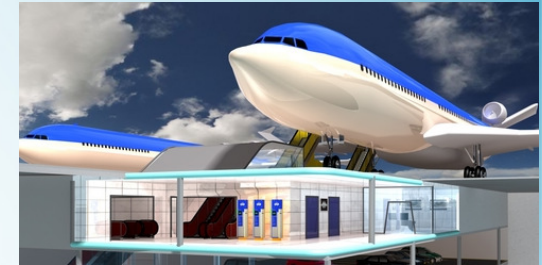
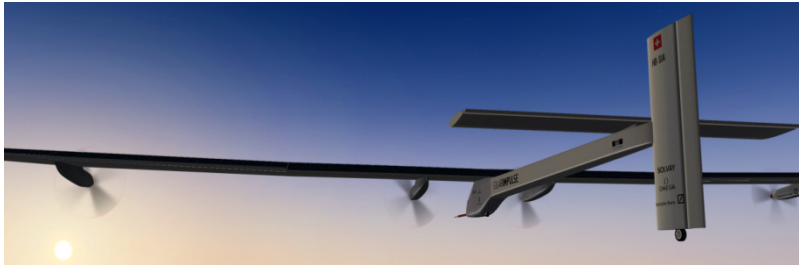


alTran
TECHNOLOGIES



Supporting Action: EU 7th Framework Program AAT-2010-RTD-1, Project Nr.: 266249

Coordinator: Altran Switzerland

Consortium partners:

EADS Innovation Works (FR/DE), Carl Zeiss (DE), Altran (F + BE) and ABB / Micos (CH)

INNOVATION MANAGEMENT SW PLATFORM FOR AERONAUTICS A web based tool

Project Scope and Objectives

Background – Predecessor Projects

Out of the box (ACARE¹ Study 2006-2007)

- Objective: identifying innovative, discontinuous, revolutionary and radical concepts and technologies for air transport of the future.
- Phase 1: creative ideas and concepts were identified (100 ideas)
- Phase 2: ideas were assessed based on their feasibility in terms of customer acceptance, economics, efficiency and technologies:

Six promising ideas:

- sustainable propulsion concepts
- the use of ground power to increase the efficiency of flying
- autonomous guidance and control for air vehicles
- personal air transport systems
- novel ways to connect people with aircraft
- the concept of the airborne cruiser and its feeder aircraft



- Benefits: a more structured approach for thinking about radical changes in Air Transport on a European level.

¹ACARE: Advisory Council for Aeronautics Research in Europe

Project Scope and Objectives

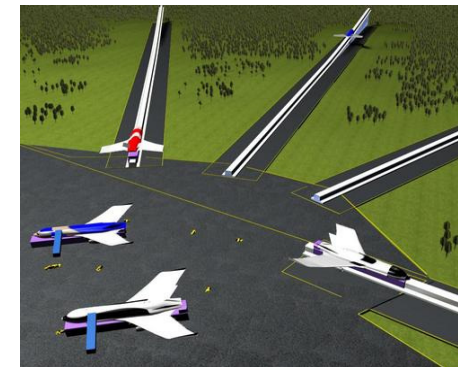
Background – Predecessor Projects

CREATE (FP7 Project, 2008-2010)

- Objective: Design and implement a process to collect and assess innovative ideas for the future of air transport (2040 and beyond)
- Novel ideas will be collected through a workshop and the voluntary stakeholder contributions via a WIKI type of website:

Innopedia - the wiki for ideas in Aeronautics & Air Transport: <http://innopedia.wikidot.com>

- Project activities:
 1. Technology Watch
 2. Idea Generating Workshop
 3. Merging of Ideas
 4. Assessment of Ideas
 5. Internet based aeronautics WIKI
 6. Incubation of Novel Ideas



Project Scope and Objectives

FP7 Call: “Platform to stimulate the development of breakthrough technologies and concepts enabling step changes in aviation”

Expected impact:

The platform should demonstrate the ability to identify, assess, nourish and facilitate the development of breakthrough technologies and concepts that could become operational towards the second half of this century.

Scope:

The platform should go beyond the proof of concept developed in the CREATE project by actually performing the implementation and operation of the comprised elements.

Project Scope and Objectives

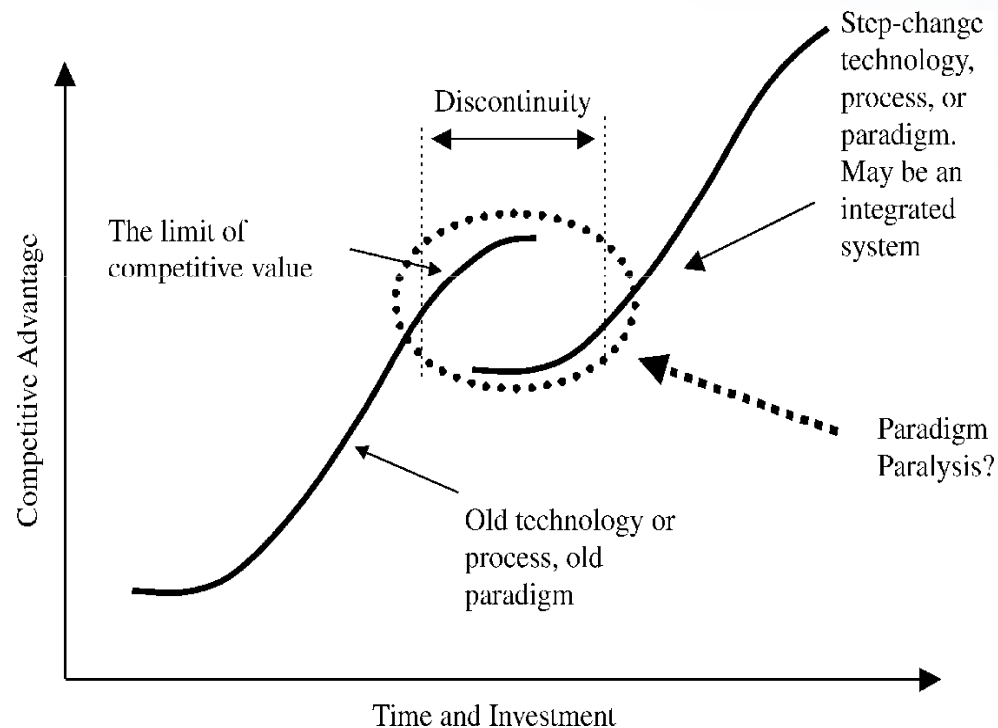
Benefits

The newly developed software-based innovation platform for aeronautics and the associated launch & real case application with industrial partners shall lead to:

- Increase in innovation efficiency (goal-oriented, systematic and model-based approach to innovation => *breakthroughs*)
- Business process integration of innovation process & platform (work-flow, dashboard)
- Fostering continuous and process-flow based collaboration between stakeholders: user communities !
- Establishing a database to efficiently manage knowledge

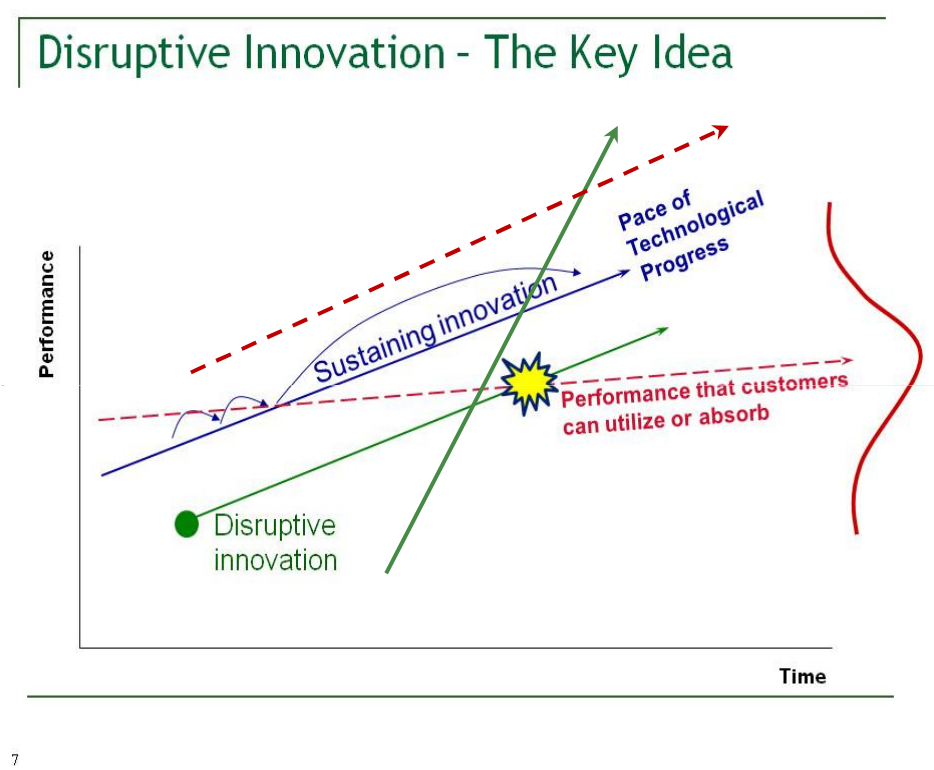
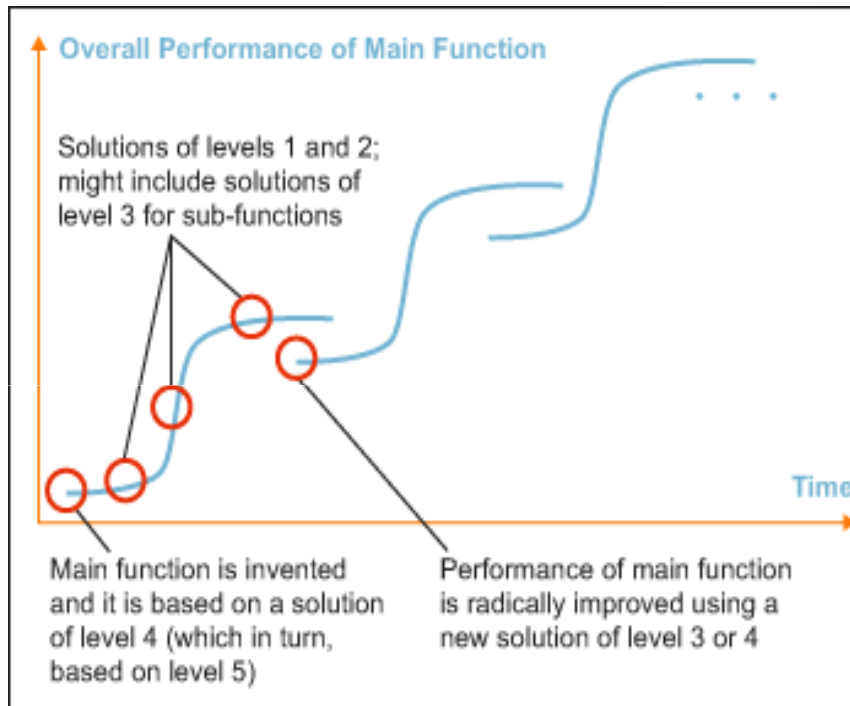
Achieve and keep innovation leadership in Europe (sustainable innovation, based on incremental and breakthrough changes)

How to achieve “Sustainable Innovation Cycles” & Breakthroughs



Assure
“Continuity of
S-curves” and
Transitions
with clear
Created Value

How to achieve “Sustainable Innovation” and Breakthroughs



7

Innovation needs to be “well-timed”; too fast can be bad as well !

How to achieve “Sustainable Innovation” and Breakthroughs



Market Need vs. Voice of the Customer



*«If I had asked
people what they
wanted, they
would have said
faster horses. »
- Henry Ford*

Famous Historical Examples of Break-Throughs (Disruption)

Electric Cars vs. Combustion Engine Cars (1900)

Gas-Bulbs vs. Electric Bulbs (Edison)

Ice Harvesting vs. Freezers

Conventional (AgCl) vs. Digital Photography (Kodak => ...)

Conventional Disks vs. Laptop Harddisks (IBM => Hitachi)

Propeller vs Jet Engine

Electrical vs. Optical Communication

Discussion: *Anticipated Market Y/N ?* *VoC Effective Y/N ?*

Innovation in Aeronautics Europe



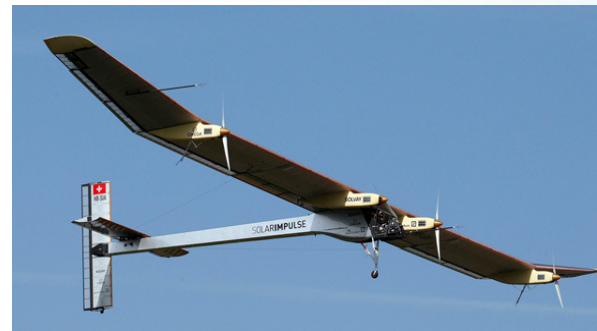
1969



1987



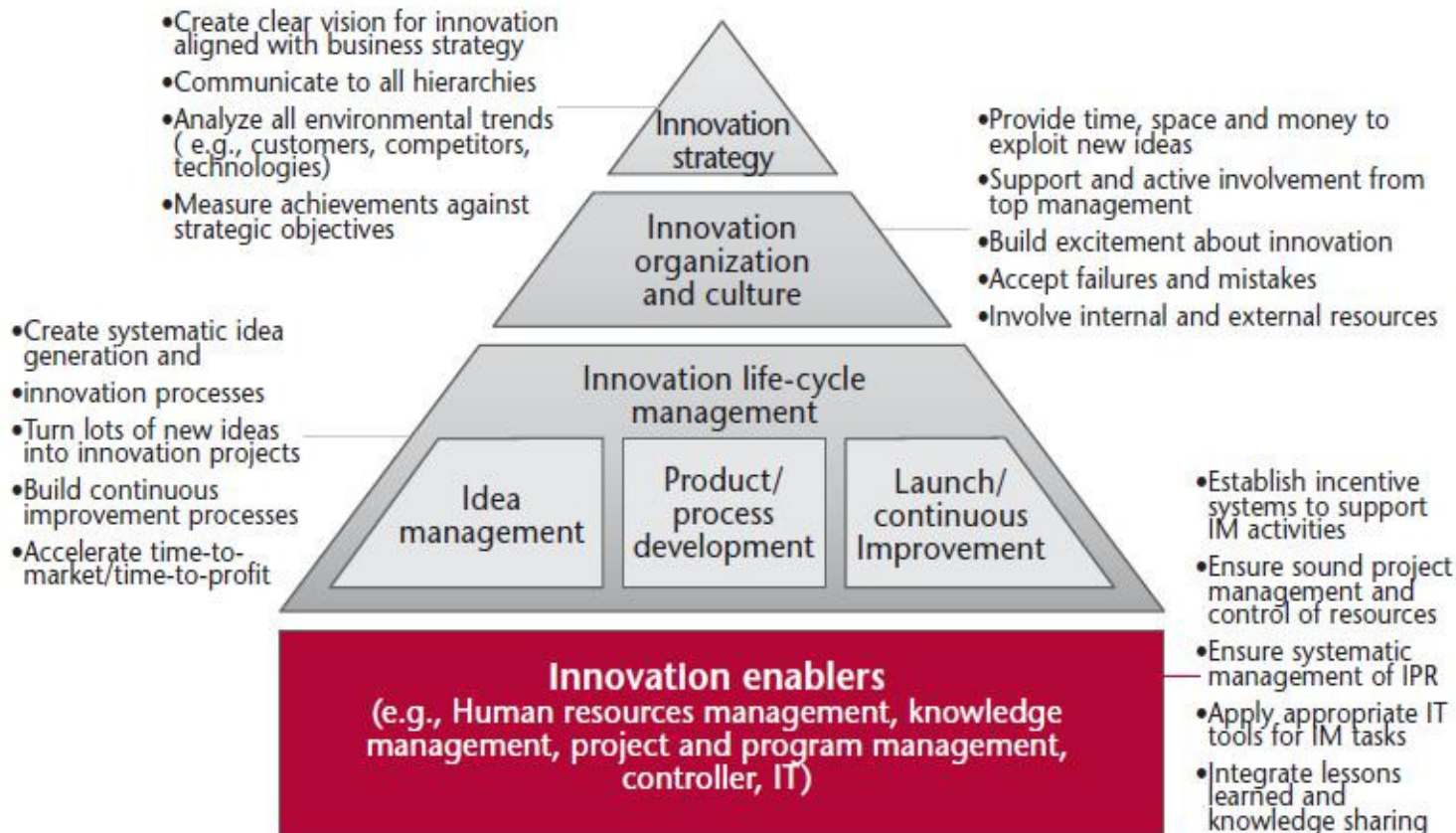
2005



2009

To achieve continuous and successful (sustainable) innovation in a company, several aspects and factors play a crucial role; all must be effective

FIGURE 16: Success factors in each dimension of A.T. Kearney's "House of Innovation"



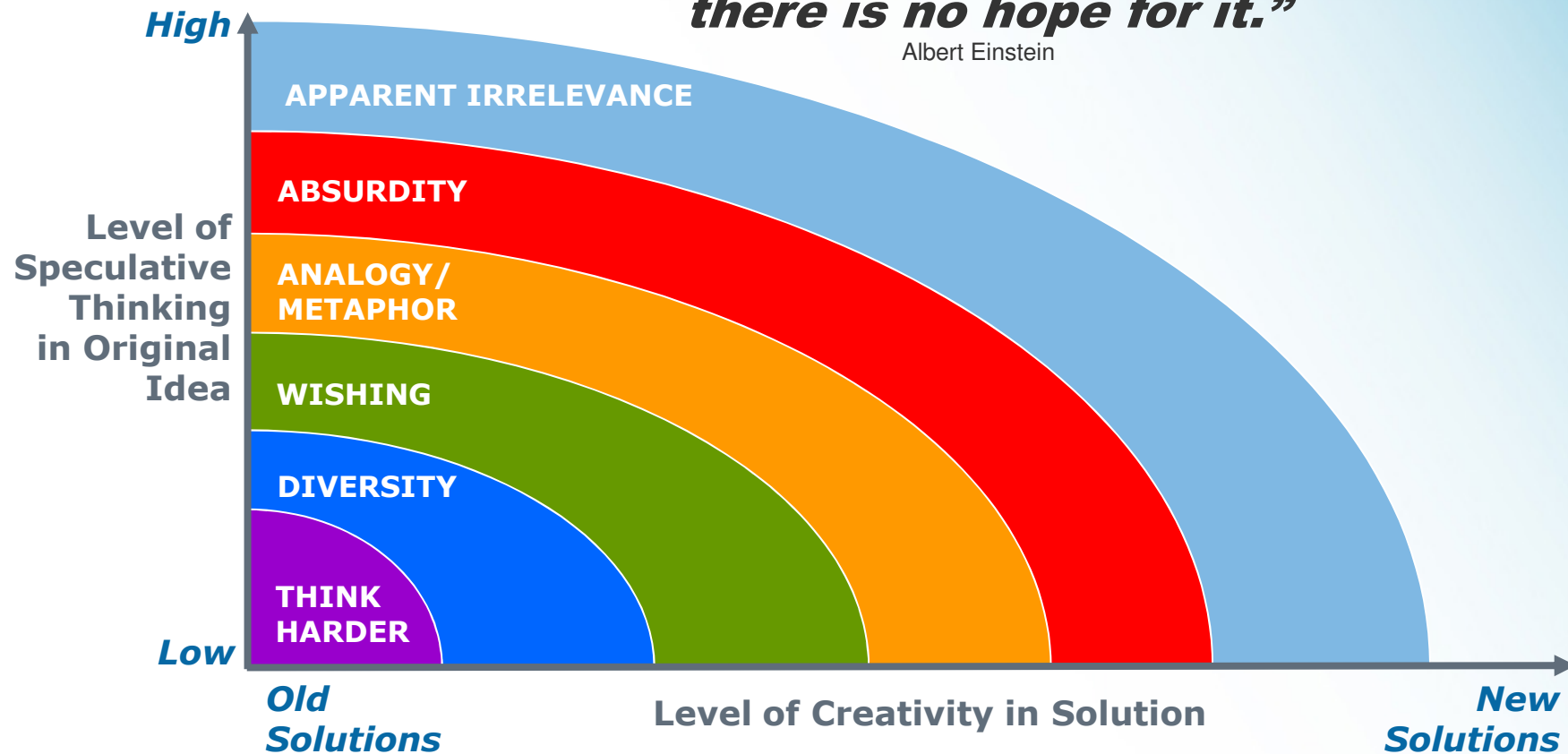
Creative Thinking

“If you can dream it, you can do it.”

Walt Disney

“If at first, the idea is not absurd, then there is no hope for it.”

Albert Einstein



Creativity: “Wishful Thinking” (Polaroid)



The creativity continuum

PARADIGM PRESERVING	PARADIGM STRETCHING	PARADIGM BREAKING
<ul style="list-style-type: none"> • “Safe” • Use of imagination not necessary • Not necessarily expressive • Free association • Can be used by experienced and inexperienced groups 	<ul style="list-style-type: none"> – Brainstorming – Brainwriting – Object Stimulation – Metaphors 	<ul style="list-style-type: none"> • Could be viewed as “unsafe” • Use of imagination necessary • Expressive • Fantasy or unrelated stimuli • Should only be used by experienced groups
		<ul style="list-style-type: none"> – Wishful Thinking – Rich Pictures

Source: McFadzean (1996a)

Lead Users (LU) Approach: Method (Eric von Hippel, MIT); Power of User Communities

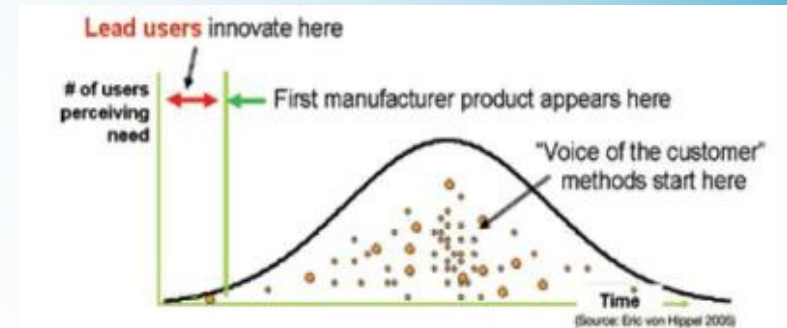
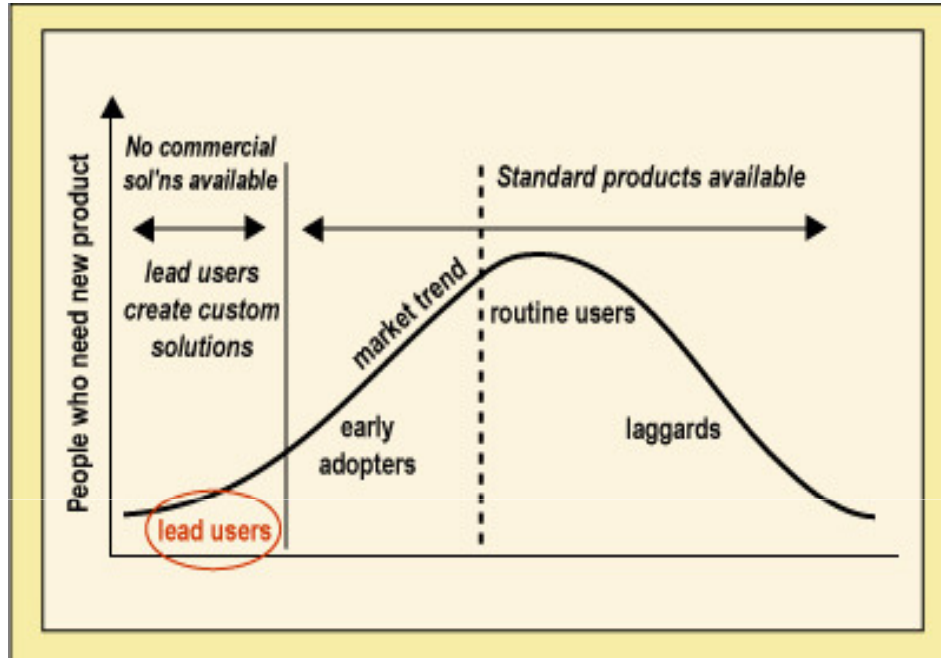


Figure 2: Distinction between lead user innovation and innovative ideas from customers



TO SHARE YOUR NXT PROJECT

GET STARTED ▶

Human Factors

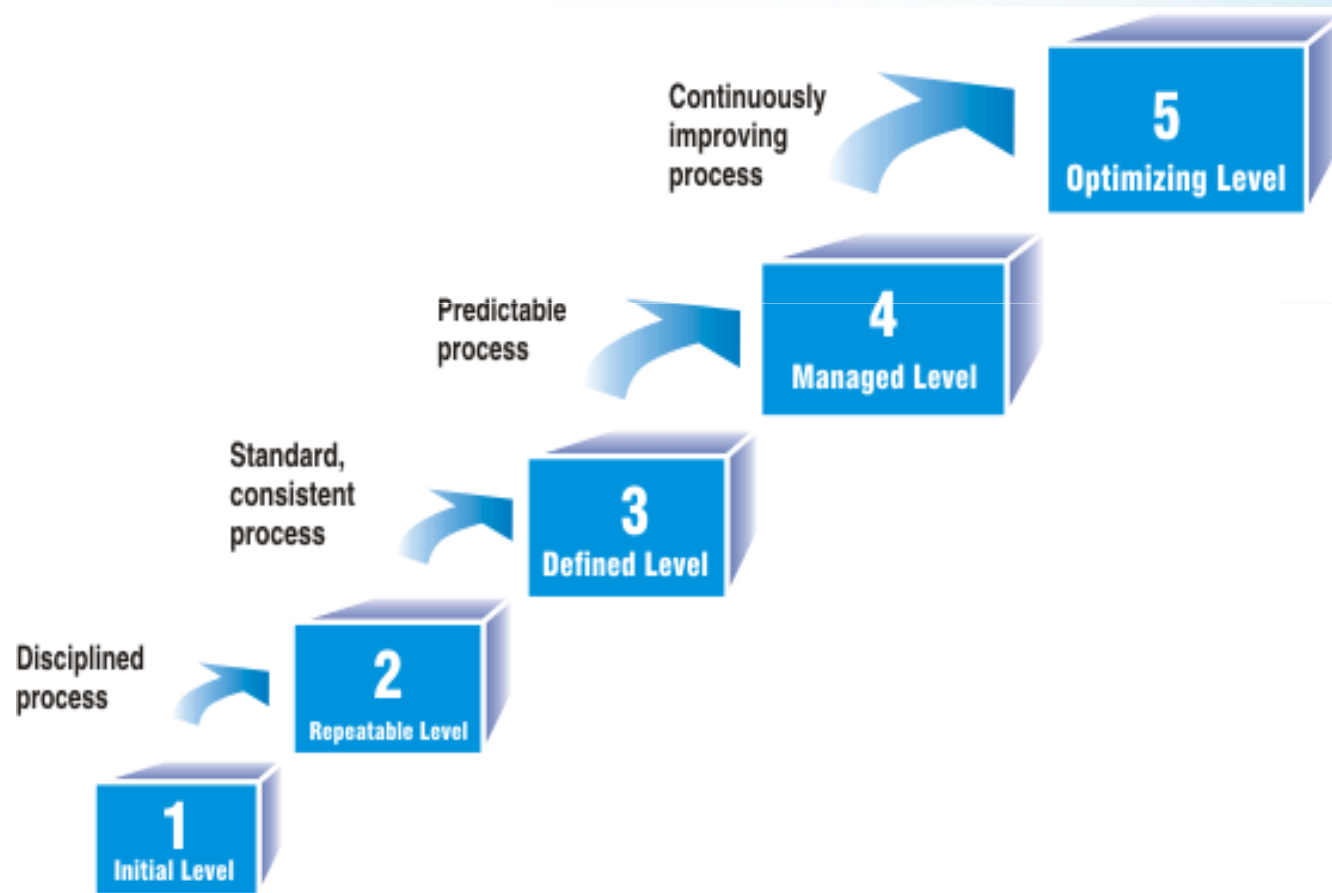
It is crucial to provide also:

- **Cross-functional Teamwork**
- **Incentives (innovation-shares, rewards)**
- **Motivation (roles, responsibilities, teams)**
- **Training (Creativity, Innovation)**
- **Facilitation (communication, exchange of information)**

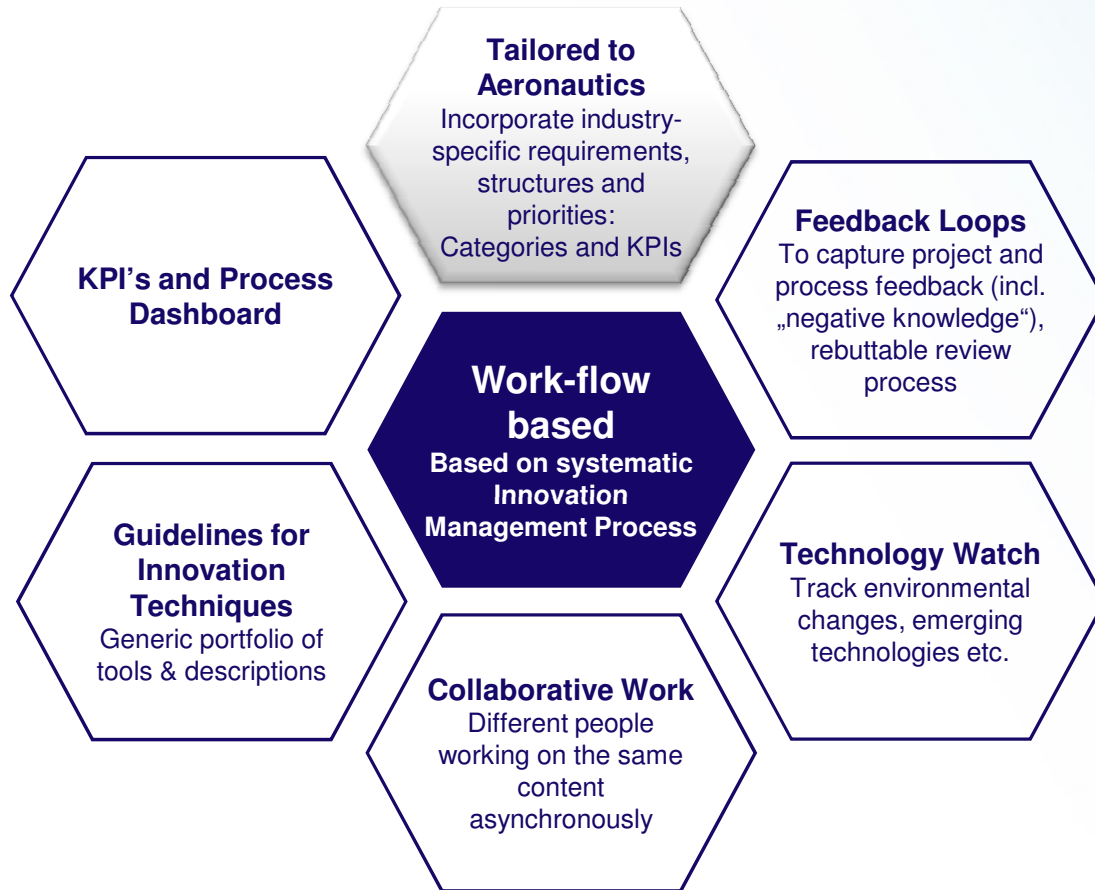
Innovation must be FUN !



Altran Innovation Processes Model: Analogous to CMMI & NPDP, with Innovation Management KPI Dashboard



A web based platform to support Innovation Management and to facilitate breakthroughs



■ For Innovators:

- Methods for generating ideas
- A pool for sharing ideas and getting inspiration
- An environment to find collaborators and work together on an idea
- A clear path to promote an idea and turn it into a project within the organization

■ Additionally, for Managers:

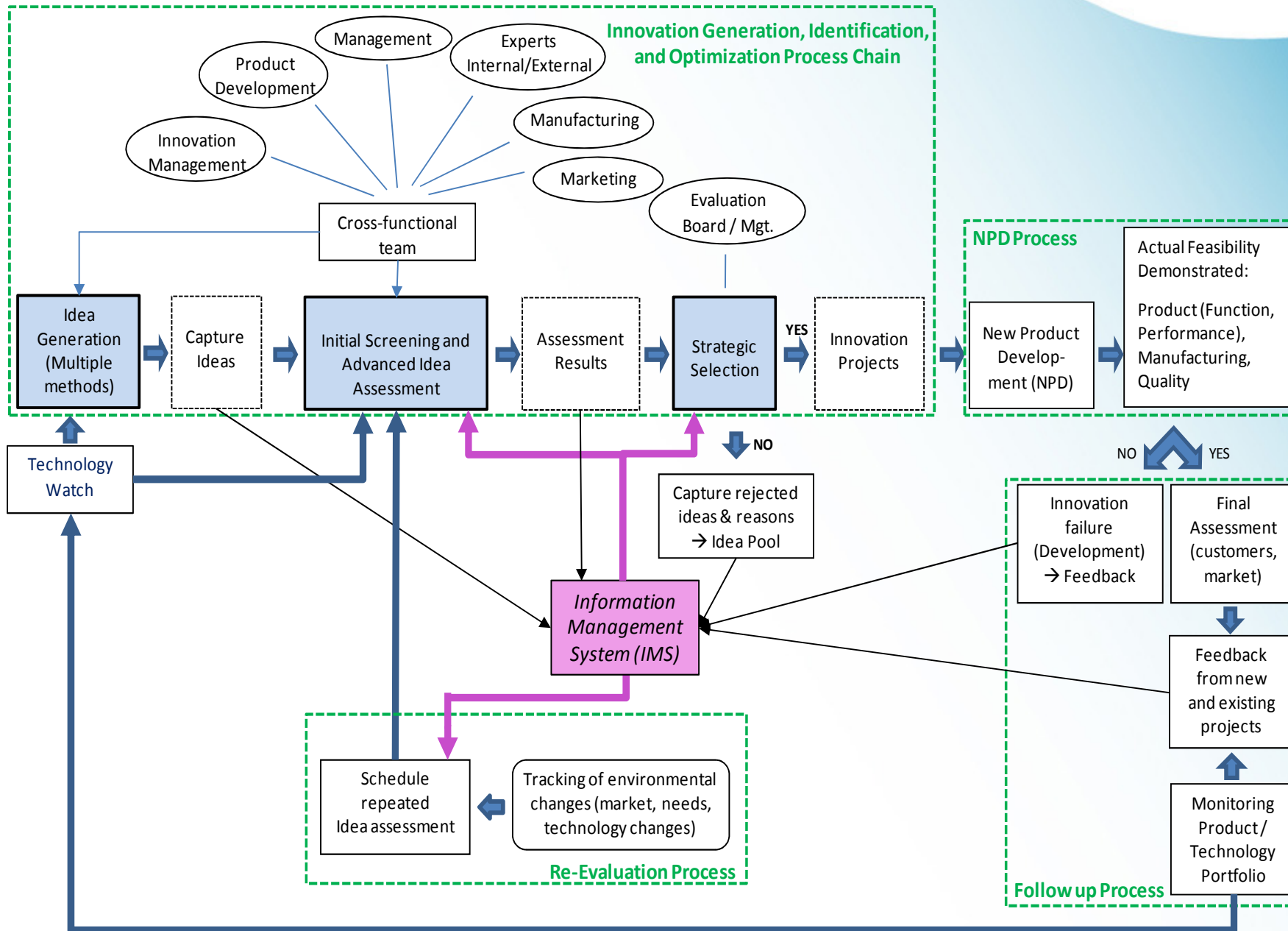
- Idea calls
- Spot talents and ideas
- Control over the process

■ Additionally, for Executives:

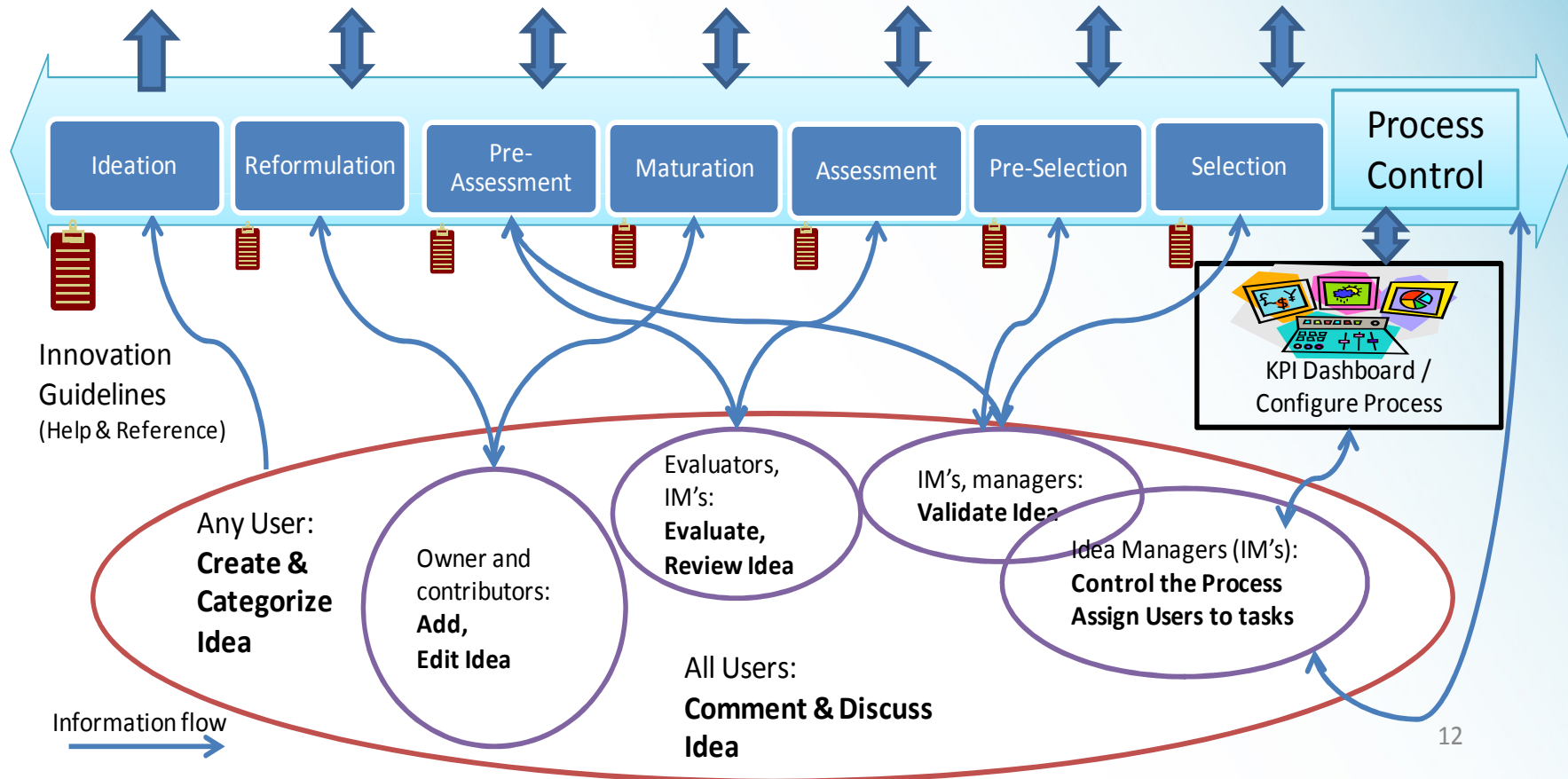
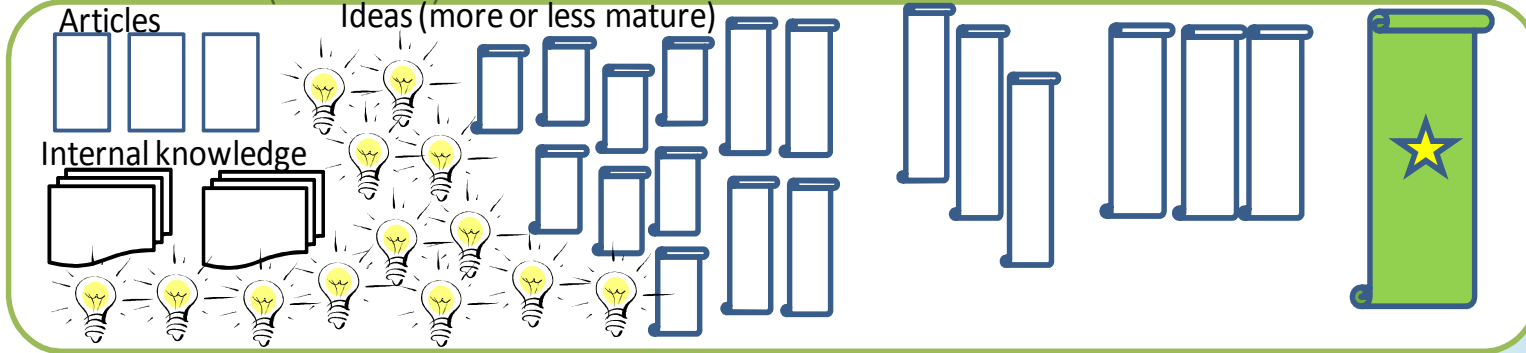
- Transparent Idea Promotion Process
- Involvement at all levels in the organization
- Assurance of a methodic Generation, Maturation, Assessment process prior to submission for Selection

- Boosting creativity
- Higher success in radical ideas + planning / execution

Altran Innovation Processes Model + FP7 SW Platform



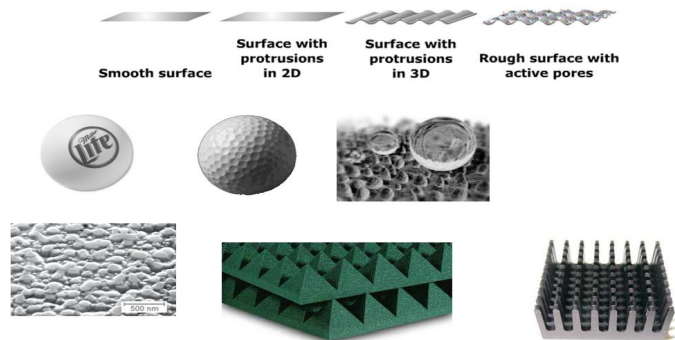
Content Database (Main Items)



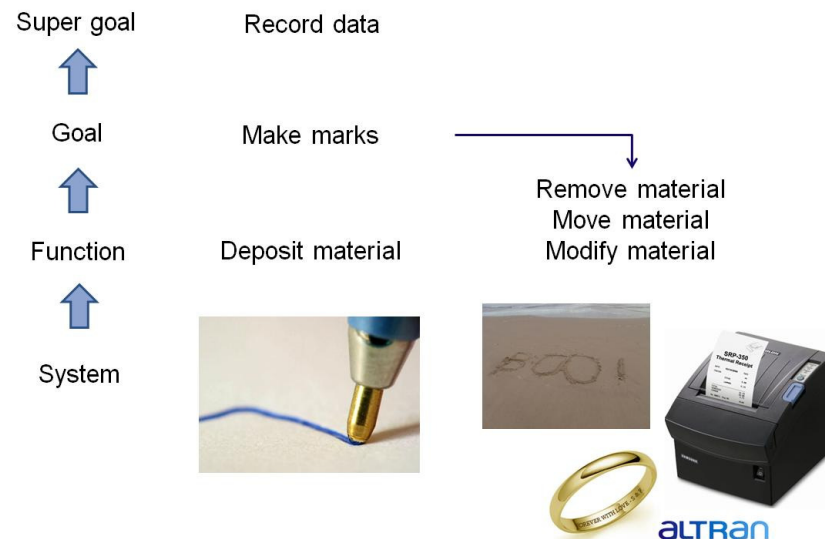
Innovation Methods: from TRIZ

Trends of Evolution, Ideal Final Result, System-Function Analysis

An analysis of 3 million patents shows that all systems follow a limited number of technical trends & inventive principles to evolve => Breakthroughs

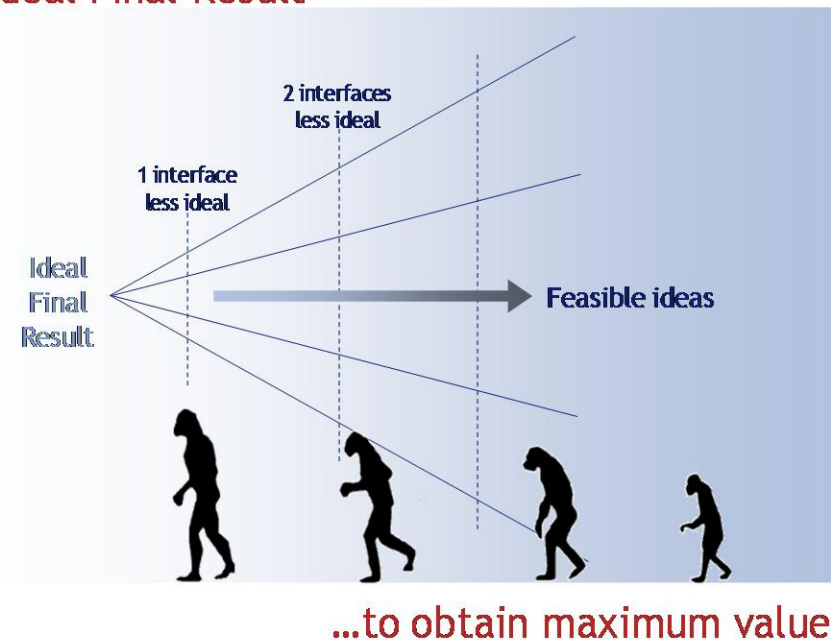


System-Function-Goal



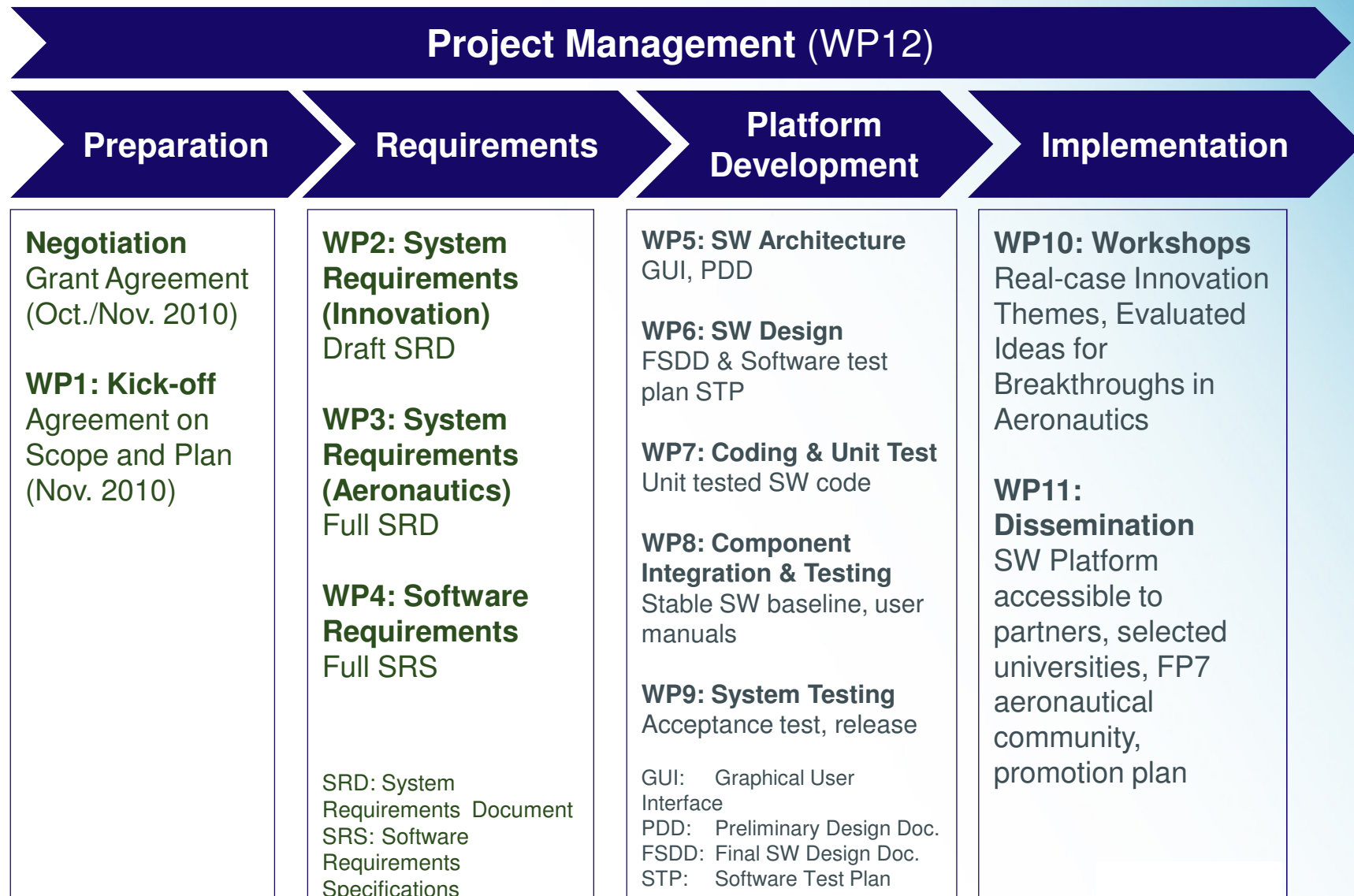
TRIZ: Ideal Function & IFR

Ideal Final Result

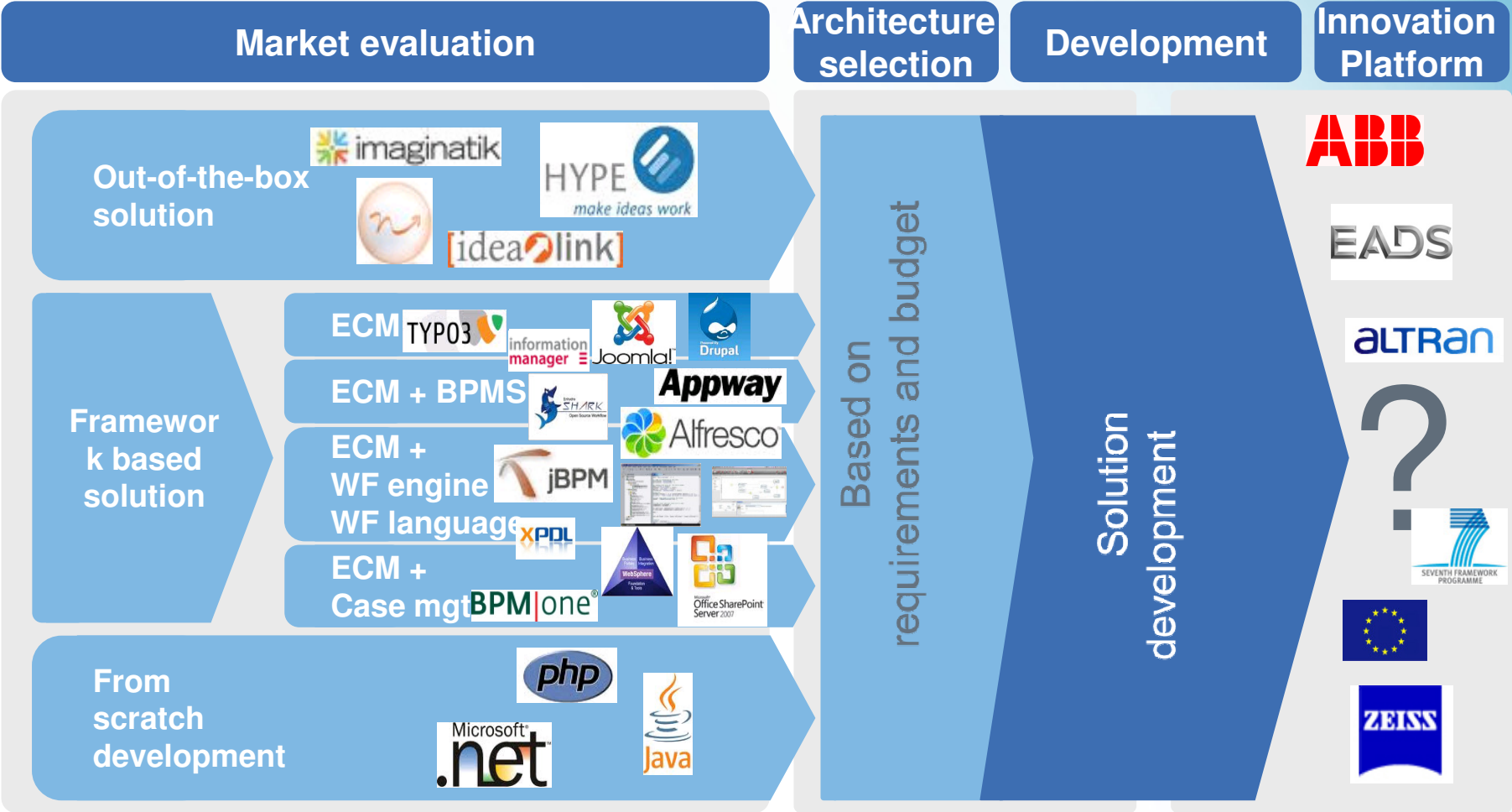


Project Plan

Where do we stand now ?



Software Development Approach



Summary: Innovation Management SW Platform

- Innovation Management Process that is Work-Flow based
- Integrated Ideation, Maturation & Assessment
- Integrated Feedback-Loops, also for Innovation Failures
- Know-How Management System with integrated Document Management
- Creativity & Innovation Guidelines (TRIZ, Lead Users etc., tailored to breakthrough innovation)
- Technology Watch (Push & Pull Concepts)
- Dissemination / Use of large User Communities
- Our contact details at Altran Zurich:
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 - Jose Barros



...a global creativity and innovation firm that helps premier organizations:

- Gain rich customer insights
- Develop innovative solutions
- Revitalize vision and strategies
- Develop new products
- Rejuvenate brands and marketing campaign
- Implement business process innovation
- Accomplish key mandates where fresh thinking
and collaborative action are needed
- Build capability for creativity and innovation

Contact: Dr. Sašo Jezernik, Altran Zurich



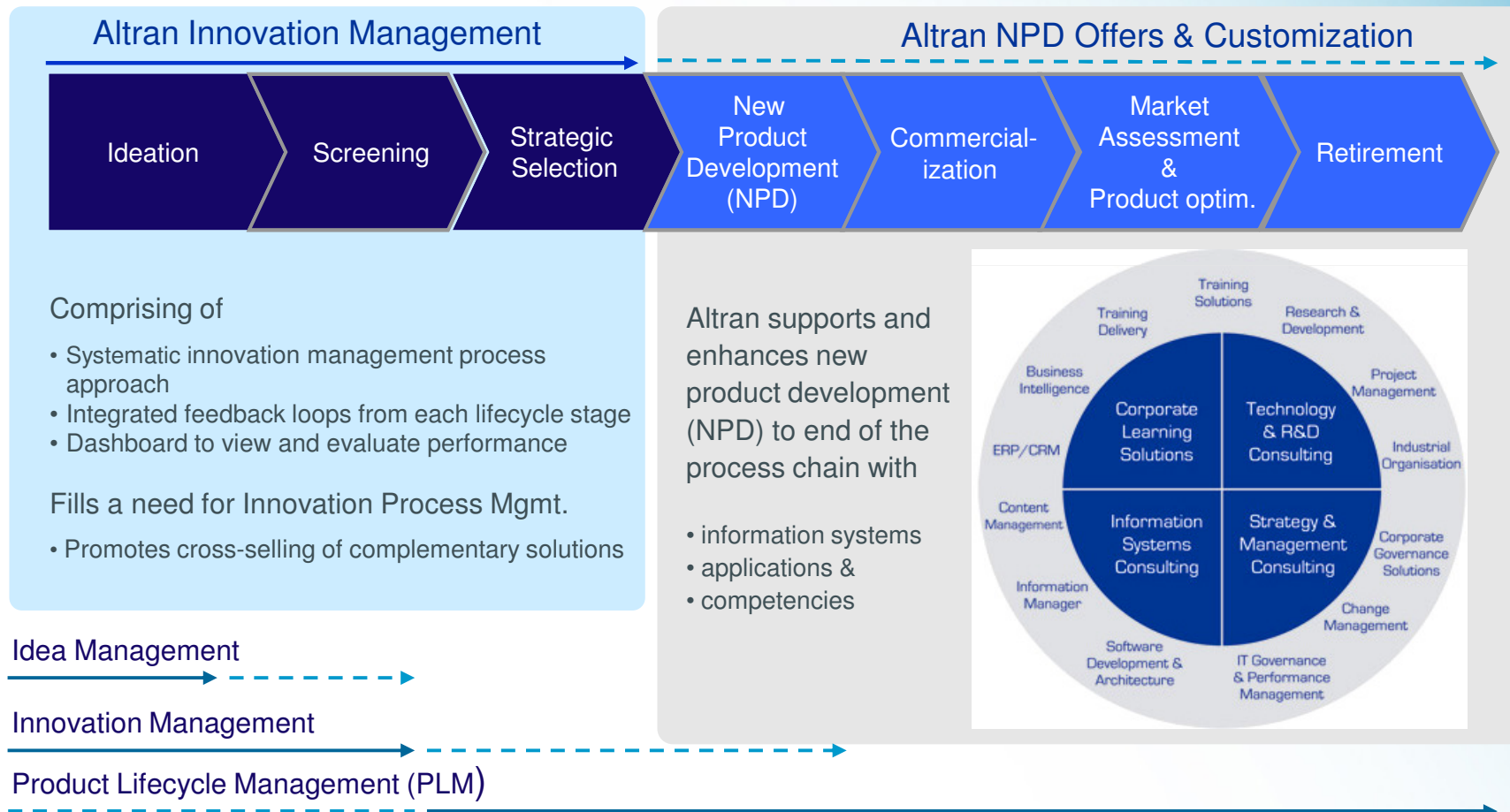
Partners in Innovation

Service Portfolio Altran Switzerland

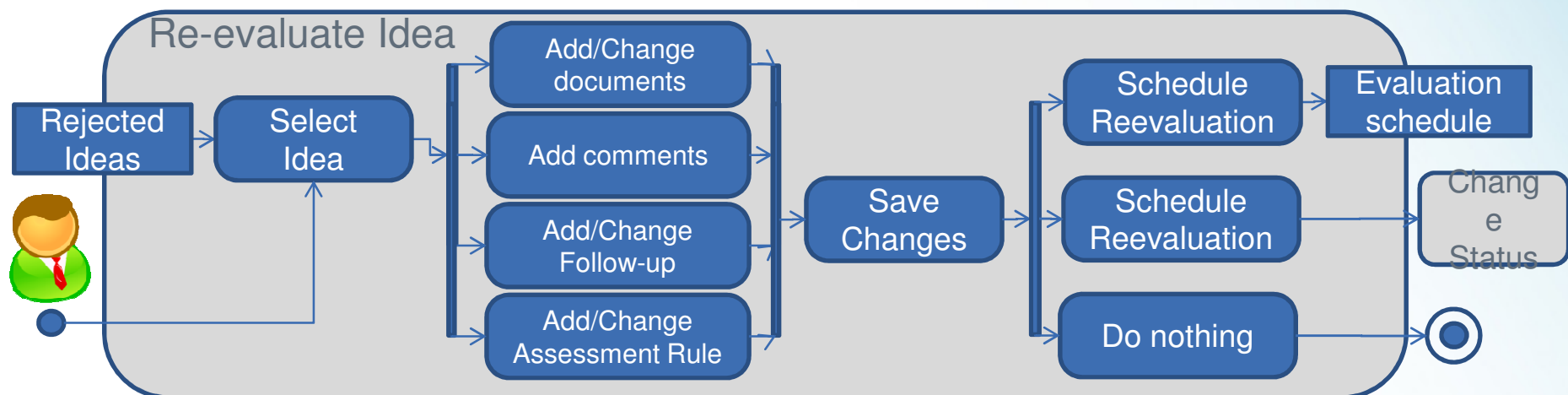
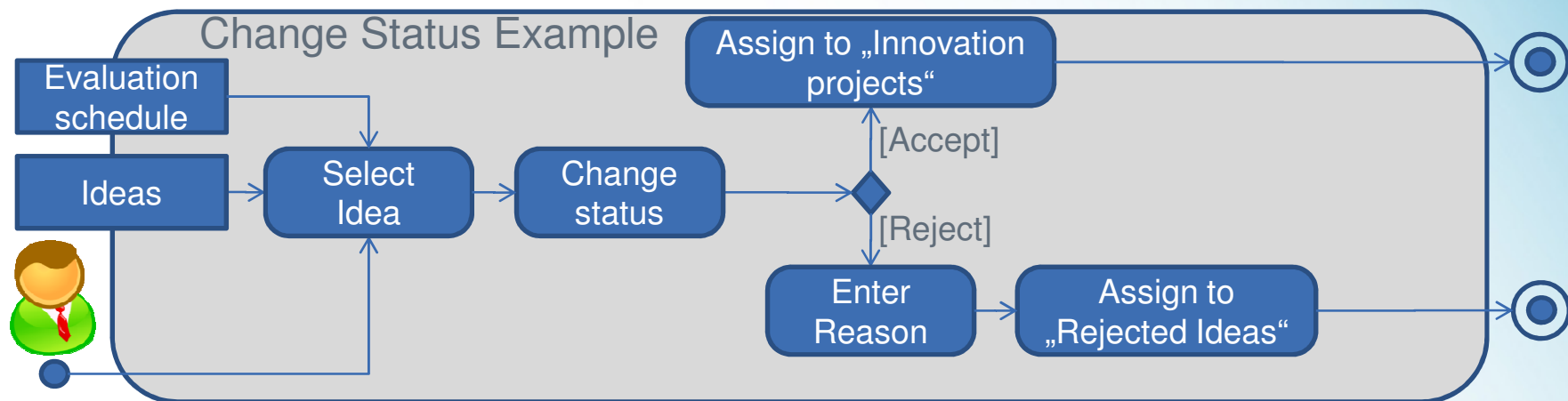
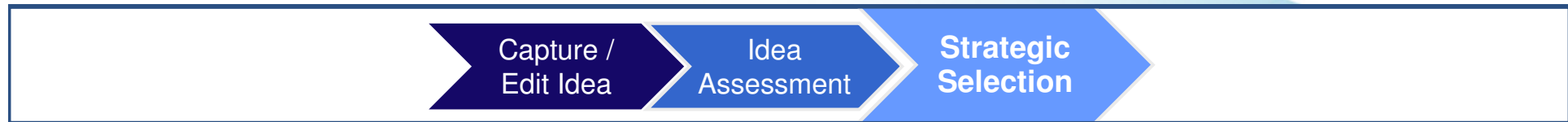
Complementary Offers – Technology, R&D and Innovation Consulting



Business Intelligence, ERP, CRM, etc.



Use Case Examples



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