



## CREATE WP 4: INNOPEDIA

Face to face Meeting  
20 October 2009

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## Objectives

- ▶ set up and operate an Innopedia (wiki-type web site)
- ▶ make Innopedia operational
- ▶ advise air transport / student community to add content
- ▶ develop brochure to explain how Innopedia will work
- ▶ develop mechanism for reviewing entries and final authorisation for publication
- ▶ part Innopedia reserved (i.e. closed part)
- ▶ cover IPR

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## WP4.1 and WP4.2

### WP 4.1 Orientation (completed)

- investigate current practice of operating a wiki-type website
- prepare report

### WP 4.2 Innopedia set up (in progress)

- external consultant company will installed Innopedia
- incorporate Innopedia in ACARE web site
- perform tests to show the system works
- team will be requested to make entries to Innopedia
- prepare report

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## WP 4.3

### WP 4.3 Innopedia Brochure (to be initiated)

- develop brochure to stimulate making entries to Innopedia
- brochure will explain what the Innopedia is, how it is operated and how entries can be made
- distribute brochure via ACARE points of contact, to SME's via AeroSME, to the research establishments via EREA and to universities via the TUM and Pegasus networks
- publish brochure on websites ACARE, ASD, TUM and AeroSME

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## WP 4.4

### WP 4.4 Innopedia management (current)

- set up management structure to operate Innopedia
- develop system for reviewing entries (à la wiki)
- reviewers will be requested to cooperate
- at the end CREATE project Innopedia will be fully operational
- what is the position of ASD with respect to Innopedia management

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## Innopedia progress

- ▶ Progress made with Innopedia is for most part available on line, e.g.:
  - Extended TAG-list
  - Extended reference list
  - News page (incl. ASDNews aeronautics page)
  - Ideas Merging trial (4 ideas worked out)
  - Site statistics available on the site
- ▶ Report on WP 4.2 (90 %)



## Enlarging Innopedia community

- ▶ Study on social movements and wiki's
- ▶ Study on sustainable knowledge management and wiki's
- ▶ Tools introduction to Innopedia
  - MindMap
  - Knowledge Based Engineering
  - Technology Watch (web based)
- ▶ Innopedia Involvement Plan
  - <http://innopedia.wikidot.com/innopedia-dissemination>



## Social movements and wiki's

Klanderman's study identified four motives:

1. Social contacts and meeting other people (individual)
2. Expected gains with the voluntary engagement (e.g. learning, socializing with others, and meeting other people). Also losses (e.g. direct cost ) and opportunity costs (e.g., lack of time for other activities or income).
3. Collective motives (incentives) refer to the experienced importance of the common goals of a social movement. The higher the importance of the goals, the higher the motivation to participate should be.
4. Social identification processes. When persons feel and categorize themselves as members of a social movement, they are more likely to accept the norms and standards of the movement, resulting in higher motivation to contribute to common goals.



## Sustainable KM and Wiki's

- For Knowledge Management to be successful, a balance is required between three critical success factors and some necessary boundary conditions that have to be met.



## Sustainable KM and Wiki's

<b>1. Focus – Requirement</b> <ul style="list-style-type: none"> <li>▪ environmental pressure <ul style="list-style-type: none"> <li>○ social network</li> <li>○ colleagues</li> <li>○ management</li> </ul> </li> </ul>	<b>3. Motivation – Desirability</b> <ul style="list-style-type: none"> <li>▪ ambitions</li> <li>▪ attitude</li> <li>▪ perception <ul style="list-style-type: none"> <li>○ advantages</li> <li>○ disadvantages</li> </ul> </li> <li>▪ intrinsic motivation</li> </ul>
<b>2. Infrastructure – Ability</b> <ul style="list-style-type: none"> <li>▪ competencies</li> <li>▪ abilities</li> <li>▪ methods</li> <li>▪ techniques</li> <li>▪ tools / knowledge &amp; capability to use</li> </ul>	<b>4. Boundary Conditions – Availability</b> <ul style="list-style-type: none"> <li>▪ <i>working conditions</i></li> <li>▪ <i>finances</i></li> <li>▪ <i>time allocation</i></li> <li>▪ <i>support</i></li> </ul>



## Knowledge Based Engineering #1

- ▶ Engineering based on electronic knowledge models that use knowledge representation techniques to create computer interpretable applications to enable engineers to specify requirements and create designs options based on the knowledge stored in such models.
- ▶ IT-tools increase productivity of a single user and can generate more information in a given amount of time
- ▶ Engineering tools counter the dawning scarcity of design engineers.
- ▶ KBE constitutes a shift from technology based technology to information based technology and in essence reuses recorded / existing knowledge and supports knowledge enhancement.



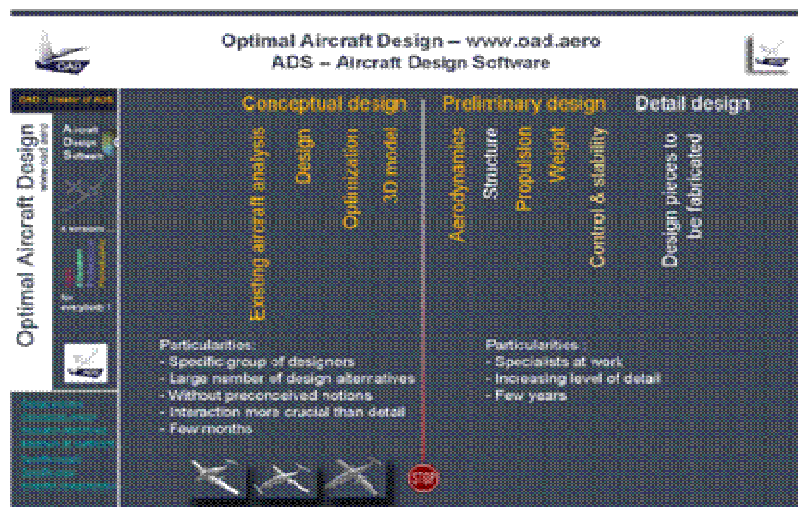
## Knowledge Based Engineering #2

- For the air transport system, knowledge based engineering can be used for airport design as well as aircraft design. Both are important, but the latter will be discussed here. Aircraft design involves many issues that require consideration, like:
  - Aerodynamics,
  - Performance,
  - Control & Stability,
  - Structures,
  - Aircraft Materials,
  - Fundamental Material Science,
  - Computational Mechanics,
  - Engineering Mechanics,
  - Production Technology,
  - Aerospace Management,
  - Simulations.

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## Knowledge Based Engineering #3



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## Technology Watch (web based) #1

- ▶ Technology Watching can reveal potential threats and opportunities; and may be used to support the strategic technology planning process of the aeronautics company in its sector.
- ▶ Technology roadmaps are developed to capture the plans within those industries (e.g International Technology Roadmap for Semiconductors) which is the result of a worldwide consensus-building process. The document predicts the main trends in the semiconductor industry spanning across 15 years into the future.

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## Technology Watch (web based) #2

- ▶ Aeronautics as a technologically advanced industry obtains its technologies from many areas of materials and processes and therefore cannot have such a well-defined view of the future as the semiconductor industry.
- ▶ Consequently, roadmaps are more general, referring to future markets, legislative constraints, prices, etc. while typically representing the views of the most important companies in the sector. (e.g Vision for 2020).
- ▶ The high degree of focus expressed in many technology roadmaps may easily overlook the emerging technologies as these do not have yet demonstrated their potential benefits.

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## Technology Watch (web based) #3

- ▶ Companies that rely on such sector roadmaps may not detect newcomers that are taking a foothold in the sector's markets with cheaper, better or faster technologies, so-called disruptive technologies, that subsequently threaten existing producers.
- ▶ Older products are typically at the top of their S-curves (only marginal improvements are possible), whereas the new technology is near the bottom of the S-curve, still allowing for a major increases in performance.
- ▶ With the present accelerating rate of technology change, it is no longer acceptable to assess developments in technology on a regular e.g. annual basis and more companies use internal and external resources to track relevant technologies and competitors and carry out a continuous Technology Watch.

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## Technology Watch (web based) #4

- ▶ Technology Watch tools en techniques comprise:
  - bibliometric analysis,
  - data and text mining and
  - tools incorporating intelligent processing relying on ontology-based methods.
- ▶ The development of the Semantic Web will improve the effectiveness of intelligent retrieval systems. The Semantic Web is being designed with a view to automated knowledge retrieval and integration, which will simplify and improve the efficiency of the 'front end' of retrieval systems.

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## WP4 Financials

Cost item	Hours	Subcontracting	Other
WP 4.2 - Innopedia	X	€	
WP 4.3 - Brochure	X	€	
USB	x	€	
Tools	X	€	
Ads	x	€	
Design contest	X	€	€
WP 4.4 – Innopedia management	X		