Main challenges for
Economic and Financial analysis (CBA)

in the R&D Sector

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JASPERS & Ministry of Education, Youth and Sport

📖 *"Imagination is more important than knowledge."*

These were the words of the famous physicist Albert Einstein, who went on to say that "Knowledge is limited. Imagination encircles the world."

📖 *..there are dark secrets of the Universe*

In fact, astronomers and physicists have found that all we see in the Universe – planets, stars, galaxies – accounts for only a tiny 4% of it! In a way, it is not so much the visible things that define the Universe, but rather the void around them.

National CBA Guidelines on R&D

- ➢ **Developed jointly by MEYS and JASPERS**
- ➢ **Based on EIB expertise and dialogue with the DG-REGIO Commission**
- ➢ **Consistent with Operational Programme Research and Development for Innovations**
- ➢ **Valid for <u>all projects</u> co-financed by Structural Funds in R&D infrastructure**
- ➢ **In line with general CBA Guidance documents (WD 4; Guide to CBA 2008)**

  - ➢ Rationale and objectives
  - ➢ What is a CBA and why/when perform it (major projects)
  - ➢ General methodological Approach (discount rates, reference period, etc.)

- 📖 **Key challenge to adapt general CBA Guidelines to the R&D Infrastructures**

Steps for Feasibility and CBA in R&D

- ✓ **Analysis of the socio-economic context (A)**

- ✓ **The logic of intervention (A)**

- ✓ **Analysis of Demand (D)**

- ✓ **Institutional and Legal Analysis (J)**

- ✓ **Technical Analysis (D)**

- ✓ **Project Management (W)**

- ✓ **Financial Analysis (A and M)**

- ✓ **Socio-Economic Benefits (P and D)**

- ✓ **Sensitivity analysis and risk analysis (A and J)**

- 📖 **Key challenge no R&D manual can be perfect……….this is a working tool**

Main Issues for R&D projects

- ✓ **R&D infrastructure:**

  - ✓ **Physical infrastructure**

  - ✓ **Research programmes**

  - ✓ **Way to conduct research**

- ✓ **Both tangible and intangibles**

- ✓ **Require long term-planning, design, implementation**

- ✓ **High uncertainty of results**

- ✓ **High potential pay-offs**

- ✓ **Diffused innovation process**

- ✓ **Non appropriable economic benefits**

- 📖 **Key challenge….to quantify financial and economic returns of uncertain results**
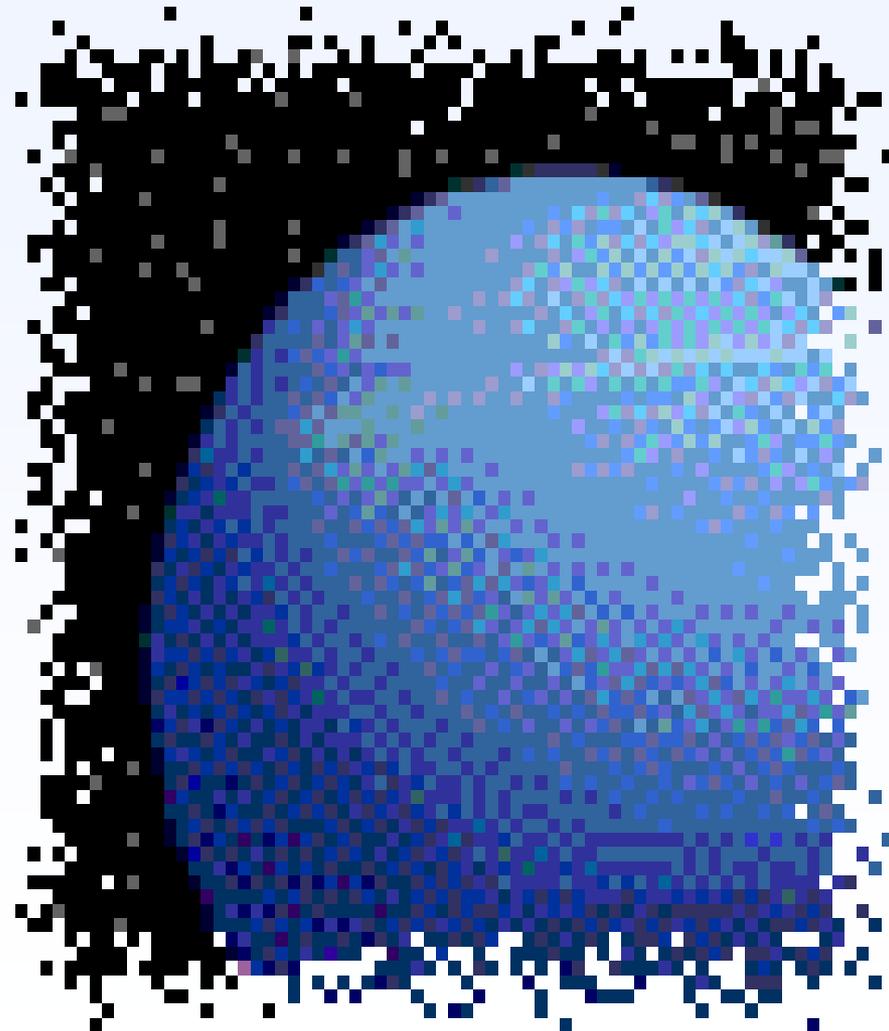
Key drivers in R&D are intangible assets

- ✓ **Quality of management**

- ✓ **Decision making criteria for project selection**

- ✓ **Overall know-how and track record of the research staff**

- ✓ **Ability to benchmark for excellence**

- ✓ **HR policies to retain talent**

- ✓ **Mechanisms for partnerships**

- ✓ **Reputation**

📖 **Key challenge… a structured CBA approach and quantitative criteria cannot capture the "firmament of innovation activity"**
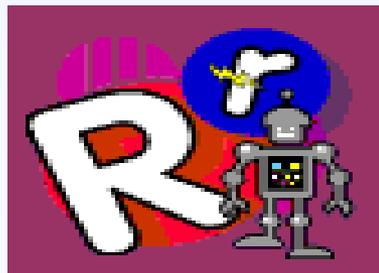
Analysis of the socio-economic context

- ✓ **Location of the project**
    - ➢ **International access, utilities, links to Universities and Research centres**
    - ➢ **Innovation parks**
- ✓ **Socio-economic background**
    - ✓ **Housing, schooling**
    - ✓ **Academic demography**
- ✓ **Status of the research base**
    - ✓ **Why is the RI needed?**
- ✓ **Sector Policies and strategic documents: OP RDI**
    - ✓ **Centres of Excellence (ERA and ESFRI links)**
    - ✓ **Regional R&D Centres**
- ✓ **Links with EU and other international policies**
    - ✓ **Lisbon Agenda**
    - ✓ **ERA**
    - ✓ **Sector Documents**
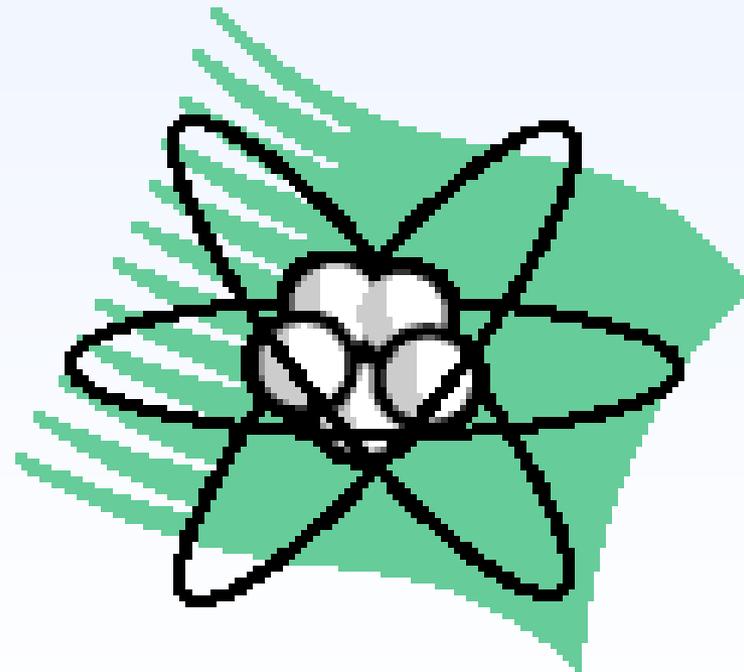
- **Planned research objectives**
  - Description of the programmes and project
  - Economic Application
  - Social Application
- **Expected project outcomes**
  - Added Value
- **Existing research programmes and activities**
  - Scientific track records
- **Links to industry**
  - Are there contracts already with industry?

Contracts with industry
Patents
Spin-offs

# of researcher staff
of non-research staff

Publications
Programmes conducted successfully

Jaspers
Joint Assistance to
Support Projects in European Regions

- **Examples of selected Projects Planned**

Sub-Project Title N.1	
The implementing institution	
Description	
Economic application	
Social application	
Sub-Project Title N.1	
The implementing institution	
Description	
Economic application	
Social application	*Source: Internal source*
Add as many projects as relevant	

- **Added-Value: example**

No	Name of the indicator	Unit of measure	Present state (2008)	Added value of the project (2018 or)	Justification of the project's impact on the realization of the assumptions
	Number of scientific workers	Person			E.g. New and extended laboratories, more research projects
	Number of graduate and PhD students	Person			New and extended laboratories, more research projects
	Number of agreements with foreign research entities in the last year	Piece			Cutting-edge equipment, more research projects
	Number of co-operating businesses in the last year	Piece			Widening the offer for entrepreneurs thanks to the new infrastructure
	Number of patent applications (last 3 years)	Piece			More development projects
	Number of research projects conducted or finished in the last 3 years (including international projects)	Piece			
	Annual number of citations	Piece			

Identification of the Project (4)

- **Track records**

Name of the entity	Years 1973 - 2008 (August)					Years 2000 - 2008 (August)			
	Number of publications	Total number of citations	Average number of citations per publication	h-Index	hm-Index	Number of publications	Total number of citations	h-Index	hm-Index

Source: Internal source