

# Enterprise COllaboration & INteroperability



- COIN Book -

**COIN research results for enterprise innovation  
Enterprise Collaboration Services**



**Patrick Sitek**

**BIBA – Bremer Institut für Produktion und Logistik GmbH**



# Content of the presentation

---

- COIN A Side: Enterprise Collaboration & Main innovations
- Enterprise Collaboration Baseline technical analysis & business concept perspective
- Enterprise Collaboration Innovative services – exemplified
  - Collaborative Product Development (c-PD)
  - Collaborative Production Planning (c-PP)
  - Collaborative Project Management (c-PM)
  - Collaborative Human Interaction (c-HI)
- COIN A Side: Main innovations
- Back-up by interest



# COIN A Side: Enterprise Collaboration

---

The COIN Project developed services for European SMEs enterprise aggregation, synchronization and co-operation in response to the more and more demanding and complex business opportunities coming from the global market.

- Existing solutions from previous EU FP6 project and other sources are used as starting point (**EC baseline services**).
- On top of a developed common baseline, the project has further developed **EC innovative services** for
  - Collaborative Product Development,
  - Production Planning,
  - Collaborative Project Management,
  - Collaborative Human Interaction.
- Such services are easily configurable to meet different collaboration requirements, from the most static supply chains where optimization and efficiency are of key importance, till to the most dynamic business ecosystems where evolutionary behaviour of the business system, including sudden disappearing and re-appearing of business entities, has to be modelled and supported.



# Technical analysis: Existing EC tools and systems

Category	Software	Number of Tools	Tool Name
Web application	Tomcat	10	Virtual Breeding Environment Management (VMBS), Professional Virtual Community (PVC) Management and Governance, PVC Rewarding Tool, Requirement Identification Service (refQuest), E4 (Extended Enterprise Management in Enlarged Europe) Platform, Supported Indicator Definition (SID), Collaboration Opportunity Characterization (COC) Plan, Virtual Organization (VO) Model Repository, Partner Selection (PS), VO Formation
	Apache Web server	2	Collaboration Opportunity (CO) Finder, Customer Support Service (DISCO)
	Microsoft IIS	4	PVC Management and Governance, Planned, Mediated, and Ad-hoc Collaborations
Web service	Axis	2	Communication Service Set, Activity Management
Database	MySQL	9	PVC Management and Governance, PVC Rewarding Tool, Planned, Mediated, and Ad-hoc Collaborations, Communication Service Set, Activity Management, refQuest, DISCO
	PostgreSQL	5	VBMS, E4 Platform, CO Finder, COC-Plan, VO Formation
Programming Language	Java	10	VBMS, PVC Rewarding Tool, Communication Service Set, Activity Management, refQuest, SID, COC-Plan, VO Model Repository, PS, VO Formation
	C#	5	PVC Management and Governance, Planned, Mediated, and Ad-hoc Collaborations, E4 Platform
	PHP	2	CO Finder, DISCO



# What's new in COIN EC Baselines?

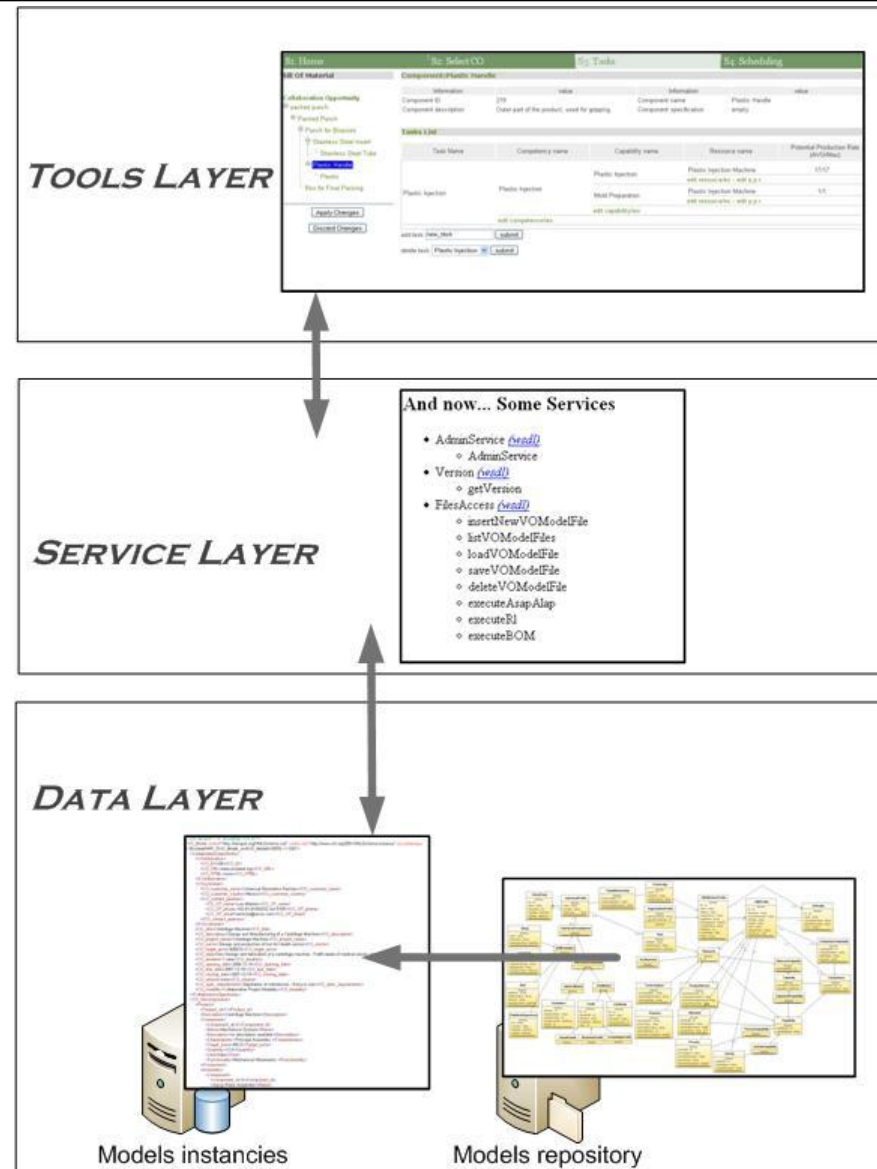
- **Common Data and Models Base**  
with 59 implemented entities

- Former software has been decoupled in three levels, separating business logic, presentation layer and data

- Business logic has been encapsulated into reusable web-services

- Data exchanged by applications are now managed by a common database and private data of application stay on legacy databases

- Harmonisation of Networks of individuals (PVCs) and Enterprises





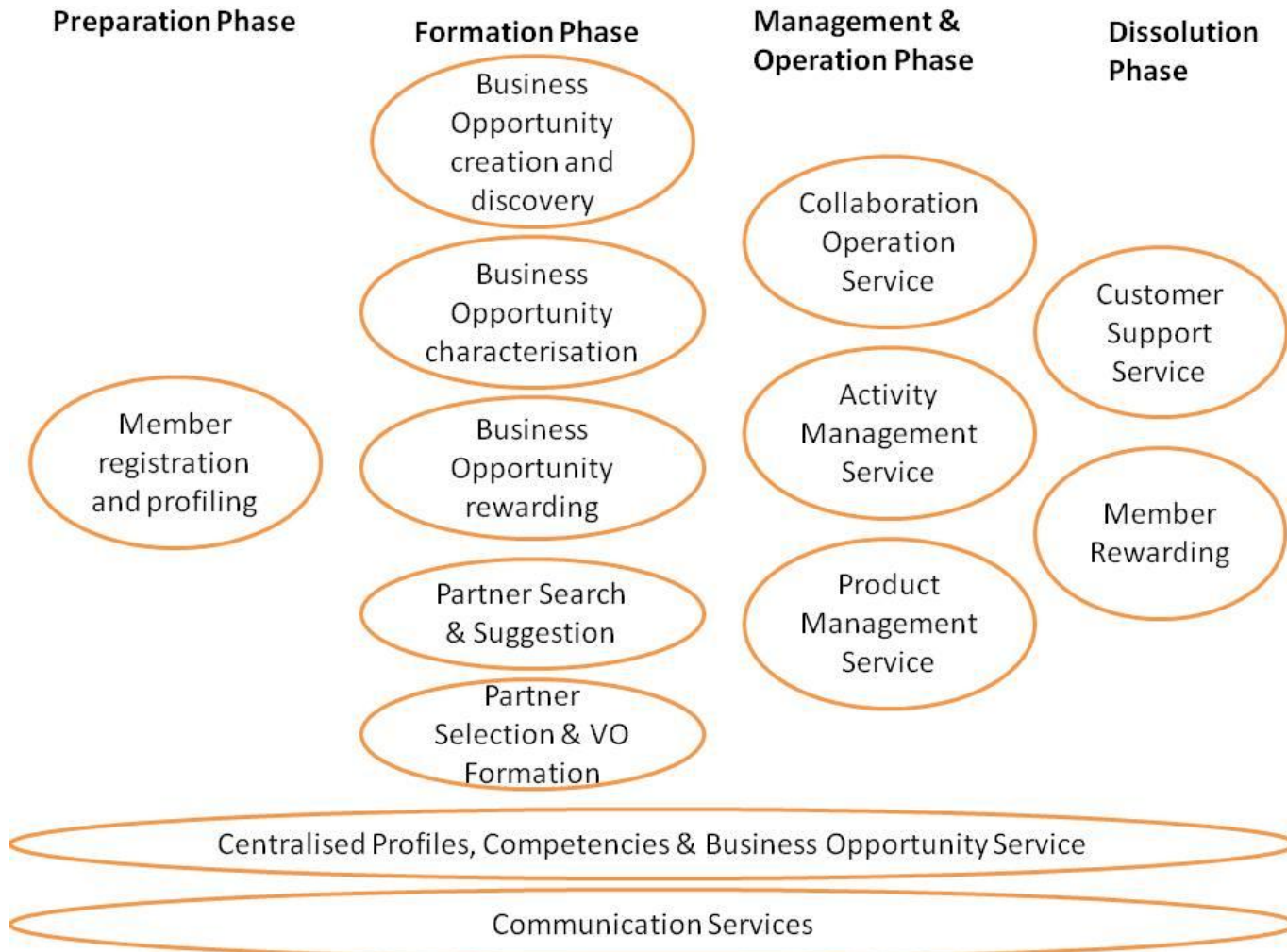
# Enterprise Collaboration Baseline Concept – Business Perspective

	Enterprise Collaboration Preparation	Enterprise Collaboration Formation	Enterprise Collaboration Management & Operation	Enterprise Collaboration Dissolution
Competencies Management Baseline Services	<b>Service for Maintaining Competencies</b>	<b>Service for matching Competencies with Business Opportunity</b>	<b>Service for Tracking Capacities</b>	<b>Service for Maintaining Knowledge and Training</b>
Business Opportunities Management Baseline Services	<b>Service for Identifying Business Opportunities</b>		<b>Service for Tracing Progress</b>	<b>Service for Customer Support</b>
	<b>Basic Services for Human Interaction</b>			

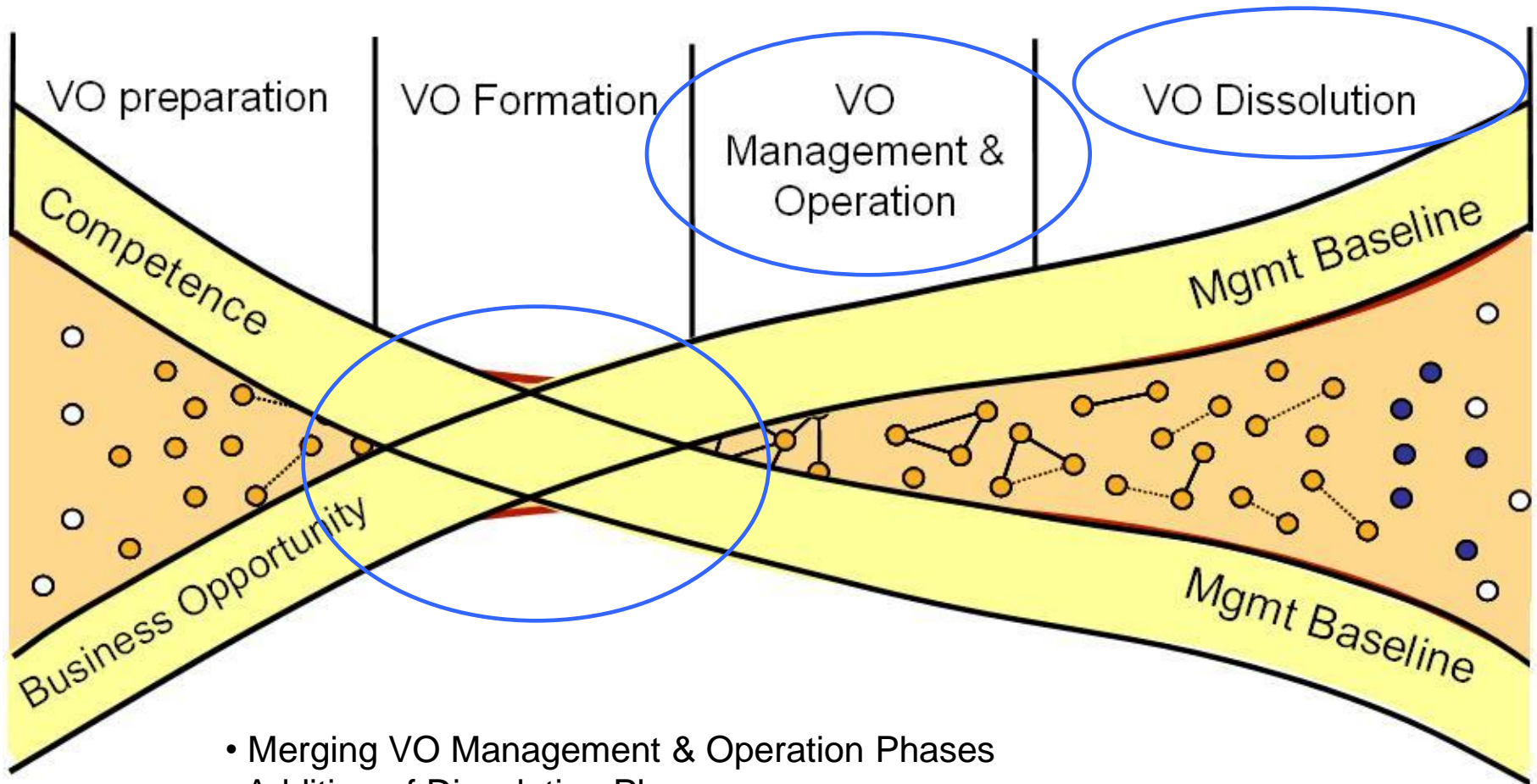


# Enterprise Collaboration Baseline Services – Prototype Details

- core set of services and tools
- each ellipse represents a business service that is supported by a group of software tools and services



# What's new in COIN EC Baselines?



- Merging VO Management & Operation Phases
- Addition of Dissolution Phase
- Cross-cutting Competence and Business Opportunity Mgmt Baseline Models





# Innovative EC Services Overview

---

Based on industrial needs and identification of missing services on the market, COIN has further specified, developed and delivered services in the following domains.

- Collaborative Product Development (c-PD)
- Collaborative Production Planning (c-PP)
- Collaborative Project Management (c-PM)
- Collaborative Human Interaction (c-HI)

In the COIN context the developed services to support the above mentioned domains are called

**Innovative Enterprise Collaboration Services.**



# Collaborative Product Development (c-PD) Services

- Semantic Cluster Management Services (SCMS)
- Automatic and Intelligent Construction and Instantiation services (AICIS)
- Collaborative 3D Designer Service (C3DDS)

# c-PD services

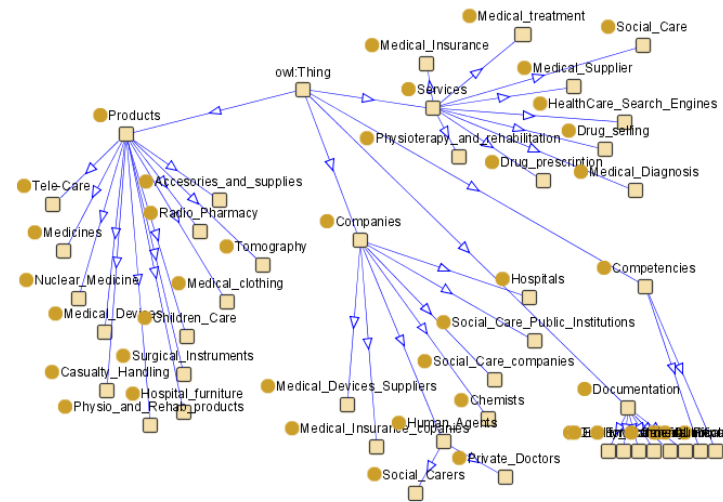
## SCMS (Semantic Cluster Management Services)

Advanced semantic search functionalities for products or services needed in the product development process, finding related suppliers, services or stakeholders.



Horizontal, Software as a Service Utility (SaaS-U), useful for a wide variety of end users

Based on an innovative product structure ontology, based on products, services, documents, companies and competencies



- Final improvements to be performed:
- categorization of searches, to better perform semantic searches.
  - Testing of SCMS in different sectors: Healthcare (see figure)

# c-PD services

## Collaborative 3D Designer Service (C3DDS)

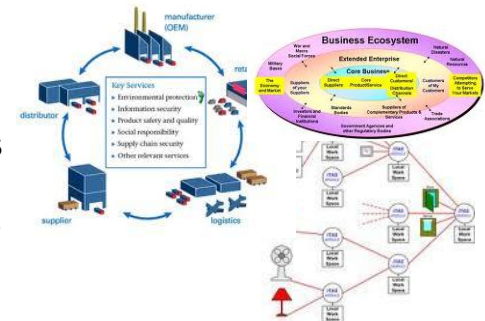


- Online viewing of 3D files, including a wide variety of formats ([Jvx](#), [Bd](#), [Byu](#), Dxf, Fe, Mgs, Mpl, [Obj](#), [Off](#), Stl and Wrl)
- Web service architecture, avoiding the need to install software and contributing to collaborative processes
- Online annotations, to enable “virtual meetings” to comment a 3D design.
- Historic of annotations and author of annotations, to enhance the product development process

Companies would not have to depend on legacy systems with expensive licenses and could **connect to collaborative work anytime, anywhere, with the use of web services, without the need to have installed the proprietary software** in the computer they are using.

Final improvements to be performed:

- Particularization for Supply chains, Collaborative Networks or Business ecosystems
- Different levels of privacy and security in 3D files depending the type of cluster
- Semantic Management of large number of annotations in Business ecosystems.





# Collaborative Production Planning (c-PP) Services

---

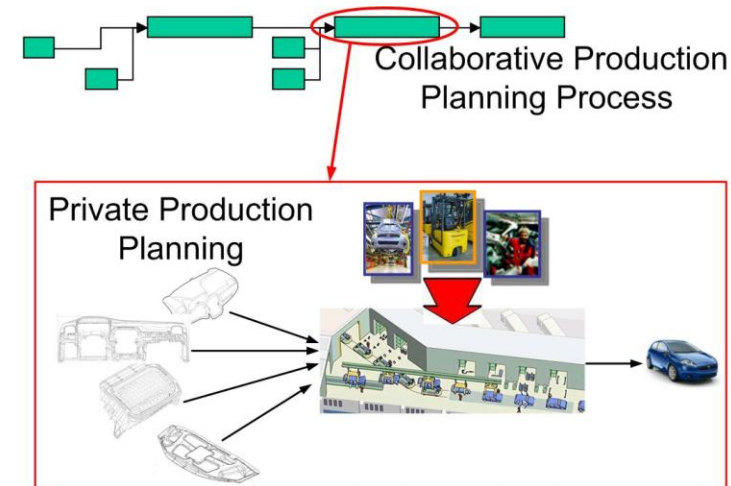
- PnP Collaborative Production Planning Portal (C3P)
- SaaS Production Planning Service (PPS)
- Collaborative Quality Management Service (cQMS)
- Supply Chain Intelligence Service (SCIS)
- Service oriented text enrichment services (SOTES)



# Collaborative Production Planning Platform (C3P)

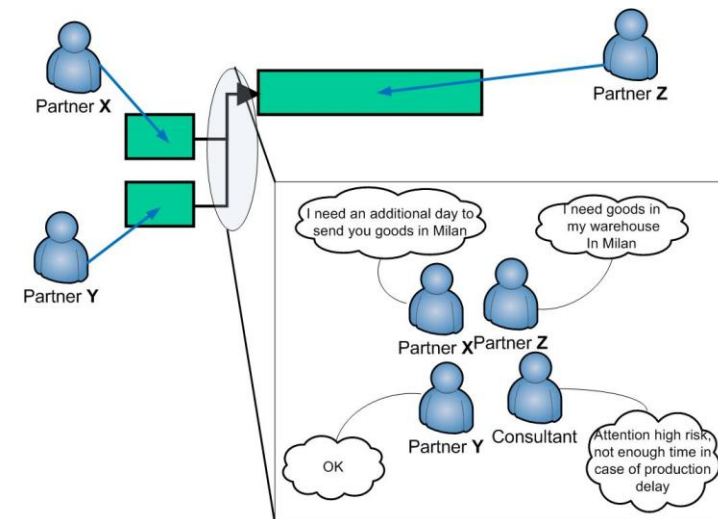
Implementation of the concept collaborative production planning process to support the dynamicity of the changes in the value chain. Process editable in a collaborative way by value-chain actors.

- Blocks representing the private production planning of an actor that has to manufacture something and, if PPS service is used, the user can directly edit its private plan
- Arrows representing the public collaboration space among actors; in these virtual rooms the plans are shared and discussed.



## Innovative Concepts

- Agent negotiation implemented through services coming from COIN WP3.4.
- Possibility to start different negotiation at the same time with different competitors and selects the best one.
- Support to the communication among individuals through the inclusion of the virtual team concept on top of virtual rooms and the integration of human communication services
- Implementation of a collaborative BOM
- Shared changes at public (inter-organisations) or private level (intra-organisation)





# Collaborative Quality Management Service (cQMS)

## What is cQMS about?

An service to identify interdependencies between collaborative network partners in order to define needed communication channels to reduce quality problems.

## What is the innovation?

- cQMS suggests an innovative approach beyond state of the art to identify interdependencies by analysing the partners' **competence profiles**. Using competence profiles is innovative compared to the State of the Art approach by analysing product structures for interdependencies purposes.

- Competence descriptions are used to identify interdependencies for inter-organisational information exchange.

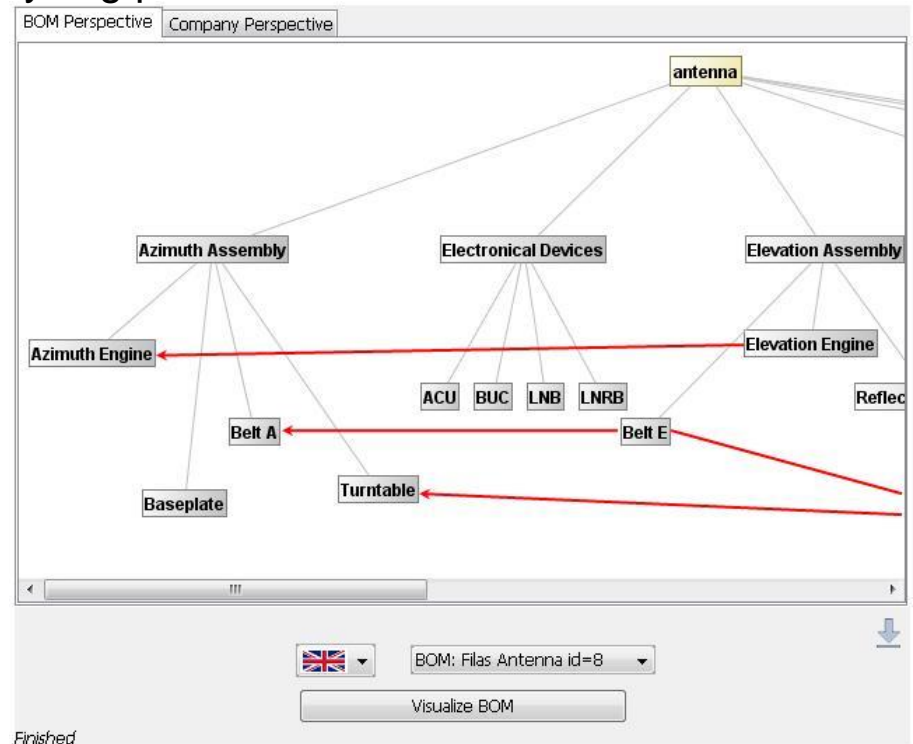
## Who are the main users?

FILAS

## Further reading

Invited for IJPD publication

Figure: cQMS analysed FILAS antenna use case





# Collaborative Project Management (c-PM) Services

---

- Project Alignment Booster (PAB)
- Collaborative Project Meeting Process Management (PMPPM)
- Collaboration for Project Management (Coll4PM)

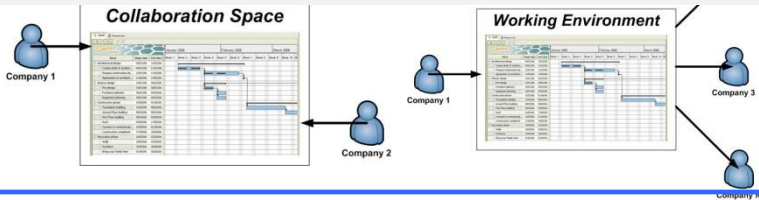


# Collaboration for Project Management Service

## Coll<sup>4</sup>P<sub>M</sub>

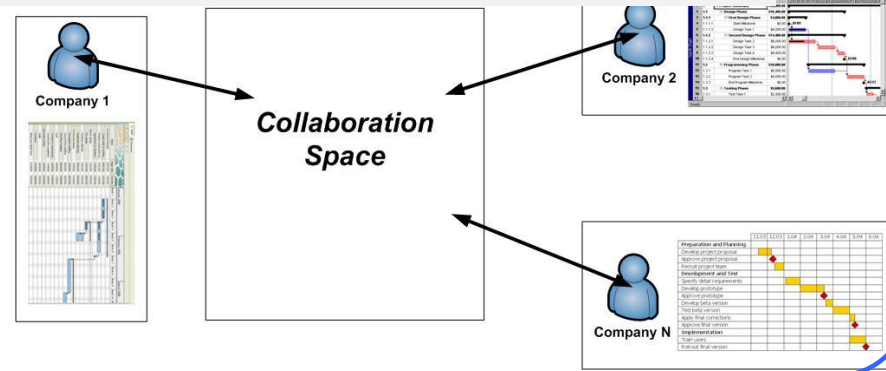


### Collaboration forms well supported by Existing Tools



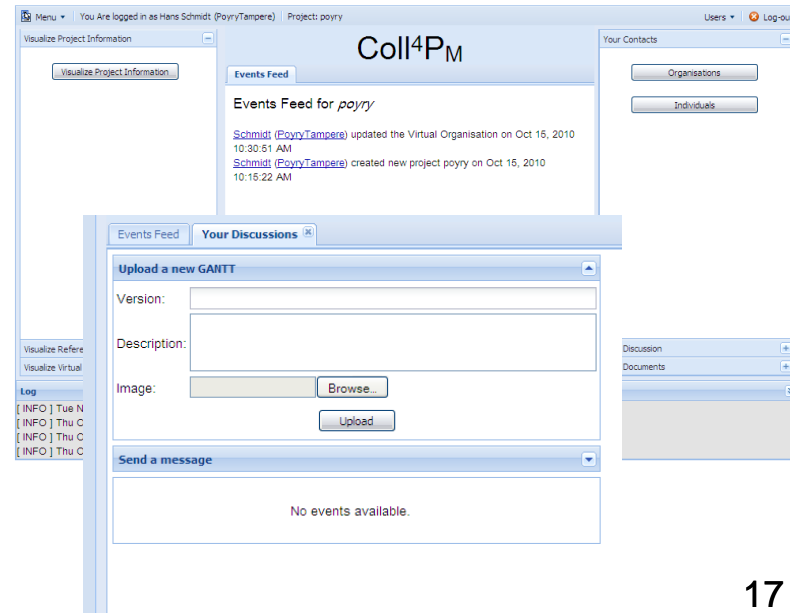
Goal: Provide a **Social Collaboration Space** to support inter-companies collaboration in project management

### Collaborative Management of Collaborative Projects



### Innovation:

- ✓ Inclusion of social aspects in an integrated web environment to support Gantt creation
- ✓ injection of trust based mechanism coming from COIN WP4.5 services in project management
  - ✓ a personalised notification system by news feeds of events occurred in different project/discussion rooms
  - ✓ a social collaborative management of changes based on web2.0
  - ✓ availability of humans/companies profiles and management of social (including trust) relationships among them by assessment of co-workers



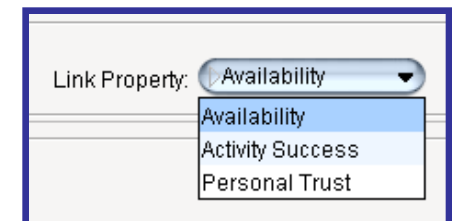
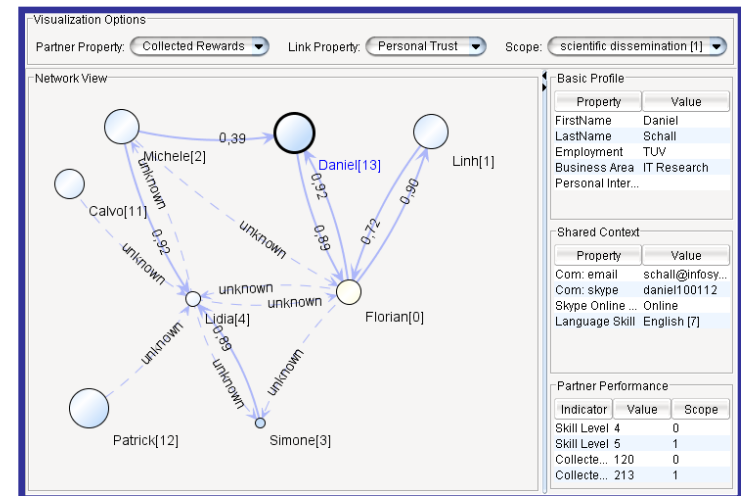


## **Tools for Human Interaction Support**

- Collaboration Visualization Tool (CVT)
- Trusted Information Sharing (TIS)
- Trusted Online Help and Support (TOHS)

# Collaboration Visualization Tool (CVT)

- Visualization of community structures and evolving social networks
  - Individuals
    - Registered profiles (name, organization, e-mail, Skype, ...)
    - Dynamic profile data through interaction mining
  - Context-dependent social relations described by interaction metrics
- Application Scenarios
  - Group formation (emerged structures)
  - Social campaigns (interest clusters)
  - Team evaluation (collab. rewarding)
- Innovative Concepts
  - System-managed profiles and relations through analyzing interaction behavior
    - Keep track of network dynamics
    - Relieve users from managing their social networks manually
  - Evidence-based structures through mining
    - No unfair manual ratings
    - No rating quality variations over time
  - Embedding of baseline human interaction services





# COIN A Side: main innovations

---

## • The COIN Collaboration Space

- To allow **Endogenous** generation of Business Opportunities (LivingLabs & Open Innovation)
- To support **Product Design, Production Planning, Project Mgmt**
- To enable **Co-operativity** of Enterprise Applications (groups as users)
- To support **Web 2.0** and participative services (Enterprise 2.0)
- To involve also the Customers in the whole life-cycle of **Enterprise Collaboration**:
  - ✓ **EC preparation** (get the enterprises prepared to form VOs)
  - ✓ **EC creation** (select partners and competencies)
  - ✓ **EC operations & mgmt** (performance indicators definition-governance)
  - ✓ **EC dissolution** (inheritance and knowledge transfer)



---

Back-up



# Member registration and profiling

**COIN Baseline Services** Welcome Joe Bloggs!

View Home | Favorites phase

**Signed credits**

Subject	Workspaces	Assess	Behaviour	Time
Lean Value	Knowledge	2	document	2008-11-12 14:53:03
Lean Value Control	social	2	chat	2008-11-12 14:53:03

**Set values of credits**

**SOCIAL**

chat	2
mail	4
Forum	2
registeredVOMember	1

**KNOWLEDGE**

document	1
presentation	2
participatedFORG	1

**BUSINESS**

appointment	4
create@RFQ@Scenario	1
create@RFQ@Scenario	1
create@RFQ@Scenario	1
create@RFQ@Scenario	1

**Confirm all changes**

- Management of member information and member performance profiling (processes, VCOR KPIs)
- For both individuals and organizations.

**Member Registration COIN**

**Your Profile:**

Organization Type \*  
 Full Company Name \*  
 Who we are  
 Industrial Sector  
 Company Foundation Date \*  
 Annual turnover \*  
 Country \*  
 Federal State  
 Street, No \*  
 City \*  
 PO Box  
 Postcode \*  
 Web Site \*  
 E-Mail \*  
 Phone \*  
 Fax  
 Mission  
 Vision  
 Legal Company Form \*  
 Number of Employees \* < 10  
 QM Certification (z.B.: DIN EN ISO 9001:2000)

**Expectations to the membership**

Operational activities (for e.g. participation in collaborative projects) \*  
 Strategic activities (for e.g. marketing, etc.) \*  
 Management (general collaboration) \*

**Mainline of Activity**

What is your Mainline of Activity?

User: user1  
Company: Supplier1

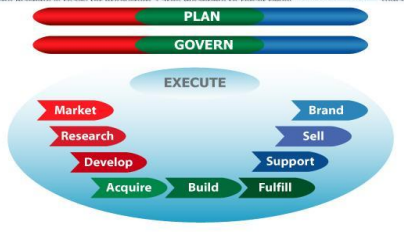
Refine query by KPI dimension  
 -- All KPIs --

LIST OF KPIs

Micro-Process Name: B05-Package Product

73 items found, displaying 1 to 12.  
 [FirstPrev] 1, 2, 3, 4, 5, 6, 7 [NextLast]

Number	ID	Name	Description	Dimension Name	Unit	Name	
1	243	Total Setup Time		Velocity	hrs	Total Setup Time	<input type="text"/> Update
2	242	Total Production Time		Velocity	hrs	Total Production Time	<input type="text"/> Update
3	241	Total On Time Production Output		Velocity	#	Total On Time Production Output	<input type="text"/> Update
4	240	Rework Time per Unit	Time used per unit reworking due to the product being outside of specified parameters.	Velocity	hrs	Rework Time per Unit	<input type="text"/> Update
5	239	Production Yield	The ratio of the total value produced by a process (normally in number of units) divided by the total expected value to be produced by a process (also in number of units).	Velocity	%	Production Yield	<input type="text"/> Update
6	238	Production Engineering Cycle		Velocity	days	Production Engineering Cycle	<input type="text"/> Update
7	237	Order Cycle, Order Entry to Build Start	Time from completion of order entry to manufacturing release, in calendar days.	Velocity	days	Order Cycle, Order Entry to Build Start	<input type="text"/> Update
8	236	Mean Time to Repair	Repair time includes the time lapsed between the moment of machine failure and the moment the machine is ready for production. For production of more than one unit, the repair time is divided by the number of units.	Velocity	hrs	Mean Time to Repair	<input type="text"/> Update



[Back](#)





# Business Opportunity creation and discovery

- Business Opportunity Discovery Service
- Business Opportunity Creation Tool

Laboranova refQuest innovat

Home Scenario Topic Task Process Performance Administration

**Participant**

- VEN**
  - Sub-Group
    - Andrew Faughy
    - Martin Eley
  - ACS**
    - Sub-Group
      - Goran Trebec
      - Petar Orbanic
    - ISOIN**
      - Sub-Group
        - Carmen Aguilera
        - Alberto Olmo
      - PÖVRY**
        - Sub-Group
          - Mikko Höynölanmaa
          - Timo Syrjänen / Miko Olkkonen
        - FILAS**
          - Sub-Group
            - Vittorio Cannas
            - Marco Conte
          - IND**
            - Sub-Group
              - Szabolcs Katai
              - Walter Wölfel

**Scenario: Level 1**

This level comprises the **Baseline Collaborative Services**. These mainly already exist, but since these are coming from several different projects, it might be that the end users will discover some gaps while playing *Seconds*.

The objective is therefore to elaborate on further on such gaps in the first scenario in *refQuest*.

As a reminder : Some of the EC Baseline Services support:

  - Competencies Management Baseline
  - Business Opportunities Management Baseline
  - VO Preparation
    - Data integration
    - Service integration
    - Process integration
    - Models integration
    - Portals integration
  - VO Formation
    - BO discovery ext/int
    - Partners people search & selection
    - Matching algorithms
    - Economic eval.
  - VO Management
    - VO Model
    - SID
    - DI3
    - MAF
    - DSS
    - VO Operations

**Own Documents**

  - Individual Requirements
  - Prioritised Requirements

**Actions**

  - Technology
  - Business Processes
  - Organisation

Laboranova refQuest innovation\_gaming

Home Scenario Topic Task Process Performance Administration Help Logo

**Participant**

- VEN**
  - Sub-Group
    - Andrew Faughy
    - Martin Eley
  - ACS**
    - Sub-Group
      - Goran Trebec
      - Petar Orbanic
    - ISOIN**
      - Sub-Group
        - Carmen Aguilera
        - Alberto Olmo
      - PÖVRY**
        - Sub-Group
          - Mikko Höynölanmaa
          - Timo Syrjänen / Miko Olkkonen
        - FILAS**
          - Sub-Group
            - Vittorio Cannas
            - Marco Conte
          - IND**
            - Sub-Group
              - Szabolcs Katai
              - Walter Wölfel

**Welcome to Game: COIN.**

**COIN Enterprise Collaboration & Interoperability**

The objective of using the *refQuest* game in the project COIN is to develop the end user requirements for the innovative services.

There will be three main scenarios used in this game:

  - Scenario: **Baseline collaborative services**
  - Scenario: **Innovative services for enterprise collaboration** focussing on
    - New Product Development
    - Collaborative Manufacturing
    - Multi-Disciplinary Project Management
    - Human Interaction
  - Scenario: **Innovative services for enterprise interoperability** focussing on
    - Information Interoperability
    - Knowledge Interoperability
    - Business Interoperability

In each scenario one of the players in a group chooses the perspective by selecting from:

  - Technology
  - Business Processes
  - Organisation

In order to complete the end user requirements collection, the

**Messageboard**

ALL Send

1/16/09 7:17:17 PM | Andrew Faughy | VEN

COIN | Level 1 | [Choosing Perspective] | Time: 0 Weeks | Costs: 0 KEURO | Quality: 100 %

**Messageboard**

ALL Send



# Business Opportunity rewarding

- Reward organisations creating new business opportunities for the cluster
- Score is defined and maintained for each member of the enterprise collaboration

The image displays two screenshots of a web-based 'Journal' application interface. The left screenshot shows a form with the following fields and values: ID: 108, Status: Not Approved, Version: 1.0 (with an 'Increment Version' checkbox), Name: Testing, and Description: Testing. Below these are dropdown menus for Type (Announcements) and Language (English (United States)), and a Default Language dropdown (English (United States)). There are also date pickers for Display Date (January 16, 2009, 7:09 PM), Expiration Date (January 16, 2010, 7:30 PM), and Review Date (October 16, 2009, 7:30 PM). Checkboxes for 'Never Auto Expire' and 'Never Review' are checked. At the bottom are buttons for Save, Save and Approve, Approve, Preview, Download, Expire, Delete, and Cancel. The right screenshot shows a similar form but with a 'Design' section at the bottom and a 'Structure' dropdown set to 'Asset-CollaborationOpportunity'. It also includes a 'Template' dropdown set to 'Asset-CollaborationOpportunity'.





# Business Opportunity characterisation

-Characterization of a Business Opportunity in terms of BOM (Bill Of Material) definition, BOM item information tasks and required competencies to perform them. BO formalization in a structure (WBS).

### Edit Business Opportunity

Business Opportunity	
Name	ISOIN Loading Assy-Passegateway
Description	Loading Assy-Passegateway
Title	Loading Assy-Passegateway
URL	www.isoin.es
HTML	www.isoin.es
Business Opportunity Details	
Collaboration Opportunity Language	Spanish
Reference Sector	Aeronautics
Reference Document	<a href="#">Open document</a>
Contract Type	normal contract
Target Price	250000
Objectives	To manufacture and assembly the parts of the component. Design and manufacturing of the necessary tooling
Duration	1 year
Start Date	2009-06-01
End Date	2009-06-18
Product Specification	Loading Assy-Passegateway
Reference Product Volume	1

S1: Home
S2: Select CO
S3: Tasks
S4: Scheduling

BO Overview

**Bill Of Material**

Collaboration Opportunity

- [-] ISOIN Loading Assy
- [-] Passegateway
- [-] **Final Product Loading Assy**
- [-] **Passegateway**
  - [-] Lower sheet assembly
    - Gusset\_35-92107-0701
    - Gusset\_35-92107-0702
    - Gusset\_35-92107-0801
    - Plate\_35-92107-1601
    - Fitting\_35-92107-0601
    - Supplement\_35-92107-130
    - Lower Sheet\_35-92107-0201
    - Profile\_35-82107-0404
    - Angle\_35-92107-1201
    - Profile\_35-82107-0403
    - Fitting\_35-92107-0602

**Component: Final Product Loading Assy Passegateway**

Information	value	Information	value
Component ID	449	Component Name	Final Product Loading Assy Passegateway
Component Description	Final Product Loading Assy Passegateway	Component Specification	
Component Quantity	1.0	Component Target Price	9.0
Component Characteristics		Component Classification	
Component Unit of Measure	Pieces		

**Item Management**

Insert a new BOM Item

Delete this Item from the BOM

**Tasks List**

Task Name	Competency name	Capability name	Resource name	Potential Production Rate (AVG/Max)
			Tools	1/1
		Assembling	Riveting machine	1/1
			drilling machine	1/1





## Partner Search & Suggestion

- Search for relevant partners (from the cluster member pool)
- Web service implementing and executing search algorithms
- The service suggests the most suitable members for an Enterprise Collaboration regarding the requirements of a given business opportunity (BO)

Welcome!

# COIN Baseline Services

Search... GO

BO Forum Preparation **Formation** Management&Operation Dissolution

## Partner Search

### Partner Search Service Administration Interface

This interface allows manual execution of Partner Search Web Service and log listing

Available Business Opportunity:

Output:

Rank	Organisation 1	Organisation 2	Organisation 3	Organisation 4	Capacity*	Cost**	Total
1	INESPASA	AEROSUR	MEUPE	Aeronautical Cluster Forum	94	1045	86
2	AIRGRUP	INESPASA	INTEC-AIR	Aeronautical Cluster Forum	20	1145	60
3	AIRGRUP	INABENSA	MECAPREC	Aeronautical Cluster Forum	2	1190	36

\*Capacity: is the extra capacity in respect with the required one  
\*\*Cost: calculated by data inserted in Member Profiling



# Partner Selection & EC Formation

- Mechanisms for storing information on created ECs
- Structuring, storing and providing inheritance information to the EC formation process.

The screenshot displays the COIN Baseline Services web application. The top navigation bar includes links for Home VO, Formation, Management, Operation, and Dissolution. A 'Welcome Joe Bloggs!' message is visible in the top right. The main content area shows a 'VIMS' section with a list of 'Running VOs' and 'Terminated VOs'. Below this, a table lists VO details, including 'VO name', 'VO initiator', and 'VO planner'. A 'refresh' button and a 'new' button are present. A modal window titled 'VIMS' is open, showing a form for creating or editing a VO. The form includes fields for 'VO name', 'State of VO', 'Date of VO agreement', 'Date of VO creation', 'Date of VO Termination', 'VO description', 'VO purpose', 'VO sector', 'VO client', 'Client name', 'Client email', 'Client street and no.', and 'Client country'. A 'Completa' button is at the bottom left of the modal. Another modal window titled 'VIMS' is open, showing 'Editing partners for VO: Transmission for Motorcycles'. It contains a table with columns for 'VO partners', 'Company name', and 'Company details'. The table lists two partners: 'OCURRENZIA' and 'joey', each with a 'delete' button and a 'view' button. An 'add new Partner' button is at the bottom. 'abort' and 'save VO partners' buttons are also present.



# Activity Management Service

- Creation and management of activities of people within an EC
- Information about responsible and involved users, time constraints, and applicable resources
- Records any changes to activity structures during runtime
- Allows to analyze deviations from planned collaborations

## Activities

Name	Description	Progress	Start	Status	
Adapter__adapter_drilling	BO: Centrifuge Machine, Component: Adapter, Task: adapter-drilling	0	15/01/2007 0.00.00	pending	<a href="#">Edit activity properties</a>
Adapter__adapter_milling	Milling	0	28/01/2009 8.00.00	pending	<a href="#">Edit activity properties</a>
MechanicalSystem__assembly	BO: Centrifuge Machine, Component: Mechanical System, Task: assembly	1	26/12/2006 0.00.00	running	<a href="#">Edit activity properties</a>
Positioner__assembly	BO: Centrifuge Machine, Component: Positioner, Task: assembly	1	13/01/2009 6.00.00	running	<a href="#">Edit activity properties</a>
Revolute__revolute_lathing		0	01/01/0002 0.00.00	pending	<a href="#">Edit activity properties</a>
RotorAssembly__assembly	BO: Centrifuge Machine, Component: Rotor Assembly, Task: assembly	0	17/01/2007 0.00.00	pending	<a href="#">Edit activity properties</a>
Rotor__rotorfabrication_lathing	BO: Centrifuge Machine, Component: Rotor, Task: rotor fabrication - lathing	0	15/01/2007 0.00.00	pending	<a href="#">Edit activity properties</a>
< >					



# Collaboration Operation Service

- Problem-solving service
- Collecting and evaluating contributions from activity management service
- Compile solution forms, taking into account the experts suggestions, deciding which contributions shall be included in the solution
- Sent information to responsible people

**Save Details**

RUN Activity

**PAUSE Activity**

**Close Activity**

### Activity Definition

**Name:** Positioner\_\_assembly

**Description:** BO: Centrifuge Machine, Component: Positioner, Task: assembly

**Progress:** 1

**Start date:** 13/01/2009 6.00.00

**Duration days:** 34

**End date:** 16/02/2009 6.00.00

**ACTIVITY STATUS:** running

**Team:**

cantos  
ramiro

**Edit Virtual Team**

**Attachment:**

logistica\_viaggio.txt

**View File** **Delete**

**Sfoggia...** **Upload File**

logistica_viaggio.txt	<input type="radio"/>	<input checked="" type="radio"/>
	Publish	Unpublish

< >

Expert Contributions Files

File Name	Contribution	Expert	Creation Date	<input checked="" type="radio"/>	<input type="radio"/>
generatedWorking.xpd	0	Ramiro Antonio	16/01/2009 11.54.16	<input checked="" type="radio"/>	<input type="radio"/>

< >



# Product Management Service

- Share documentation of products and assemblies
- Structure complex products in catalogues, categories and different configurations

COIN Baseline Service

BO Forum Preparation Formation Management&Operation

Product Management

Product Management Web Services

Product: Lower Assy-Pass. C295

Configuration: 1

Add new product to the configuration:

Magnum Engine

add

BACK TO PRODUCT  
BACK HOME

Welcome!

COIN Baseline Services

Search... GO

BO Forum Preparation Formation Management&Operation Dissolution

Product Management

Product Management Web Services

Modify this product

Configurations:

[Configuration 1 delete](#)

Add new configuration

Magnum Engine

add

BACK CATALOGUE  
BACK HOME

name: Lower Assy-Pass. C295

code: 35921071

category: 53

description: Lower sheet assembly of Loading assy-passageway of C-295 military airplane

type: Complex

Associated files:

[377ce0 Quality certificate EH9100.pdf delete](#)

[b87e32 assembly plans.doc delete](#)

[3dd02c Incentive order.pdf delete](#)

[6ad051 aeronautic design charts.xls delete](#)



# Customer Support Service

- Access information of products and assets resultant from the EC project
- Structured classification in catalogues, categories and different configurations of the complex product

The screenshot shows the COIN Baseline Services web interface. At the top, there is a navigation bar with the COIN logo and the text "COIN Baseline Services". Below the navigation bar, there is a "Customer Support" section. The main content area is titled "Customer Support Web Services" and contains a login form on the left and a product search form on the right. The login form has fields for "Login:" and "Password:" with an "Enter" button. Below the login form, there are links for "hello", "login", "getProduct", and "createProduct". The product search form has a dropdown menu for "View Products catalog" with options "Aeronautical sector", "Electromecanical sector", and "Urban mobiliary". There is also a "Send" button and a "Product Search on DISCO" section with a search input field and a "Search" button.



# Member Rewarding

- Members can be rewarded for their skills and technical competencies
- Gained credits as performance indicators for participated activities in the portal can be seen

## Individual rewarding

Skills      Technical Knowledge      Language

Select one or more technical competencies and a level:

- CNC programming
- Tooling
- Machining
- Assembling
- Cost estimation
- Product optimization
- Legal assistance

- very low
- low
- medium
- high
- very high

## Individual Trends

Gained credits: "

Subject	Workspace	Amount	Behaviour	Time
Juan Reina	knowledge	2	document	2008-12-12 11:53:53
Jose Luis Cantos	social	2	chat	2008-11-12 16:53:53





# Enterprise Collaboration Baseline Services – Prototype Details

- core set of services and tools
- each ellipse represents a business service that is supported by a group of software tools and services

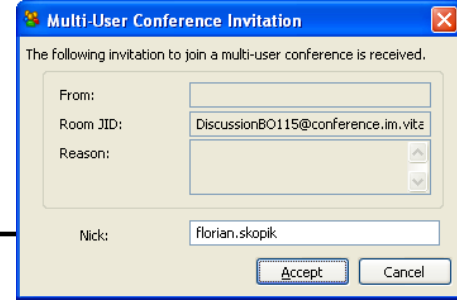






# Communication Services

- Communication between humans through e-mail, skype, instant messaging and voice chat
- Utilize the communication services directly
- Services can be used by other services/tools to distribute relevant information
- Notify about important events in all collaboration phases

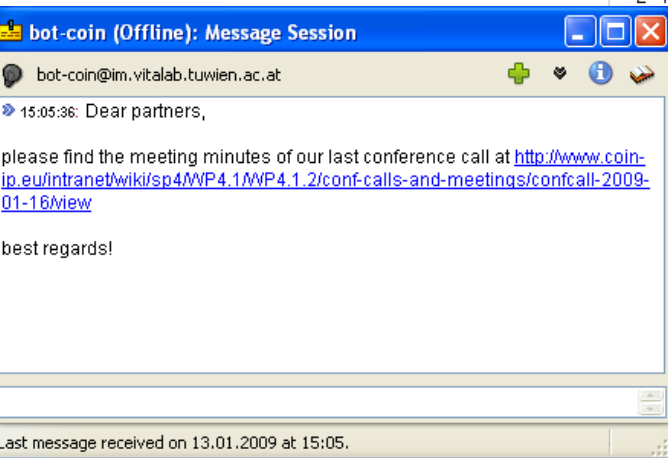


## Communication Portlet v2

Select Team and Recipients

All Teams (no restrictions) [v] Select  
---Select Recipient--- [v] Add

id#	First Name	Last Name	XMPP Nick	e-mail Address	Skype Username	Skype Status	
0	Florian	Skopik	florian.skopik	skopik@infosys.tuwien.ac.at	florian.skopik.at	Online	X
2	Michele	Sesana	michele.sesana	michele.sesana@txt.it	michele.sesana.it	Offline	X
	Simone	Stegel	simone.stegel	stl@biba.uni-bremen.de	sim.stegel	Not Available	X



IMChatRoom e-mail Skype

IM Chat Room

Name: DiscussionBO115

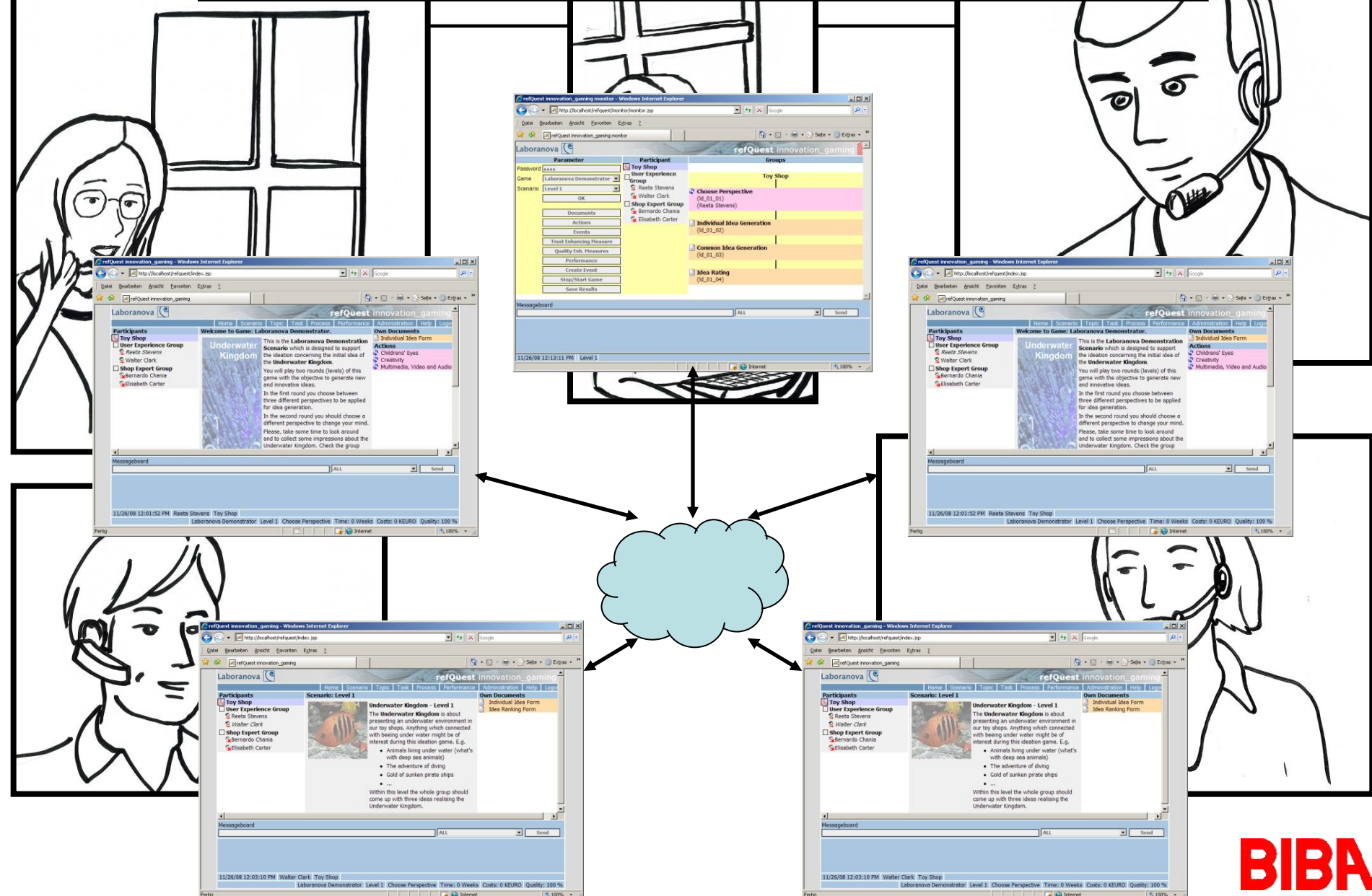
Open

endIMMessage to [florian.skopik]: true

AutoComp, TU Vienna, 11/2008

# Creating Business Opportunities

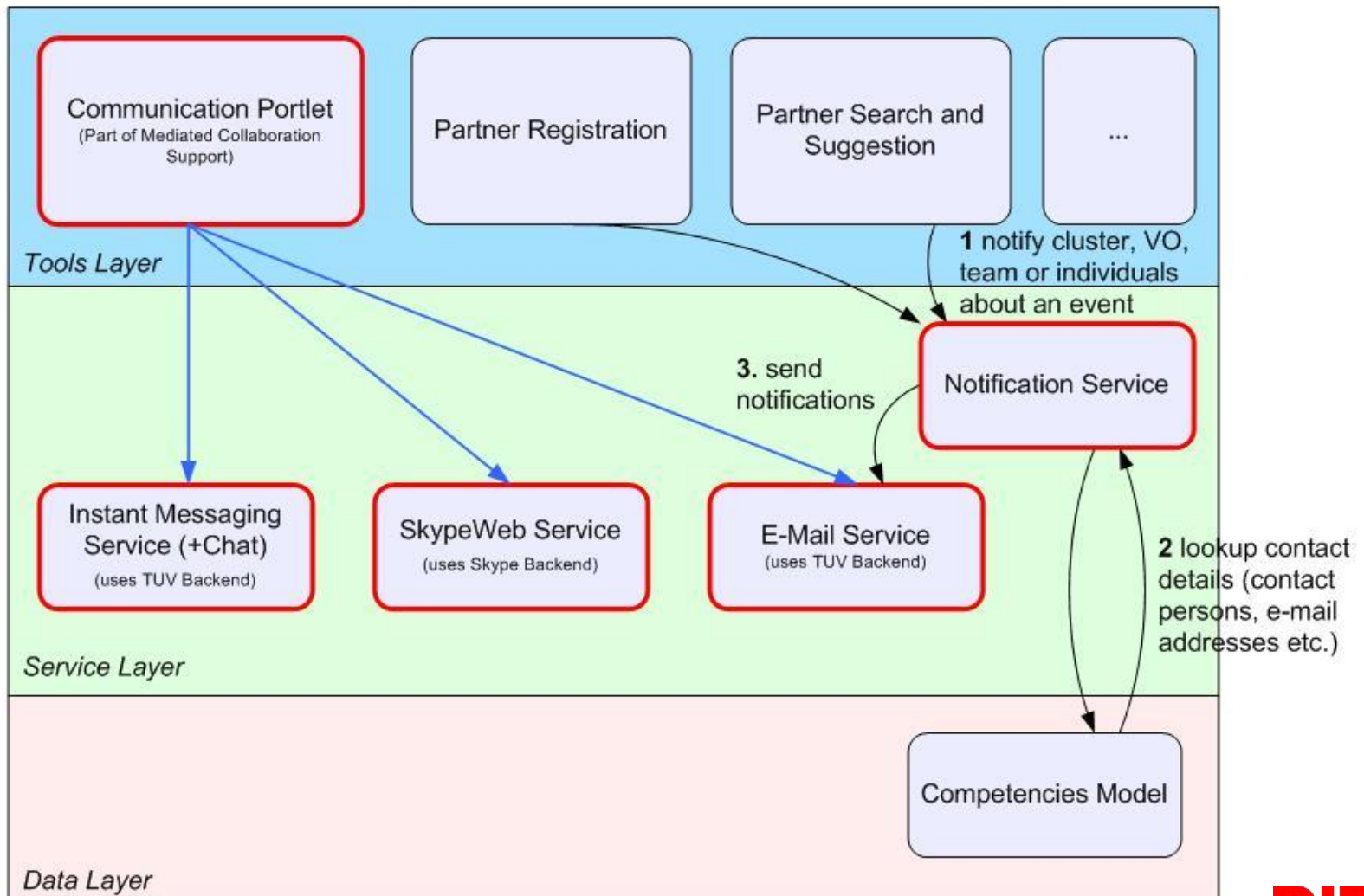
The players log into the game using a standard Web Browser.





# What's new in COIN EC Baselines?

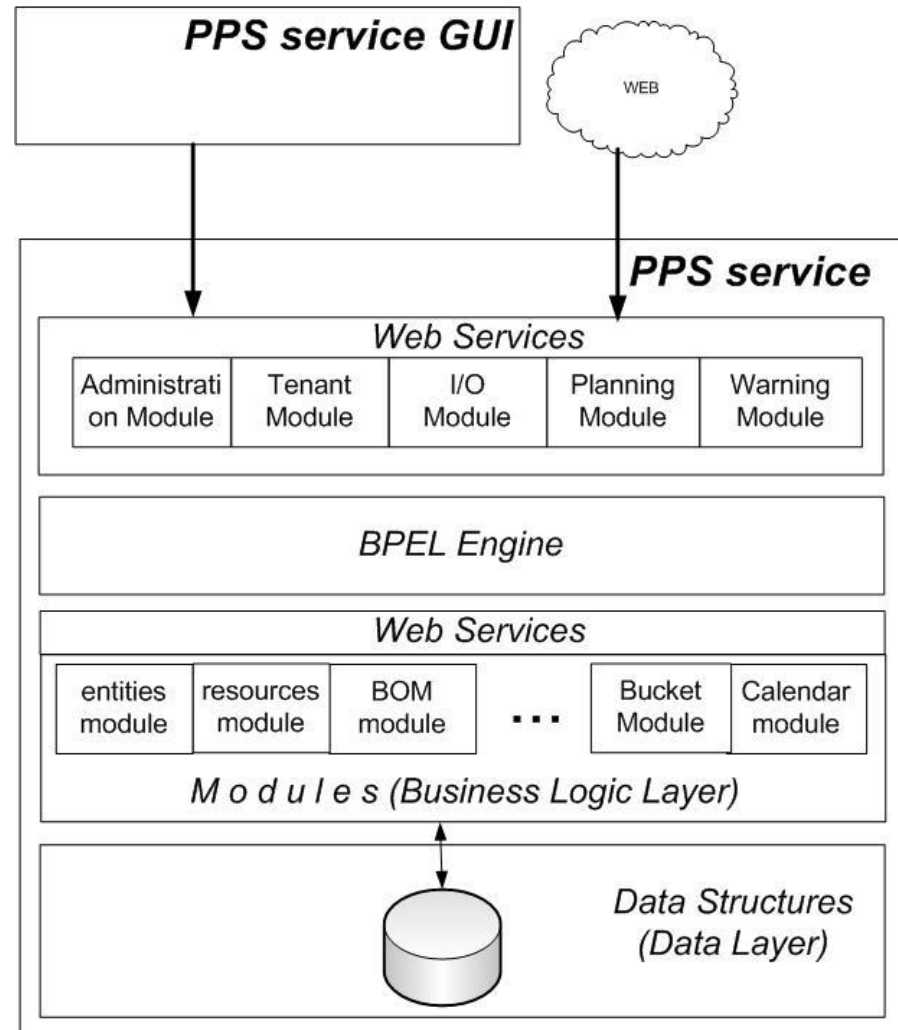
## Human Interaction Communication Services





# Production Planning Service (PPS)

- Purpose
  - SaaS Production Plan system
- Innovations
  - Production Plan solution agile and low cost for SMEs
  - Multi-tenant architecture
  - Natively integrated in C3P for collaboration purposes
- Main users
  - SMEs

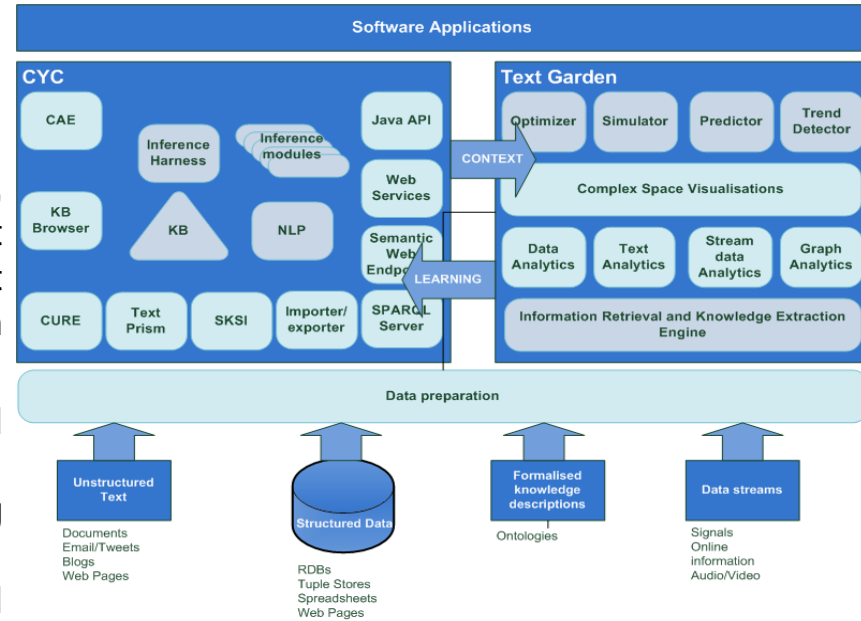


# Supply Chain Information Services (SCIS)

SCIS - covers supply chain or material logistic planning (+ alerting and management as an addition to planning) processes in an organisation.

## Two main innovative features in SCIS:

- Implementation of innovative features for **prediction, trend detection and anomaly detection**. Services that are in development are based on various methods that have been developed to handle vast amount of data in real-time.
- Integration of top-down (knowledge driven) methods and bottom-up (data driven methods) for the SCIS domain. Here the main innovation features comprise among others knowledge formalization of SCIS domain, justifying methods with reverse reasoning, and integration with CycKB.



## Innovative methods and services that are solely being developed for COIN are:

- **Anomaly detection service for SCIS:**
  - use of sparse vectors techniques
  - methods that are based on active learning methods
- **Trend detection service for SCIS:**
  - to predict long-term trends that can be calculated off-line on a basis of a wide time span
- **Prediction service for SCIS:**
  - to predict events in a complex environment with multimodal data and in real-time





# Service oriented text enrichment services (SOTES)

---

SOTES is set of services that provide the context to any textual information. These services are needed by service in COIN that are dealing with semantics.

Service oriented text enrichment services (SOTES) have been developed because they present the basic infrastructure for many planned and future semantically enriched services.

With SOTES the content is being enriched with the large contextual information that then provides far better results in semantic services ranging from machine learning algorithms, data, text and web mining, social software, network modelling tools to semantics and reasoning.

- We can distinguish two innovation streams:
  - development of all SOTES basic services: sentence splitting, tokenization, part of speech, entity extraction, entity resolution, co-reference resolution, anaphora resolution, topic classification, triplet extraction, semantic graph and summarisation.
  - first integration of all necessary services in the context enrichment suite



# Project Alignment Booster (PAB)

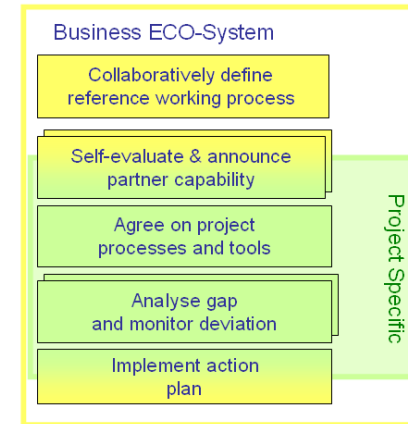
## Services for: Social and Collaborative Management of Projects, supporting

- Shared and delegated project management responsibility,
  - self organised and trusted project management activities
  - participative definition of project management and work processes,
- Identification of gaps, pm task fulfilment, learning objectives, risks

**The development is based on industrial requirements and SOA in CNO, PM, Web2.0,**

## Service Users

- Participants in global complicated project
- Business Ecosystems and Collaborative networks that want to improve operations



## Progress beyond State-of-the-Art & Innovations

- The project alignment process, supported by a complete tool.
  - Unified work processes in a distributed environment
  - Shared and delegated project management responsibility
  - Self-evaluation methodology for partners' capability and engineering competence.
  - Detecting the need for additional capabilities and competencies, project risks, possible timing problem
- The Project Alignment Model (PAM).
  - Configurable framework for describing project alignment tasks
  - Model template content for engineering projects
  - Including non-quantitative levels. E.g. organisational culture elements



# Collaborative Project Meeting Process Management (PMPM)

The transition to globally distributed engineering work requires a shift also project collaborative working methods and communication.

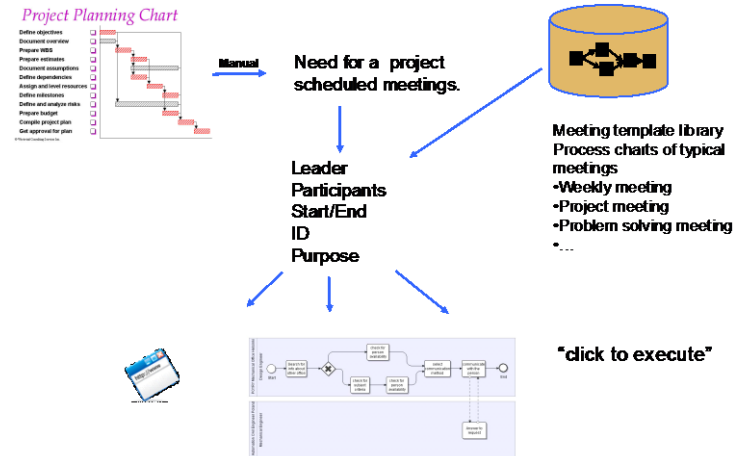
The development base on expressed industrial needs:

→ Management of asynchronous and long meeting processes.

- Participants from different locations, time zones and latitudes
- Managing the whole process,
- Usage of best fit existing tools for individual steps

Usage scenario:

- Global project organizations need distributed meetings.
- Asynchronous contribute to project management decisions in advance



# Trusted Information Sharing (TIS)

- Document-centric information sharing accounting for:
  - Dynamically changing skills, expertise and interests
  - Dynamically adapting and evolving social and collaborative structures
    - Altering social relations
    - Flexible activity participation

```
<author>
  <p:firstname>Florian</p:firstname>
  <p:lastname>Skopik</p:lastname>
  <p:organization>TU Vienna</p:organization>
  <p:email>skopik@infosys.tuwien.ac.at</p:email>
</author>
```

- Application Scenarios

- Sharing of sensitive data in highly dynamic environments
- Sharing of information in social campaigns (propagation of invitations)

**3. SPECIFY TRUST SHARING RULES**

Tag	Scope	Metric	Value
Rule 1: /paperdraft/author	scientific dissemination	Activity Success	> 50
		Personal Trust	>= 75
Rule 2: /paperdraft/body	scientific dissemination	Activity Success	> 75
		Personal Trust	> 90

- Innovative Concepts

- Dynamically changing access rights
  - Based on previous collaboration outcome
  - Based on emerging social relations
- Fine-grained sharing model
  - Define sensitivity levels within a document depending on info type (XML)
  - Share more information with closer collaboration partners (system managed)
- Actively facilitate collaborations
  - Push information to close partners (avoid spamming but stimulate interest)

Scope	Metric	Value
scientific dissemination	Availability	>
	Availability	
	Activity Success	
	Personal Trust	

# Trusted Online Help and Support (TOHS)

- Flexible discovery and involvement of trustworthy experts accounting for:
  - Dynamically changing skills, expertise and interests
  - Contextual constraints to find best available expert in community (availability, online state, organizational boundaries, comm. channel ...)
  - Personal preferences and social trust relations
- Application Scenarios
  - Ad-Hoc expert discovery in emergency situations
  - Team assembly
  - Interest group formation
- Innovative Concepts
  - Personalized expert discovery
    - Focusing on someone's surrounding social network
  - Flexible involvement of experts
    - No negotiations and agreements
    - But instant involvement through baseline interaction services
  - Account for contextual constraints, e.g., from higher level process
    - Deadlines and urgency influence interaction channel selection (e.g., e-mail v.s. Skype)

The screenshot displays the TOHS search interface. At the top, a search bar is labeled "One or more of specified skills:" with a dropdown menu showing "Software/SE/Specifications/Languages". Below this is a "TOHS Search One or More" button. A "Context parameters (optional)" panel is visible, containing:
 

- Expert is online (via Skype)
- HPS interaction (via Web services)
- Apply metric: Availability [50]
 

set value for minimum threshold (a number between 1 .. 100)

 The background shows a social network graph with nodes representing experts and edges representing relationships. Visible names include Giovanni Giuliani, Sebastian Dustdar, Florian Skopik, Hong Linh Truong, Stephane Corlosquet, Christian Melchiorre, Simone Stringa, Marcel Tilly, Christoph Dorn, Marco Aiello, Dino Baggio, and Dario Moretzeny.