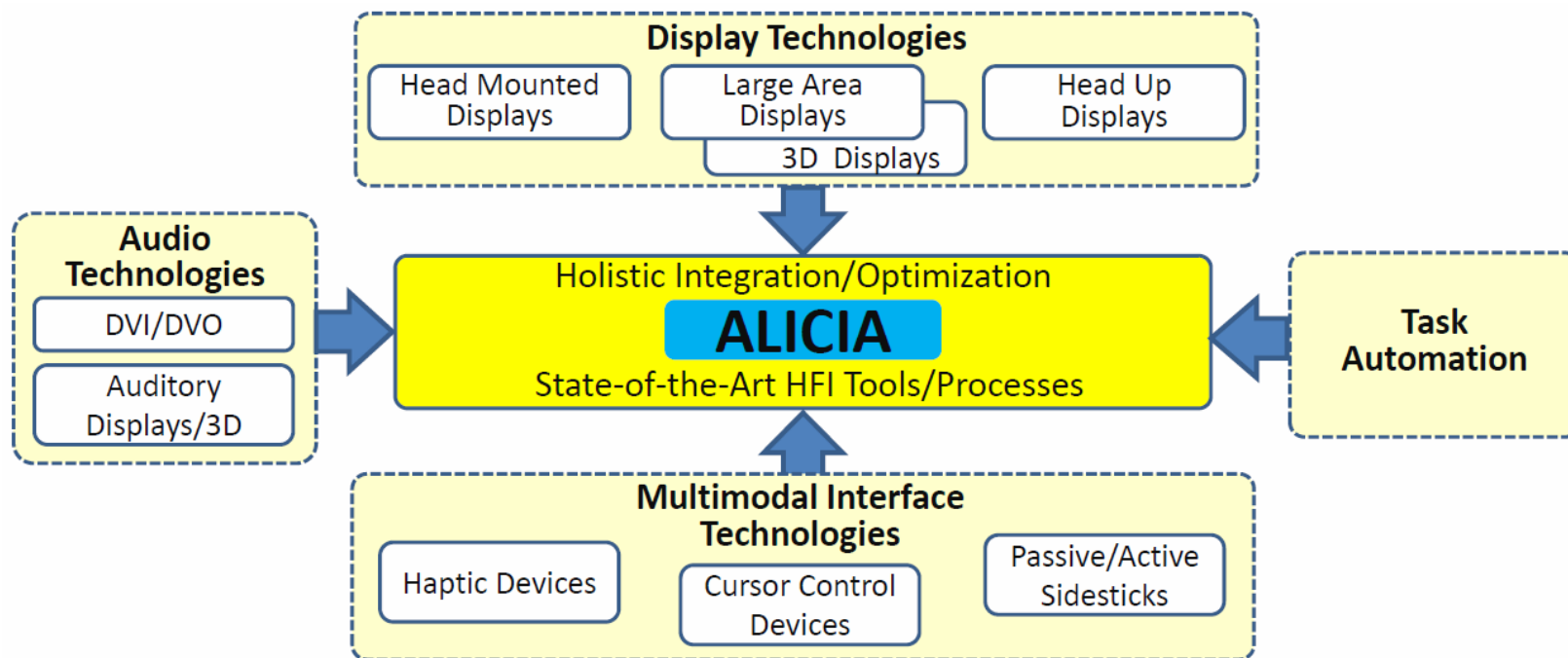
All Condition Operations ...

- To develop and All Conditions Operations Capability to reduce weather related delays by 20%

... and Innovative Cockpit Infrastructure

- To develop a new flight deck architecture facilitating the introduction of new technologies and applications, applicable to a broad range of aircraft types (professional operations)

- All Condition Operations is just one axis of a technology frontier that will arrive in the next generation cockpit



New cockpit architecture supporting the integration of new technology

- Studies are derived from a theoretical model
- The theoretical model is based on philosophical considerations
- **Philosophy** Human centric approach (considering phylogeny and ontogeny)
- **Objectives** Safety, optimized workload, optimized cockpit operations in critical conditions
- **Perspective** Posture and Ergonomics

■ Topics

- Adaptation on anthropometric and functional basis
- Relationship between the body segments
- Workload optimization -> ergonomic index
- Devices arrangement
- Promote innate automatisms
- Generational preferences
- Man in action

■ Metrics

- | | |
|---------------------------|-------------------------------|
| ■ Bio-functional approach | ■ Performance approach |
| ■ Involved Joints | ■ Stimulus/action path |
| ■ Segmental Independence | ■ Readiness |
| ■ Muscular Involvement | ■ Perception Channels Balance |
| | ■ Movements Symmetry |

- InterConsulting has established partnerships with national and international aeronautics research agencies, even assuming coordination roles in research projects
 - Galileo Programme: MONITOR Project (ground equipment)
 - National research projects
 - CADMO – Central Auto configurable Data networks for Mobiles
 - SABINA – SATellite Based navigation for APV
- Contribution to ALICIA
 - **WP2:** Human Factor & evaluation of the HMI
 - **WP3:** Design Tools & Processes
 - **WP4:** Approach Operation Support
 - **WP6:** Standardization and Certification

Future collaborations

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Relationship with other projects



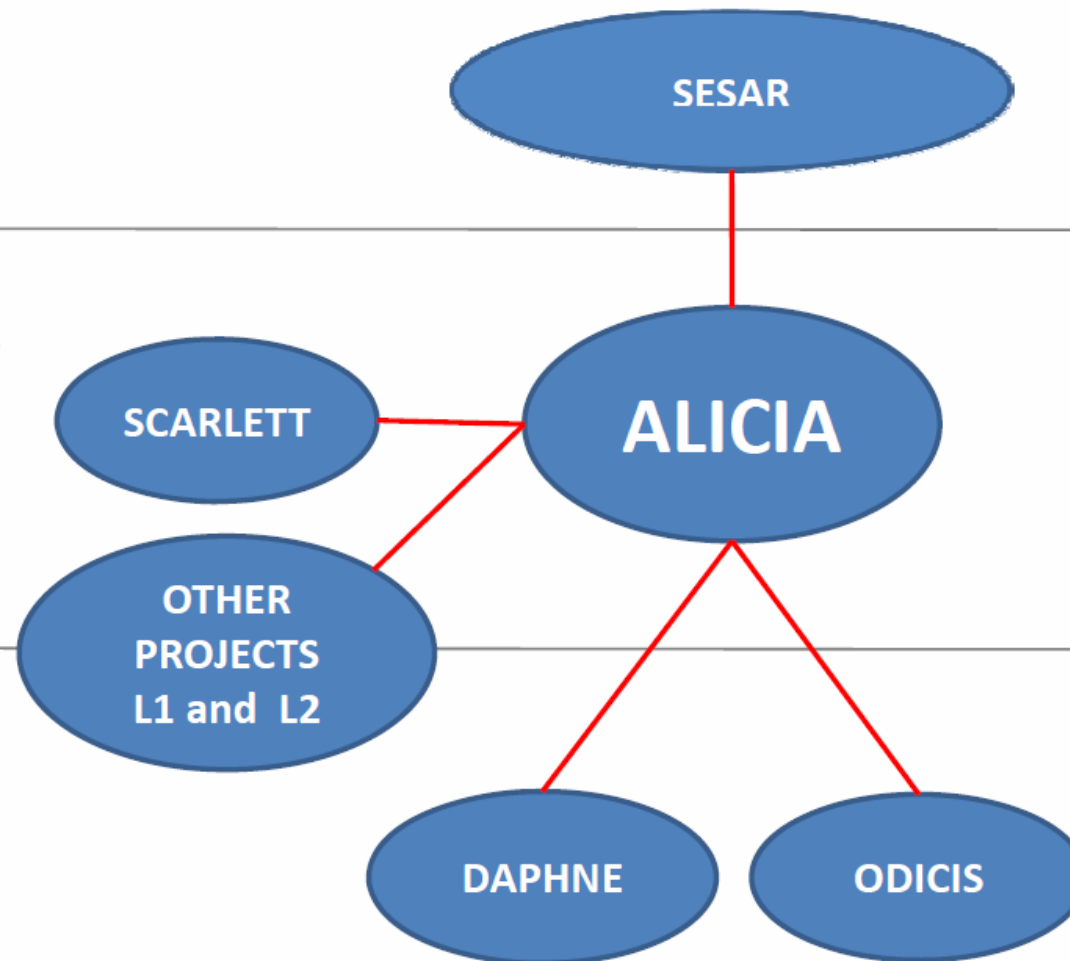
Joint Undertaking

Level 2

Integrating Projects

Level 1

Research Projects



Future collaborations



- For many projects currently underway is expected to continue in FP8
- Level 2 projects, related to cockpit and/or ergonomics
 - ALICIA → ALICIA II
 - FACE (FP5) / E-CAB → HUCCE
 - SCARLETT → ASHLEY
 - ...
- Future possible collaborations with Ukrainian partners are welcome

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**For further information please contact the coordinator,
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