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Creating Value Together

Dissemination and exploitation of research results

INTRASOFT Intl S.A.
Research & Innovation Unit
Dr. Raimund Bröchler

- INTRASOFT International S.A. at a glance

- Instruments for dissemination at the European level

- Moving beyond: Exploitation Strategy and plan

- Approaches for the dissemination and exploitation of research results

- Cooperation with stakeholders to increase dissemination and exploitation potential

- A **leading European company** in information technology services as of **1996**.

- **Key player in E.U. Institutions and Agencies** for more than 15 years.

- **Major multinational IT solutions integrator**, serving governments, large public institutions and private enterprises in more than **70 countries** around the globe.

- Headquarters in **Luxemburg**, established in **12 countries**.

- About **1.500** professionals, **20** different nationalities.

- Deliver seamless business systems, through **software development** and **IT systems integration**.

- Offer **vertical IT solutions** in specific business domains and industries.

- Offer a wide portfolio of **managed IT services**, infrastructure and application **outsourcing**.

- Provide highly-skilled professionals, through consulting and **IT capacity services**.

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European Commission

EUROPEAN PARLIAMENT

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

European Investment Bank

EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

EUROPEAN CENTRAL BANK

EMSA

European Patent Office

OHIM

• Office Location

Athens / Bucharest / Brussels /Luxembourg / Sofia / Copenhagen /Nicosia / Amman / Riyadh / Manila

• Activity

Alicante	Kiev	Oslo
Ankara	Kishinev	Podgorica
Apeldoom	Lisbon	Riga
Astana	Ljubljana	Skopje
Belgrade	London	Tirana
Bern	Lulea	Tbilisi
Budapest	Malta	Vilnius
Dublin	Minsk	Warsaw
Hague	Moscow	Zagreb
Helsinki	Nicosia	

Why is *dissemination* so important for the European Commission?

- Justifies the public money spent

  - showing how European collaboration has achieved more than would have otherwise been possible, notably in achieving scientific excellence, contributing to competitiveness and solving societal challenges

- Improves the knowledge

  - showing how the outcomes are relevant to our everyday lives, by creating jobs, introducing novel technologies, or making our lives more comfortable in other ways;

- Share

  - making better use of the results, by making sure they are taken up by decision-makers to influence policy-making and by industry and the scientific community to ensure follow-up

Common mistakes:
non-strategic communication

Focus on media before message

Creative people come up with a 'cool' idea

'Why' or 'what' questions are left unanswered

Better practice:
strategic communication

Targets, audience and message clarified
before deciding on the media

Creative people plan to achieve desired outcomes

Objectives are clearly defined

- Various instruments can be utilised

  - CORDIS and CORDIS WIRE

  - Research*eu / research*eu results magazine / research*eu focus

  - Enterprise Europe Network, http://portal.enterprise-europe-network.ec.europa.eu/about/branches/cz/

  - AlphaGalileo

  - Futuris and Innovation Magazine http://www.euronews.net/sci-tech/futuris/

  - Open access scientific publishing

    - Openaire http://www.openaire.eu/

  - Project Portals

  - Newsletters

Different ways to communicate

Examples of interpersonal communication	Examples of mass media communication
• Dialogues, face-to-face conversation	• Newspapers and magazines
• Group discussions	• Press releases
• Conferences	• Newsletters
• Brokerage events	• Manuals
• School visits	• Brochures, booklets, flyers
• Tours	• Letters
• Round tables	• Radio
• Exhibitions	• Television
• Meetings	• Video
• Workshops	• Posters
• Open days	• Stickers
• Demonstrations and prototypes	• Banners
• Telephone calls	• Billboards
• E-mail information service (question and answer)	• Website
• Internet debate	• Blogs
• Policy brief	• Social media
Smaller audience, lower costs, more effort (more effect?!) Interactive, good for acquiring input Flexible (easy to change tone, strategy and content)	Potentially large audience Uses the credibility of the mass media

- Dissemination Activities will be an ongoing process carried out throughout the project and afterwards. You have to define three distinctive phases of dissemination, and explicitly describe them:

  - Starting up

  - During the project

  - At the end of the project and after project completion

➢ Dissemination activities support your exploitation activities!

Starting up phase (describe means to be utilised)

- Project Internet Site (project launch; normally M2)

- Newsgroups

- Newsletter (project launch)

- Links of project website in all partner's websites & on professional bodies and Universities

During the project (describe means to be utilised)

- Workshop

- Newsletter (project progress)

- Publication of Papers and Articles

- Participation in conferences, fairs, exhibitions

- Leaflets and Brochures

- Posters

At the end of the project (describe means to be utilised)

- Training Seminars with potential users

- Conference(s) within the specific sector or technology field

- Publication of Papers and Articles

- Newsletters (project results)

European Research projects generally perform well in

- fostering intl. research collaboration
- developing new technologies

But they frequently do not fully use their potential and capacity to exploit.

- Most often great researchers love research but feel uncomfortable when having to consider or plan for exploitation
- Making dissemination / exploitation activities at the end of the project is too late
- Activities of dissemination plan are not always carried out and not targeted to exploitation
- Are not aware of approaches and Open Access routines for sharing results and foster the creation of innovation

Research

↓

Market
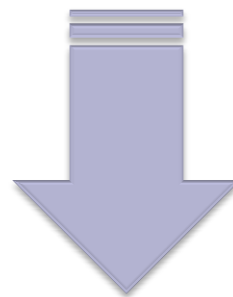
- Without a proper exploitation (commercialisation/valorisation) strategy, good research may remain research work, never reaching it's full potential and never creating impact to our society

- Exploitation helps to **accelerate scientific progress**

- Exploitation of research results may help to **support the economic development of the country and preserve its competitiveness**

- Exploitation of research should "re-finance" future research activities.

- **The EC is putting efforts and means to get knowledge AND create impact; only exploited research creates the impact.**

  - Exploitation is recognized as the key enabler for the success of a project

  - All EU funded projects should describe their exploitation intentions through an Exploitation Plan

    Note: The Exploitation Plan is often described together with the Dissemination Plan within the project proposal. Progress is followed up within the review meetings.

    Note2: IN USA more than $2.4 billion was spent on *social science research* and development at colleagues and universities alone in 2003 (Jankowski, 2005).

- **Exploitation Strategy-** analyse the strategic definition of the project,

    - Definition of the project results/assets (what will be exploited?)

    - Decision on the exploitation policy for each asset (how we are going to exploit it?)

    - Decision on the market schemas (where and in which promotion channels should we implement the exploitation policy of the specific asset?)

- **Expected exploitable results and potential end users**

- **Exploitation action plan at consortium level**

- **Commercial Use**

- **Knowledge transfer use**

- **Technological enhancement use**

- **Individual exploitation plan (partner level)**

Dissemination:

- Dissemination Principles

    - Target group of dissemination activities (stakeholders)

- Dissemination Approach

    - Presentations to target groups i.e at trade fairs, exhibitions, conferences

    - collaboration with clusters,

    - creation of a specific interest group,

    - liaisons with other FP-7 projects,

    - academic publications and conference papers,

    - project website

    - Contribution to standardisation

- **Intellectual Property Right (IPR) Management**

  - IPR Management during the project

    - Consortium Agreement

    - Access rights to Background and Foreground IP during the project

    - IP ownership within the consortium and "first users"

      - Letter of intent

      - Non-disclosure agreement

- Keep contact to relevant partners with high level of expertise and make agreements of collaboration with specialised groups of decision makers, associations, institutions so that results (or a part of them) could be applied

- Think about the possibility to *let beneficiaries use the results of the project as an instrument for further developments*

- When the project starts to be planned, think of a larger target group than the one which has been already selected for the project. In this, include future beneficiaries and stakeholders which could be reached even after the end of the project time.

- A context analysis is strongly recommended before starting the project planning so that it can be easier to find sources and to multiply exploitation effects

- Bear in mind both the final product for the people concerned and also the development of new projects/improvement as a potential "exit strategy"

- Building/joining networks/associations is advisable, for continuing the valorisation' work after the end of the projects.

- The project web site has to be updated and partners should visit social networks even after the end of the project.

- Desirably a project should create a need in the target group for a follow-up, or an enhancement of the products. Possibly a follow-up project could be done in order to exploit the results of a current project.

- The own usage of the product is also important. If you try to convince everybody else to use it, you first need to start with yourself/your organisation

- The products and information need to be in the right place but the usefulness of the product is key!

- Measure the success of exploitation: use qualitative and quantitative indicators. Qualitative: in depth interviews; focus groups, etc., Quantitative: number of visitors on your website; number of products distributed/sold/downloaded, etc

- Be proud of the results and "keep the light burning", also after the end of the project!

- It is important to keep yourself motivated and to network for your project/product even after its end. A very important success factor is the mindset of the project team!

- Try to expand the target group. There is always the possibility for beneficiaries to become "new starters"

- Successful exploitation needs to be supported by successful dissemination.

- Keep IPR in mind!

Examples of projects creating synergies with other stakeholders /partners regarding the dissemination and exploitation potential.

- ENVIMPACT/PROCEED
  - Collaboration and synergies of 2 projects on the website and on different WPs objectives. Projects share a common website and extranet tools including dissemination of news/events and where possible also of common methodologies. The deliverable of CEE R&D maps is common to both projects and the user is presented data of research results collected from the two projects.

- FInES cluster
  - The Future Internet Enterprise Systems (FInES) cluster, established by the European Commission, is an EU-funded research projects community, which may eventually be joined by other European or national initiatives that receive public financing. FInES has emerged as a field of activity that aims at enabling enterprises, including SMEs, by means of ICT, to exploit the full potential of the Future Internet. In this context, the FInES Cluster unites the previous Enterprise Interoperability and Collaboration (EI) and Digital Ecosystems (DE) clusters in order to encompass the past and current research experts and organisations focusing on benefiting all of us by offering an increased opportunity for synergy and enhanced collaboration among research projects in this unit.)

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- PRO INNO Europe ® (2006-2012)

  - European initiative which aims to become the focal point for innovation policy analysis and policy cooperation in Europe, with the view to learning from the best and contributing to the development of new and better innovation policies in Europe.

  - Facilitated more than 22 projects in 2006-2009 and more than 10 projects between 2009-2012 (including large projects as the Innovation Scoreboard and the Innovation Trendchart). Projects shared a common portal and extranet platform including dissemination of news/events and publications.

  - As part of Trendchart the European Inventory of Research and Innovation Policy Measures has been created with the aim of facilitating access to research and innovation policies information within Europe and beyond. The inventory brings together national information and documentation on research and innovation policies, measures and programmes collected and presented jointly by INNO Policy TrendChart and ERAWATCH. The information is collected and classified according to specific policy guidelines.

- Europe INNOVA (2006-2012)

  - European initiative which aspires to become the laboratory for the development, testing and promotion of new tools and instruments in support of innovation, with a view to helping innovative enterprises to innovate faster and better. The aim is to support all forms of innovation, taking into account the great societal challenges of today.

  - Projects shared a common portal and extranet platform including dissemination of news/events and publications

- Which approaches could be used to disseminate and exploit (commercialise/valorise) research results?

  - Ideas from the audience?

- There are different approaches to the dissemination and valorisation/exploitation of research results

- **Open science model:** is primarily effected through education and the publication of research results.

- **Technology transfer models:**

  - **(Internal management and use of intellectual property rights):** Closed Innovation

  - **(External AND Internal management and use of intellectual property rights):** Open Innovation

- **Creation of new activities (spin-offs)** in the past often based on the results produced by universities and other research centres.

  ➢ Nowadays also, as a result of an open innovation approach, inside-out spin-off from a company

- Open science is used by analogy to "open source" software and refers to the approach of sharing insights through publications

- Dissemination of research results supports the advancement of science very effectively. All researchers are free to use the research results published by other researchers, provided they cite their sources.

- Simple approach of exploiting research results used by many scientists

- All areas of research, including human and social sciences, can apply this model.

- Potential exploitation of discoveries published in scientific journals by industry is usually indirect, without involvement of the organisations where these discoveries are made.

- In this model, industry derives no competitive advantages from the information, because published results automatically fall into the public domain and are therefore **accessible to all.**

- Technology Transfer also called Technology Commercialisation, is the process of transferring

  - Skills

  - (Knowledge)

  - Technologies

  - Methods of manufacturing

  among research centers/universities but also private organisations to ensure that scientific and technological developments are accessible to a wider range of users. These can then further develop and exploit the technology into new products, processes, applications, materials or services.

- Model is based on the linear innovation paradigm: research generates discoveries; based on these new insights, applications are subsequently conceived and protected by intellectual property rights (patents). The eventual development is licensed to industry.

- The technology transfer model involves protection via IPR in order to establish an exploitation monopoly for a particular area and timeframe. The granting of a patent suggests an economic improvement compared to the state of the art.

- Many research organisations and universities are increasingly establishing "Tech Transfer Offices"

- Various tools are available to facilitate technology transfer.

  - the Enterprise Europe Network (EEN) http://portal.enterprise-europe-network.ec.europa.eu/services/technology-transfer

    - In Hungary > http://www.enterpriseeurope.hu/

      - Contact your regional access: http://portal.enterprise-europe-network.ec.europa.eu/about/branches/hu/

  - the Technology Innovation International (TII) network for technology transfer and innovation professionals. TII is a network of intermediaries and TT professionals.

  - CORDIS Technology marketplace http://cordis.europa.eu/marketplace/

- The Enterprise Europe Network (EEN) approach can be summarised as having 4 steps

  - Step 1: Evaluating the innovation capacity / Marketing and contact

  - Step 2: Documenting the technology requirements / Identifying technology profiles

    - Technology offers

    - Technology requests

  - Step 3: Searching for suitable partners

  - Step 4: Concluding a partnership agreement / Offering support

Source: University of Cambridge, Institute for Manufacturing, 2009
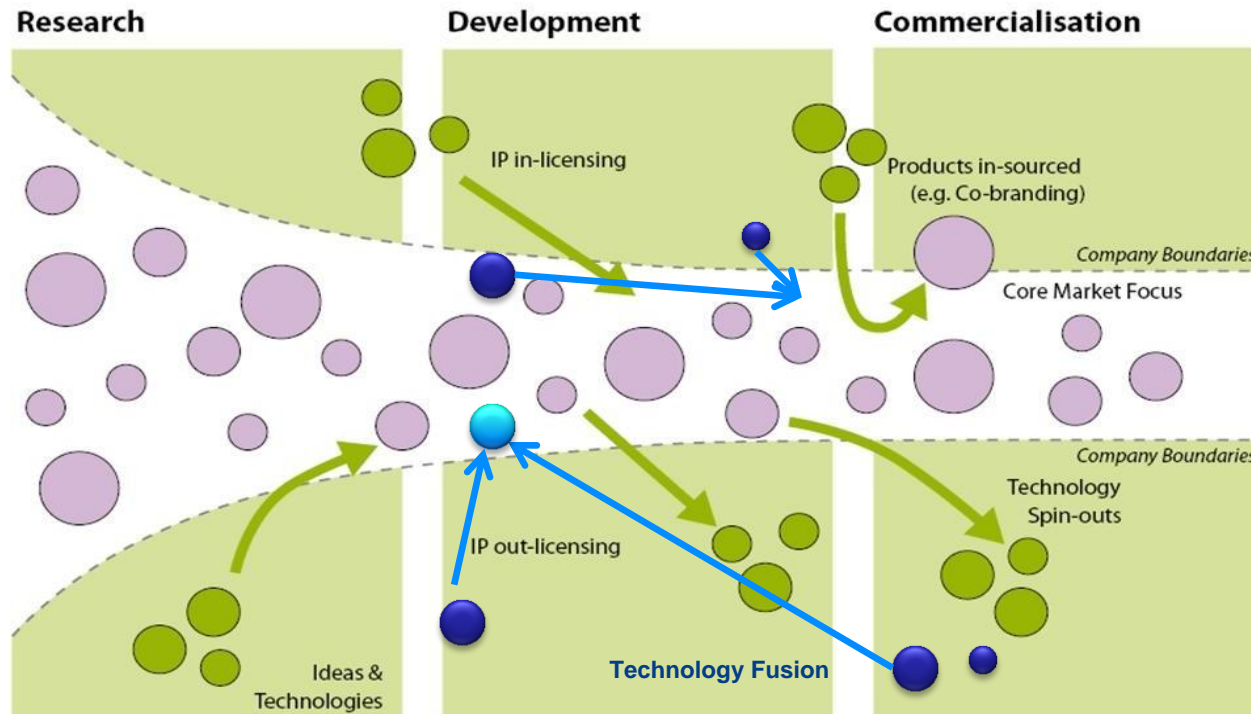
- **Open Innovation is an APPROACH for Innovation Management[1] that**

  - allows organization to acquire, integrate and process external information more efficiently and effectively.

  - supports organizations to overcome their local search bias, acquire precise information needs and therefore innovate more successful and cost efficiently.

  - creates new forms of interacting and collaborating with the external environment of a company including various potential actors (beyond suppliers, customers, universities etc).

[1]The Market for Open Innovation, F. Piller, K. Diener, 2010

- Large Businesses can no longer afford to invest in generic technologies, as they will not be able to exploit the various applications of such technologies themselves. Larger private research centres have almost disappeared. Public research organisations can only take over in this capacity if it is of high quality and easily accessible.

- Direct collaboration with companies is probably the most efficient form of exploitation. The research and development competences are complementary, and the interaction between the two approaches is, in itself, a catalyst for innovation.

- FP7 encourages such direct cooperation, which is also explicitly permitted by the new EU rules on state aid. Two forms of collaboration co-exist: contract research and collaborative (competitive) research which is more recent and is tying in with the open innovation concept.

- Open Innovation is:
  - a strategic tool to explore new growth opportunities at a lower risk[1]
  - one of the managerial answers to globalisation[2]
  - more about increasing R&D options than about replacing existing ones. The external technological collaboration is complementary to internal R&D investments[1]
  - Open technology sourcing offers companies higher flexibility and responsiveness without necessarily incurring huge costs[1]
  - Most companies use a mix of approaches to innovation: technologies may be purchased from other companies, acquired through licenses, partnerships and alliances, developed internally[1]
  - Large companies are four times more likely to collaborate on innovation activities than SMEs[1]!
  - P&G is developing 50% of innovations with external partners[3]

[1]Open Innovation in Global Networks, OECD 2008
[2]Living Labs and Open Innovation, E. Almirrall, eJOV-Volume 10
[3]OpenInnovation.de/523-Procter-Gamble-P-G

- Managing uncertainty is a core practice of successful innovation management

- Reduction of uncertainties by accessing and transferring different types of information:

- Customer and market needs (need information[1])

  Information need builds on an in-depth understanding of customers' requirements, operations and systems.

- Technological solutions (solution information[1])

  Solution information addresses the efficiency of the innovation process and enables product developers to engage in more directed problem-solving activities in the innovation process.

[1]The Market for Open Innovation, F. Piller, K. Diener, 2010

- **Lead User Method**
  - Identification of innovative users
  - Users are actively integrated via Innovation Workshops/Clusters
  - Living Labs supporting user driven innovation and national systems of innovation

- **Toolkits for Open Innovation**
  - Internet based instruments supporting companies / organisations via transferring information needs into new product concepts

* L. Mortara et al, 2011

- **Innovation Contests***
  - Generation of input for all stages of innovation process. Competition between users and customers aim at encouraging innovative ideas at the frontend of the innovation process or at later stage. Usually done via searches for innovative approaches to a technical problem within a wide range of problem solvers
  - Nowadays done via CROWDSOURCING

* L. Mortara et al, 2011

- Lead User Method
  - ENoLL www.openlivinglabs.eu
  - Regional and National Clusters
  - Industry Associations
  - Big Idea Group (Rapid Reviews) www.bigideagroup.net
- Toolkits for Open Innovation
  - EEN (Enterprise Europe Network)
  - Yet2.com www.yet2.com
- Innovation Contests
  - EEN www.enterprise-europe-network.ec.europa.eu
  - NineSigma www.ninesigma.com
  - InnoCentive (Eli Lilly spin-out) www.innocentive.com
  - I-Prize (CISCO Systems, two rounds, 2000 ideas collected, price 250k$)

Source: University of Cambridge, Institute for Manufacturing, 2009

1 - Innovation Management

2 - Market Intelligence

3 - Landscape Analysis

4 - Technology Scouting

5 - IP Licensing

6 - Partnership Development

"7" – Technology Fusion Services?

Toolkits for Open Innovation

Innovation Contests

Lead User Method

Source: University o f Cambridge, Institute for Manufacturing, 2009
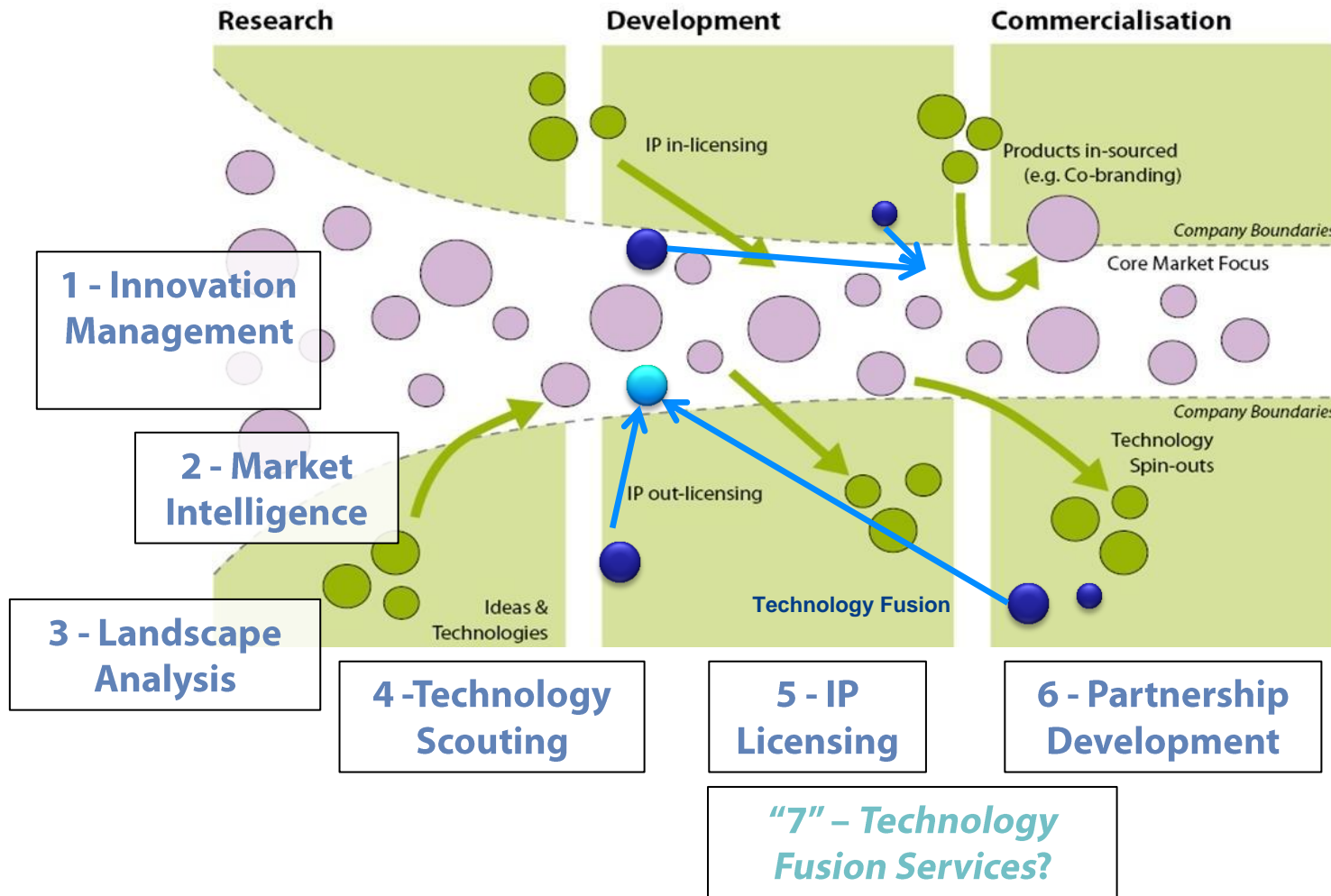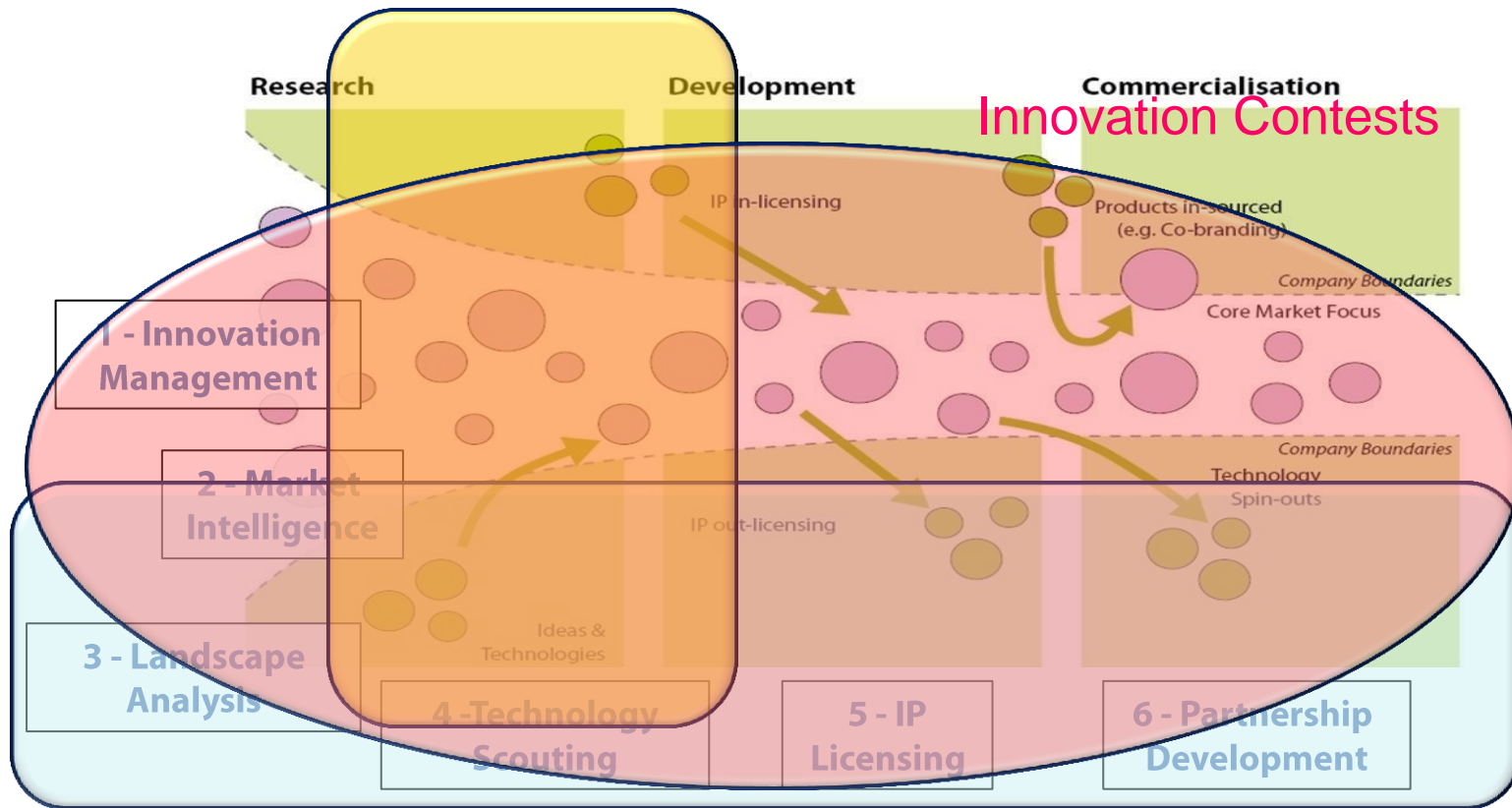
...is the same for large and small enterprises, but SMEs can participate sooner, move faster and adapt more readily to opportunities from the periphery of a market, relative to large firms[1].

Increased R&D activities of SMEs make SME attractive as technology receiver and solution provider.

	1981		2005	
	>25000 employees	< 1000 employees	>25000 employees	< 1000 employees
Industrial R&D spending	21,168 Million $	1,317 Million $	84,983 Million $	54,473 Million $

[1]H. Chesbrough, 2010

- Spin-offs are **new companies** created on the basis of technologies or know-how developed by a research organisation.

- The human dimension is very important: the transfer of a technology is often reflected in the transfer of researchers, and entrepreneurs are needed to manage the new businesses.

- Spin-offs are another way of producing the proof of principle of inventions and to valorise the results of research.

- Spin-offs can be "hosted" by Business Incubators offering infrastructure and services
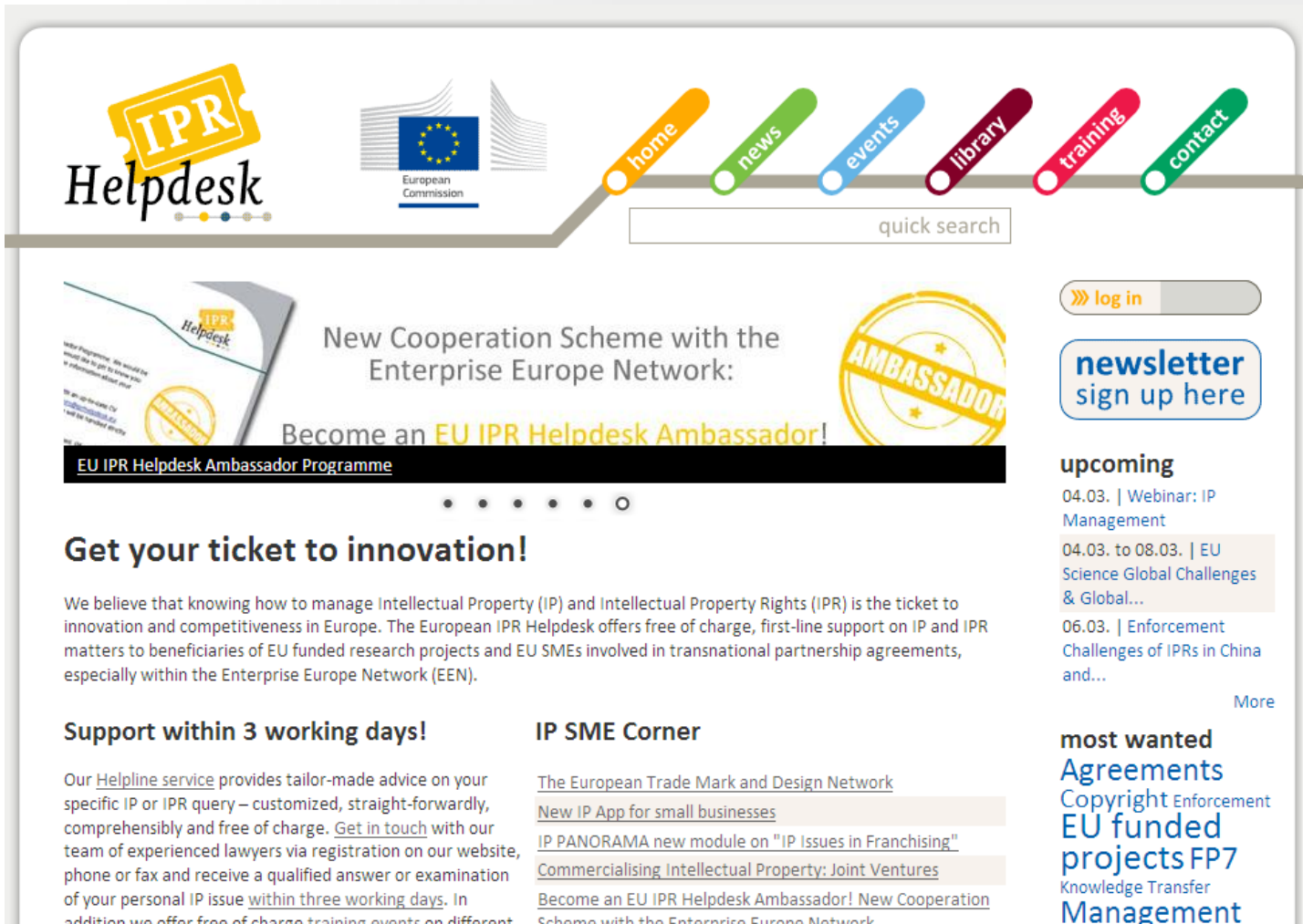
- Technologies which can be exploited by existing businesses without changing their operating model do not call for the creation of spin-offs.

- More relevant approach when deemed
  - to establish proof of principle for a new technology, if this requires substantial means;
  - to explore a new exploitation model, which existing companies might hesitate to implement without proof of feasibility.

- IP is no longer regarded merely as a protective shield for inventors, but also as a strategic tool for value generation[1].

- IP that is not capitalised has to be seen as a cost within an organisation.

- IP may generate income for an organisation through the licensing, sale or commercialisation of IP protected services or products

- Various IP protection tools are available based on the nature of products/services/processes that need to be protected

[1] "The value of knowledge European firms and the intellectual property challenge" An Economist Intelligence Unit white paper, 2007

- **Industrial property**
  - **Patents** and **utility models**: inventions
  - **Industrial designs**: innovative designs
  - **Trademarks**: brands
- **Copyright**
  - Does not protect the ideas themselves but only the form of expression of ideas
- **Soft-IP**
  - This may be know-how, trade secrets, confidential information

[1] "The value of knowledge European firms and the intellectual property challenge" An Economist Intelligence Unit white paper, 2007

IPR Helpdesk

https://www.iprhelpdesk.eu/

Intellectual Property protection (2)

Patent
Industrial design
Trademark

Copyright

Methods of formal protection

Agreements
Ownership and right to use

Protection based on agreements

Methods of informal protection

Protection of databases
Technical protection
Publications
Documentation

Restricted
access to data

Confidentiality
Customer relations

[1] Adapted from MET3 slides

THANK YOU FOR YOUR ATTENTION

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BACKUP SLIDES

Facilitators: InnoCentive
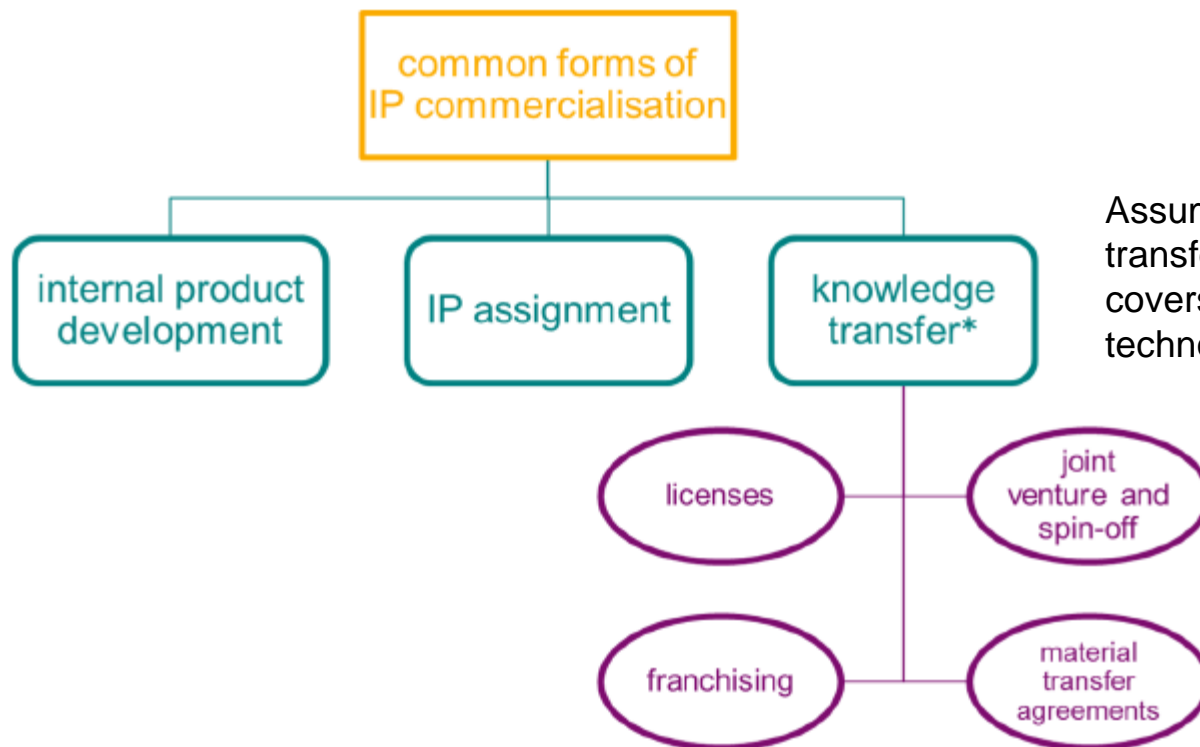
- **InnoCentive supports Challenge Driven Innovation that bridges the gap between great ideas and solutions to drive measureable results**

- Total Registered Solvers:~250,000 from nearly 200 countries (stable since 2010)
- Total Solver Reach: More than 12 million
- Total Challenges Posted to InnoCentive.com: More than 1,420
- Project Rooms Opened to Date: 409,000
- Total Solution Submissions: 30,000 (4.7% made it to award)
- Total Award Dollars Posted: $35+ million
- Range of awards: $500 to $1 million based on the complexity of the problem
- Total Awards Given: 1,140+
- Average Success Rate (for seekers): 50%+
  (Data: InnoCentive, April 2012)

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NineSigma is the leading innovation partner to organizations worldwide, helping companies across industry sectors engage with the global innovation community to find knowledge and solutions that accelerate time to market.

- 500+ clients on projects including knowledge searches, technology landscaping and enterprise-wide open innovation programs.
- More than 2,200 open innovation projects since its inception in 2000.
- Distributed innovation requests to more than 2 million solution providers globally.
- Received 35,000+ innovation proposals from solution providers in 135 countries.
- **90%** identifying viable solutions

  (Data: NineSigma, May 2012)

Assuming that knowledge transfer includes, and covers more than, technology transfer.

[1] Commercialising Intellectual Property: Joint Ventures
IPR Helpdesk Factsheet January 2013