Enterprise Collaboration Maturity Model (ECMM)

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- Methodological approach to assess the readiness of organizations of different sizes in terms of **interoperability** and **collaboration** capability.

- The structure used is inspired on **maturity models**, which have proven to be successful in other domains like software engineering.

- This methodology is being developed within the COIN European Research project.
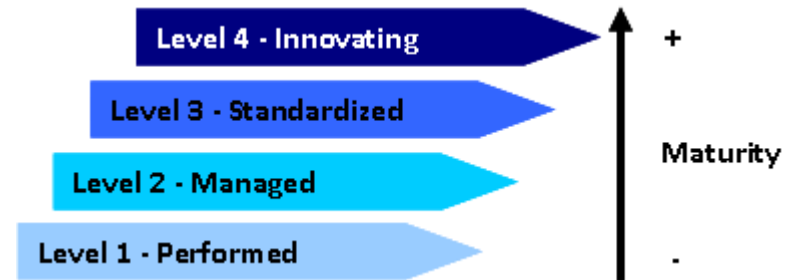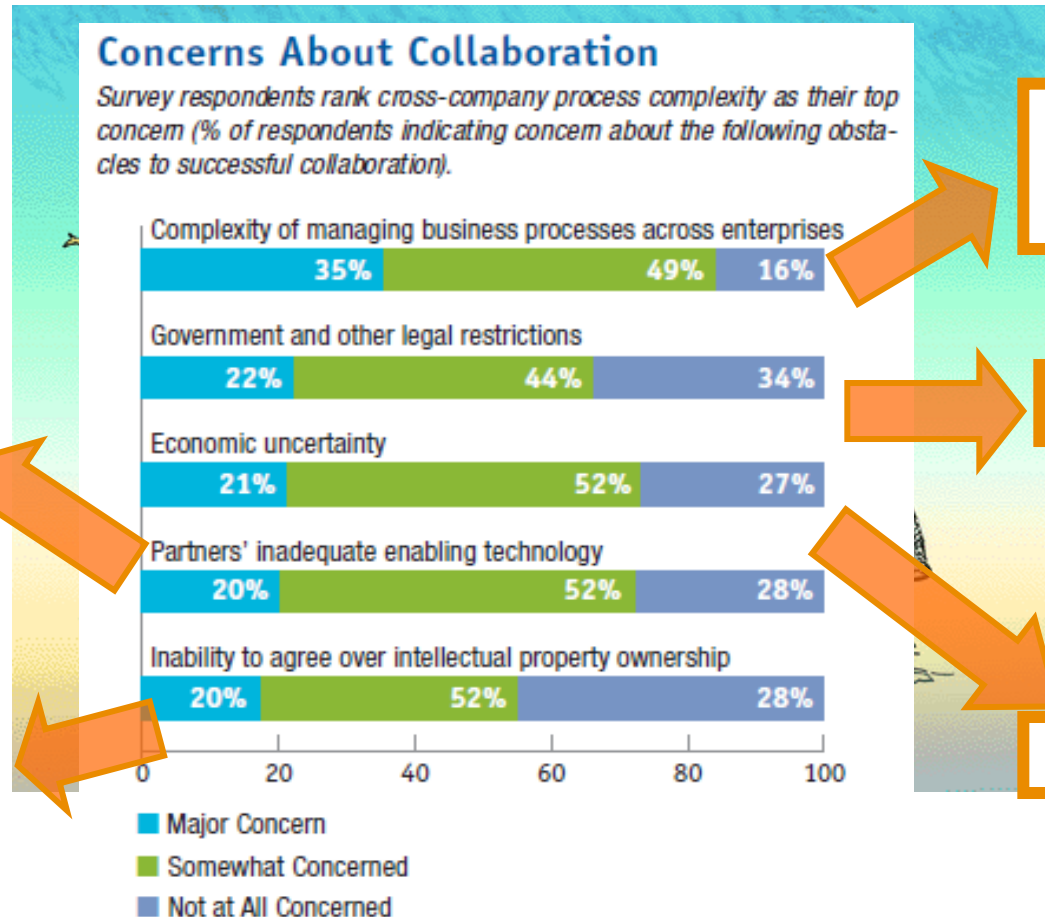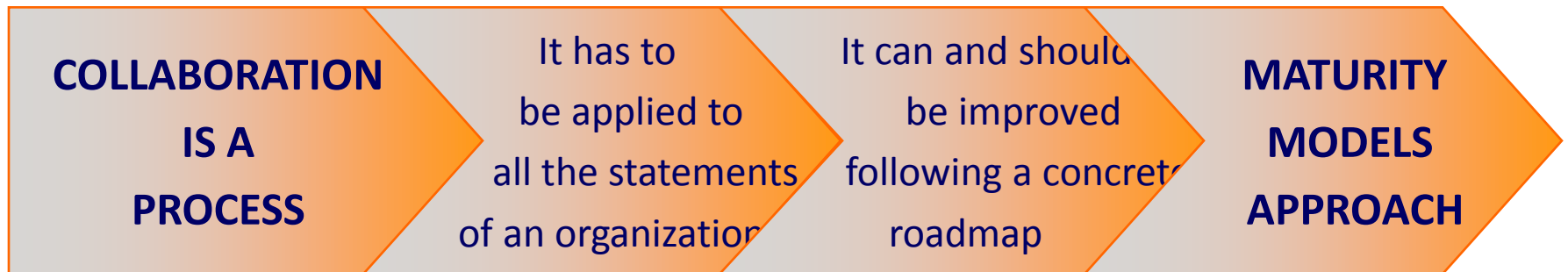
Overview

- Motivation

- ECMM
  - Introduction
  - Structure

- ECMM Application into End Users
  - ECMM Phase 1 - First Assessment
  - ECMM Phase 2 - Improvement Implementations
  - ECMM Phase 3 – Re-assessment

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- Collaboration is a **global trend** in business nowadays …
- …but there are still some obstacles

Concerns About Collaboration

Survey respondents rank cross-company process complexity as their top concern (% of respondents indicating concern about the following obstacles to successful collaboration).

Complexity of managing business processes across enterprises
| 35% | 49% | 16% |

Government and other legal restrictions
| 22% | 44% | 34% |

Economic uncertainty
| 21% | 52% | 27% |

Partners' inadequate enabling technology
| 20% | 52% | 28% |

Inability to agree over intellectual property ownership
| 20% | 52% | 28% |

Major Concern
Somewhat Concerned
Not at All Concerned

Source: BusinessWeek Research Services

Intra-enterprise business processes management

Legal Issues

Technology

Economic uncertainty

IPR Issues

- **Collaboration** does not happen by chance.

- It has become a **top priority** for many organizations.

- Enterprises have become **networked enterprises** adopting innovative forms of collaboration to compete.

- But… for enterprises it is still a **hard task** to identify best practices and improvements to start implementing collaboration and interoperability practices.

How can my organization improve its collaboration strategy in order to plan future ways of action ?

ECMM

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- ECMM's main objective is to **evaluate and improve the capability for collaboration** of an enterprise inside its collaborative network and to **support collaborative and interoperability practices** in different collaborative scenarios.

- HOW…? Our approach:

| COLLABORATION IS A PROCESS | It has to be applied to all the statements of an organization | It can and should be improved following a concrete roadmap | MATURITY MODELS APPROACH |

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- Maturity model approach in order to:
  - Provide a standard definition of maturity in the collaboration process

  - Provide best practices and improvement recommendations related to the collaboration process

- Application of maturity model approach to assess networked organizations will provide:
  - **A place to start** : Where am I?

  - The benefits of a **community's prior experiences**

  - A **common language**

  - A **shared vision** for prioritizing actions

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- CMMI Structure, Why?
  - CMMI is very clear, well understood and applied within the industry (standard "de facto")
  - There are building blocks which should not be changed as:
    - Maturity levels
    - Process areas
    - Goals
    - Practices
    - Sub practices

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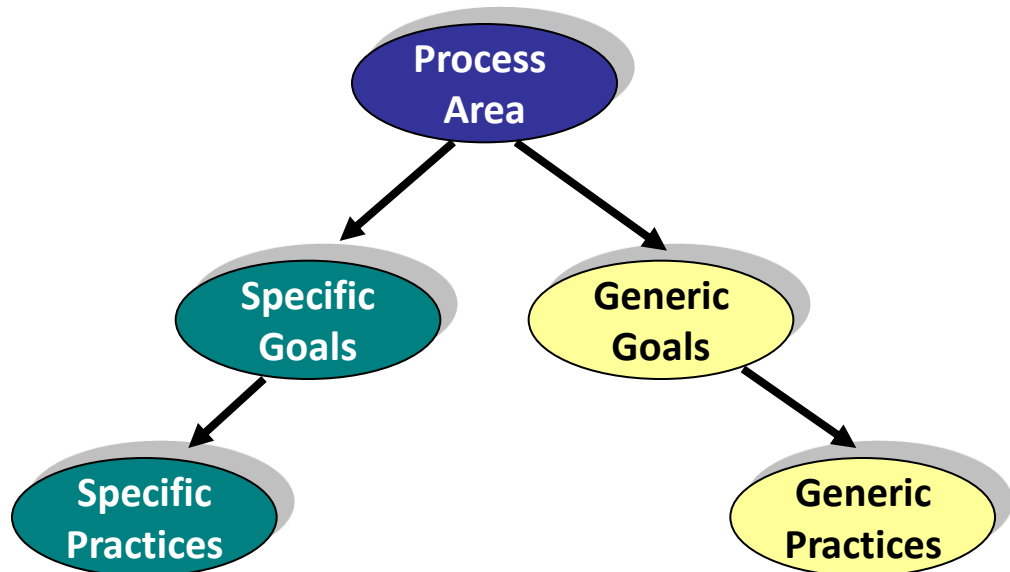
Process Area: Collaborative Business Process

- The purpose of **Collaborative Business Process (CBP)** is to establish and maintain a usable set of collaborative business process assets and work environment standards.

SG 1: Analyse Internal Business Processes

SG 2: Establish Collaborative Business Processes

SG 3: Monitor and Optimise Collaborative Business Processes

SG 1: Analyse internal Business Processes

SP 1.1 Link internal Business Processes
Partners link their existing internal processes and resources to achieve an agreed cross-organizational business process.

SP 1.2 Internal Processes Visibility
Each company selectively expose or hide information about their internal processes, whilst still being able to act in a cross-organizational business process. The level of exposure can vary, as the business relationship develops.

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Maturity Level – Domain – Process Area

MATURITY LEVELS		DOMAINS					
		Collaborative Project Management Configuration Management Requirements Management Process and Product Assurance	Business Management		Intellectual Property Rights Collaboration agreement Trust management	Measurement and Analysis Resource Management	
	Organisational Innovation	Risk Management Collaborative Product Solution	Business Governance Collaborative Business Process	Collaborative Customer Relationship Management		Defect and Problem Prevention	Interoperability and Collaboration technologies
	Open Innovation	Quantitative Project Management		Customer Evaluation		Training and Competency Development Organizational Process Performance	

ECMM Development Process
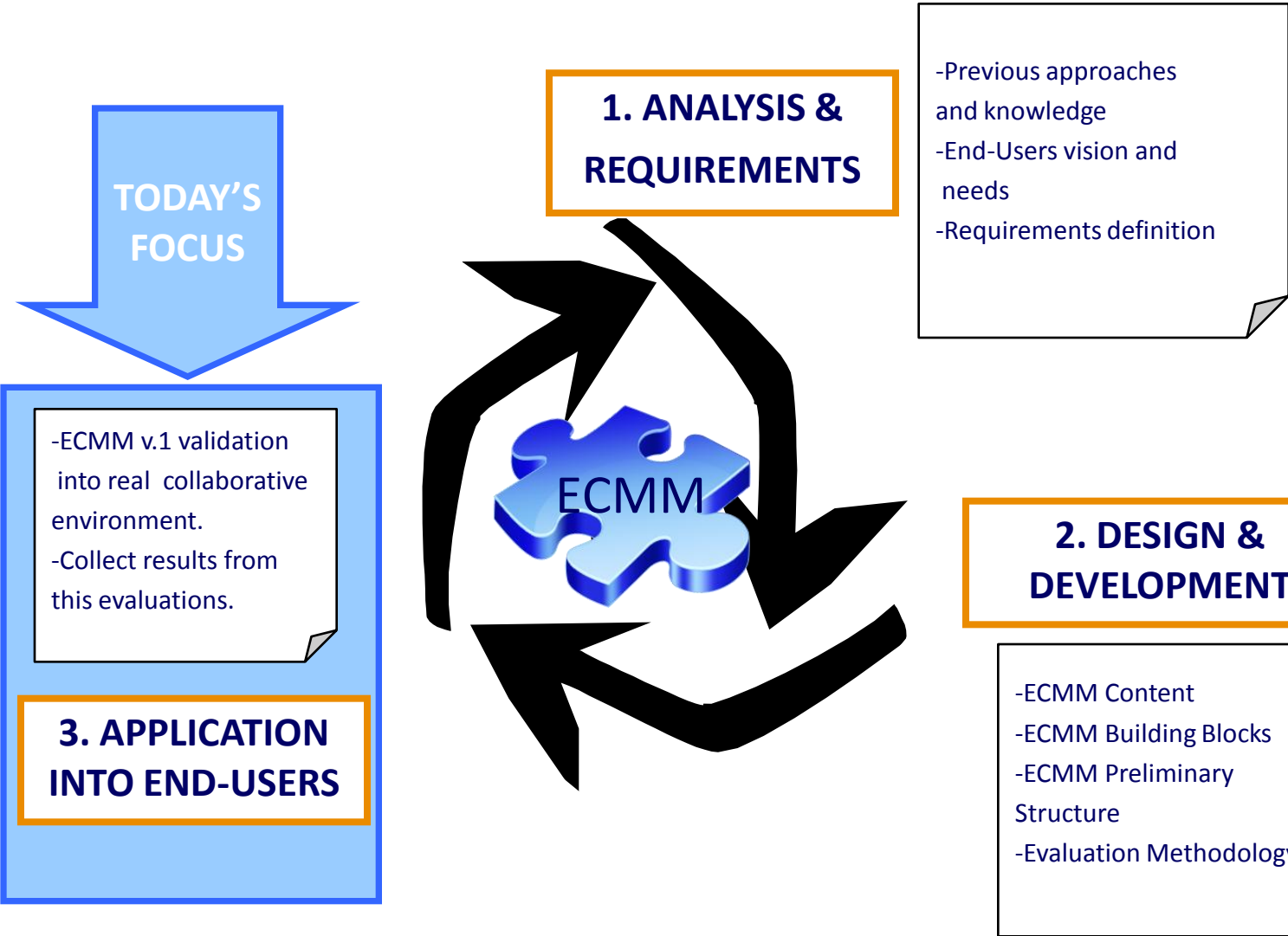
TODAY'S FOCUS

1. ANALYSIS & REQUIREMENTS

-Previous approaches and knowledge
-End-Users vision and needs
-Requirements definition

ECMM

-ECMM v.1 validation into real collaborative environment.
-Collect results from this evaluations.

3. APPLICATION INTO END-USERS

2. DESIGN & DEVELOPMENT

-ECMM Content
-ECMM Building Blocks
-ECMM Preliminary Structure
-Evaluation Methodology

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- **ECMM Phase 1 - First Assessment:**

  Analyse the practices of the collaborative network and provide improvement recommendations that helps the network to improve its maturity regarding collaboration and interoperability.

- **ECMM Phase 2 - Improvement Implementations:**

  Implementation of the new practices making use of COIN services.

  This phase includes activities of monitoring and support.

- **ECMM Phase 3 – Re-assessment:**

  Measure the practices of the collaborative network for a second time in order to check if the implementation of the improvement practices has achieved the expected results.

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ECMM Phase 1 - First Assessment

ECMM First Assessment	Means
Collect information about assessment Scope and context through a context questionnaire	Context Questionnaire
Carry out the assessment by means of the web-based questionnaires of the ECMM Process areas to be evaluated	Process Areas description / On-line questionnaires
Analyse collected data and elaborate the assessment report	Evaluation tool / Assessment report

Specific Practices by Goal

Assessment Report

IND Group

CONFIDENTIAL

29th September 2010

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Innovation		1	2	3	4	5
Activities related to innovation processes						

(Th... the annex at the end of the document.)

○ Yes, all the internal business processes are defined
○ Yes, many internal business processes are defined
○ Yes, there are some internal business processes defined depending on the member of the

- work processes
- management processes
- support processes

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Mark	Description
Red	The purpose of the practice is judged as absent or poorly tackled in the set of established practices. Deficiencies or problems have been identified and these issues *will* prevent the performance of the goal in case the deployment might be done in this way along the network.
Yellow	The purpose of the practice is judge as correctly tackled in the set of established practices along the organisation but it has not been clarified the possible establishment in the enterprise network. Deficiencies or problems have been identified and these issues *could* prevent the performance of the goal in case the deployment might be done in this way along the enterprise network.
Green	The purpose of the practice is judge as correctly tackled in the set of established practices so it would allow the performance of the goal in case the deployment might be done in this way along the enterprise network.
Not yet	The practice has not still performed because the collaborative project has not reached the appropriate point in the life cycle.
Empty	It has not been established a mark because the evaluation has not collected information.

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- Results: Comparison between the three companies (CBP)

Company 1

Company 2

Company 3

Recommendations related to SG1-SG2-SG3

-CBP definition and modelisation

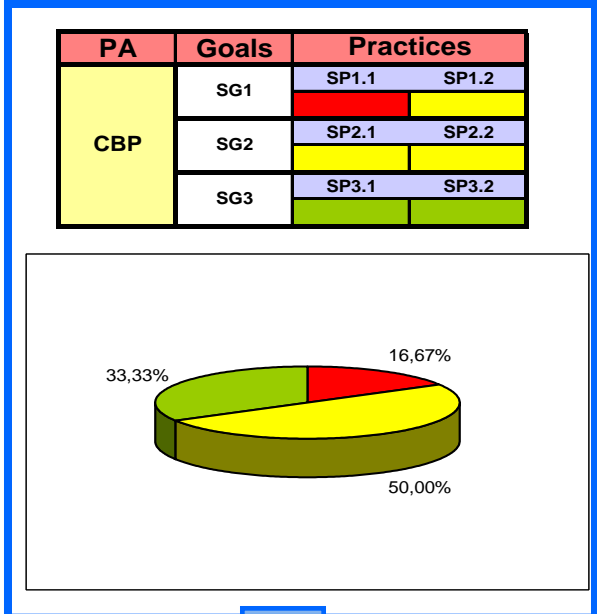-Internal processes visibility definition

-CBP monitoring and measurement

Recommendations related to SG2-SG3

-CBP definition with standard format

-Quantitative performance metrics

Recommendations related to SG1-SG2

-Internal processes visibility definition

-CBP definition with standard format

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ECMM Implementation of Improvements	Means
Design and implementation of new practices in the collaborative network according to the ECMM **via COIN services**. Test, communication, training and dissemination of the new practices in the collaborative projects. Remote support (via email, phone, teleconference, etc.) of the implementation of the new practices.	ECMM-COIN relationship COIN Platform

	WP4.1 Baseline EC Services	WP4.2 c-Product Development Services	WP4.3 c-Production Planning Services	WP4.4 c-Project Management Services	WP4.5 c-Human Interaction Services
Customer Management					
Collaborative Customer Relationship Management	Service for Customer Support				
Customer Evaluation	Service for Customer Support				
Collaboration, Legal Environment and Trust					
Intellectual Property Rights	Service for Matching Competencies with Business Opportunity				
Collaboration agreement	Service for Matching Competencies with Business Opportunity	Semantic Cluster Management Services (SCMS)	PnP Collaborative Production Planning Portal (C3P)		Collaboration Visualization Tool (CVT)
Trust management					Collaboration Visualization Tool (CVT) Trusted Information Sharing (TIS) Trusted Online Help and Support (TOHS)

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Mapping COIN Collaboration Services – ECMM (extract)

| COIN WP4.1 Baseline EC Services	ECMM Process Area
Service for Maintaining Competencies Ensure all the information related to membership applicants of the cluster is appropriately registered, storing their competences into a database, supporting the publication and sharing of information between cluster members.	**Training and Competency Development** Develop the skills and knowledge of people in a collaborative way so they can perform their roles in the network effectively and efficiently.
Service for Matching Competencies with Business Opportunity These services support the VO formation phase, with the characterization of the Collaboration Opportunity, search for possible partners and identification of the most suitable ones based on their competences.	**Collaboration Agreement** Set up the terms in which the collaboration takes place as well as the management of the collaboration activities throughout the whole life of the collaborative enterprise. **IPR** Protect the works the members of the collaborative enterprise create and exploit.
Service for Tracking VO Members Progress These services support the VO management and operation by providing a catalogue of pre-defined indicators, estimating partner satisfaction, aiding collaborative design or supporting human interaction in the planning and scheduling VO management & Operation. ICT support for project management, human interaction, product development, and production planning	**Measurements and Analysis** Develop and sustain a measurement infrastructure that is used to support business management information needs in order to help making decisions that affect collaborative business outcomes. **Interoperability and Collaboration Technologies** Establish tools, techniques and methods for interoperability and collaboration
Service for Maintaining Knowledge and Training Maintain knowledge and training and fulfil an inheritance function.	**Training and Competency Development** Develop the skills and knowledge of people in a collaborative way so they can perform their roles in the network effectively and efficiently.

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- The purpose of **Collaborative Business Process (CBP)** is to establish and maintain a usable set of collaborative business process assets and work environment standards.

> **Recommendation.** *Model collaborative business processes following a standard format and modelling notation. Model the exchange of information linking the internal processes among the members of the network. The model of the collaborative business processes should cover: Work processes, Management processes and Support processes*

COIN Service: PnP Collaborative Production Planning Portal (C3P)
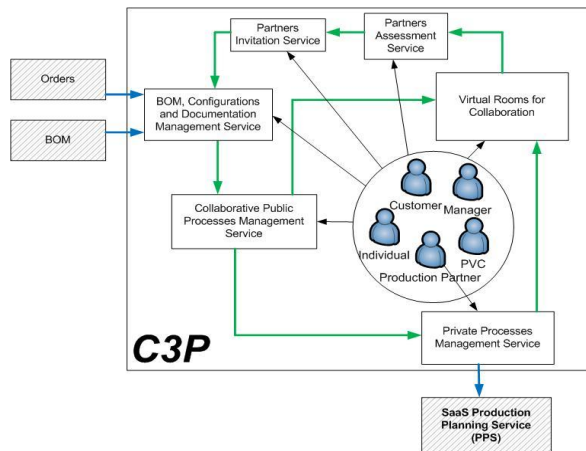
Model the business process using a formal notation language
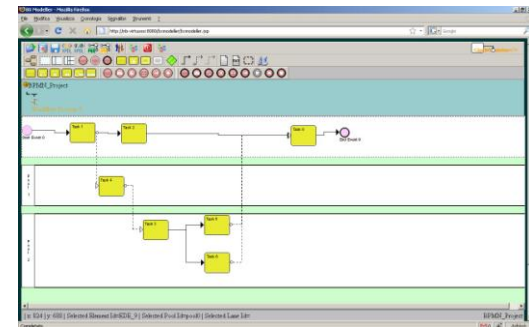
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ECMM Phase 3 Re-Assessment

ECMM Re-Assessment	Means
The (self)-assessment will make use of the online web-based questionnaires previously developed or should the option selected be on-site assessments	On-line questionnaires
Report the final assessment results and lessons learned. Comparison between the previous situation and the current one (wherever possible)	Final reports
Update and improve the ECMM based on the input received in the pilot.	Feedback questionnaires ECMM review

- **Improve the capability for collaboration** of an enterprise inside its collaborative network and to support collaborative and interoperability practices in different collaborative scenarios.

ECMM Outcome

Level 4 - Innovating

Level 3 - Standardized

Level 2 - Managed

Level 1 - Performed

Maturity

+

-

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