



ERID-Watch

The Research Infrastructure market



Results extracted from
the ERID-Watch WP2 Market Study
presented in Prague October 2008

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Organisations involved in the project



ERID WP2 partners:



Organisations devoting their time to this workshop:



Business Support on Your Doorstep



Topics covered



- **Total annual budgets**
 - Cross checking of data
 - Contribution breakdown (by source, by country)
 - Contribution from industry
 - Expenditure breakdown
 - Historic data
 - Forecast 2006-2011

- **RI Instrumentation (tools) market**
 - Companies interviewed
 - Monetary value of the RI Instrumentation market
 - Industrial categorisation of the RI Instrumentation market
 - “The Instrumentation pyramid”
 - Improvements to the business climate

- **Construction costs of all European RIs**

- **The ESFRI Roadmap**

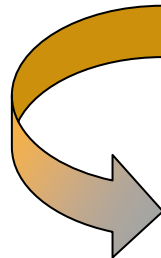
- **Structuring future RIs - Technology Show Stoppers**



Total annual budgets for all European RIs



Adjustment by adding 15% for subgroups of RIs that have not been identified



	Value of total annual budgets	
	Lower value (€bn)	Upper value (€bn)
Estimation*	6.9	8.4
Adjusted estimation. Assumption: subgroups not identified.	7.9	9.7

The total annual budgets for all European Research Infrastructures is in the range of **€7.9bn and 9.7****

* Estimation based upon input from RI interviewees and external data sources

** This includes ESA and natural history museums

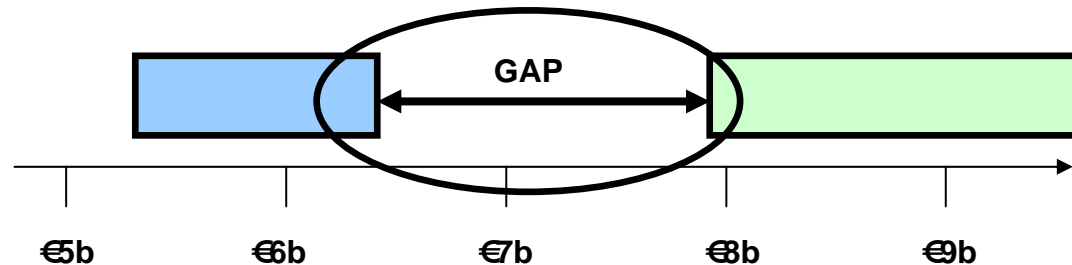


Cross checking of data from Research Infrastructures and Member States



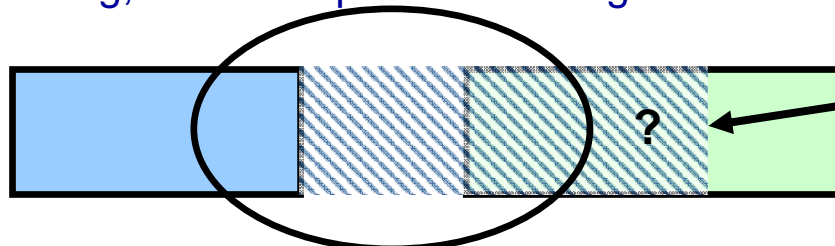
The information collected at RIs and at institutional level show the following differences:

- Public funding declared by governmental agencies and EC : between €5.3bn and €6.4bn
- Public funding declared by RIs : between €7.9bn and €9.7bn



This gap can primarily be explained due to the fact that:

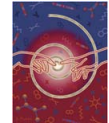
- many RIs receive funding from local and regional governments (this varies significantly between countries)
- some Member States have non-recurrent budgets for project funding, even for operational budgets



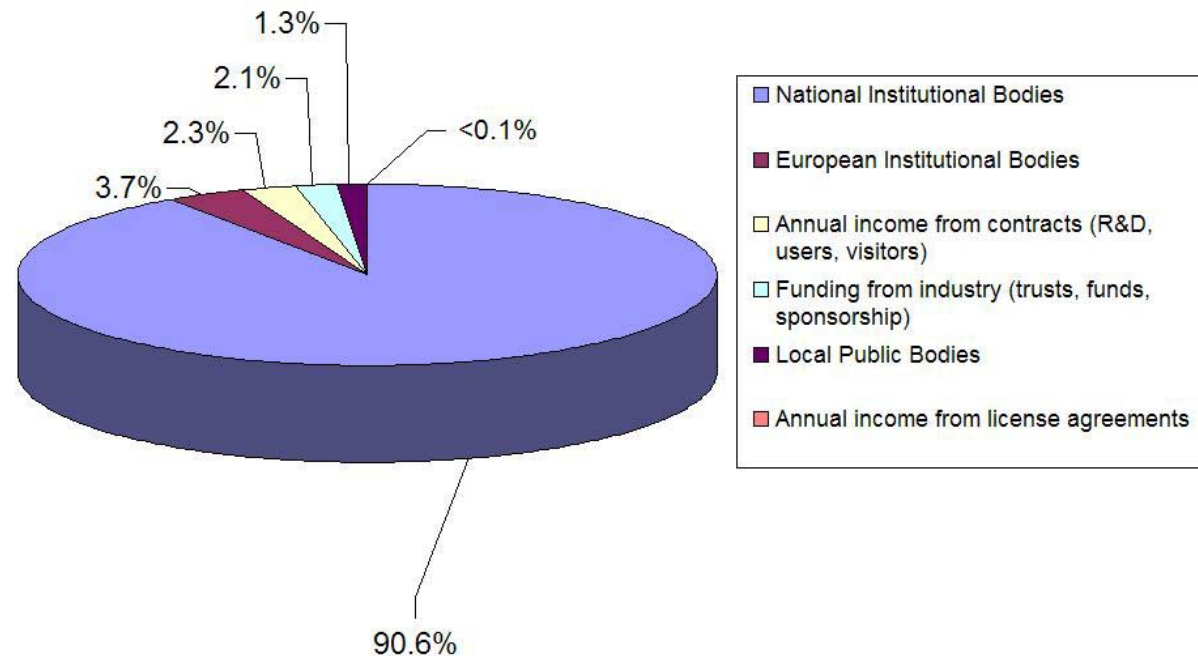
Difficult to evaluate how far this additional funding covers the identified gap



Contribution breakdown



The contribution breakdown at European Research Infrastructures is*:



The vast majority (almost 91%) of RIs' funding originates from national institutional bodies

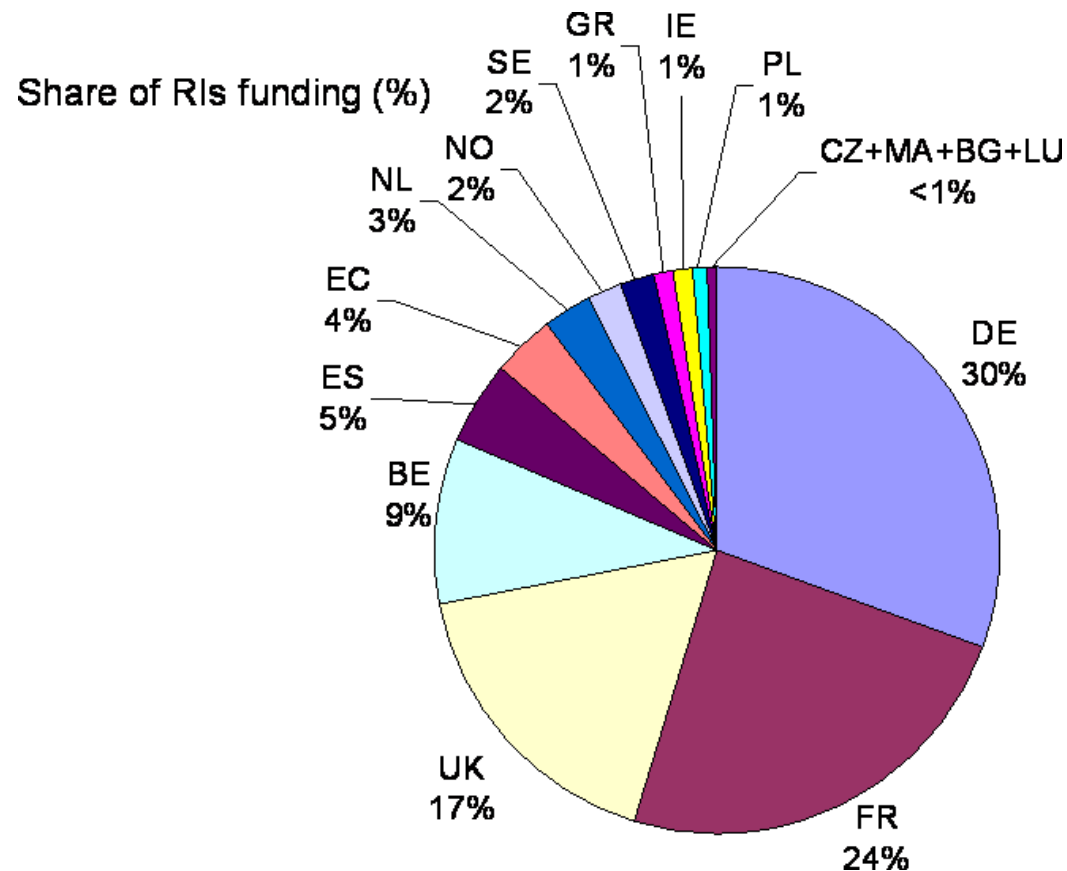
* Average values calculated upon data collected from RI interviewees, relating to about €6bn of RI funding



Level of investment by country



Of the total European funding, the level of investment for each Member State is*:



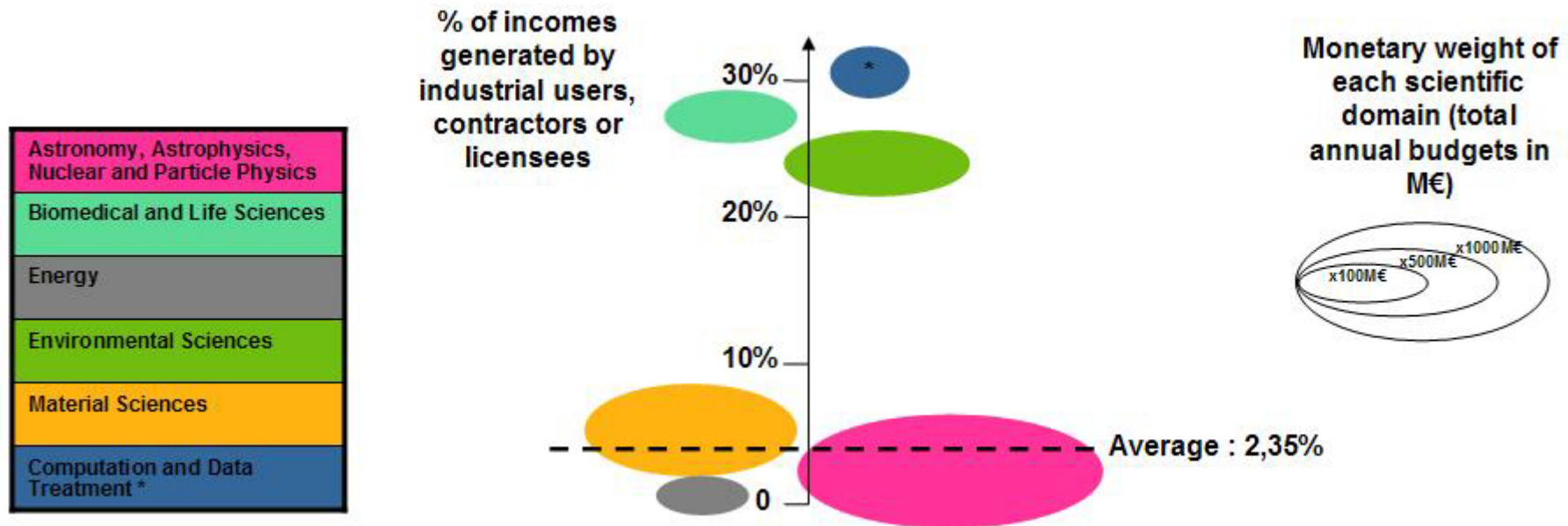
* As data for several major countries are missing, the figures in the illustration are distorted



Contribution from industry



Research Infrastructures' total income from industry by scientific domain:



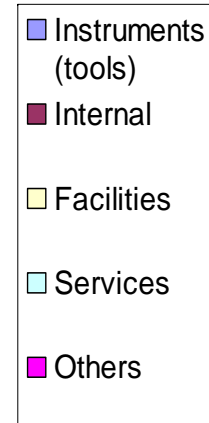
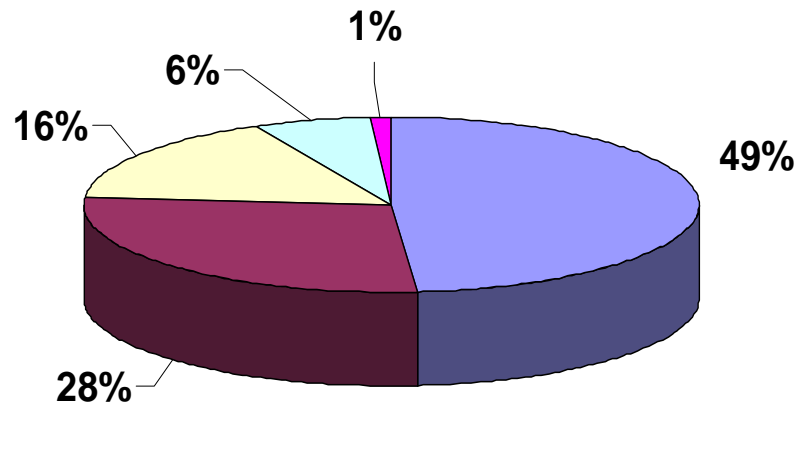
The level of external income that a Research Infrastructure will generate is strongly determined by whether it deals with basic or applied research



Expenditure breakdown



The breakdown of RIs total (internal/external) expenditure:



Definitions used

- By Internal : RI funding that is spent on staff and other elements *not available to industry*
- By Facilities: buildings, general utilities and other infrastructure not directly connected to the experiment
- By Instrumentation (tools): instrumentation, experimental infrastructure and associated technical services
- By Services: initial and ongoing services not directly connected to the experiments
- By Others: any other costs

European Research Infrastructures spend on average almost **50%* of their annual budget on Instrumentation**

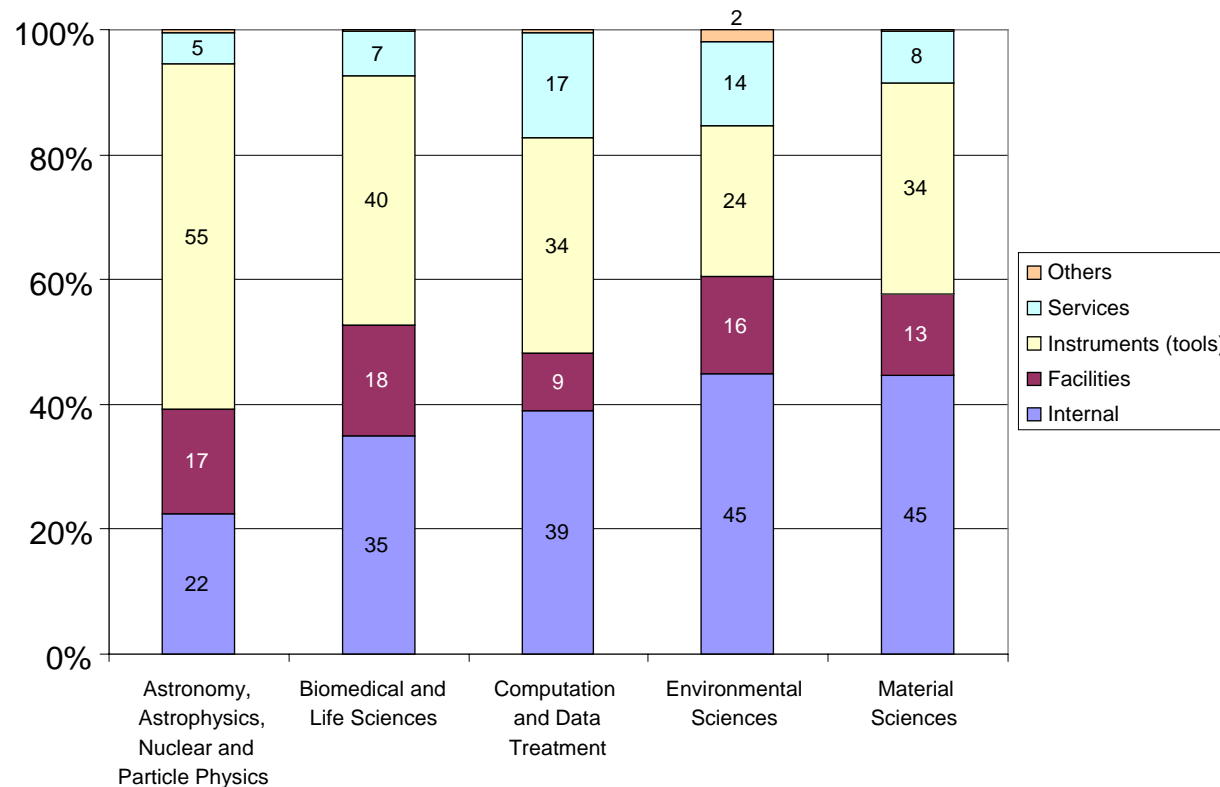
* Based on actual financial accounts given by the interviewed Research Infrastructures



Expenditure breakdown



The expenditure patterns across different scientific domains:



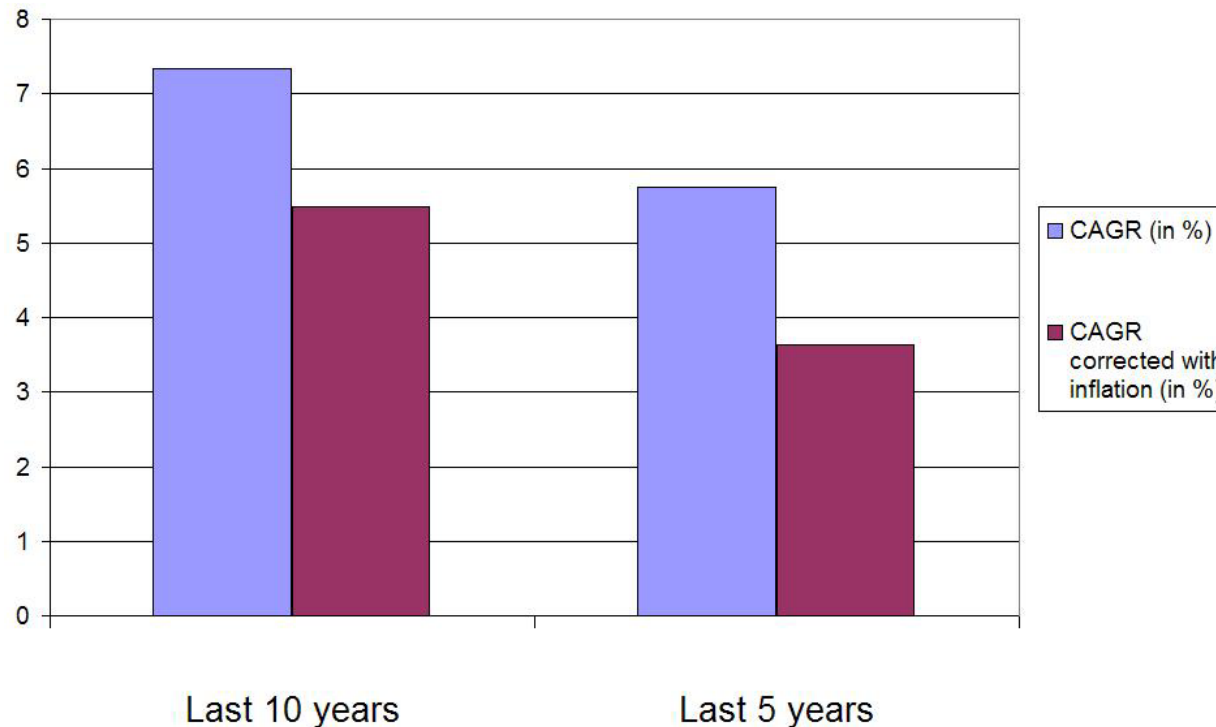
The expenditure patterns of the European Research Infrastructures across different scientific domains vary significantly



Research Infrastructure budgets: historic data



The average growth rates* (CAGR, 1996-2006 and 2001-2006) of the total annual budgets at interviewed European Research Infrastructures have been**:



Taking inflation into account, the total annual budgets for existing Research Infrastructures (excluding ESA) has shown an average increase of **5.5% per annum over the last 10 years**

* Official European inflation data (Eurostat) has been used:

- 2.1% / year over the five years period (2001-2006)
- 1.84% / year over the ten years period (1996-2006)

** ESA's budget has been excluded in this analysis



Research Infrastructure budgets: forecast for the period 2006 – 2011



- The expected growth rate for existing RIs' budgets is **-0.5%** per year
- If ESA is excluded: the expected growth rate is **-2.4%** per year
- If CERN is excluded: the expected growth rate is **0.05%** per year

Although investments at existing RIs might decrease in the coming years, the investments into future RIs (both European and national projects) will most certainly ensure that the overall investment into the RI domain will increase year by year

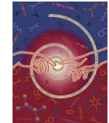
This is also consistent with the interviewed industrial suppliers' positive outlook on the future



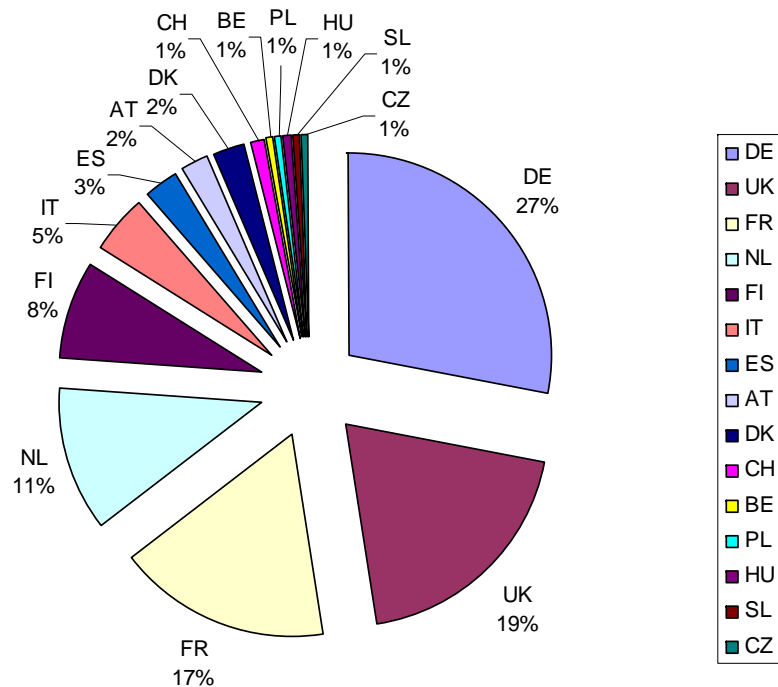
RI Instrumentation (tools) market



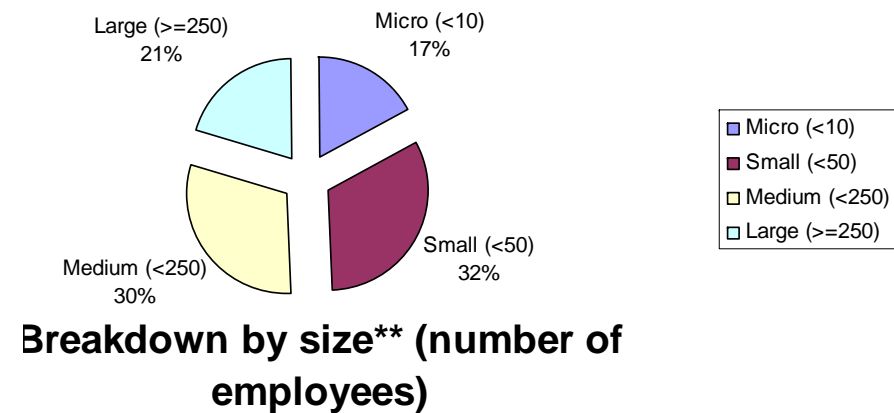
Industrial companies interviewed (1/2)



Companies interviewed : 175



Breakdown by geographical location*



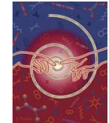
Breakdown by size (number of employees)**

* This is not a fully representative picture of the European geographical landscape of suppliers to RIs, as it has been difficult to identify companies in certain countries.

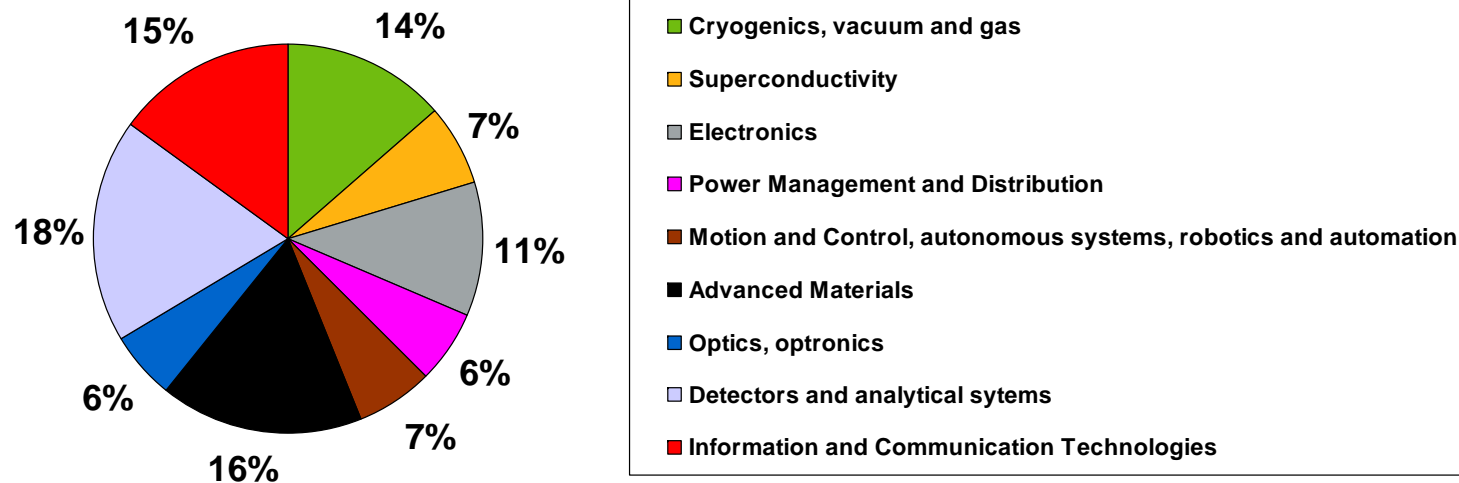
** DG Enterprises - European Commission's definition for SMEs has been used



Industrial companies interviewed (2/2)



According to the classification below, the sample interviewed breaks down as follows*:



The following analysis is based upon data (turnover, breakdown of activities, market share etc.) provided by the suppliers, and have not been cross checked with external sources.

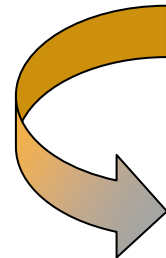
* In the pie chart, interviewed companies with activities in more than one sector contribute to multiple slices.



RI Instrumentation (tools) market



Adjustment by adding 15% for subgroups of RIs that have not been identified



	Value of total Instrumentation procurement	
	Lower value (€bn)	Upper value (€bn)
Estimation*	3.2	3.7
Adjusted estimation. Assumption: subgroups not identified	3.7	4.3

The total annual Instrumentation procurement at all European Research Infrastructures is approximately
€4.0bn**



* Estimation based upon input from RI interviewees and external data sources

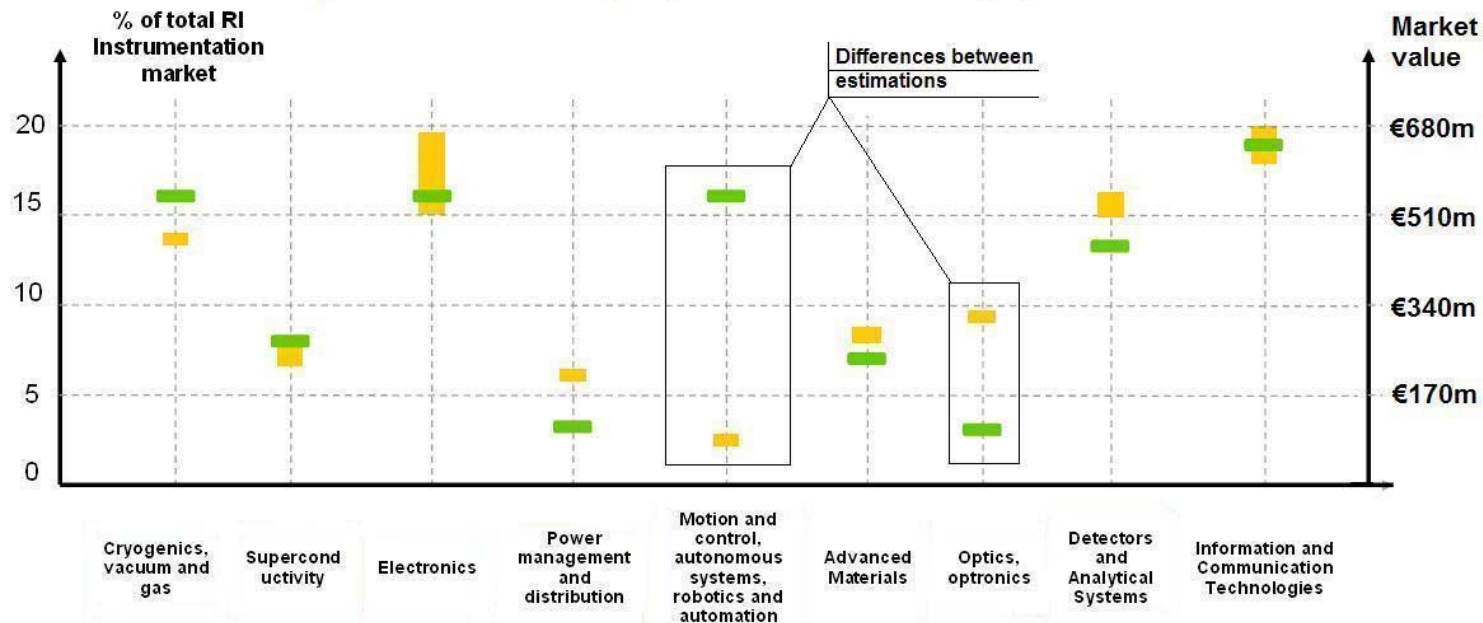
** This does not cover the technical procurement related to construction costs



Industrial categorisation of the RI Instrumentation market



-  - Estimation 1 is based on the actual sales of products and services to RIs reported by the companies surveyed
-  - Estimation 2 is based on these companies' estimation of their market share in their sector



Estimation 1 and 2 show a relatively good match.

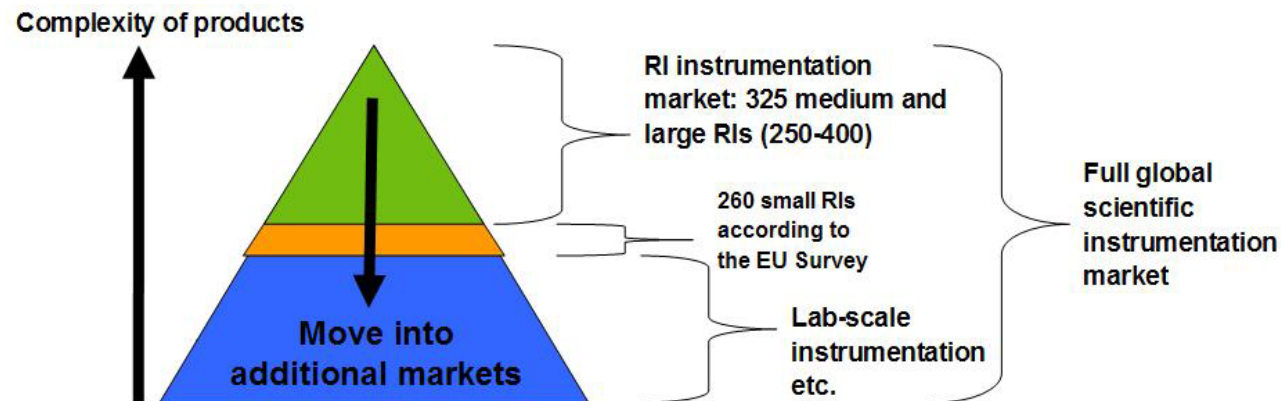
On the basis that only a few companies (24%) have been able to provide market share data, Estimation 1 is probably the more accurate of the two.



RI Instrumentation market and its closely related market segments



The RI instrumentation market is a highly demanding segment. **It should therefore be possible to move into additional subsectors of the scientific instrumentation market.**

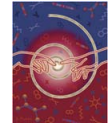


References from the RI market is likely regarded as a strong asset. As evidence to this, the survey has shown that **56%** of the interviewed RI suppliers quote that the RI supply contracts have improved sales in other market segments.

Working with RIs can have a significant impact on sales into other market segments.



Possible improvements to the business climate

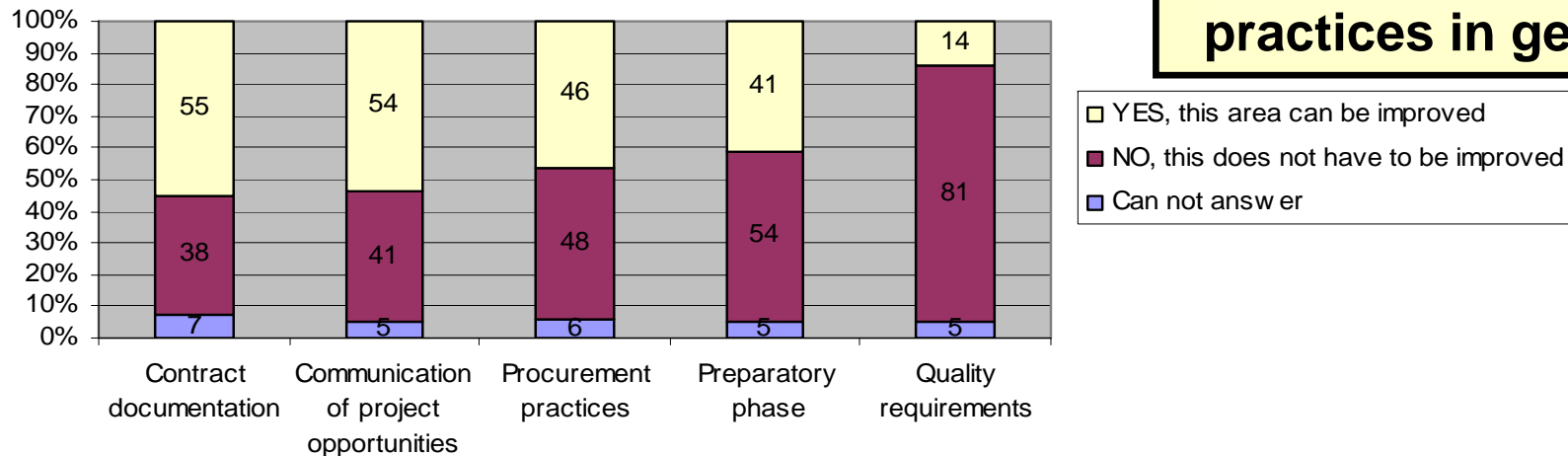


Companies have been asked if improvements could be made with regards to:

- Contract documentation (shorter, clearer)
- Communication of project (sales) opportunities
- Procurement practices in general
- Preparatory phase
- Quality requirements (clearer)

Suppliers believe that their interactions with RIs could improve in the areas of contract documentation, communication of sales opportunities, preparatory phases and procurement practices in general

Improvements to Business Climate

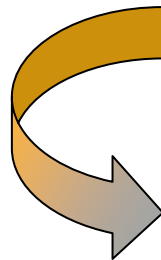




Cumulative construction cost for all European RIs



Adjustment by adding 15% for subgroups of RIs that have not been identified



	Value of cumulative construction cost	
	Lower value (€bn)	Upper value (€bn)
Estimation*	23.6	35.3
Adjusted estimation. Assumption: subgroups not identified.	27.1	40.6

The cumulative construction cost for all European Research Infrastructures is in the range of €27.1bn and 40.6**

* Estimation based upon input from RI interviewees and external data sources

** Excludes:

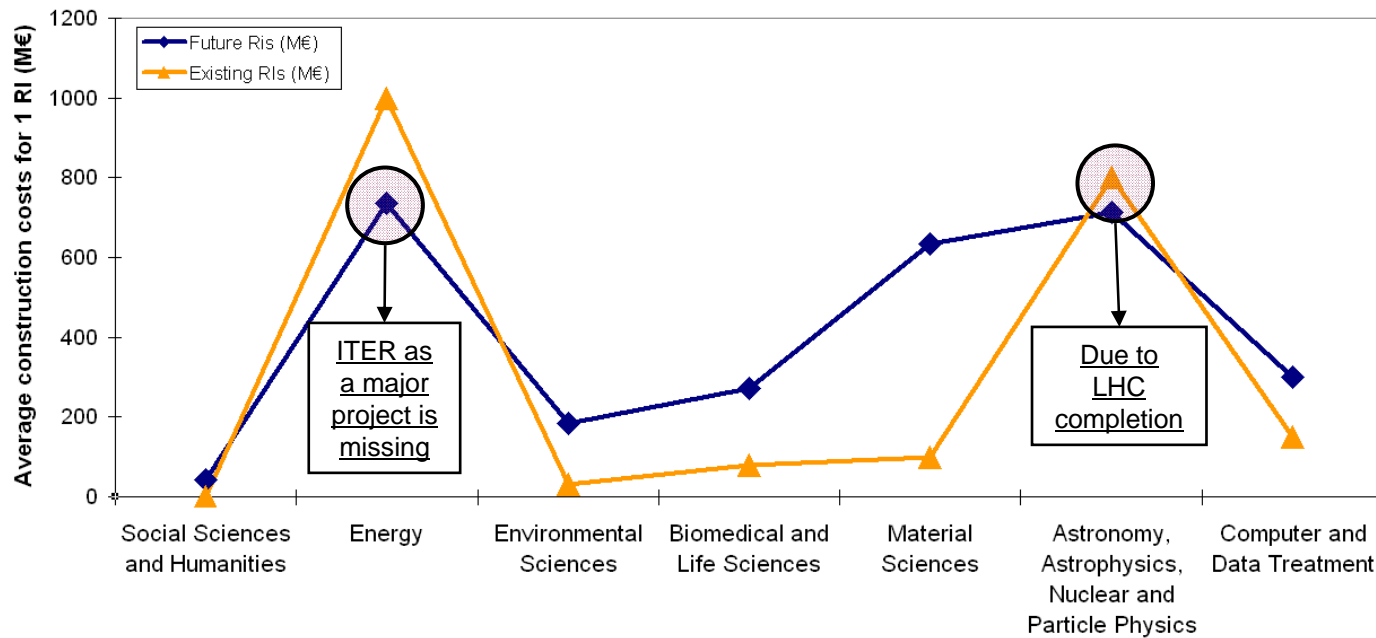
- the RI subgroups where it was impossible or impractical to collect information on total construction costs, for example ESA infrastructures and the collections at natural history museums
- the part of annual RI budgets which are used for continuous upgrades of existing facilities



The ESFRI Roadmap (1/2)



- The estimations given on existing RIs :
 - **325 medium and large scale RIs** (the average of 250 and 400)
 - Construction costs : **€33.85b** (the average of €27.1b and €40.6b)
- The ESFRI Roadmap's projects accumulate an estimated global amount of :
 - **35 future RIs**
 - Construction costs for future RIs : **€13.6b**
- The breakdown of the average construction cost referring to one RI in each scientific domain is the following :



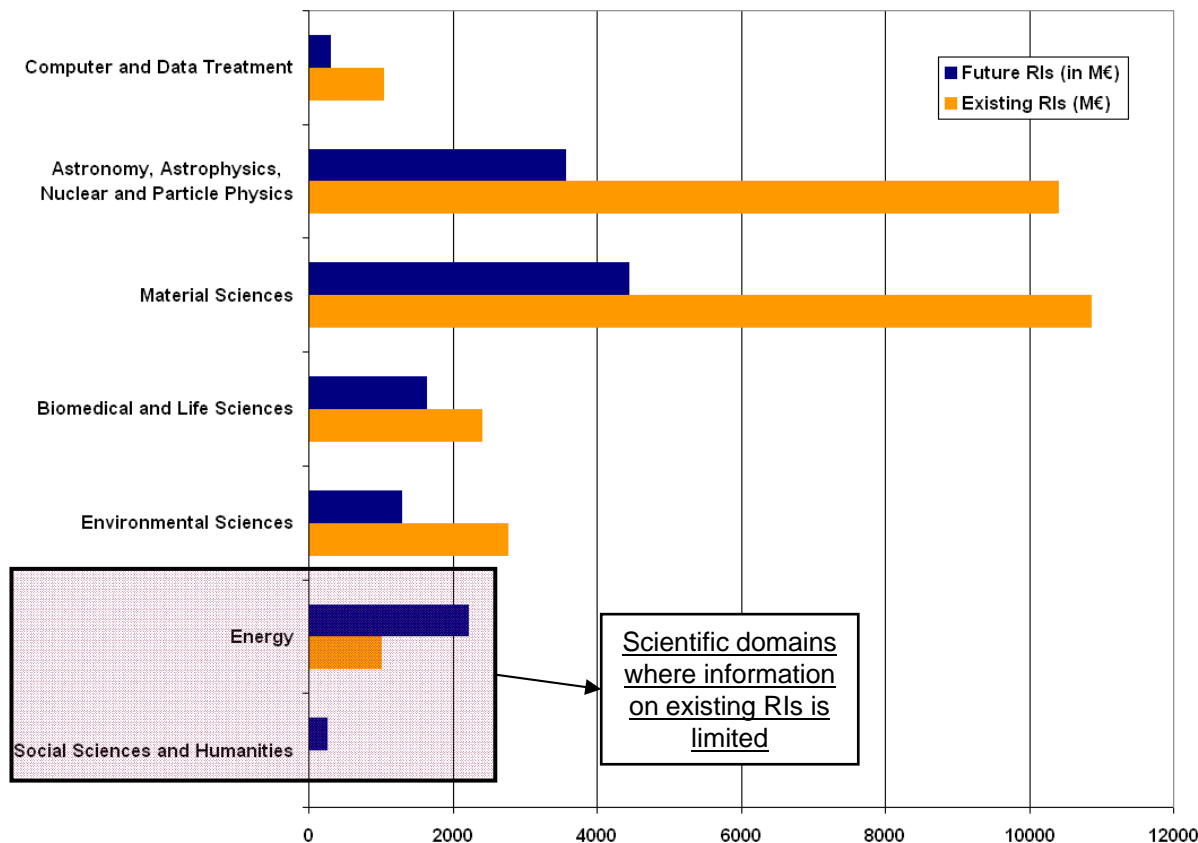
Funders are concentrating their investments into large scale facilities



The ESFRI Roadmap (2/2)



- The breakdown of the total amount of requested investments for the ESFRI Roadmap, compared to the estimated figures for existing RIs:



If all RIs found within the ESFRI Roadmap are implemented, the construction of these will represent 30% to 70% (depending on the scientific domain) of the total construction cost for the existing RIs



Structuring future RIs



- The window of opportunity where Technology Show Stoppers can be identified is rather short
- This is the general time line for the development of an RI:

