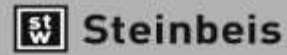


Innovation Management

Focus:

Exploitation Management for EU RTD

Dr. Petra Püchner
Managing Director
Steinbeis-Europa-Zentrum Stuttgart



Technology.Transfer.Application.



Facts & Figures (As of December 31, 2010)

▪ The following facts provide a snapshot of the expertise and resources we were able to make available to and with our clients in the year 2010:

- 810 Steinbeis Enterprises worldwide
- 124 Mio. EUR total turnover
- 689 professors, 1,410 employees,
3,301 contractors

Steinbeis-Europa-Zentrum – Your partner for innovation in Europe

- Office of the Commissioner for Europe of the Minister of Economics Baden-Württemberg
- Economically independent transfer centre within the Steinbeis Network
- Budget 4 Mio. EUR, financing by projects (Project clients: EU, national und regional stakeholders)

SEZ Funding Sources 2009

Total Sum: 2,373,473 Euro

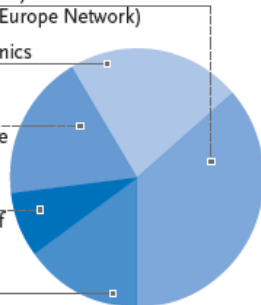
37% European funded projects
(without the Enterprise Europe Network)

22% Ministry of Economics
of Baden-Württemberg

18% European funding
for the Enterprise Europe
Network

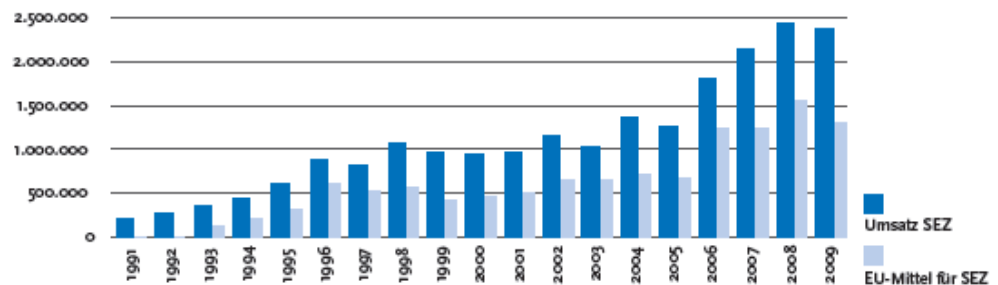
8% Ministry of Science,
Research and the Arts of
Baden-Württemberg

15% Others



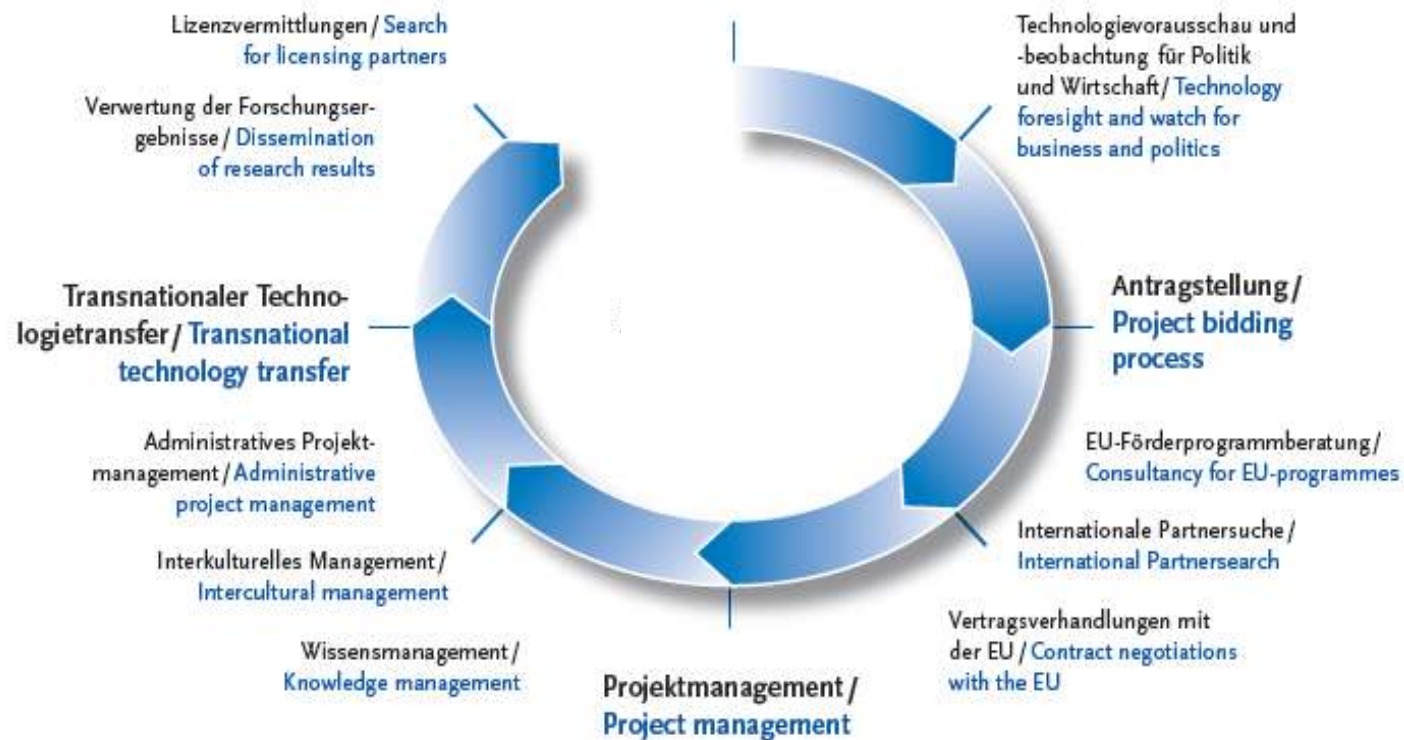
Umsatz und EU-Fördermittelrückfluss des SEZ seit 1991 (in Euro)

Insgesamt ist der Umsatz des SEZ über die Jahre stetig gestiegen. Die Umsatzschwankungen des SEZ ergeben sich hauptsächlich aus den (zeitlich betrachtet) unregelmäßigen Zahlungen der Europäischen Kommission sowie den unterschiedlichen Laufzeiten und Budgets der verschiedenen Projekte.



SEZ Services

Innovationsanalyse & Strategie-
entwicklung / Innovation workshops
and development of strategies



Your research is for

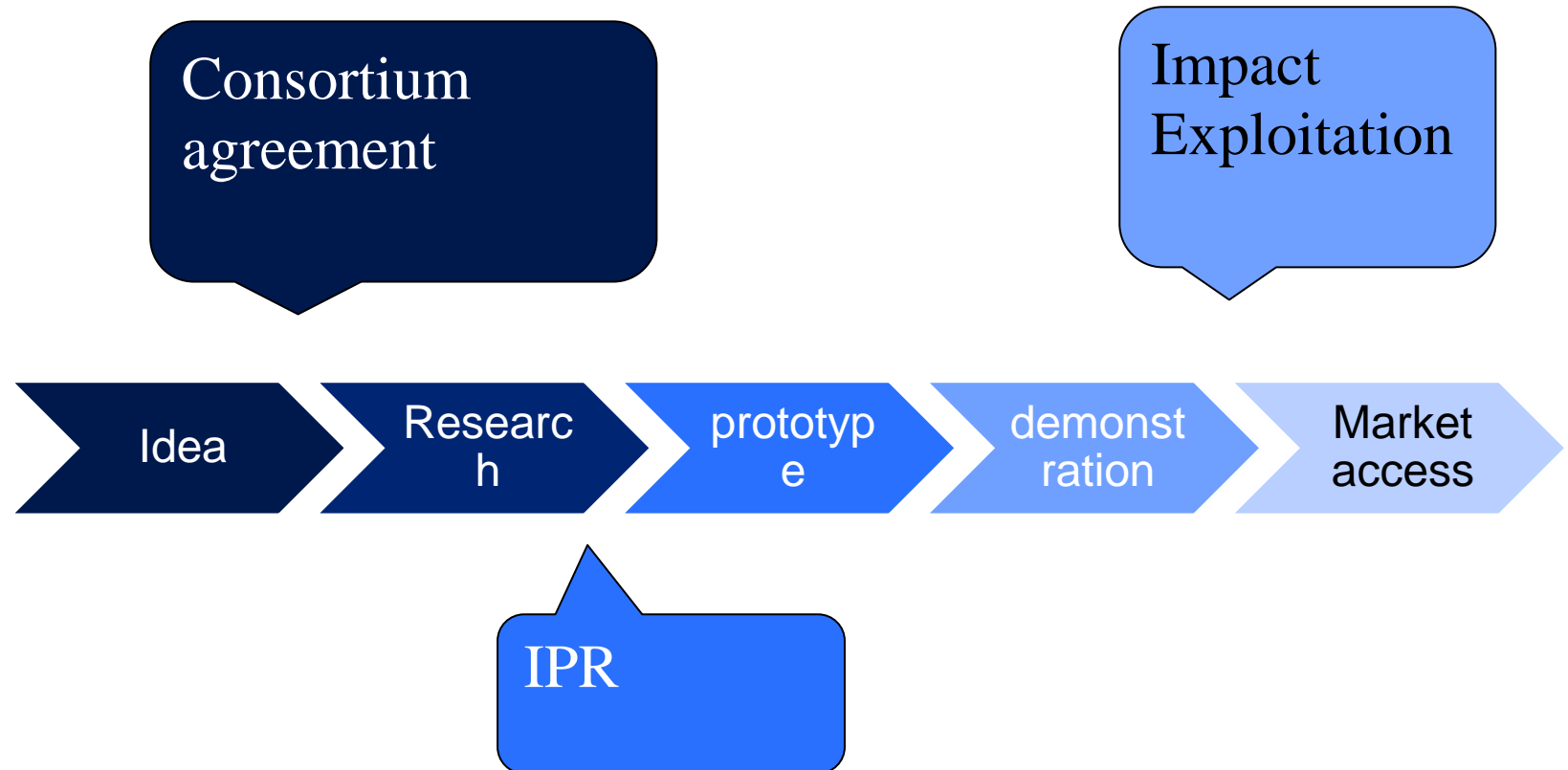
Shelve
life

For society



INNOVATION – WHAT IS IT?

Process of Innovation



Innovation is...

- “The introduction of new goods (...), new methods of production (...), the opening of new markets (...), the conquest of new sources of supply (...) and the carrying out of a new organization of any industry” (Joseph Schumpeter)
- new products and processes and major technological modifications to products and processes. An innovation is considered performed if it is introduced to the market (**product innovation**) or implemented in the production process (**process innovation**). ... R&D represents only one of these activities and can take place during various stages of the innovation process. It can play not only the role of the original source of the innovation ideas but also the role of problem solution framework (OECD)

Innovation

- Technological innovations – based on specific technology, invention, discovery
 - Products
 - Processes
- Service Innovation
 - Financial / insurance
 - Technology driven service innovation
- Social innovations – in critical historic periods more important than technological ones (mail, educational system, social system, health care, ...)

- Incremental or radical

Innovation is the answer to a market

- Market need
 - Societal challenges
 - Identified problems

- Market niche
 - Not yet covered by available products/services etc
 - Often no visible market pull – until it is on the market

The problem with innovation

People dont want it until
they get to know it
when it is there

Scene Setting

- Despite good R&D capacities in KETs, the EU is less successful in **capitalising** on these results.
- A more **strategic approach is required** to deploy these technologies in the EU.

Communication on Key Enabling, Technologies – Sept 2009

- SME as partners in a RTD+I is not sufficient to solve this
- SME miss guidance during and after RTD+I projects

Key enabling technologies (KETs)

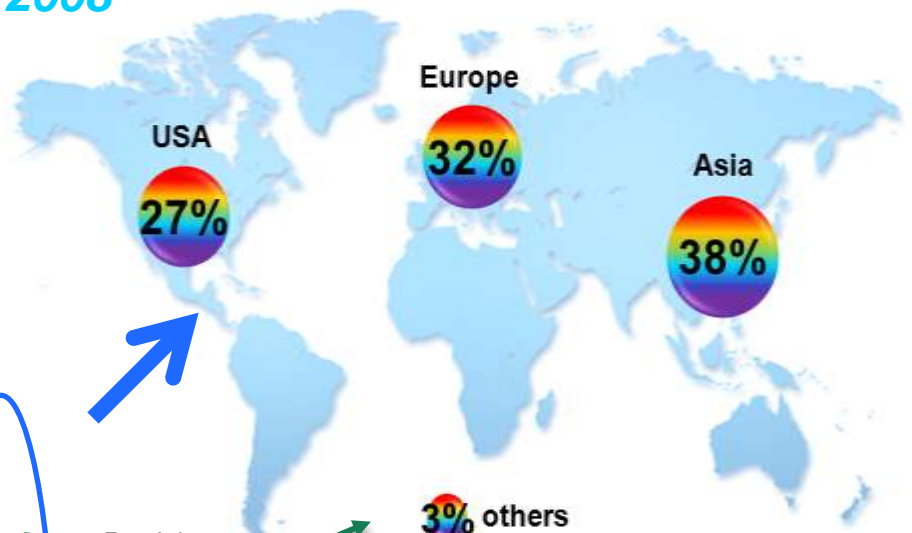
- EC communication 2009 in regards to products
 - Nanotechnology
 - Micro –nanoelectronics
 - Photonics
 - Industrial biotechnology
 - Advanced materials
 - Advanced manufacturing

- Plus KETs in regards to services
 - ICT
 - Creative industries
 -

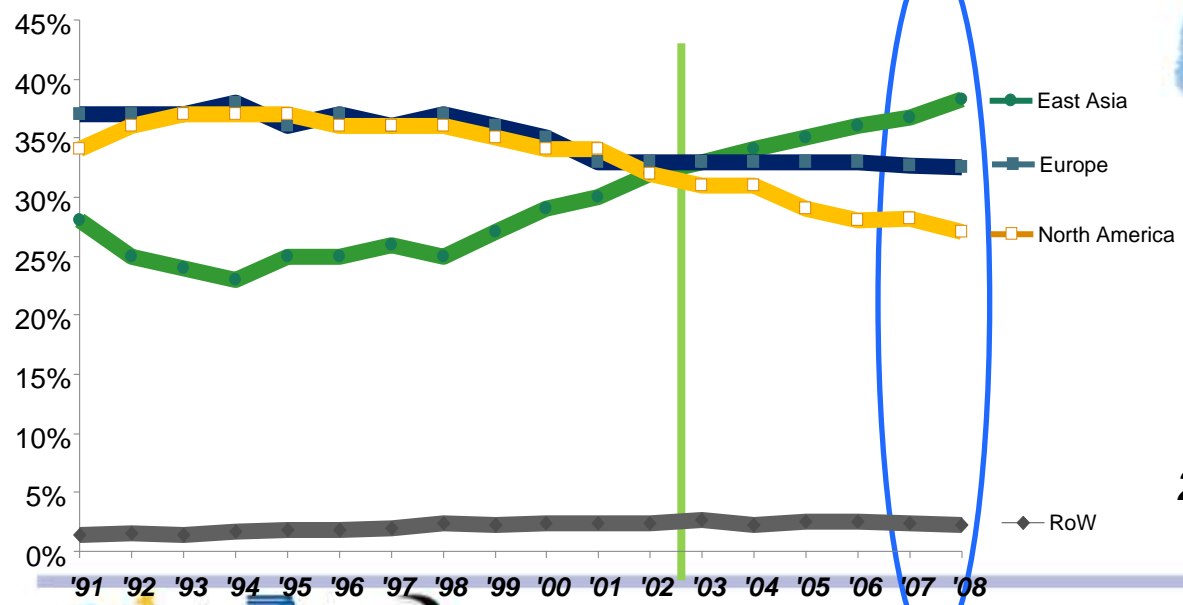
Europe is still in the KETs' race: patent activity

Patentaktivitäten in Schlüsseltechnologien

2008



*Shares of EPO/PCT patents
by regions (percent)
All KETs cumulated*



2008 priority patents published

Problem: EU Patente ja, EU Produktion nein,

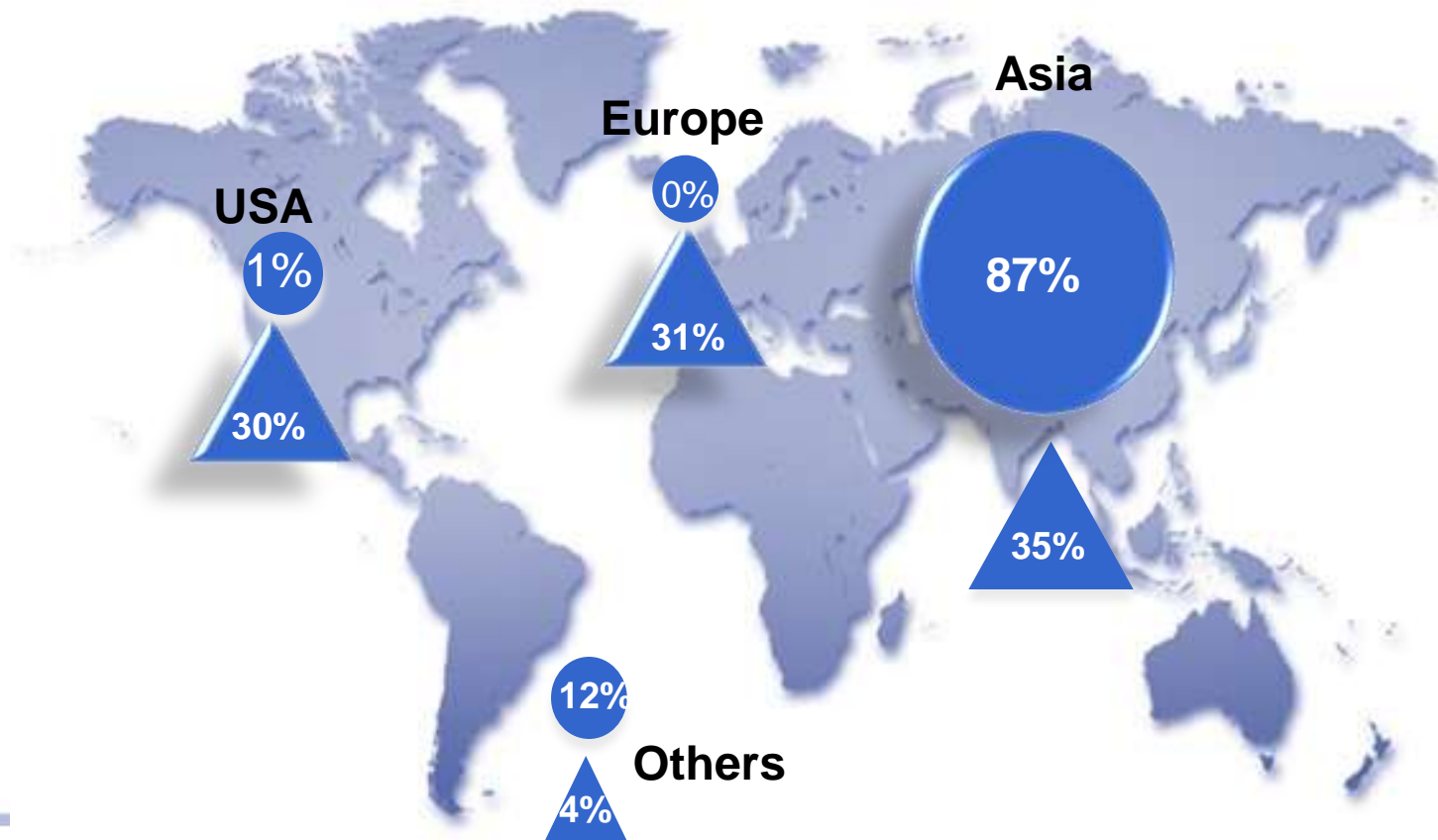
Case Study: Li-ion battery production



Li-ion battery cell production share in 2008



Advanced Material Patent Share

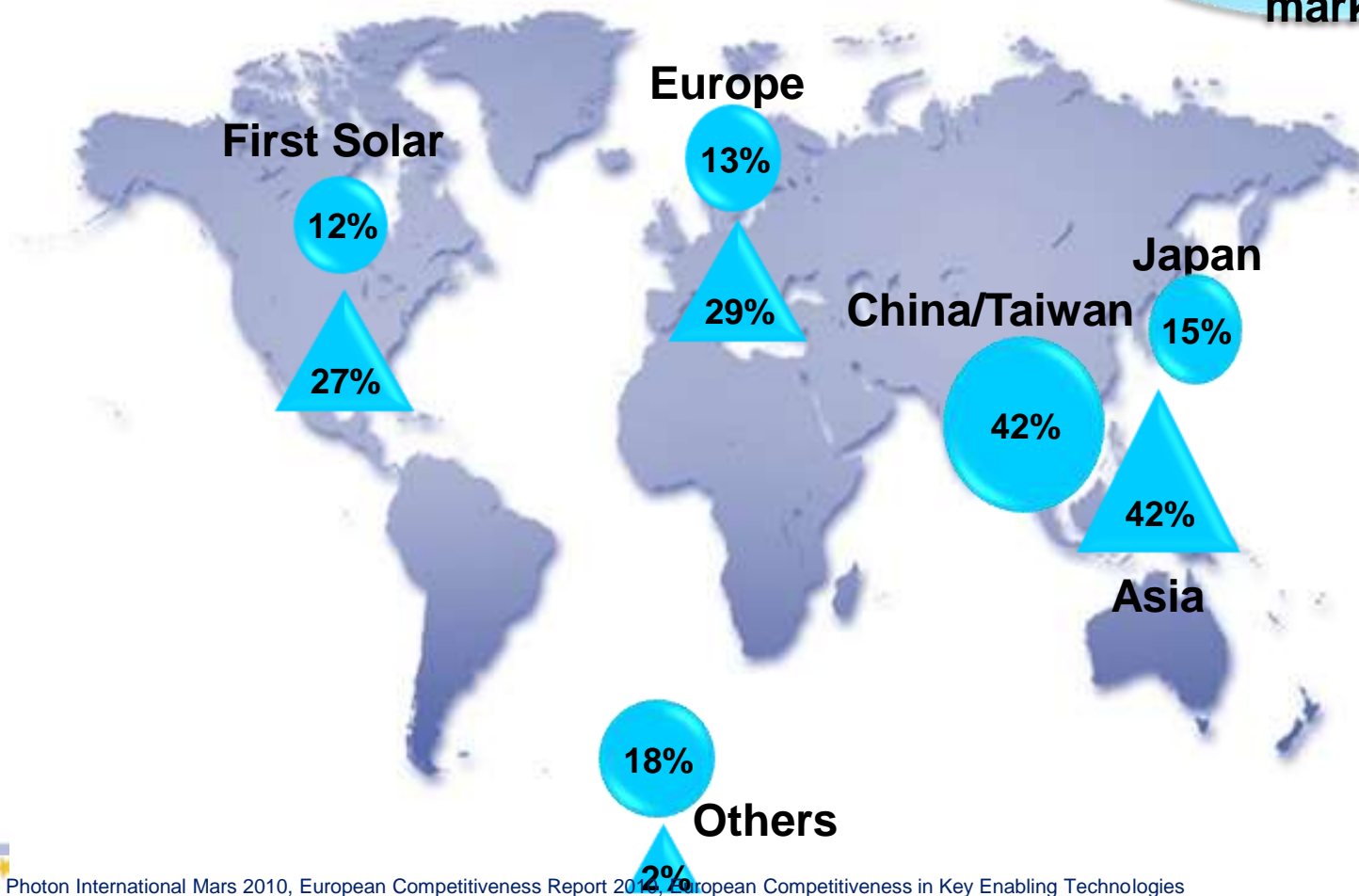


Disconnection between patents share and manufacturing share Case Study: PV Cell production

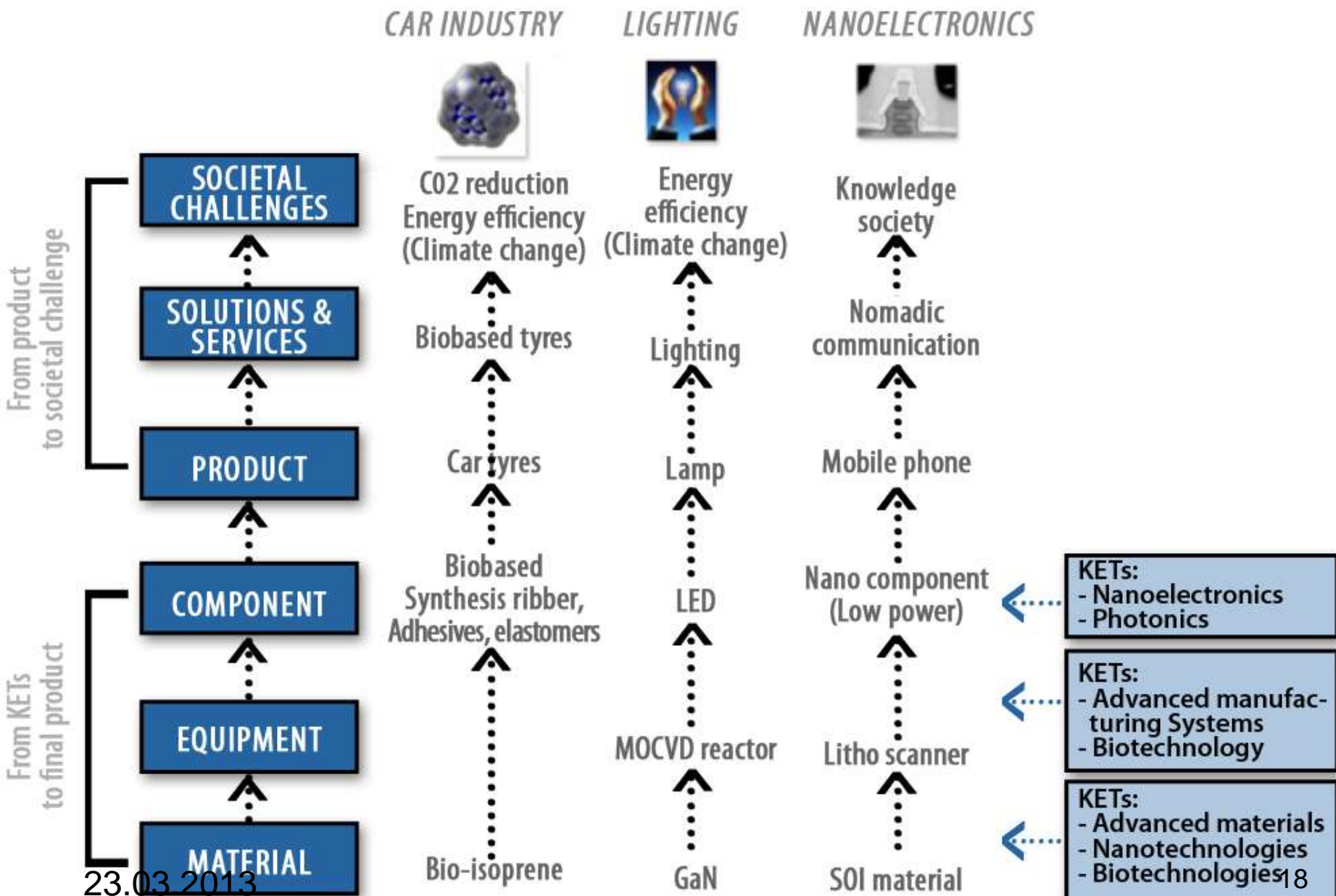
% PV cell production share in 2009

% Photonics Patent Share

**Europe = 77 %
of global
market**



Source: Photon International Mars 2010, European Competitiveness Report 2010, European Competitiveness in Key Enabling Technologies



Societal challenges =

emerging industries / markets

- Health, demographic change and wellbeing

Well being including Active Aging

- Climate action, resource efficiency and raw materials

Sustainable development/
green economy

- Smart, green and integrated transport

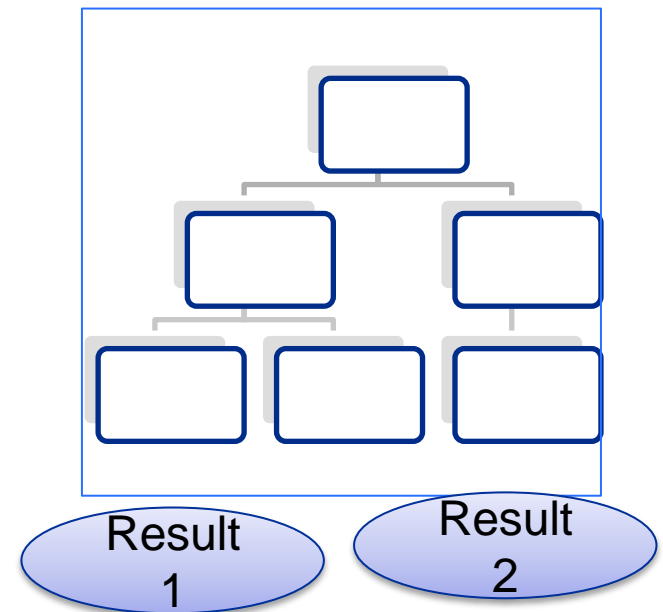
Sustainable mobility

Innovation management in EU RTD

TECHNOLOGY EXPLOITATION / IMPLEMENTATION PLAN

Planning RTD

Starting Point

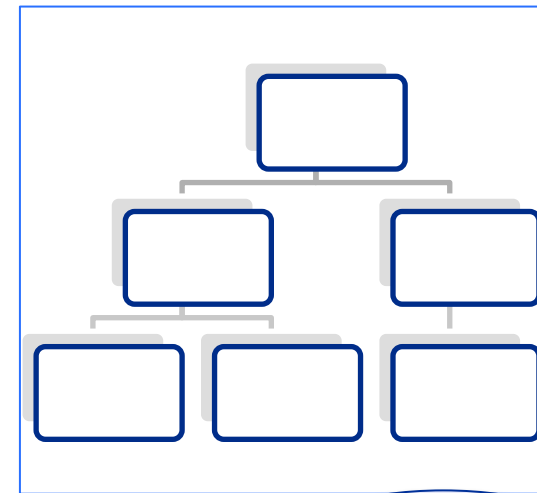


Planning RTD

Starting Point

Application /
solution 1

Application /
solution 2



Result
1

Result
2

The exploitation strategy and plan

- Description of exploitable results
- Market overview / trends / requirements
- Business opportunities / positioning

- Exploitation channels
 - Way to the market

- Competitive analysis

- Exploitation action plan / timing

Market

- All possible application sectors and markets
 - (sector, users, clients, geographical)
 - Ship manufacturing or coffee machines ?
 - Regional, EU,

- Priorisation of market
 - Market size, market trends, competitors (market leaders, research leaders)
 - Positioning (niche market or replacement)
 - Specific rules for this market (standards, barriers, ...)
 - Which alliances are needed to enter this market

Market assessment

- Application fields
- Market sizes
- Which key players
- Which market is priority
 - Because of low market barrie, market already known, ..)
 - Because of high return of invesment
 - Fits to own strategy
 - Is there a market niche

Market readiness

- Market readiness
 - Is the market ready for this innovation ?
 - If yes, why....legal push, consumer demand,
- If the development is too early for the market (often the case!)
 - How to deal with this – strategy
 - How to get a Reference client
 - What is missing in the market to get ready? Services ?
- Market saturated – no room for innovation ?
 - Nespresso example within Nestle
 - Nevertheless a success !
 - Premium Marketing, easy and trendy....
 - Outsourcing as a company strategy to avoid huge losses

Market readiness of Product

- Time frame
 - Prototype to demonstration (Technikum) to pilot application to 1st client
 - Additional partners, which
 - Steps after project end
 - Further RTD
 - Prototyp for first trial applications
 - Financing ?
 - First customers, Observer Group
 - How to involve them
 - ...
 - Market access in 2, 4 x years...

Commercialisation and Market Deployment

- Commercialisation
 - All the steps needed to get into the market
 - Reference client (commercialisation started successfully...)
 - Demonstration Project = reference client, who is funded for offering the first trial
- Market Deployment
 - More than a first client
- Market Replication
 - Additional markets in other geographical areas or market areas/sectors

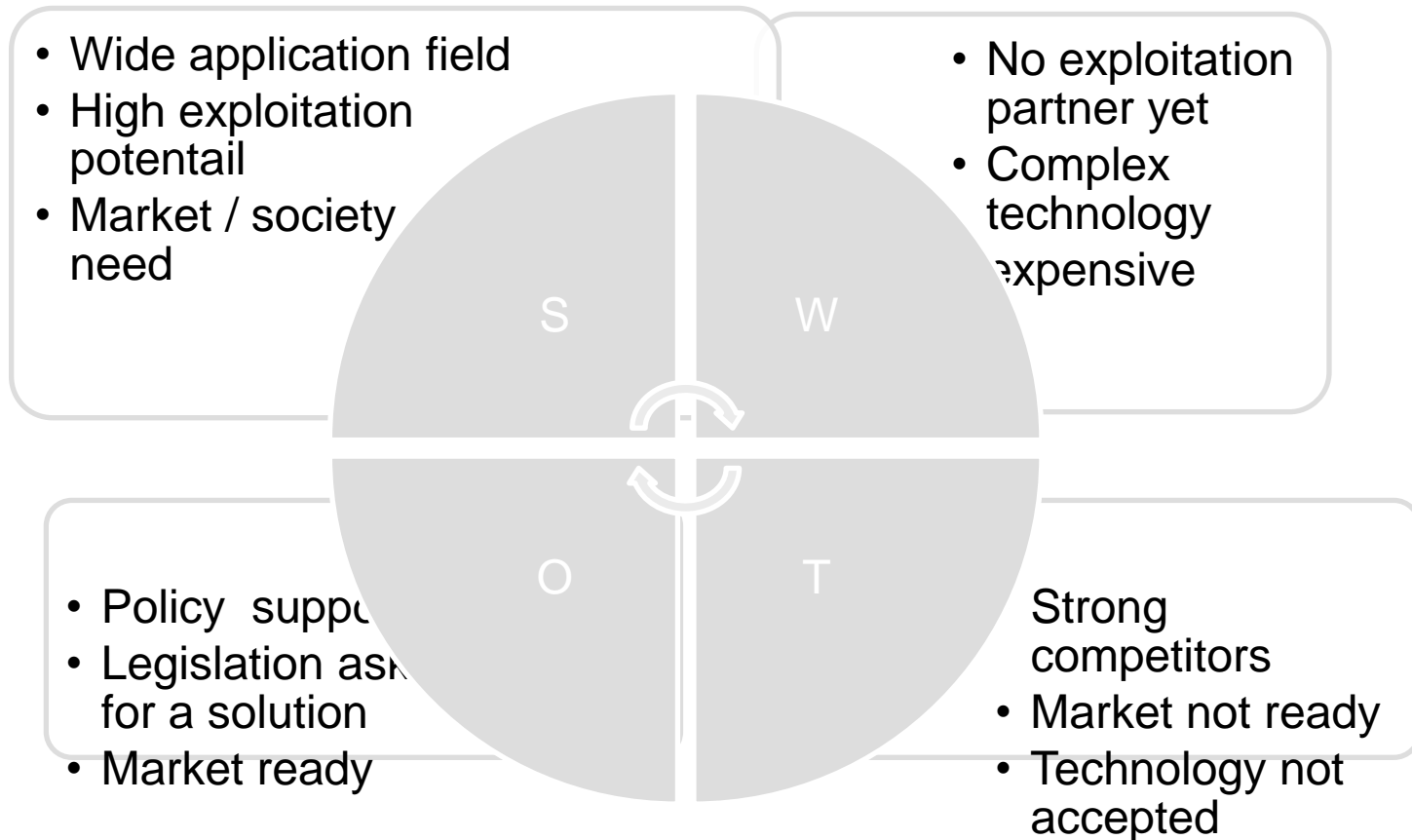
Exploitation Management

- technology watch (competitors in research)
- Market watch
- IPR Strategy, regular updates
- Contractual arrangements within consortium, outside with externals
- Additional strategic partners (communication, involvement)

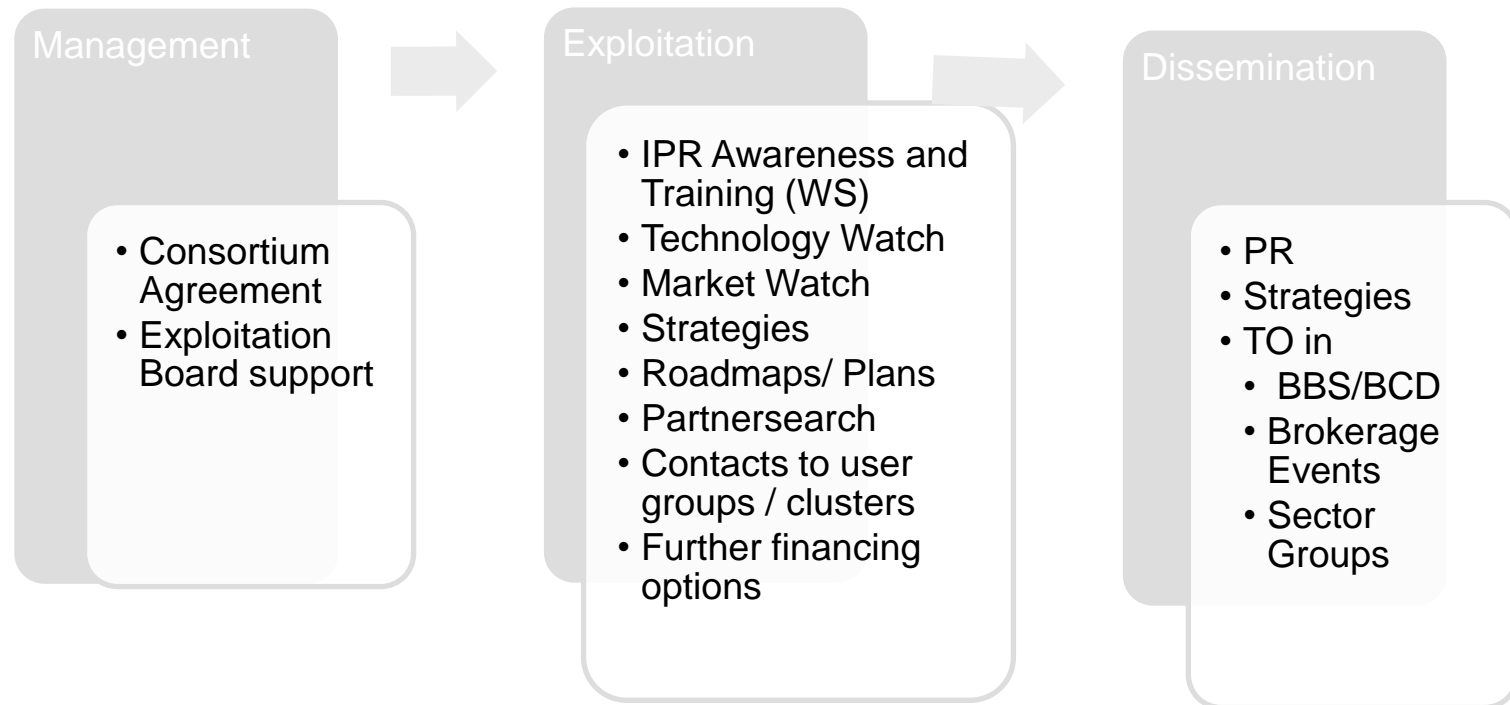
All of this feeds into the deliverables

- Exploitation strategy, plan, roadmaps,

SWOT in relation to Impact



Activities in Impact / Exploitation



Technology implementation plan tool

ROAD MAPPING

Technology roadmaps

- Technology strategic roadmaps, results of technology foresight and other studies performed often on the macro-economic level.
- at the EU level the Institute for Prospective Technology Studies in Sevilla (<http://ipts.jrc.ec.europa.eu/>).
- Technology roadmaps are developed also within the framework of technology platforms of the 7-th EU Framework Programme for Research, Development and Demonstrations (<http://cordis.europa.eu/fp7>, <http://cordis.europa.eu/technology-platforms>).

Innovation Management for SME

SME SUPPORT FOR INNOVATION

How do SME innovate

- Zufallsinnovation
- Product / process improvements (incremental) – clients
- No systematic approach
- No long term strategy
- No technology foresight
- Most used technology watch: going to fairs/exhibitions of their sector
 - More a product watch than a technology watch
 - No cross-fertilisation from other sectors

Rarely any innovation management

The SME ? on Innovation management

- Make it concrete
- Explain the benefits
- Include short term benefits
- Explain the outcomes

Internal management for innovation – starts with promoters

Role	overcomes	generates
Expert	Lack of knowlege	Ideas, concepts, alternatives, information
Power	unwillingness	Decisions on targets, budgets
Process / Relation	Missing links, missing relations,	Relations, coordination, processes, networks

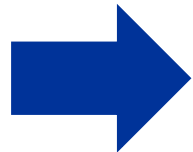
Solutions

1. Pragmatic innovation management – get acceptance through target oriented activities/benefits
2. External network of promoters
 1. Targeted support
 - One gatekeeper for knowledge / Mentor
 - Many experts – inside and outside the sector (cross-cutting innovation, cross-industry knowledge,)

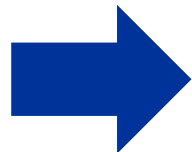
External Network of Promoters

External
support

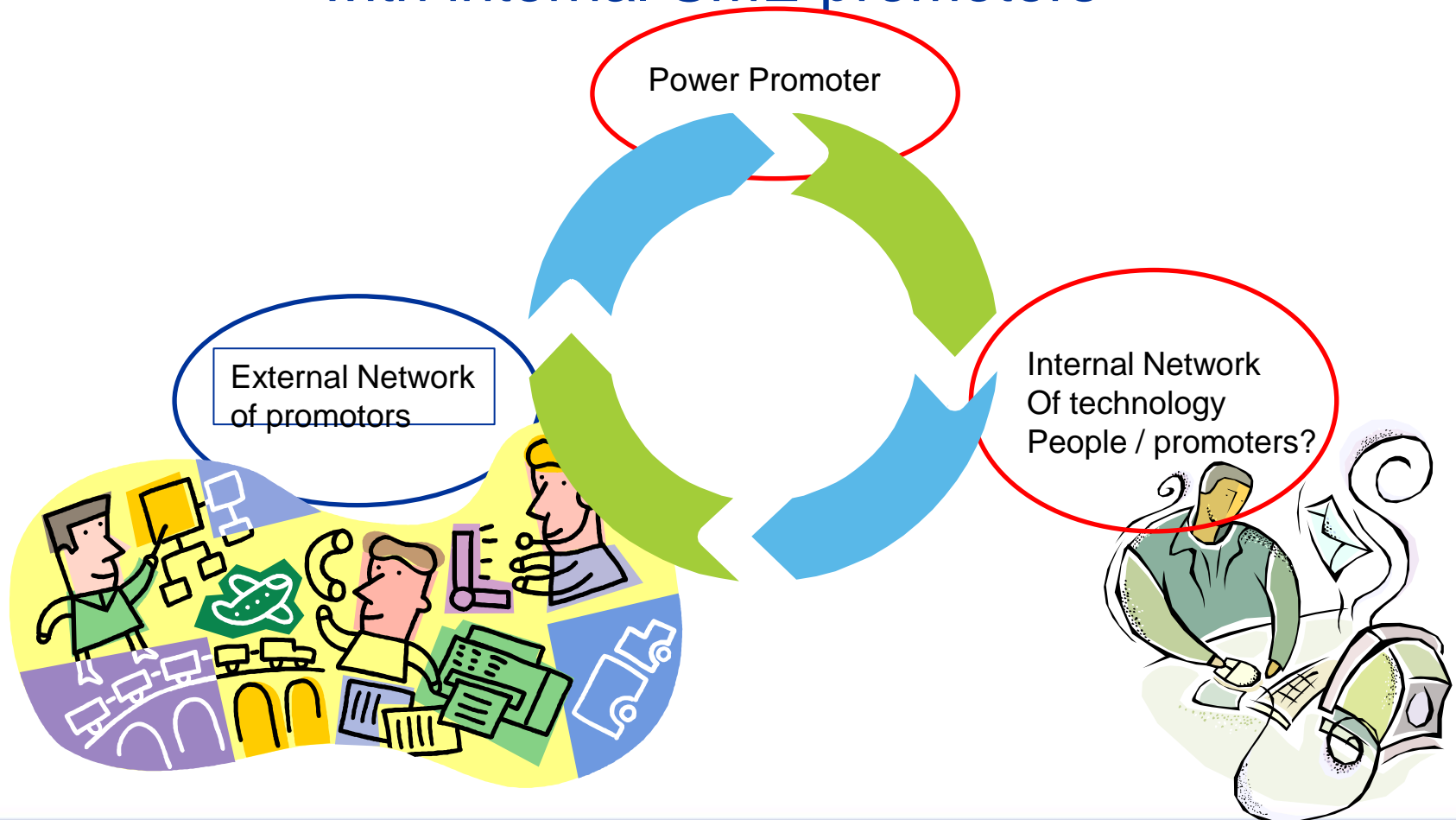
internal



Role	overcomes	generates
Expert	Lack of knowlege	Ideas, concepts, alternatives, information
Power	unwillingness	Decisions on targets, budgets
Process / Relation	Missing links, missing relations,	Relations, coordination, processes, networks

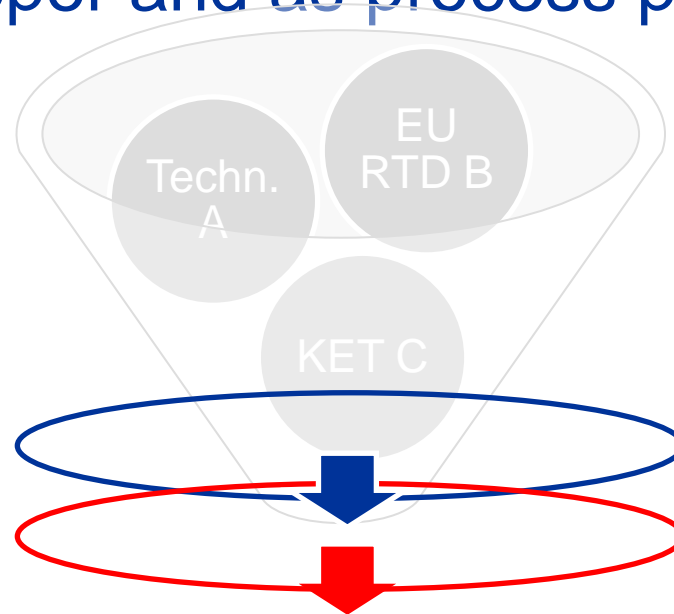


Networks of Technology and Expert – Promoters in exchange with internal SME promoters



Managed by the Coach: acting also as Gatekeeper and as process promoter !

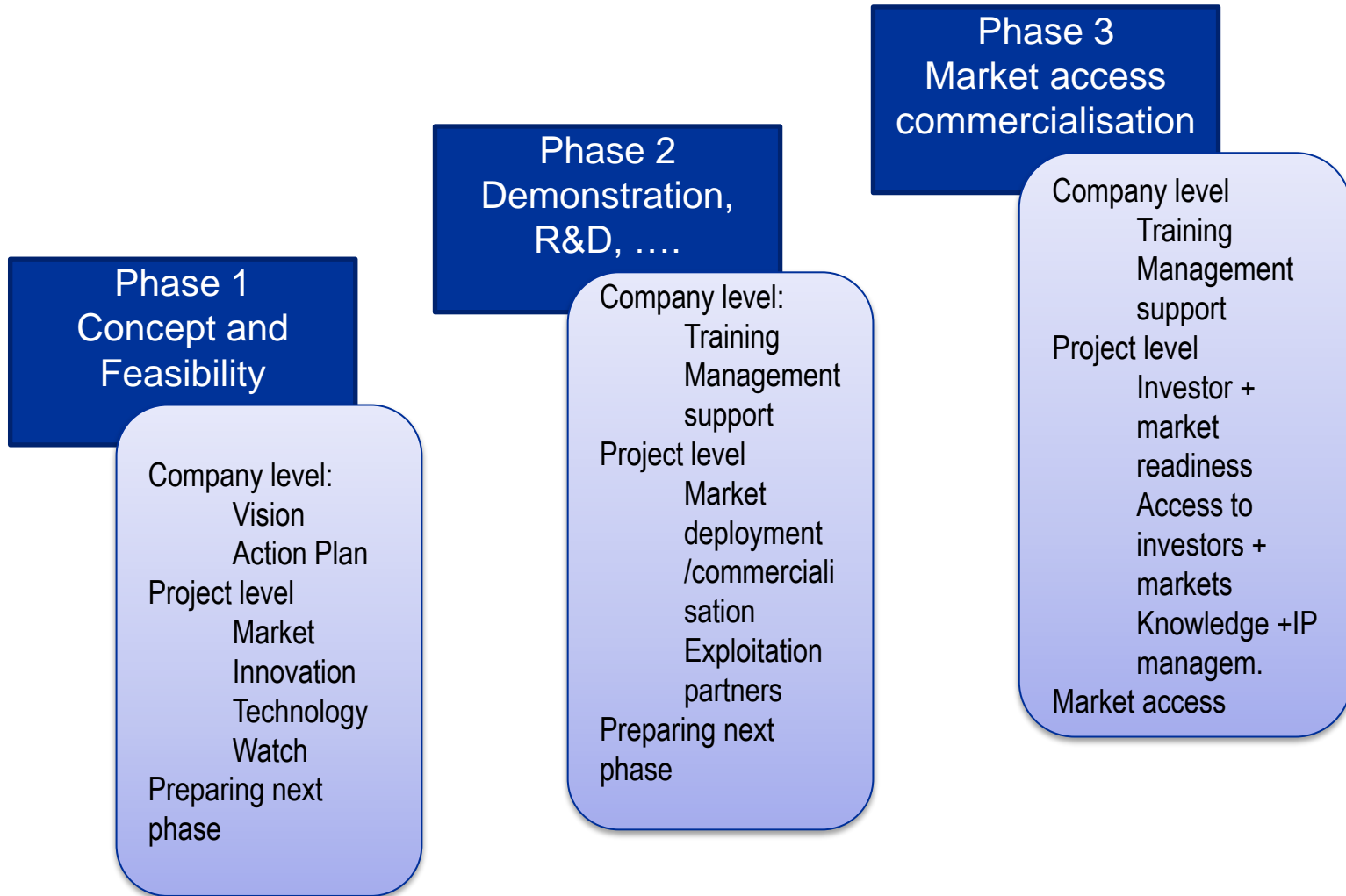
Targeted technology watch

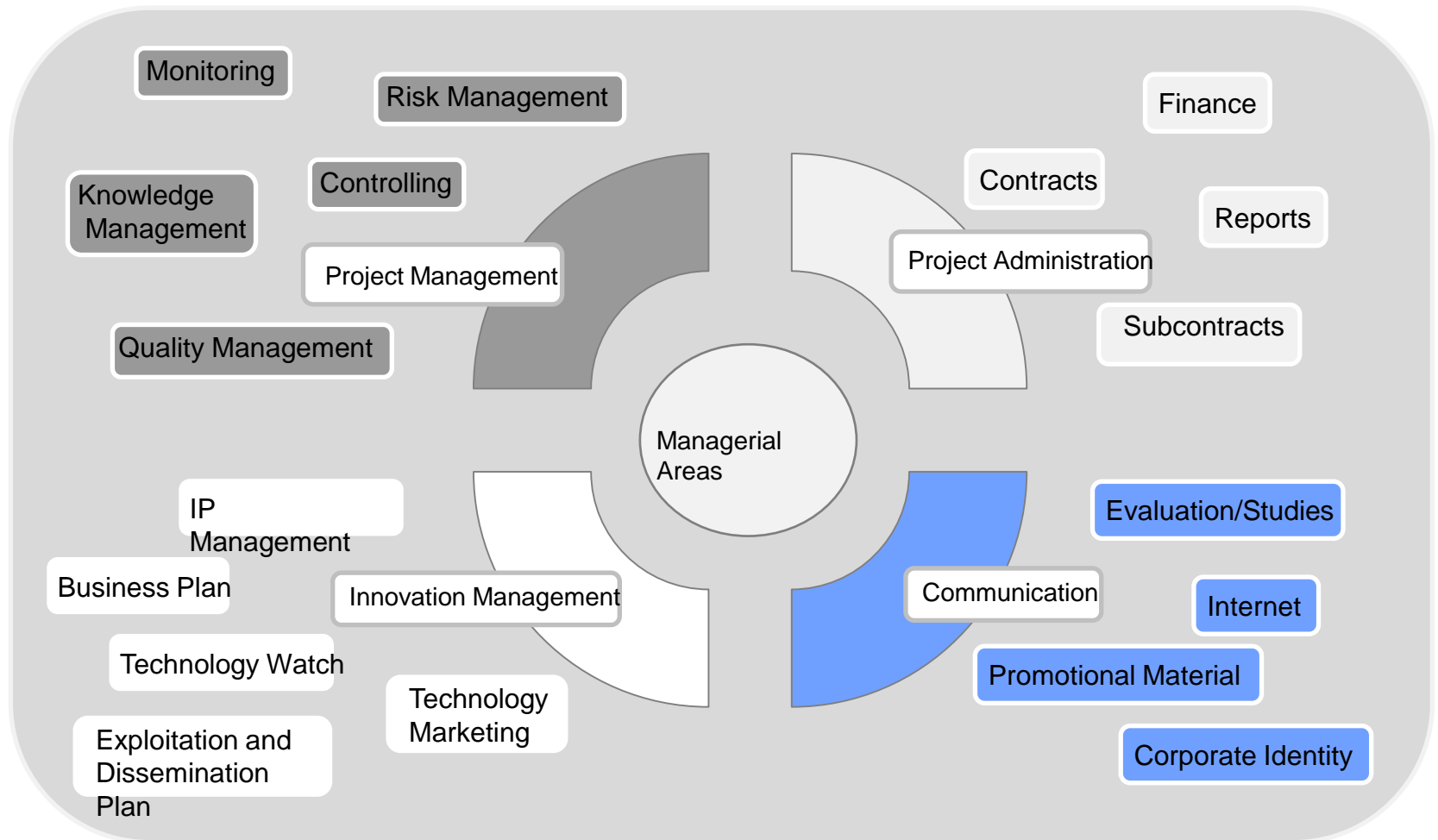


1. Rough by external promoter Network
2. Fine by external Mentor

More fine by internal promoter

Top Relevant Information to be processed to the power promoter via the technology promoters





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