Enterprise COllaboration & INteroperability

Business Cases for Enterprise Interoperability
The Andalusian Aeronautics Business Case

Noordwijk, June 23rd 2009
Alberto Olmo
ISOIN
The AS-IS scenario. Cluster Introduction
The AS-IS scenario. Cluster Introduction

- 2 Prime Contractor
- 125 Subcontractors

- Final assembly
- Aerostructures assembly
- Engine assembly
- Subset assembly
- Equipment and systems assembly
- Mechanical transformations
- Tooling
- Plating
- Final processes
- Composite / Plastic material
- Electrical / Electronical material
- Engineering / Consulting
- Services
- Tests and trials
- Space

Andalusian Institute of Technology

Aeronautic Technological Park

Advanced Aerospatiale Center (CATEC)

Technological Park Bahia de Cadiz

Regional Government

Universities of Sevilla and Cádiz
The AS-IS scenario. VO formation phase

Challenge: VO creation and joint offer submission to client (only traditional systems used)

AIRBUS contacts its traditional companies in the cluster

A set of companies are selected as candidates to quote. Process based on previous personal work experiences by the companies
The AS-IS scenario. VO operation phase

AIRBUS needs a first design stage for large projects where engineers of different companies need to **share a common place** to work. A huge amount of money is spent on this phase.

AIRBUS has standardized **CATIA** and **ENOVIA** for collaborative product development, so auxiliary companies must adapt to these systems.

Collaboration with Universities, Research centres (CATEC) and professionals of the aeronautical sector is usually performed through **traditional** ways such as telephone or emails for communication activities or documentation exchange. Communication is nowadays poor among institutions.

http://www.dassaultfalcon.com
The AS-IS scenario. VO operation phase

Regional government institutions and Helice foundation try to foster interoperability and collaboration among the companies of the cluster through the distribution of the ERP system **SAPECMA/SAPPORTAL**

Objectives of the system: ERP for aeronautic companies (SAPECMA), that allows the direct integration of the auxiliary companies through SAPORTAL
The AS-IS scenario. VO operation phase

**ENGINEERING**
- BOM lists
- Data master/material synchronization
- Warnings due to product structure changes
- Documentation: standards, 3D models, Tech Instructions DTS, Process Routings

**QUALITY**
- Management of non-conformity sheets (NHCs)
- As built configuration
- Discrepancy report management (ID, s)
- Conformance certificates
- Documentation: quality indices, subcontractor improvement plans, audits and corrective actions, catalogs, certified components, authorized suppliers, certified processes / supplier

**LONG TERM PLANNING**
- Production plans information
- Publication of forecast
- Cargo/capacity indicators / Work in progress evolution

**CATALOGS**
- Certified components
- Authorized suppliers
- Certified processes / supplier

**PURCHASING**
- Master material catalog
- Purchase order inquiries
- Purchase order transformed into sales order
- Purchase order printing
- Purchase order confirmation
- Supplier evaluation
- e-Sourcing: RFI, RFQ

**SHIPMENTS**
- Integration of shipment to contractor reception
- Shipments follow-up

**PRODUCTION CONTROL**
- Information interchange of work in progress

**INVOICING AND PAYMENT**
- Invoice issuing
- Invoice status consultation
- Payments status consultation

**WAREHOUSE**
- Stock supplied to subcontractor (not warehouse transfer)
- Visibility of subcontracted stock for main contractor

**COMMUNICATION & PRODUCTIVE TOOLS**
- News and events
- Chat, discussions meeting rooms
- Partners Corporate Information
- Quality certifications information
- Suggestions mailbox
- Aeronautic observatory
- E-Learning
- Job mailbox
General **low acceptance** in the companies, due to:

- Companies find it difficult to change its traditional internal systems (similar problem found in the majority of ERPs)
- Training needs with elevated costs to the companies
- Not enough support from Prime Contractors
The To-BE scenario. VO formation phase

A set of companies are selected as candidates to quote. Process based on competence selection.

BO Broker Company

Aeronautic And. cluster

Workpackage
Call for tenders

Product delivery

VO creation and joint offer submission to client.

EI contract negotiation services used

AIRBUS or other prime contractors find needed companies in the cluster.

Open call for tenders
The To-BE scenario. VO operation phase

**EC / EI services** are used in the operation phase, with the **SaaS** Business model to reduce costs and time to companies.

Auxiliary companies can now make use of a **broader range of services** to collaborate, being also able to **interoperate** with AIRBUS proprietary systems.

Collaboration with Universities, Research centres (CATEC) and professionals of the aeronautical sector is now enhanced with the use of **COIN communication services**
The COIN EI/EC Solutions

Collaborative Platform

Basic collaborative services adapted to the necessities of the cluster:

- Shared agenda
- Collaborative blogs
- Basic document management services
- Business Processes Design and Management
The COIN EI/EC Solutions

Baseline Services

EC/EI services from other EU projects available in COIN to fulfill the end user specific requirements
Innovative Services

The COIN EI/EC Solutions
The COIN expected benefits

• **Openness** for the cluster, to other prime contractors and other business opportunities. Relation with other clusters

• **Open call for tender** processes. **Competence selection** of partners.

• **SaaS business models** in software implementation that **reduce costs, time and difficulty** for companies in the use of new services.

• Increase **collaboration** in business opportunities among companies, sharing valuable information without neglecting security.

• Increase **communication** between companies, University and research centres.

• Increase **Interoperability** among companies of the cluster and outside the cluster, facilitating the use of these services to the end user. SaaS can use **accepted standards in aeronautics** and by **main software developers**, enabling the integration of applications and platforms.
Overcoming the Capital Sins

COIN Capital Sin relevant for EI:

EI solutions are too complex and specific.

The COIN project is trying to develop user-friendly solutions, adaptable to a wide range of clusters and users. COIN services should be able to adapt to the different companies of the aeronautical cluster. The use and maintenance of these services should be easy to perform by companies.

SaaS involves an external IT company will continuously assist the end user company, i.e., the aeronautical company, in the maintenance and usage of the services.
Thanks for your attention

Noordwijk, June 23rd 2009
Alberto Olmo
ISOIN