



User Driven Stimulation of Radical New
Technological Steps in Surface Transport

Information Gathering Workshop Austria (T.3.1.)

15.12.2009, Graz



User Driven Stimulation of Radical New
Technological Steps in Surface Transport



Agenda

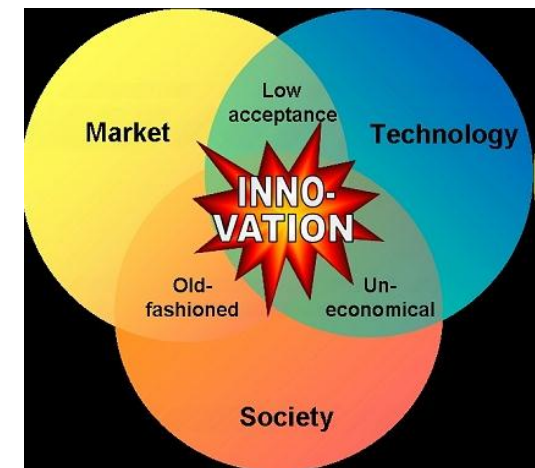
- Introduction of the participants
- Introduction of the U-STIR project
- Basic facts on innovation, methods and tools
- Workshop to describe the innovation climate in Austria

What is U-STIR about?

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Objectives of U-STIR:

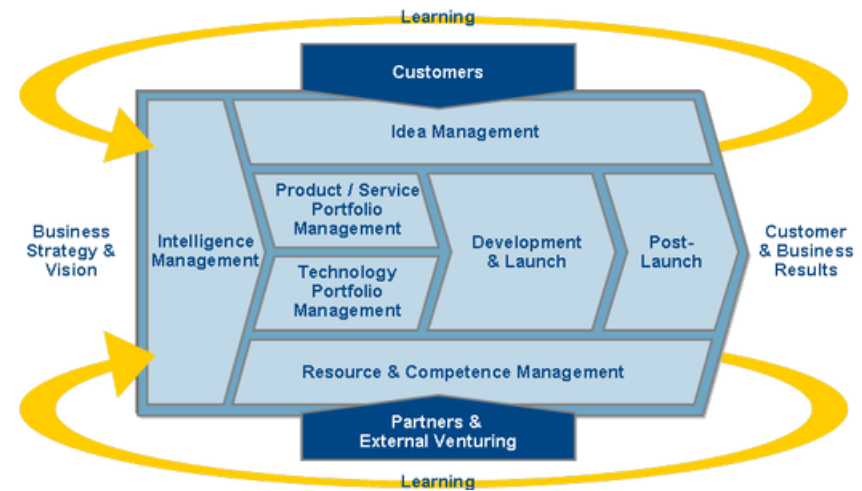
- define know-how and technologies to address Europe's surface transport problems beyond 2050
- stimulate radical technological changes by supporting the development and capture of know how
- Creating an innovation friendly climate
- Enabling co-operation between highly qualified research entities and creative individuals
- Triggering the development of innovative solutions by introducing radical new ways of thinking and innovation support systems
- Avoiding technological 'white elephants'
- Pushing transport solutions into the overlapping area of economic, ecologic and social optima.



What you will get from U-STIR in the end

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- Strategic decision support
- Background knowledge about innovation (e.g. methods to create and evaluate innovative ideas, successful strategies to support innovations during the whole life-cycle)
- Pressure group for innovation support
- Evaluated concepts (e.g. good-practice examples as a basis for your funding strategy and efficient funding programme development)
- Networking possibilities with researchers; funding constitutions and the industry
- Introduction of innovators



Arthur D. Little, *Innovation Excellence Model*©

How you won't reach innovation

YouTube

Broadcast Yourself™

Suchen

[Startseite](#) [Videos](#) [Kanäle](#)

Toothbrush Company - That Mitchell and Webb Look



<http://www.youtube.com/watch?v=tJSIRyQfho4>

Aim of today's Workshop (WP3)

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Aim of U-STIR

- Information exchange between participants
- **Information gathering**, get to know the innovative situation in the country
- Focus on solutions – disseminate the project results



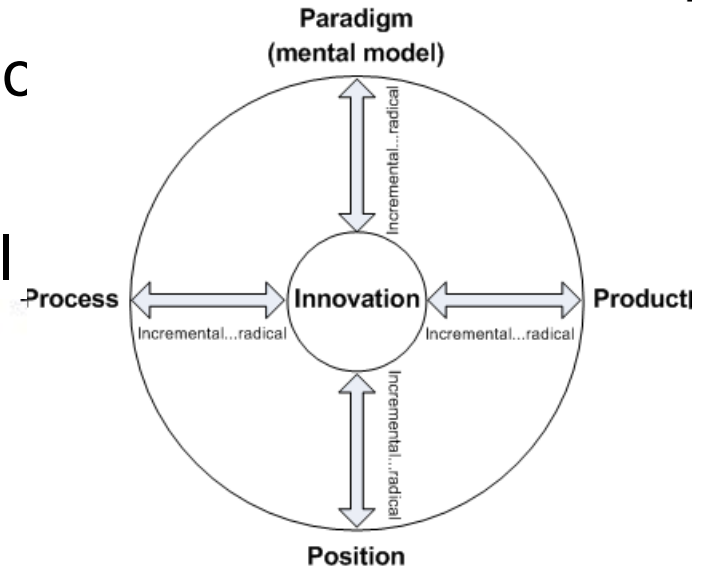
Aim of the participants?

- ...

Types of innovation

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- Service design innovation
- Innovative diffusion of an innovatic
- A new technical concept
- (A refining of an existing technical conc
- Othe

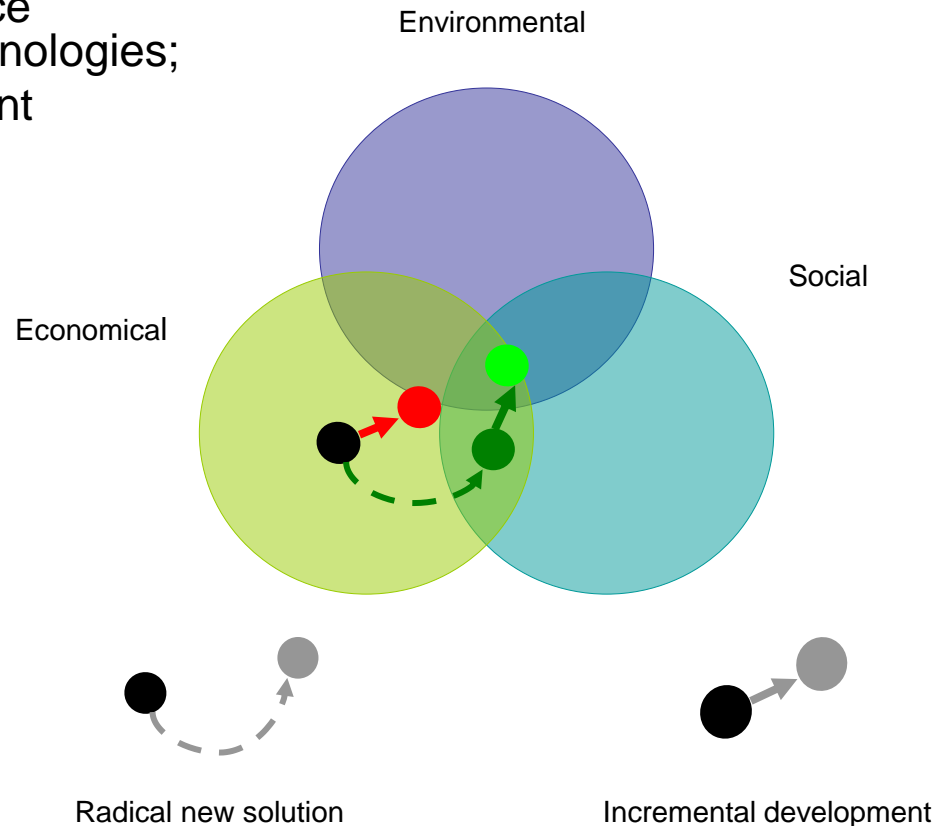


What is Radical Innovation (RI)?

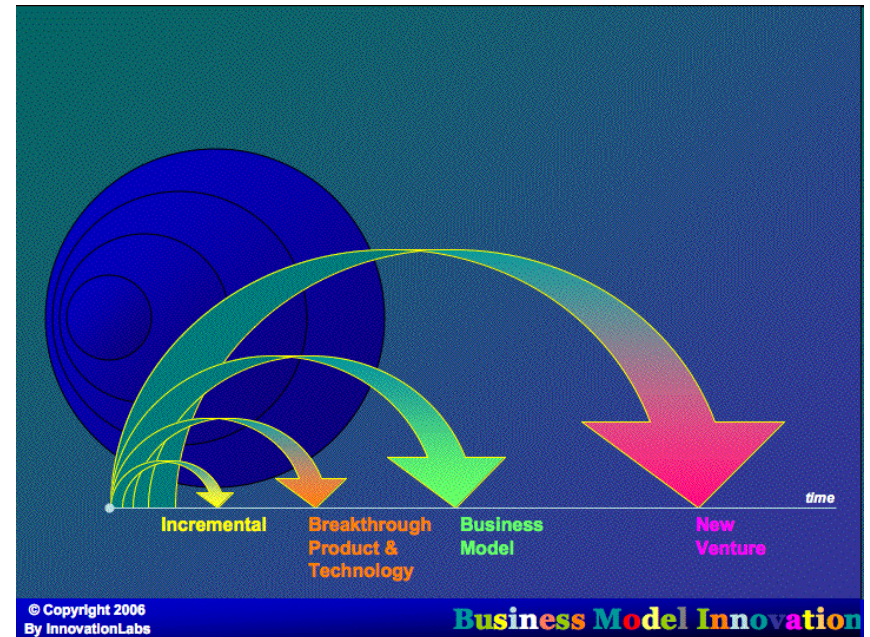
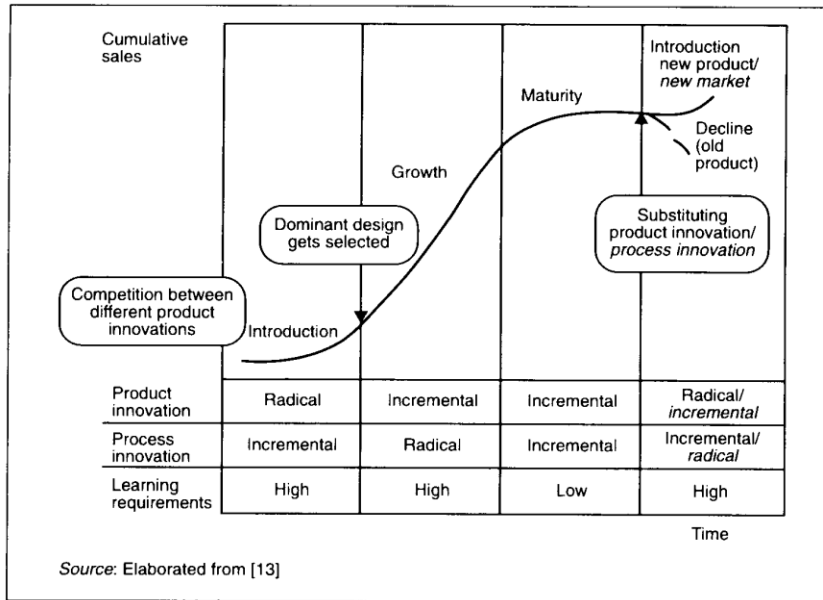
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Radical (or breakthrough) innovation:

- is a highly innovative product or service which includes new and complex technologies;
- builds new markets or changes existent market structures;
- heavily affects user behaviour;
- is characterized by long-term (typically ten years or more) development time;
- is uncertain and unpredictable (i.e. it is risky).
- with unprecedented performance features or with already familiar features that offer potential for a 5–10 x (or greater) improvement in performance, or a 30–50% (or greater) reduction in cost" (O'Connor and McDermott, 2004)

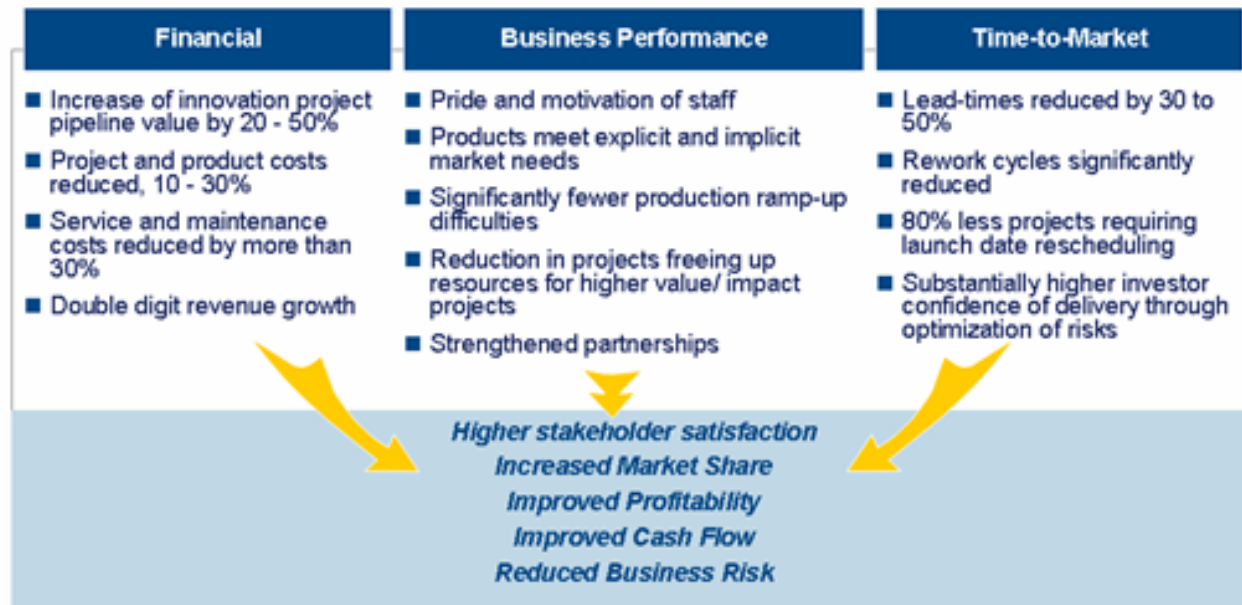


What is Radical Innovation (RI)?



Benefits for radical innovators

- Benefits of first movers implementing radical innovation
- win market share rapidly
- enjoy scale and experience economies
- be the first to use scarce resources, such as primary location you acquire



What is the Lead User Theory?

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- Lead Users can be individuals, networks, community groups or enterprises who are the users of transport technologies and services.
- Lead Users are not the manufacturers or providers of transport technologies or service.
- Lead Users are also not public authorities exercising their transport policy, funding or regulatory role
- But the latter may be a Lead User through another role (e.g. as a vehicle fleet operator)



Overview of Topics – Where to start?

Tools

Funding

User Involvement

IP-Sourcing

Concepts / Methods

Innovation Approach

INNOVATION APPROACH

Structured Approach

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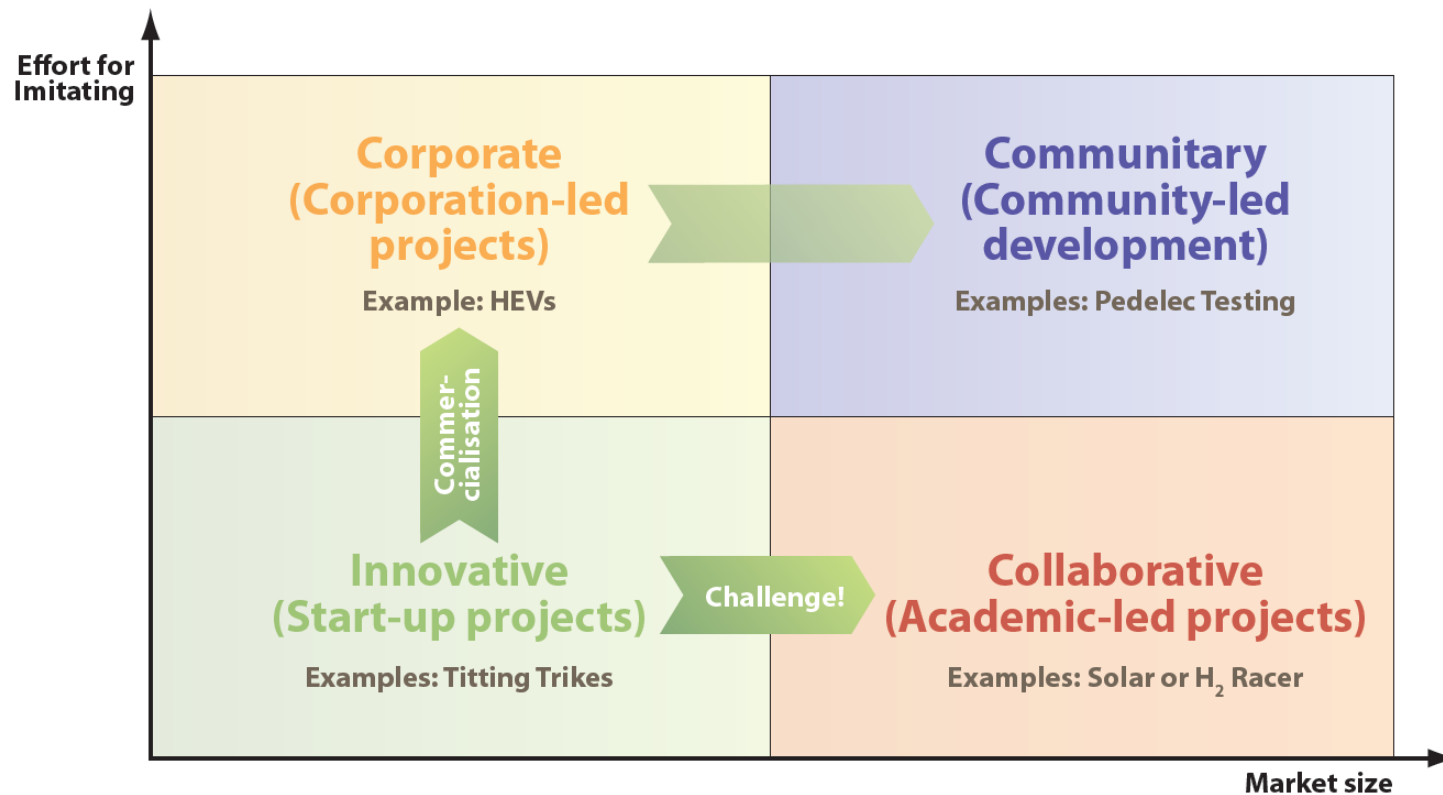
Integrated Strategy



Selecting an Innovation Scheme

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Understanding the RI market



What are the (bottom up) alternatives for entrepreneurs?

Characteristics

- Crowd Sourcing allows solvers to propose solutions (disclosing the problem to them on a personal basis)
- Occasional Collaboration searches for co-researchers for specific tasks/projects
- Inhouse Research sponsors own RTD
- Buy Patents/IP analyses patents or tenders out solution finding

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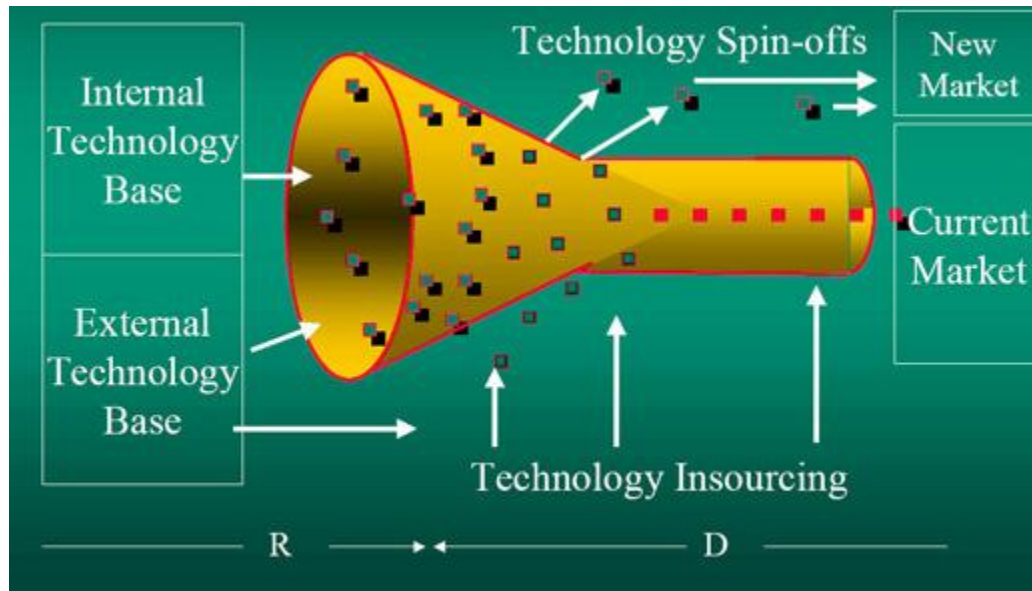
Decision Criteria

- SWOT
- IP Balance
- USP Core Technology?
-



IP Sourcing

Technology in R&D

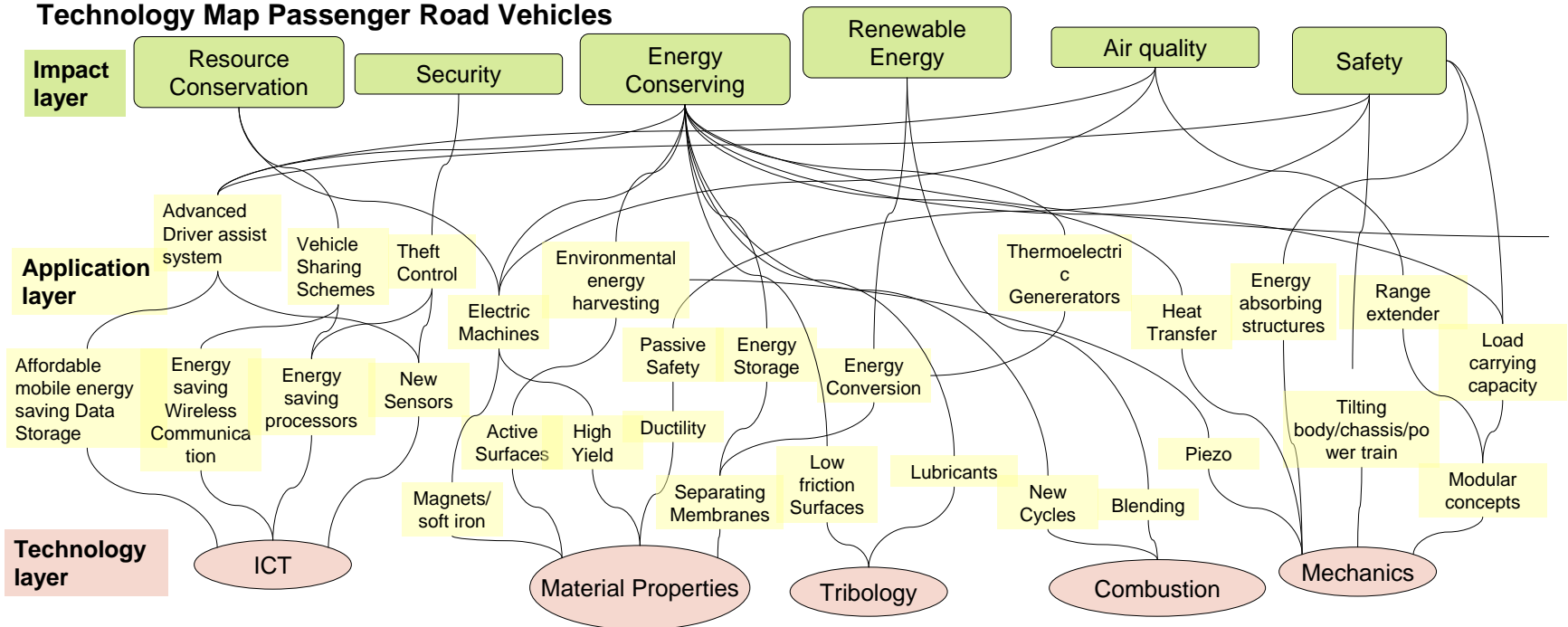


1st step IP-Sourcing – clarify demand

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Strategic needs translate into technological innovation over innovative applications

Technology Map Passenger Road Vehicles

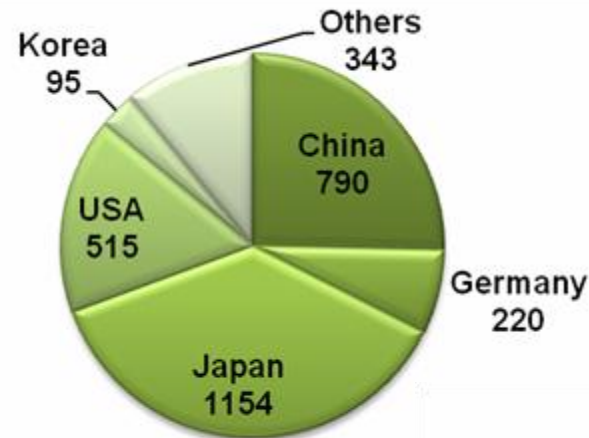


2nd step IP-Sourcing – where to search

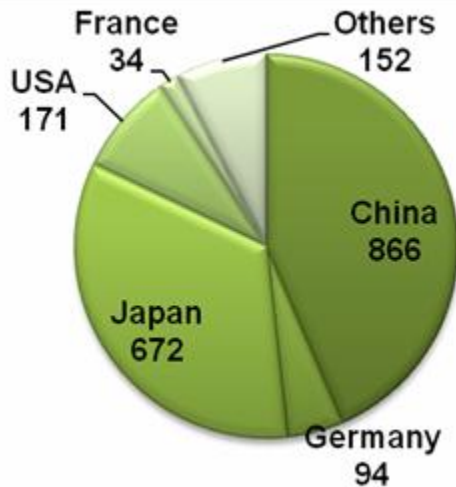
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Probability to find IP about:

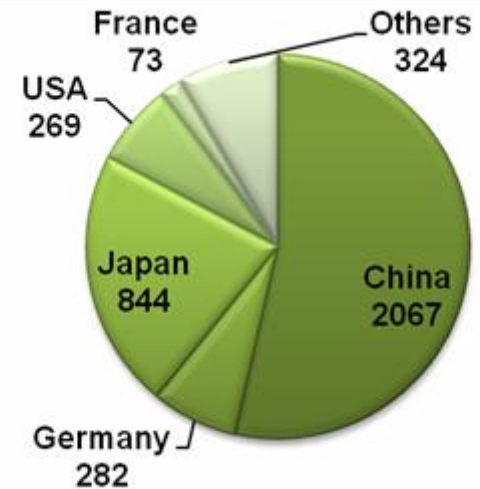
Telecom



Battery



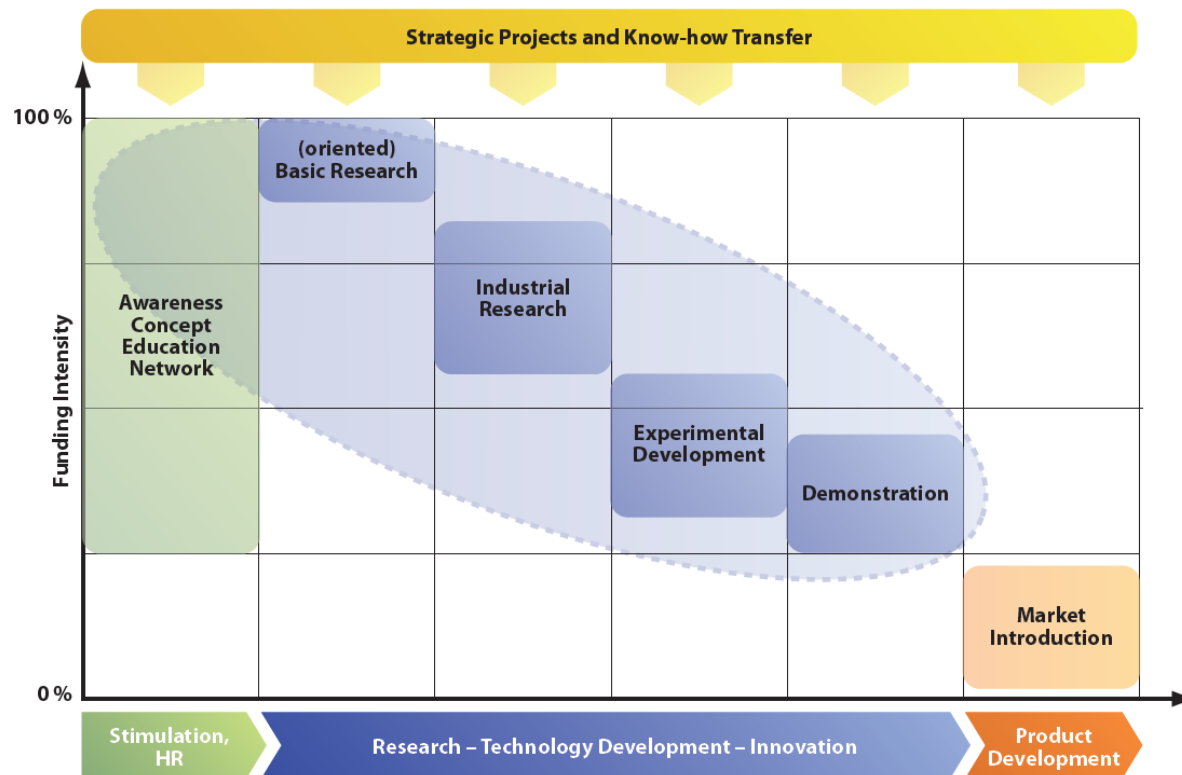
Security



What are the top down concepts?

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- Technology Foresight defining targets content wise
- Continuous support of the innovation process – step by step
Stimulation – RTD - implementation



USER INVOLVEMENT

The role of users in innovation

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- User-led service innovations are perhaps easier to implement than user-led transport technologies which require major investment and large institutions
- Role of user in innovation diffusion may be more importantin shaping technological trajectories and embedding of of innovation.



The man responsible for one of the breakthrough ideas that led to the klunker and then to the mountain bike was Russ Mahon of the Morrow Dirt Club. Mahon and two friends turned up at the 1974 West Coast Cyclocross Championships on clunkers with gears and, most importantly, thumbshifter gear levers. After finishing mid-pack and showing their bikes to the Marin klunker crowd, Mahon and his friends vanished.

Roles

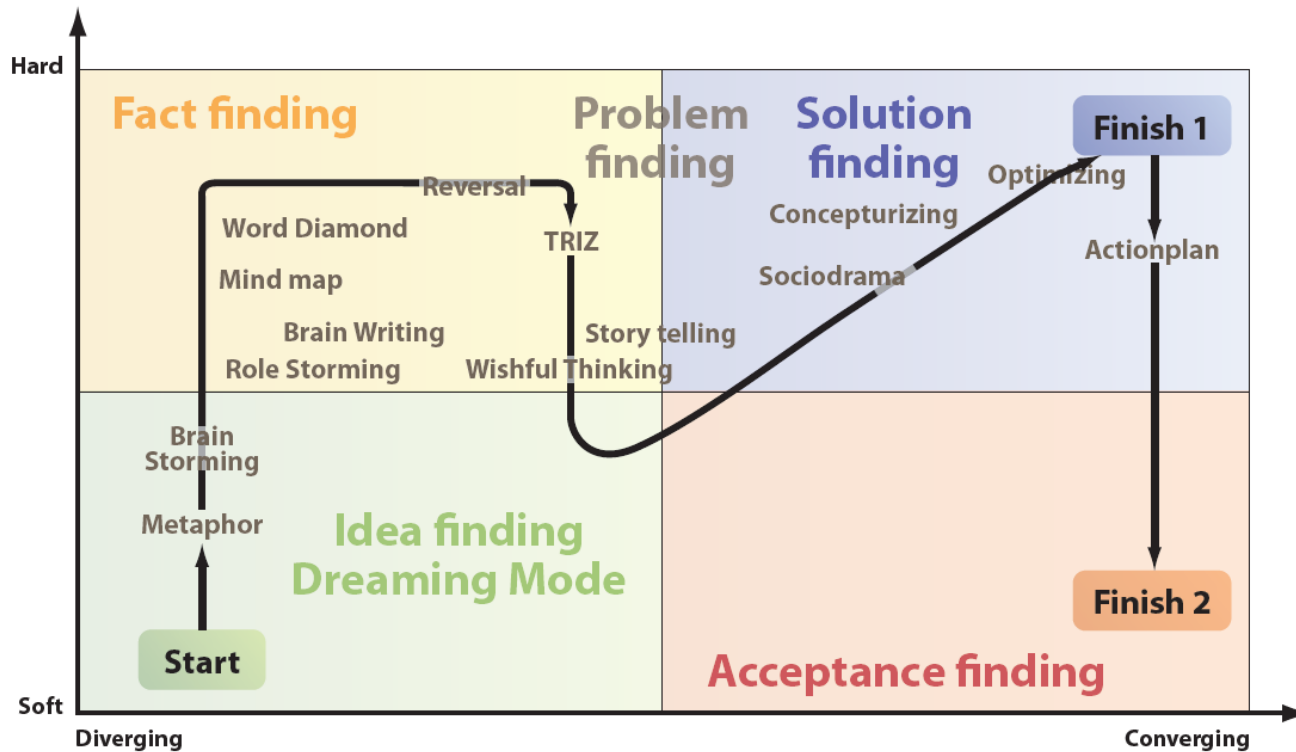
- Active
 - Modding
 - DIY
 - Claims/requirements
- Passive
 - Analytical (survey)
 - Focus groups

TOOLS

Triggering Creativity

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- Classification of tools
- Path to happiness...



Triggering Creativity – The ODI methodology 1/2

© by FGM / Anthony Ulwick

- ODI (Outcome driven innovation) is a methodology concept designed by Tony Ulwick
- It can also be applied for problems in the transport industry
- It is not based on a simple idea of the development team but is based on under- or overfilled desires of customer groups
- It supplies a definition of customer needs to develop new products / services or further develop them
- It offers a rigorous, controlled approach to collecting needs statements, to formulating growth strategies and to generating and validating breakthrough ideas
- It defines the problem/requirements based on the requirements of the market and the task the market wants to solve with the solution – the formulation of the problem does not contain the solution

Triggering Creativity – The ODI methodology 2/2

- Example of defining users needs based on the requirements – the solution/technology changes in time, the job/purpose/task remains the same.
- Requirements are listed according to customer surveys by relevance in top 10 table. In a workshop with experts and lead users the most important requirement is analysed and a concept ready for specification for the innovation is elaborated.

Task: Listen to recorded music



See www.strategyn.com
for more information

Triggering Creativity – free online tools

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- Find useful links to online webtools on the U-STIR Website
- Make use of the Creativity tool – a TRIZ database especially designed to meet the demands of the transport industry. This tool to stimulates your creative and lateral thinking



The screenshot displays the U-STIR website interface. At the top left is the U-STIR logo with the tagline 'User Driven Stimulation of Radical New Technological Steps in Surface Transport'. To the right are the European Union flag and the 7th Framework Programme logo. Below the logo is a navigation bar with links for '>> HOME' and '>> Tools & Materials'. A large image of a highway at night with light trails is featured, with a button that says '> Help Yourself Innovating'. Below the image, a breadcrumb trail reads 'You are here: >> Tools & Materials'. The main content area is titled '>> Tools & Materials' and contains a tabbed menu with 'All', 'Creativity Tools', 'Literature', and 'Service provider'. Under the 'Creativity Tools' tab, several links are listed: 'Creative Thinking Exercises', 'Creative Combinations - The Random Pairing Machine', 'Creativity Toolbox - Tools to kick start your creative thinking', 'Creative Tools - Tools for creating ideas', 'Metamemes - Bringing People and Ideas together', 'Combining Ideas - How to combine ideas for creative thinking breakthroughs', 'Website for the year of creativity and innovation of the EU', and 'Jump start creative thinking tool for self brainstorming'. At the bottom, there is a search bar with a magnifying glass icon and a search button.

Workshop phase for WP 3 workshops

What are your experiences?

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- Innovation situation / climate in our country
 - What are the main barriers for innovation in the country?
 - Is there a message to the EU with regards to support of local initiatives?
 - Which creativity tools / creative thinking methods are applied?
 - Which approaches will have a future in the transport industry in our country (e.g. lead user)?
- National system for funding radical innovation
 - Is the approach of radical innovation understood, is there radical innovation happening, is there enough support in all phases?
 - What are the plans for improving innovation in the country and how?