

Usage and Benefits of CRIS for two extremes: the Political Decision-Maker and the Research Manager

Start with a Statement:

**Professional Management of
(International) Research Creates Added Value**

Personal Background:

Academic research (15 yr): Biomedical, NL, USA, F, B, many different grants and working with industrial partners

Industry experience (5 yr): Biotech/pharma, Research Management, contracts, IP, licensing, partnerships/merger, investments

International Research Management: Biotech/Pharma, EARMA + RIMS



EARMA



EARMA is the leading association of research managers and administrators across Europe. EARMA sets the highest standards for research management and administration.

A not-for-profit organisation from members for members.



- **Why Research Management?**
- **Role of a Research Manager?**
- **What is a good Research Manager?**
- **Which training would be needed?**

Two boring
slides with
background

What is EARMA?

A broad based Association of professionals active in the field of Research Management and Administration across Europe

Founded in 1995 with 40 Institutional Members

**Now: >550 members, >127 institutional members in 36 countries
from:**

**Universities, Research centers, Funding Agencies,
service companies,
Big and small Companies,**



Two boring
slides with
background

What does EARMA provide?

- Conferences: June 2004: Bucharest, Romania
- weekly Newsletter, webpage
- member dbase, job listings, Staff Exchange program
- International Networking/ INORMS
- Representation to authorities/European Commission
- Portfolio of Training courses
- Education: GSP postgraduate program
- Best practise in Technology Transfer: ProTon Europe
- WG's/ SiG's, tools, books, etc

EARMA training portfolio 1:

- **How to negotiate, manage, administer and audit an EC R&D contract**
- **How to write a Technology Implementation Plan**
- **How the European Union works**
- **How to write a competitive proposal for Framework 6**
- **Management of Framework 6 (Project/ Financial/ Legal Management)**

EARMA training portfolio 2:

- **Successful presentations**
- **International project management**
- **Effective Negotiations**
- **How to present R&D activities to Business Executives**
- **Innovation: from Science to Shares**

- ✓ **Transcultural Communication skills**
- ✓ **Risk Management in Projects**
- ✓ **Managing and Motivating Teams**

EARMA

Original aim for “Certificate in Professional Research Management”

1. INTERNATIONAL PROJECT MANAGEMENT.
2. DEVELOPMENT AND MANAGEMENT OF INNOVATION.
3. PROTECTION OF KNOWLEDGE.
4. KNOWLEDGE MANAGMENT.
5. FINANCE
6. INTERNATIONAL ENTERPRISE
7. INTERNATIONAL FUNDING REGIMES
8. MARKETS AND MARKETING
9. HUMAN RESOURCES



NEW

Post-graduate Studies Program:

Summer Schools with direct coaching & in-depth analysis based on a portfolio of proprietary case studies & assessment of short written thesis

EARMA proprietary case studies:

- **Organizational level (external factors)**
- **Organizational context (mission, capacities)**
- **Team level (procedures, skills)**
- **Individual level (skills, learning ability)**

Strategy of EARMA: International Research Management Professionalization:

KEY !

1-practical Training through workshops/courses

2-structured Staff Exchange program

3-direct Coaching

4-professional/ academic degree (Pilot completed)

5-networking

6-influencing international policy

other stakeholders

} embedding &
} bridging with



EARMA

International Conferences

- **1999 - Amsterdam: Best practices in research management - Intellectual property**
- **2000 - Heidelberg: Best Practice in Industry and Science Relationships**
- **2001 - Stockholm: Benchmarking - Best Practice in Research Management**
- **2002 - Budapest: Integrating European Research & Innovation Mangement**
- **2003- Faro: Facing Challenges of Changing Environments**
- **2004: Bucharest: Research Management & Administration in a Changing World**

Usage and Benefits of CRIS for two extremes: the Political Decision-Maker and the Research Manager

Research Management and euroCRIS:

- **We live in a Changing World**
- **Why Research Management?**
- **Role of a Research Manager**
- **Which Information would be needed**
- **and used for What? (purpose?)**

1. **Projects/ Programs**
2. **Organizations**
3. **People**
4. **Results**
5. **Resources**

Statement euroCRIS seminar Sept'03:

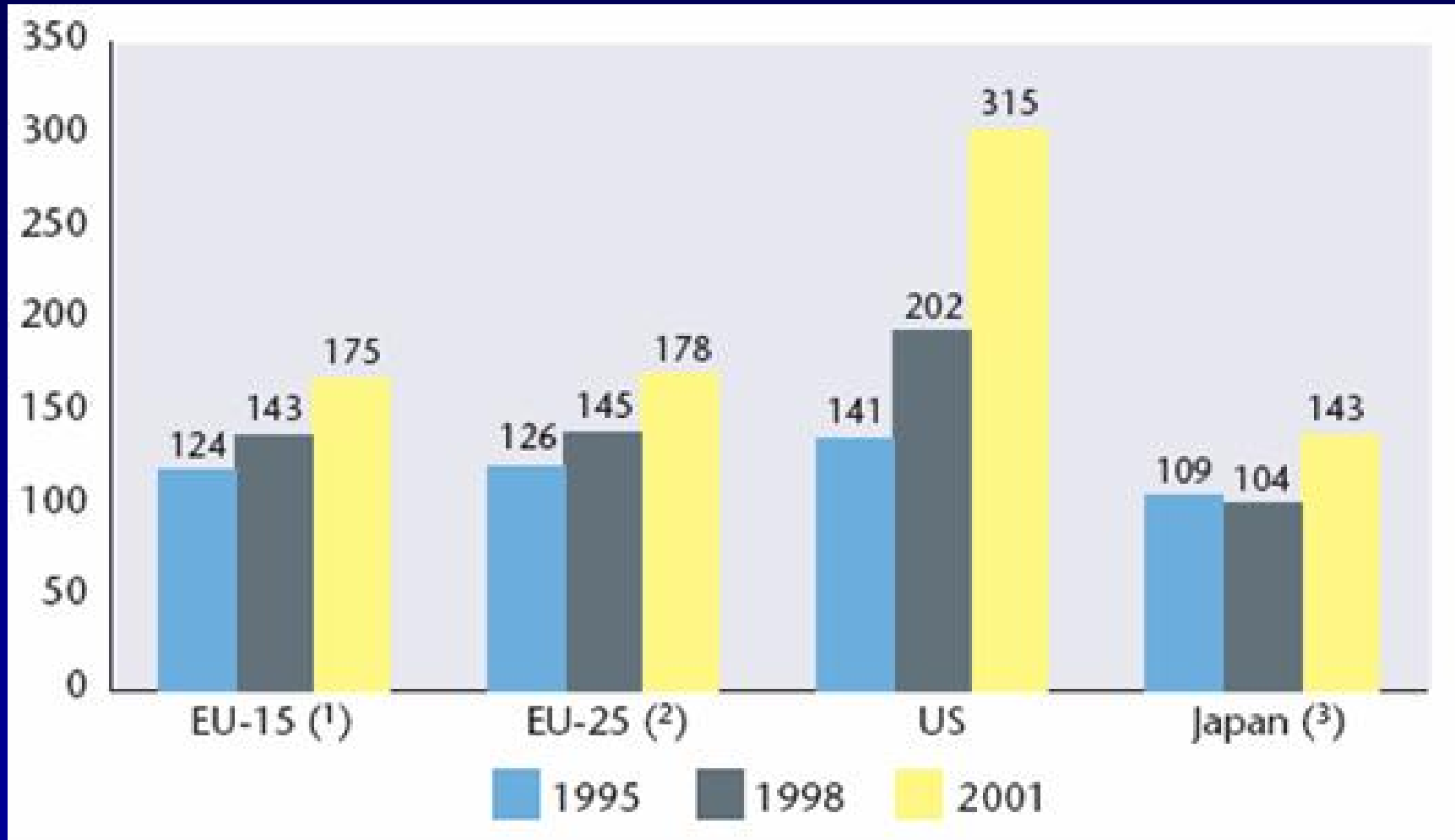
- the future of Europe – wealth creation and quality of life – is predicated on **R&D** (research and development) ;
- without **R&D information** the research policy decision makers cannot guide, manage and evaluate the R&D and its output;
- at present R&D information is **distributed and heterogeneous**
- it is necessary to **make accessible** the information under a homogeneous user interface
- the homogeneity can be provided by technologies utilising **CERIF** (Common European Research Information Format)

What challenges do we face in Europe (1)?

- low R&D spending: 0.6% (Gr, E Eur) – 4,7% (SE, FIN) ('03)
vs 3.7 - 4.5% in US or Japan ('03)
- vulnerable economies: New MS and Germany, Italy =>
Barcelona 3% goal for 2010
- lack of public recognition of importance of S/T: low policy
support => Nat'l funds go down and
- decreasing private R&D spending: E Eur MS, brain drain to
US: relocate now for manufacturing, later R&D also
(China/India already for certain sectors)
- low input of human resources: Lisbon Goals for 2010 (=>
need 700 K extra S/T workers!!) + Bologna Treaty
harmonization of higher edecuation landscape
- ageing population (high tax burden for pensions)

What is happening in Europe?

In general (figures of 2001)



What is happening in Europe?

R&D Intensity (GERD as % of GDP) 2001

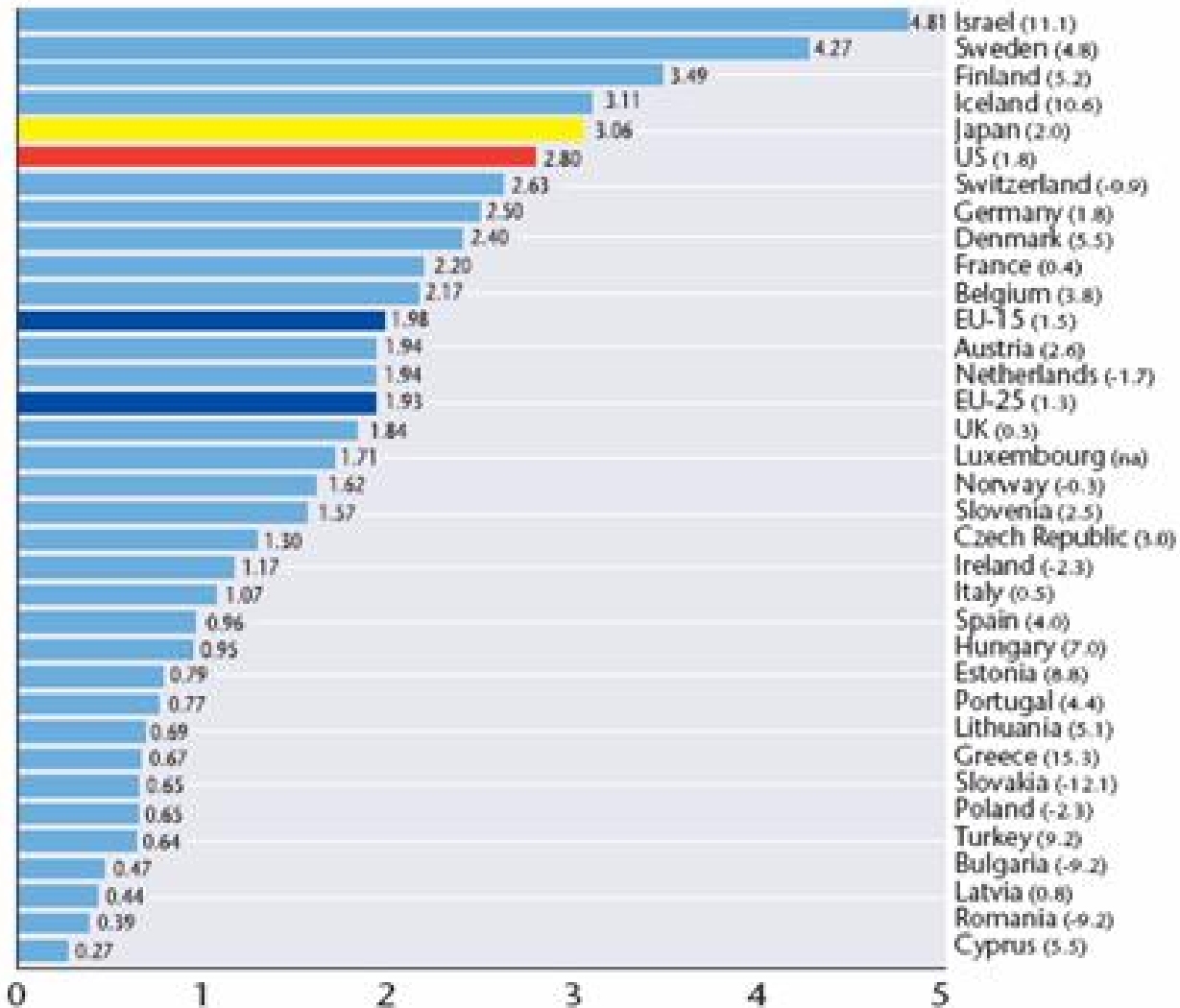
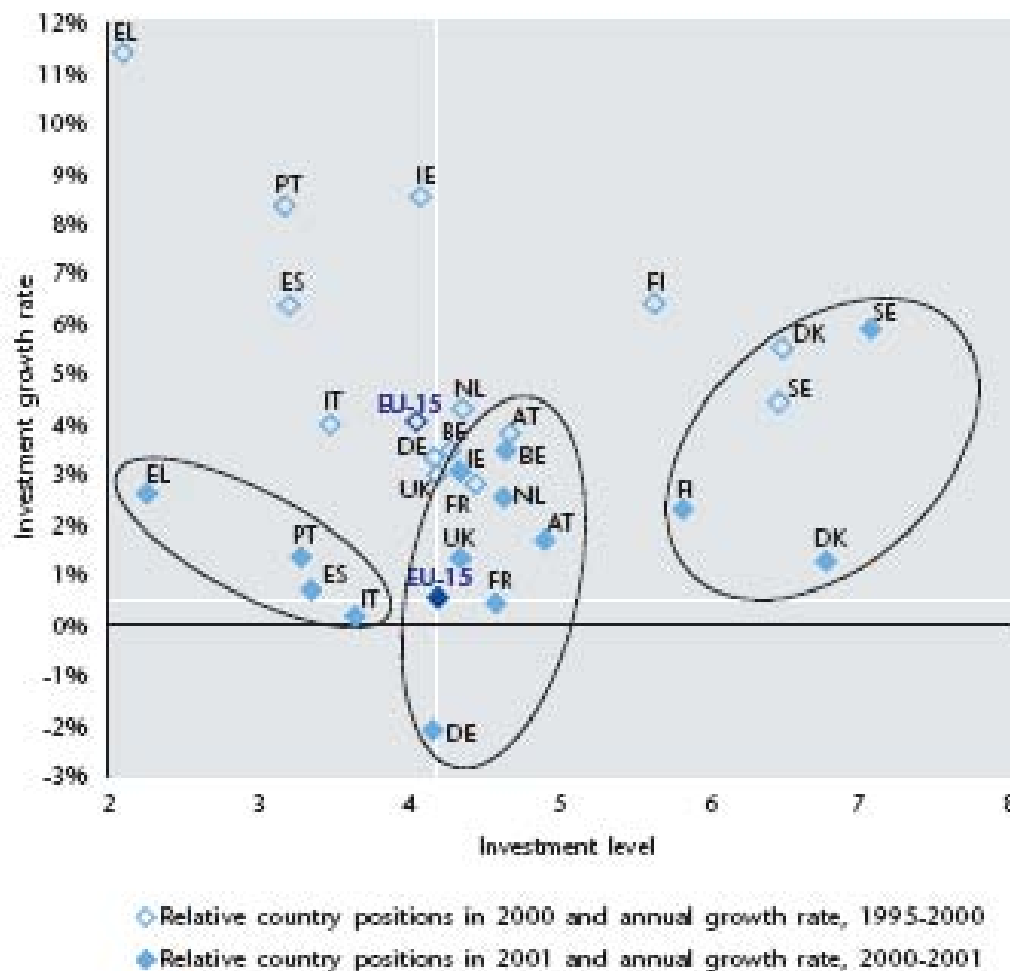


Figure 2 Composite indicator of investment in the knowledge-based economy: EU Member States



Source: DG Research/JRC

Key Figures 2003-2004

Data: Eurostat, DG Information Society

Notes: All 7 sub-indicators were included for the investment levels (horizontal axis), but the indicator on e-government could not be included in the comparison of the growth rates (no data available on e-government for 1995). LU is not included (no data for most of indicators). For more details about the calculations and methodology see website www.cordis.lu/indicators/publications.htm.

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harmonization of Higher Education landscape
- ageing population (high tax burden for pensions)

What problems are apparent in Europe (2)?

Huge diversity in landscape:

- new MS** (communist history, some no IPR, social law)
- legal** (contracts !)
- social** (contracts, pensions)
- IPR** (D, ITL , FIN: change of ownership; Fr, AT: change spinoff/incubator policy)
- financial** (contracts !, banking, taxes: IRL or SLO's flat rate of 19%)
- Management practise and experience** (UK, Scandinavia vs South, Central Eur: cultural differences)
- fragmented public funding** (double funding, infrastructures)

-why spend many € on Research (patents) if there is no deliberate strategy behind or possible follow-up procedure possible?

European Framework Program funding (3):

FP5 => FP6 => FP7:

**from thematic interventions (FP5)
to project oriented (FP6)
to program oriented funding (FP7):**

**+> fighting fragmentation in Europe
+> integrating relevant stakeholders**

**(in the field: Biotech + new IT infrastr.=> Bioinformatics;
Air/ Space/automotive: shared infrastructures)**

(new: virtual networks, less location based, GéANT !)

More changes, also internally (4):

- 1 -more complex technologies => knowledge of different disciplines
- 2 -more staff have now a higher level of specialization
- 3 1+2 => multidisciplinary teams required
- 4 -more stringent external requirements (e.g. safety and environmental regulations)
- 5 -above all: the sheer size of large projects, with exponentially increasing costs

Changing role of Universities: need more professional management ! (5)

- Role of University: Classical Humboldt model vs Entrepreneurial model

- mergers between Universities and Technikonos

- strategic choices on 3rd stream money, new collaboration models/ partnership conditions

- Role University in economical development: at which level: regional or national?

- **R=>D=>Growth:** is it possible? If so, what to do, to make it happen in your place?

The Accenture 2002 High Performance Drug Discovery Survey, considered the forces impacting the Pharmaceutical R&D space and proposed six key value themes

Key Forces Driving Change

An explosion in the number of potential disease targets, (new and existing treatments)

Genomics Revolution



A wealth of potential new NMEs and enabling technologies

Internet



Sharing, processing and understanding information like never before

Scientific Technology



Biotechnology Industry Growth



More effective and efficient screening (HTS and Chombi Chem)

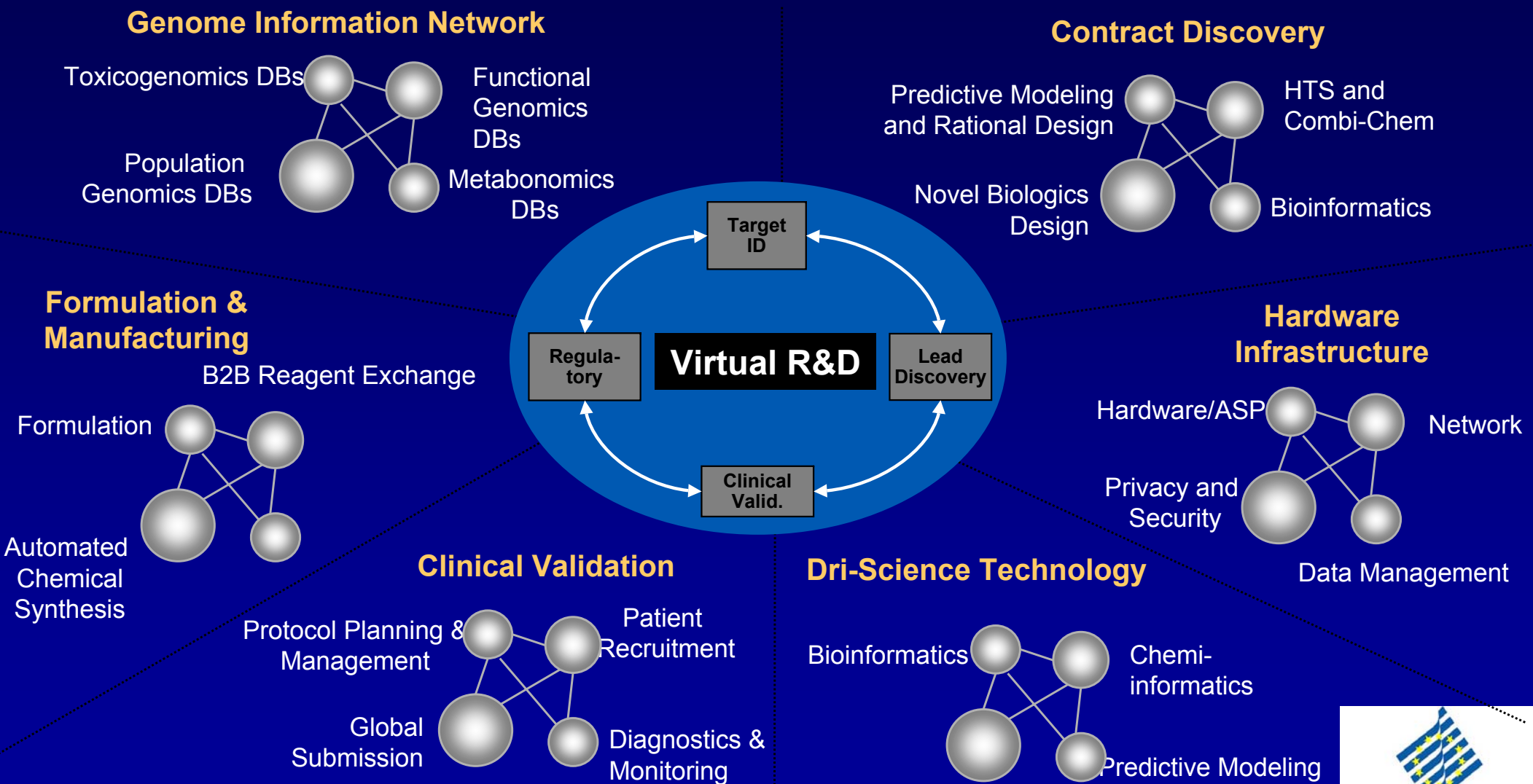
Industry Value Themes

- Operational Optimisation of R&D
- Prioritization and Decision-making
- Informatics and Knowledge Mngt.
- Economies of Scale

- Genomics and Proteomics
- Partnerships and Alliances

Directly impacted by Life Sciences

Due to the proliferation of information in the discovery space, the new R&D business model will evolve to become a virtual network of coordinated service providers



“Increasingly international R&D is done in a complex network environment: you need professionals to enable the different players to act together”



**From the investing/ funding perspective,
and the Policy Decision maker:**

**Conclusion: rapid changes, complex
environments
result in unnecessary high risk for
Research and lost value.**

**=> effective management is essential to
handle risk and allow value to be created !**

What are the characteristics of a good Research Manager?

What is Research Management?

OECD Survey:

“ Research Management is of critical importance to universities. By this, we mean the whole process of how universities can add value to research activities for their staff

- from identifying funding opportunities and
- presenting applications,
- through negotiating terms and
- project management to
- utilising the results.”

“One Central Office – ‘One-Stop Shop’:

One office administers grants and deals with industrial liaison and commercialisation.

Some offices are more comprehensive than others, even dealing with financial management of awards. „

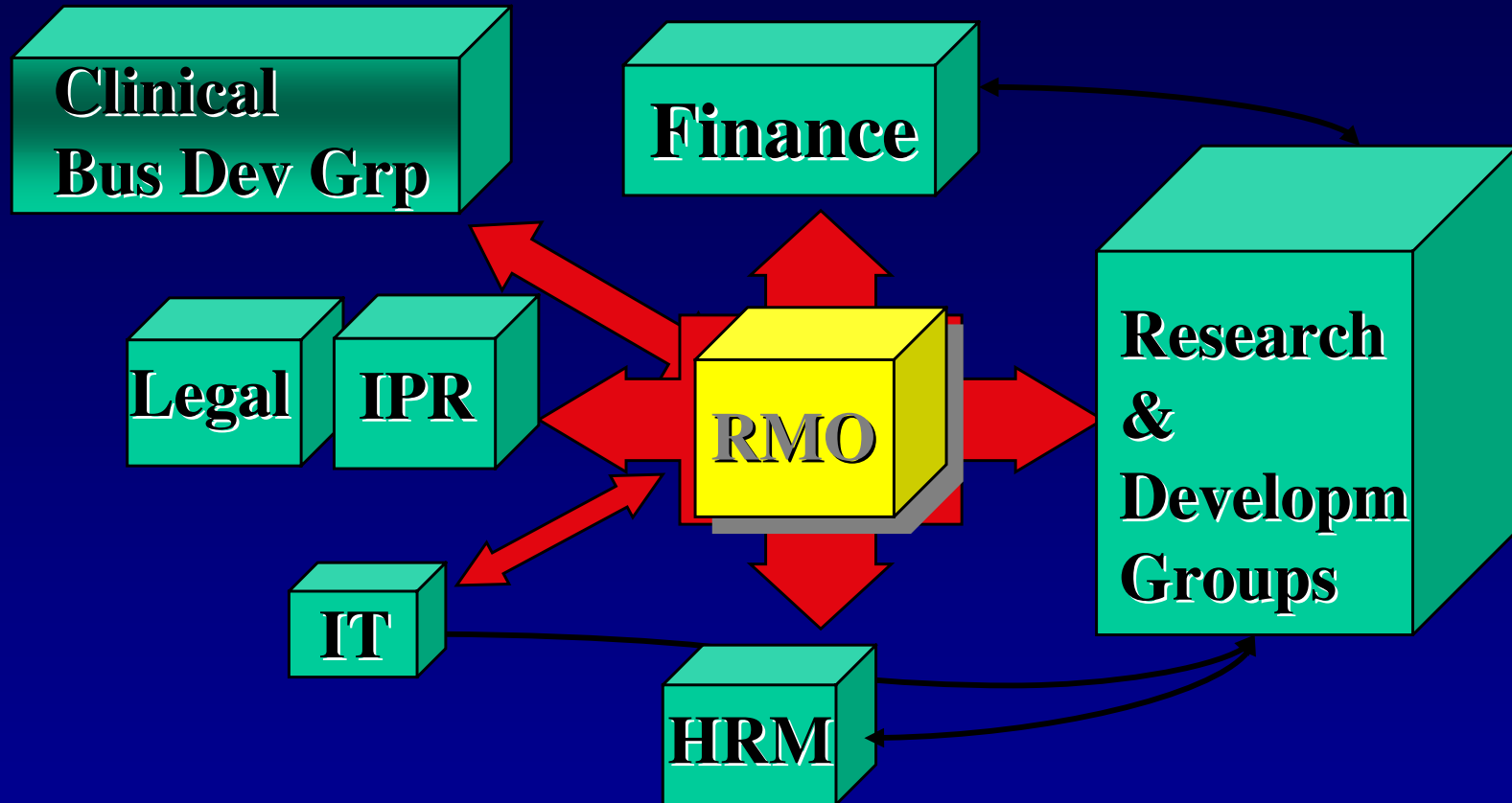
What is the role of a Research Management Office?

- **Coordination of Research Project partners**
- **Research Management & Administration**
- **External Financing & Administration**
- **Liaison between Departments/Divisions**



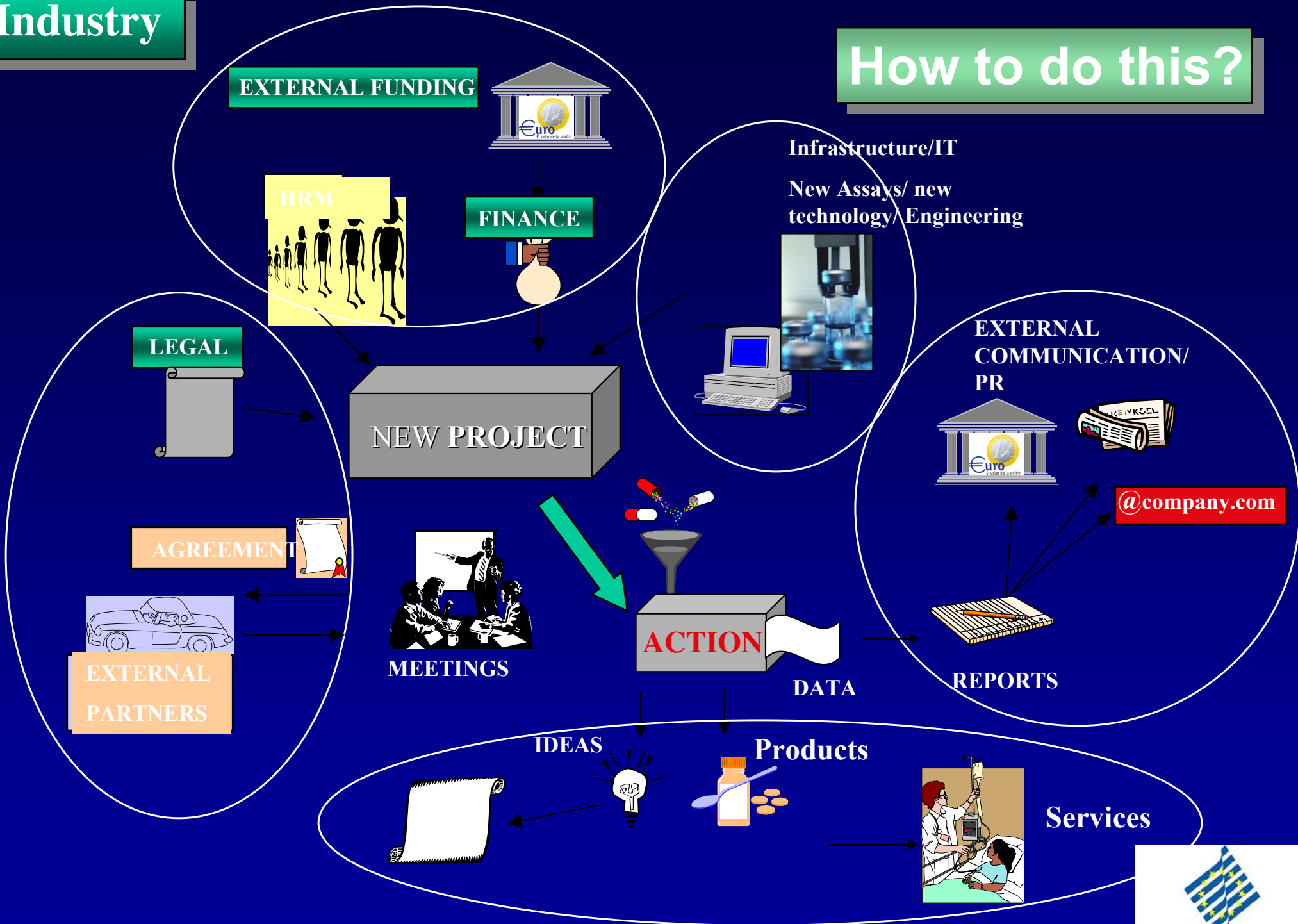
Internally

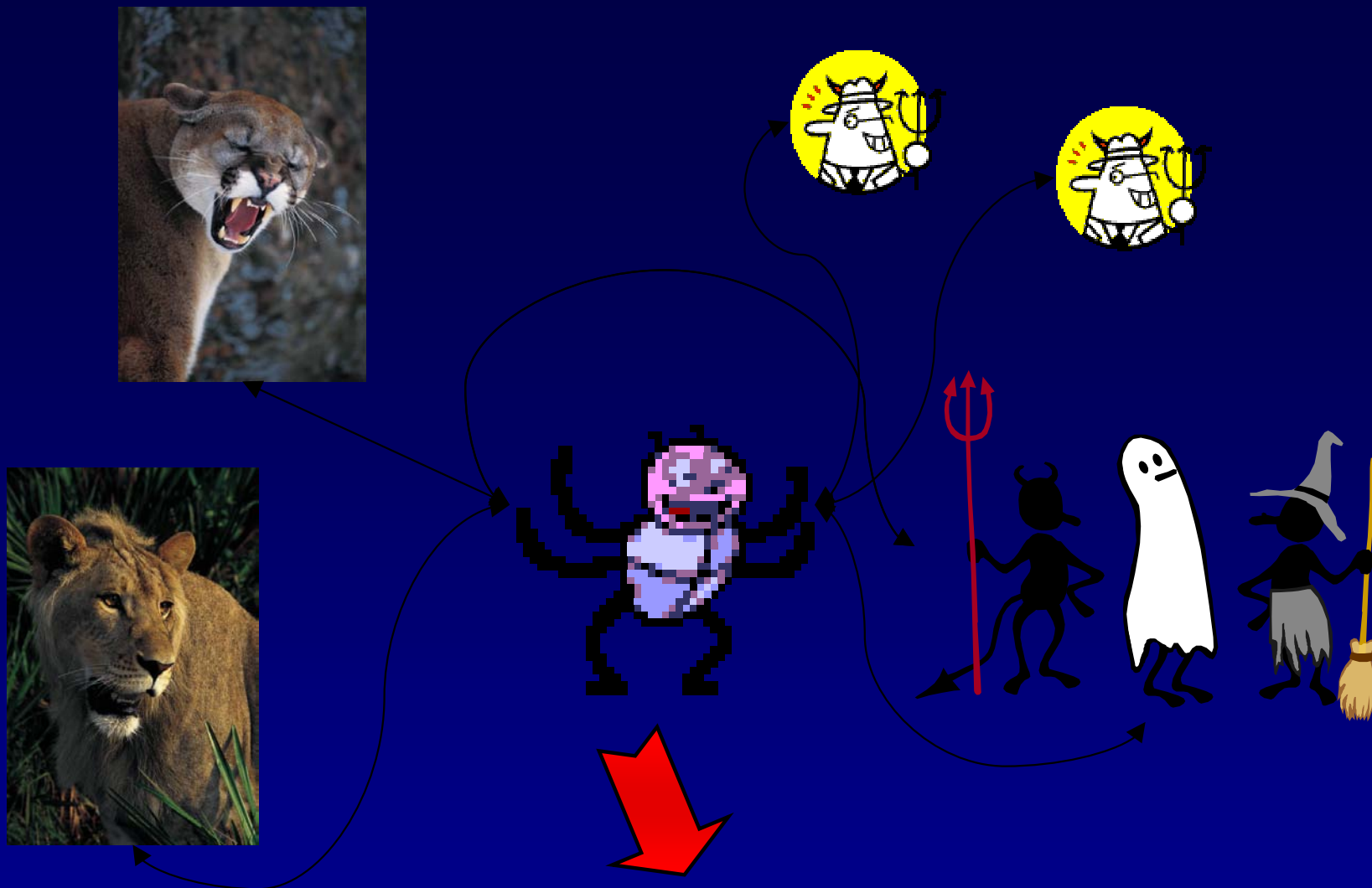
With a central role:



Industry

How to do this?





**Research Managers and Administrators
have a KEY enabling role**

Outside a project:

- Government creates the context (incentives vs barriers)
- Regul. Authorities set the rules
- funding sources provide the means
- Higher Educ Inst provide the people

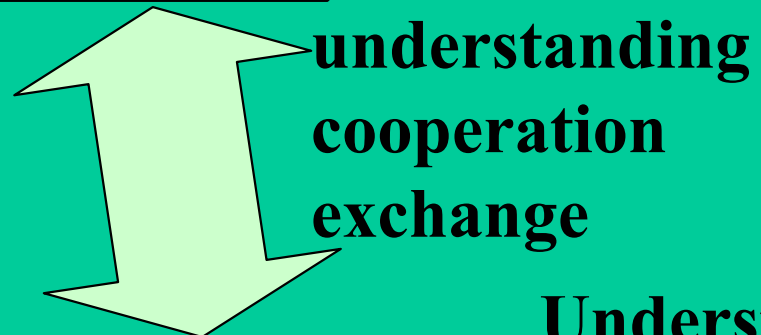
All need to understand the environment and
have access to the right information

**rest of Society/
Government:**

**regulatory
ethical
legal
fiscal
infrastructure
education!**



Academia

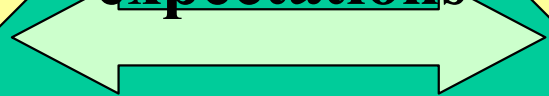


**understanding
cooperation
exchange**

Industry

**Understanding
matching
expectations**

Investors



**Information (including research results)
needs to be structured to be valuable =>**

What structured information is needed?

**How to organize this for the different
professional users? (e.g. RM vs Policy Decision maker)**

euroCRIS and Research Management:

1. **Projects/ Programs**
2. **Organizations**
3. **People**
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- **Why Research Management?**
- **Role of a Research Manager**
- **Which information would be needed**
- **and used for What? (purpose?)**

Need for access to relevant information for professional management !

KEY stages of RM ~ Research Info gathering:

- 1- match ~Mission, strategy, capabilities, partners, KM during and after project
- 2- Map Who is using What, When? Financial/ Legal/ IPR/ Business Devlpmt opportunities / Sci-tech possibilities
- 3- Access to results: confidentiality/privacy/ structure
- 4- Value recognition before creation (by/ with others)

Roles for a Research Manager in an University:

1- **strategic level**: top Executive level setting the Mission

2- **information level**:
w/ whom to partner and why, what to do

3- project proposal preparation

4- project management, Resource management

5- Knowledge Management, KTransfer, IPR

6- **afterwards**: feedback into Research and Education

Inside a project:

Individual Project Life Cycle:

Individual Project Decisions at different stages:

- **Start:**
 - Description, project unique ID (number, acronym), entry dbase
- **Definition:**
 - Feasibility phase, budget, work plan, partners, contracts, funding
- **Go/no-go decision:**
 - Proof of principle achieved, market, risk/benefit evaluation, resources available
- **Milestones:**
 - Continue, increase/ decrease resources
- **Valorization:**
 - Licensing, spin-off projects, new development project
- **Termination:**
 - Reporting, contract liabilities

Project Management: general

Essential elements of each Project :

1. Objectives
2. Milestone plan and/or go/no-go decision point
3. Resources plan (financial and human resources)
4. Task plan
5. Responsibility plan:
 - Who is deciding, managing, executing, consulted, should be informed
6. Detailed Workplan (work packages, Gantt chart)
7. Deliverables
8. Reporting

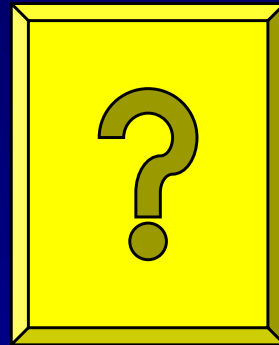
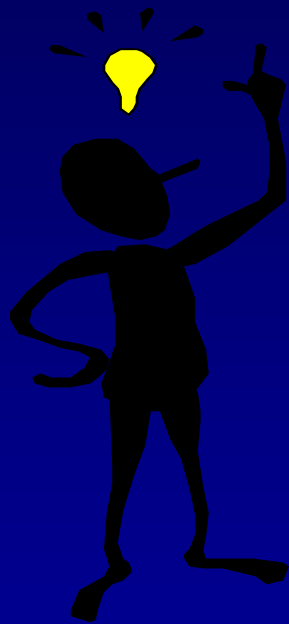
Roles of Research Management Office

- **Research Project Coordination:**
 - Bus Dev aspects (external interface, legal)
 - Contracts/Reports (internal interface, Finance, Legal, IPM)
 - Resource Administration (finance + personnel)
- **Funding:**
 - Help/support grants (writing, submission, negotiation)
 - Administration/Follow up (external + internal reporting)
 - Help/support Project management (PMO)

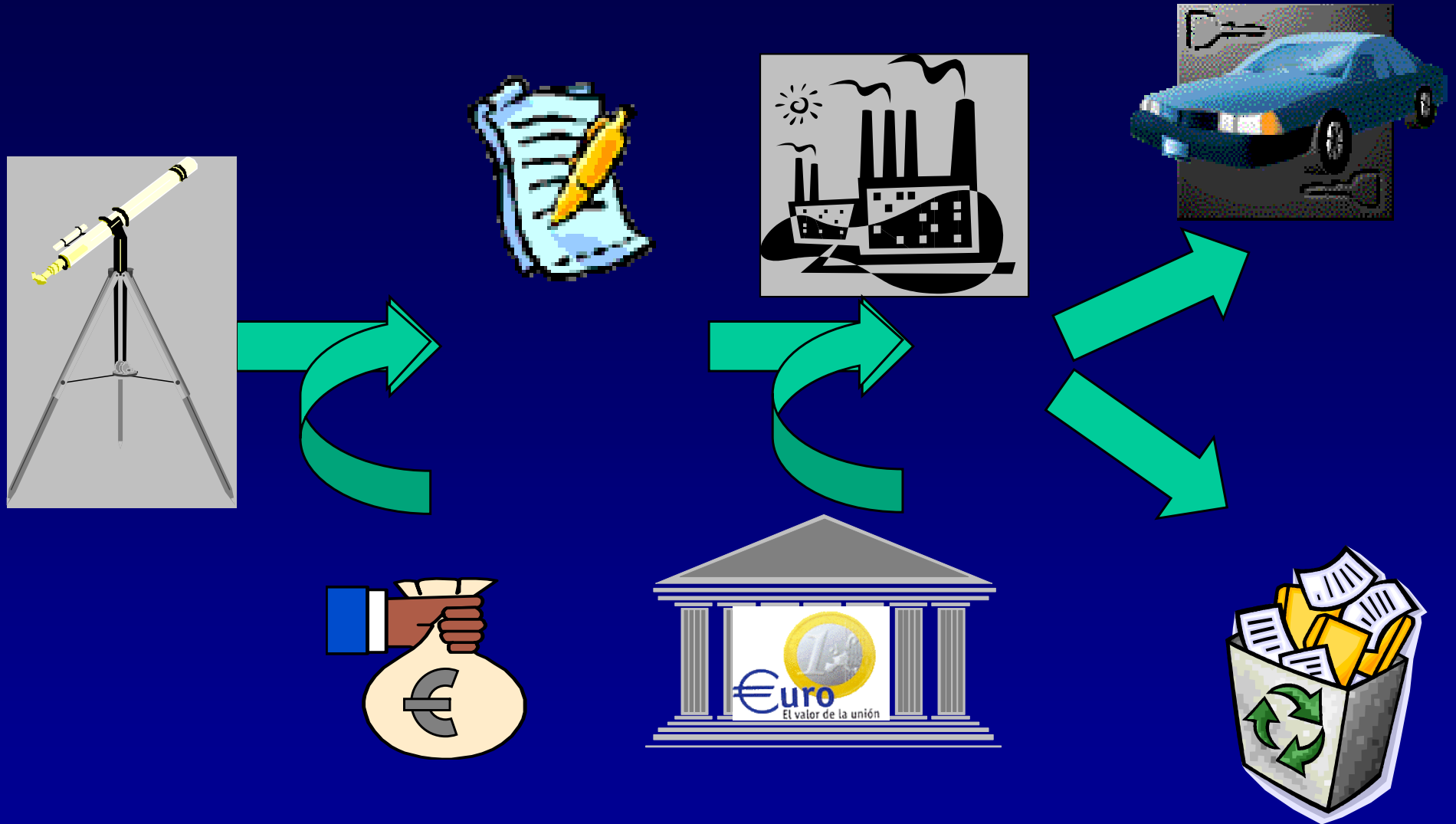
Project Management

The Idea!

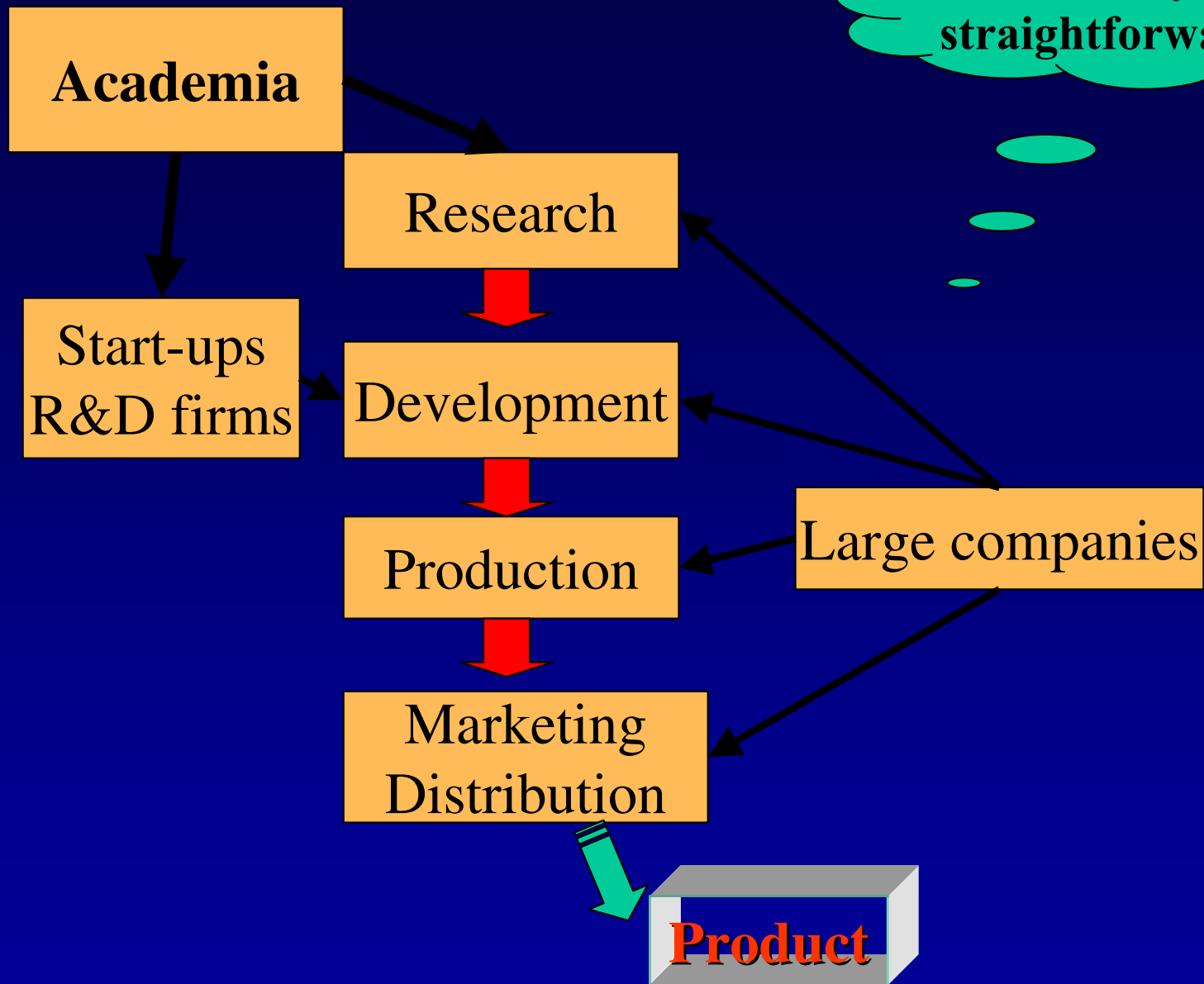
How to realize this in the most efficient way?



Project Management and Value chain

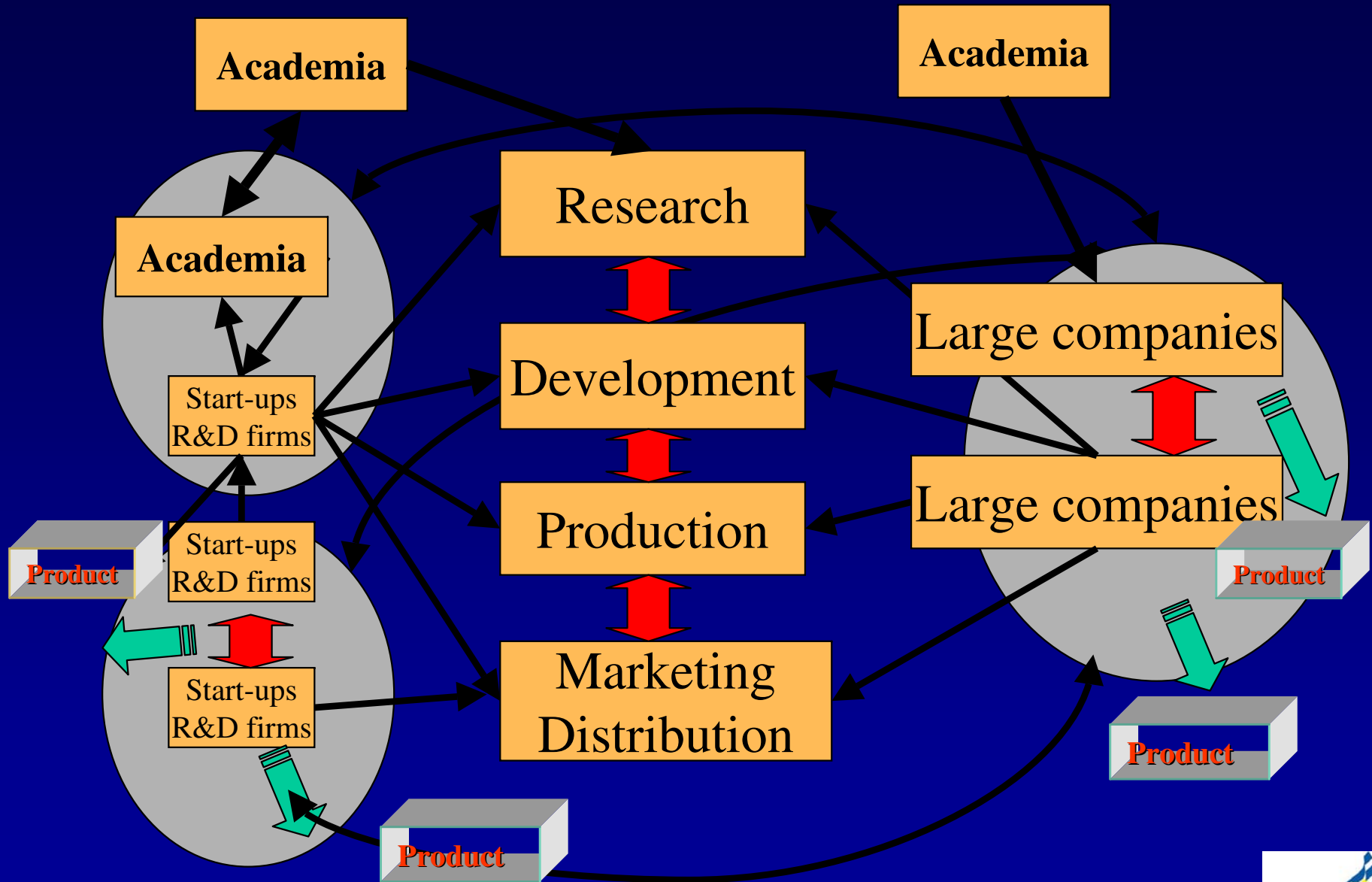


Simple linear partnerships:



Between projects and programs:

Moving towards more complex consortia:



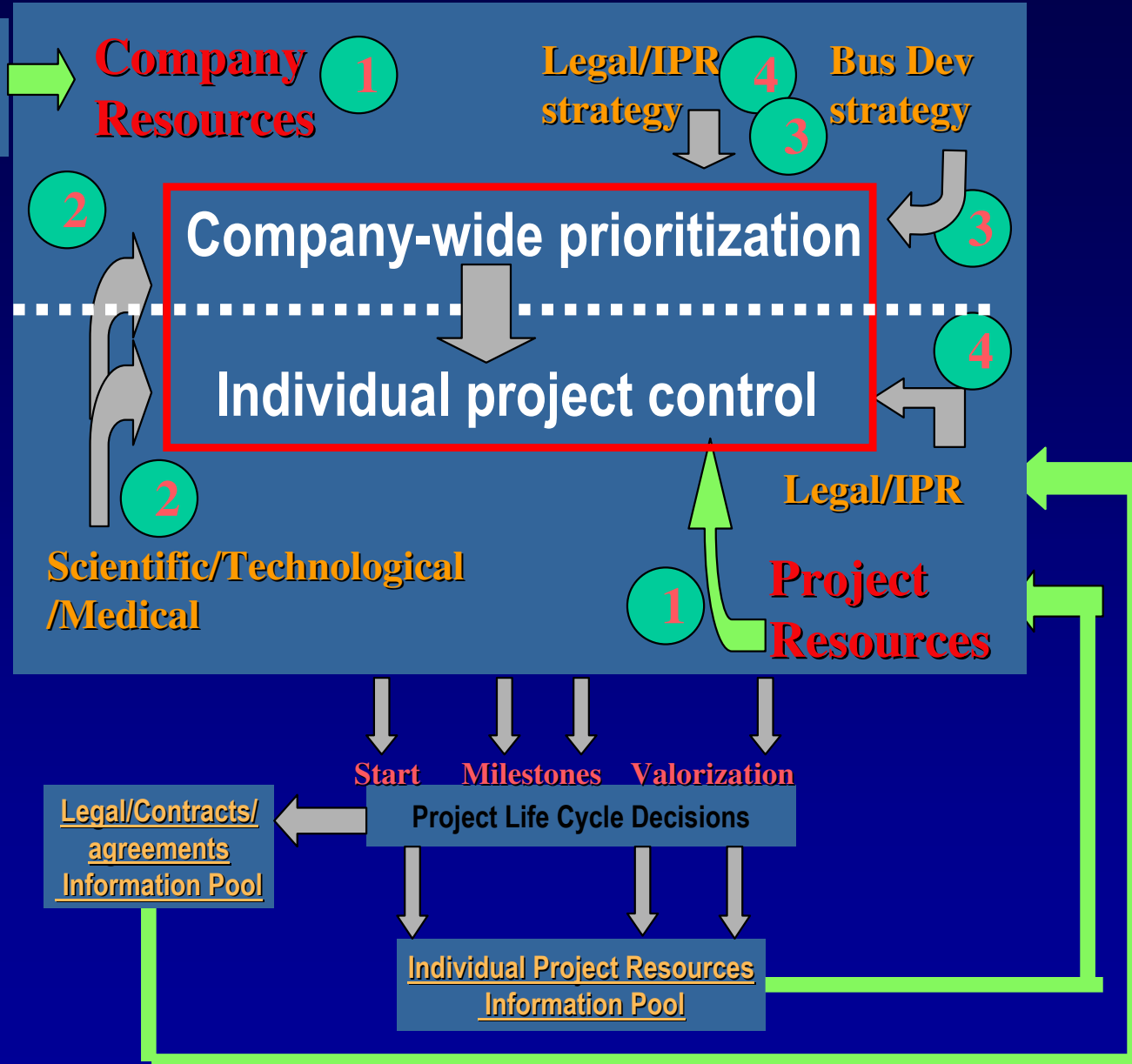
Aspects to be taken into account for Portfolio Management

- **Strategy** (projects are: strategic, core, support, innovative, etc.)
- **Scientific, technology and medical evaluation**
- **Legal (IPR) aspects**
- **Business Development**
- **Resources**
- **Project related information** (reports, results, planning)

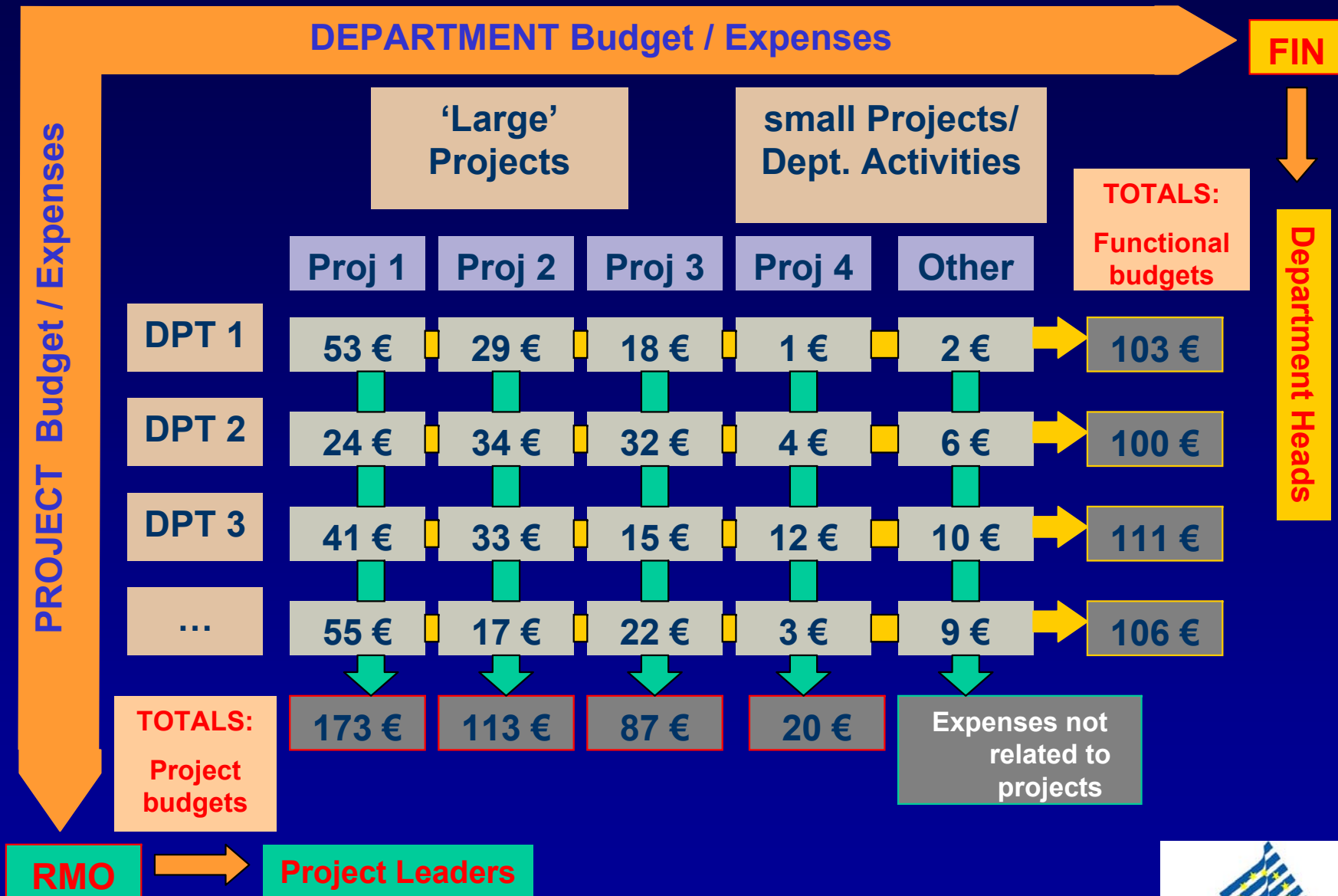
Industry

Executive Management decisions:

Company-wide Project Resource Planning: Information Pool



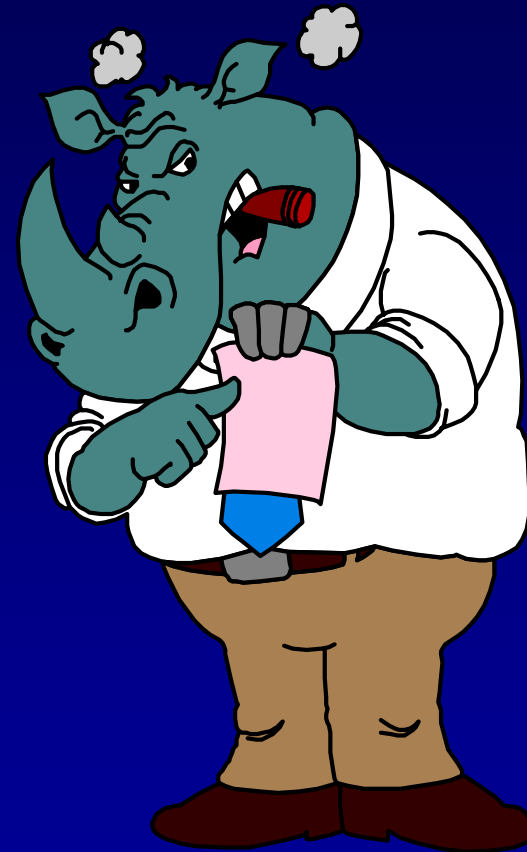
Budget Resource Planning: MATRIX



Balancing risk and perceiving value:

Example 4:

How to negotiate?



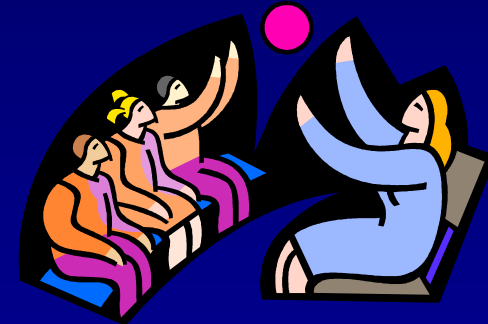
Transfer of Knowledge through:

Exchange Graduate students
Exchange of staff/ faculty



Collaborative research
Academic Consulting

Patenting and licensing
Service and out-reach



Spin-off companies (JV, PPP, etc)

Industry

Business Development ↔ Research

Knowledge Building

New Assays/Diagnostics
Bio-Informatics
New Technologies

Risk: competition + right people

Co-operation

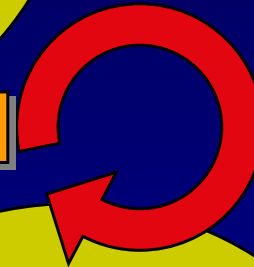
(New Technologies?)
Lead optimization
Some Preclinical

Risk: balance IP with partner

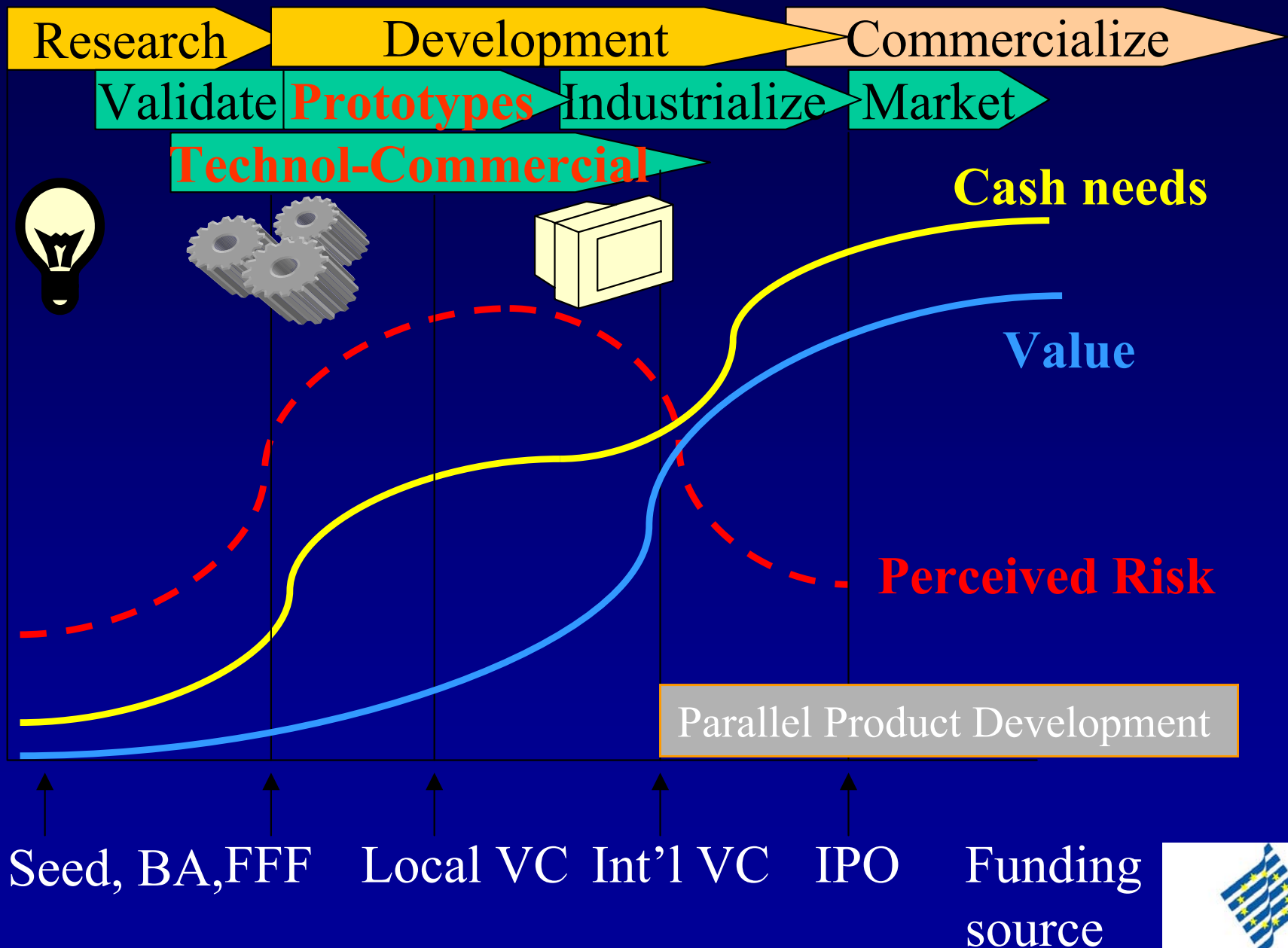
Production

All Diagnostics
All Screening
Some Preclinical
All Clinical projects

Risk: money + infrastructure



Perceived value in the Value chain:



Research Management Information needs: (for both Policy Decision maker as a RM)

➤ existing IPR and project results

(what's new, is it worth it, who else is working on this)
- patents, contracts, competitive intelligence, literature

➤ partnerships/ consortia (can we do this together)

- conferences, partner search, (experts), IRC, etc

➤ funding possibilities (who'll pay)

- national, FP6, other funding bodies, corporate, VC

➤ project/ program planning (what can we do)

- legal regulations, quality control, communication !
- internal data, partner data, compability of formats !

➤ resource mngmt (which resources are available)

- Human, instruments/ equipment, infrastructure

➤ dissemination

(who uses results, transfer of knowledge, how to protect yourself/ who has access / who are competitors)

€ = BONUS, not the goal !

What's needed in the near FUTURE?

**More cooperation between organizations/
associations of professionals in different
disciplines/sectors:**

- ❖ so all become aware of the info that is around**
- ❖ to learn to work in a networking environment**
- ❖ to define what is relevant, quality info**
- ❖ to work jointly towards common standards**
- ❖ RM's may play an important role in discussions on research funding, research evaluation, research policy, etc, because they may have access to a wide diversity of information channels.**

“Research Managers can help the Scientists focus on Research (and the Entrepreneur on the Business)”



**“Research needs to be protected,
nourished with a long term vision”**



Sow in order to harvest

**“Research needs to be protected,
nourished with a long term vision”**



Nourish and be patient

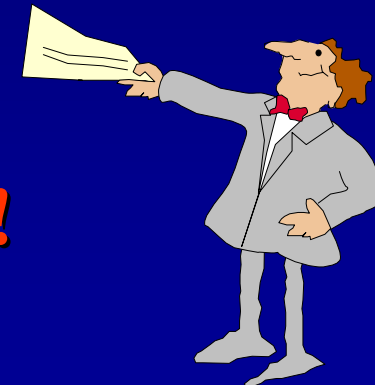


EARMA

See you in Bucharest,
Romania

24 – 26 June 2004 !

Thank you for your attention !



Further Information

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