



RISE Project

Research, Innovation & Economic Development:
a regional path for excellence

Larissa,
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1.1 Economy and demography

Lombardy

- represents 15.6% of the overall national population;
- has approximately 9 million of inhabitants, with a demographic profile that has 24% of the population under the age of 25 and 17.4% over 65;
- has an unemployment rate of 3.8% (2002) compared to the national one of 9.5%;
- has an employment rate of 51,1% (female employment rate 39,9% and male employment rate 63%);
- has a Gross Domestic Product of 229 billion Euro (2000);
- has approximately 740,000 enterprises.

1.2 R&D data

Lombardy

- has the highest number of Universities and has the highest expenditure in scientific research in Italy;
- the total R&D spending in the region (in % of GDP) is 1,17%, divided in the following sectors: public sector 0,31%, Government 0,12%, University 0,19% and private sector 0,86%.

1.3 R&D Policies

Main objectives of R&D policies of Lombardy Government

- fostering cooperation among SME's and regional universities and research centres;
- supporting the transfer of scientific results into industrial applications;
- promoting the utilisation of advanced technologies on a large scale;
- advancing the social and economic system towards an "Information society", in order to keep and reinforce its competitiveness within the global economy;
- creating the ICT infrastructures needed by SME's to make an effective use of E-business methodologies.

2.1 Objectives of RISE Project

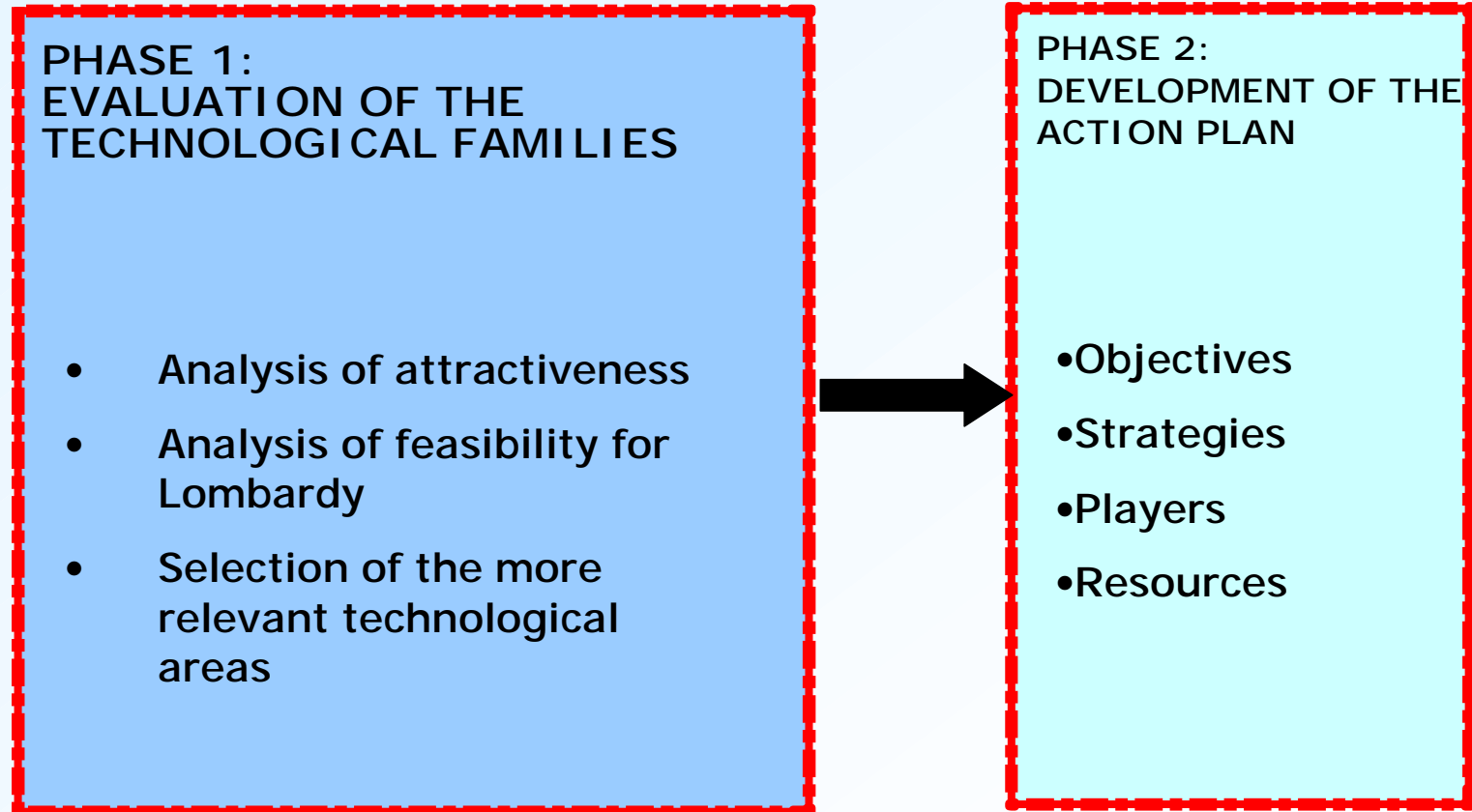
General objectives:

- to evaluate the regional interest and the scientific and industrial feasibility of developing new emerging technologies in some areas
- to allow public decision makers and large firms to set priorities, in a rational way, for the allocation of resources to R&D
- to optimise the impact of the regional economic development

Specific objectives

- to select technological areas aimed at getting an excellent position at an international level
- to define an Action Plan Proposal for the economical development of these areas, linked with the regional research policies
- to develop and to apply a new approach and method to be replicated in other regional and territorial areas

2.2 Organizational features: the role of the two phases

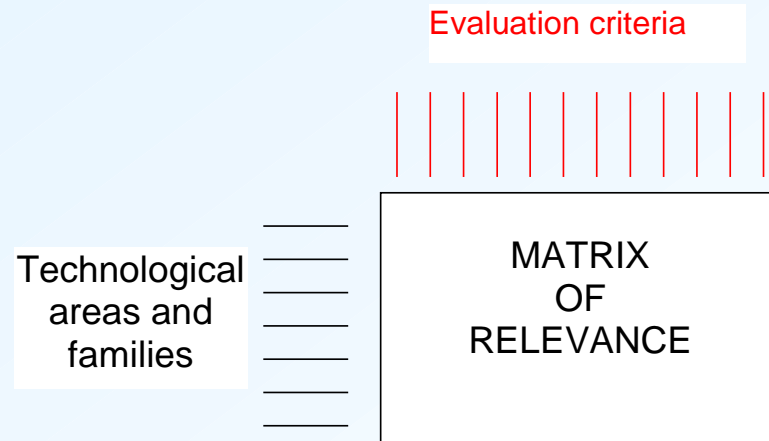


3.1. Project framework: technological areas

Technological areas

- ICT
- Advanced Materials
- Biotechnologies
- Energy Technologies
- Nanotechnologies

3.1 Project framework: evaluation criteria



Evaluation criteria

a. Attractiveness of the technological families:

Impacts of each technological family on industrial and socio-economical systems. Capability of the technological family of enabling economical development and growth

b. Feasibility of the technological families:

highlights *if* and *how* a territorial area may success in the research, scientific and economical development of the technological family, reaching an excellent position at an international level

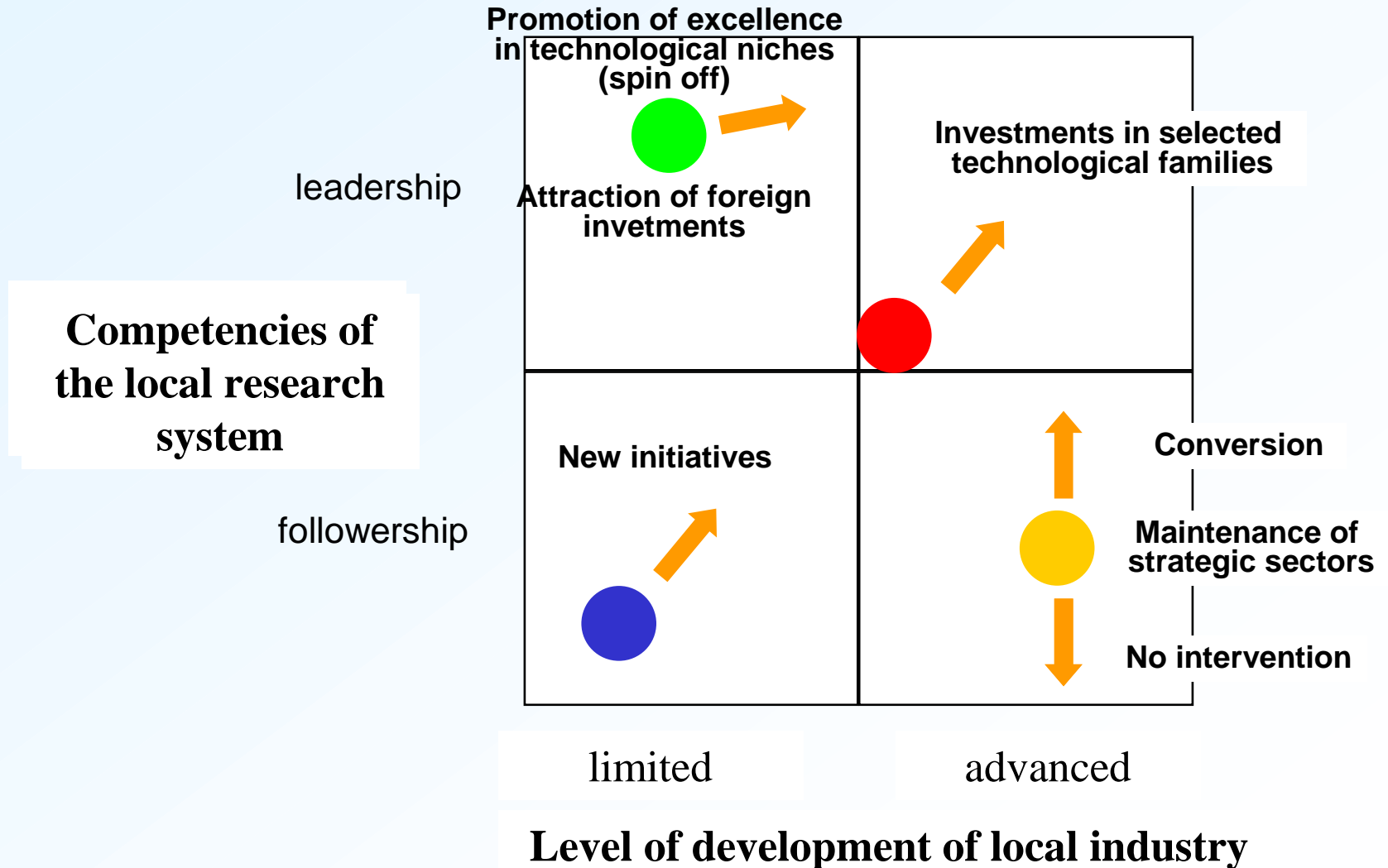
3.1 Criteria of Attractiveness

- *Economical and industrial impacts*
 - capability of enabling product and process innovation
 - dimensions of related sectors
 - dynamics of sectors
 - technology pervasiveness
 - potential creation of start-up
- *Stage of development*
 - First stage
 - Growing stage
 - Mature
- *Social Impacts*
 - ambient
 - health
 - mobility
 - safety

3.1 Criteria of feasibility

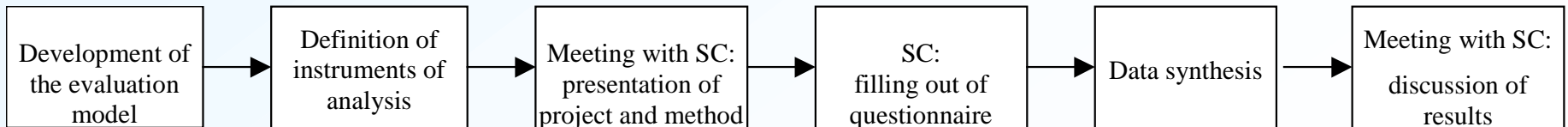
- *Actual competencies of the local research system:*
 - level of knowledge, researchers and assets
- *Needed resources*
 - researchers, assets and funding needed for excellence
- *Local level of industrial development:*
 - Access to leads markets
 - Consistency of industrial system and infrastructure assets
 - high level competencies in technologies correlated
 - possibility of accessing materials and resources correlated
 - relations with national and international partners
 - consistency of the regional industrial structure, of its systems of regulations and of its system of infrastructures

3.1 Feasibility: portfolio of strategies



3.2 Method

- Evaluation through a “Matrix of Relevance”:
 - Attractiveness of each technological family
 - Feasibility for the industrial and technical-scientific regional system
- Evaluation by experts (Steering Committee) from these areas:
 - Research institutions
 - Developers/producers of enabling technologies
 - Industrial users of enabling technologies
- Tool: the questionnaire
- Evaluation process:



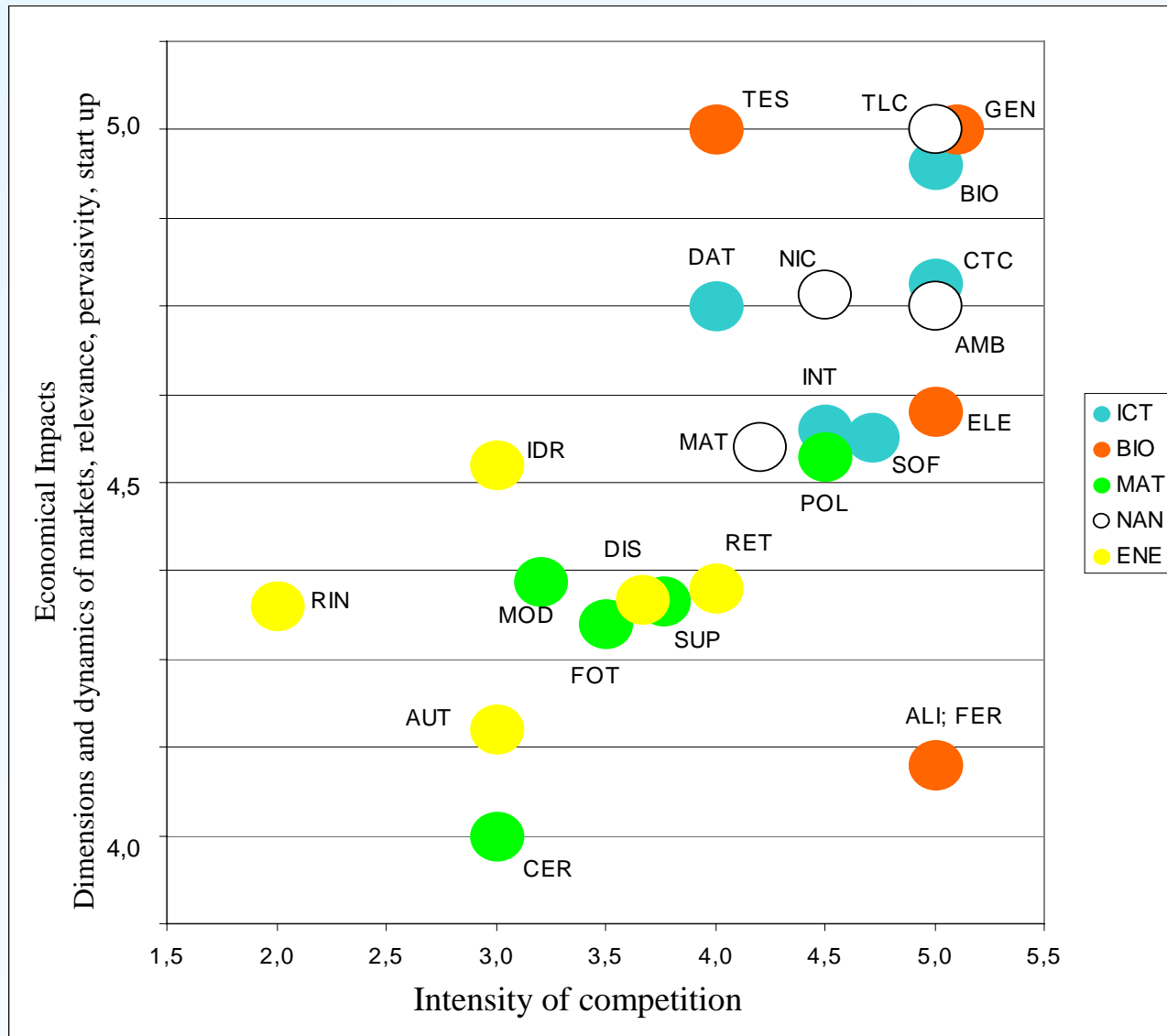
3.3 Synthesis of results: tableau of answers and method of synthesis

Technological areas	Number of questionnaires
ICT	16
Biotechnologies	7
Advanced Materials	15
Nanotechnologies	13
Energy technologies	9

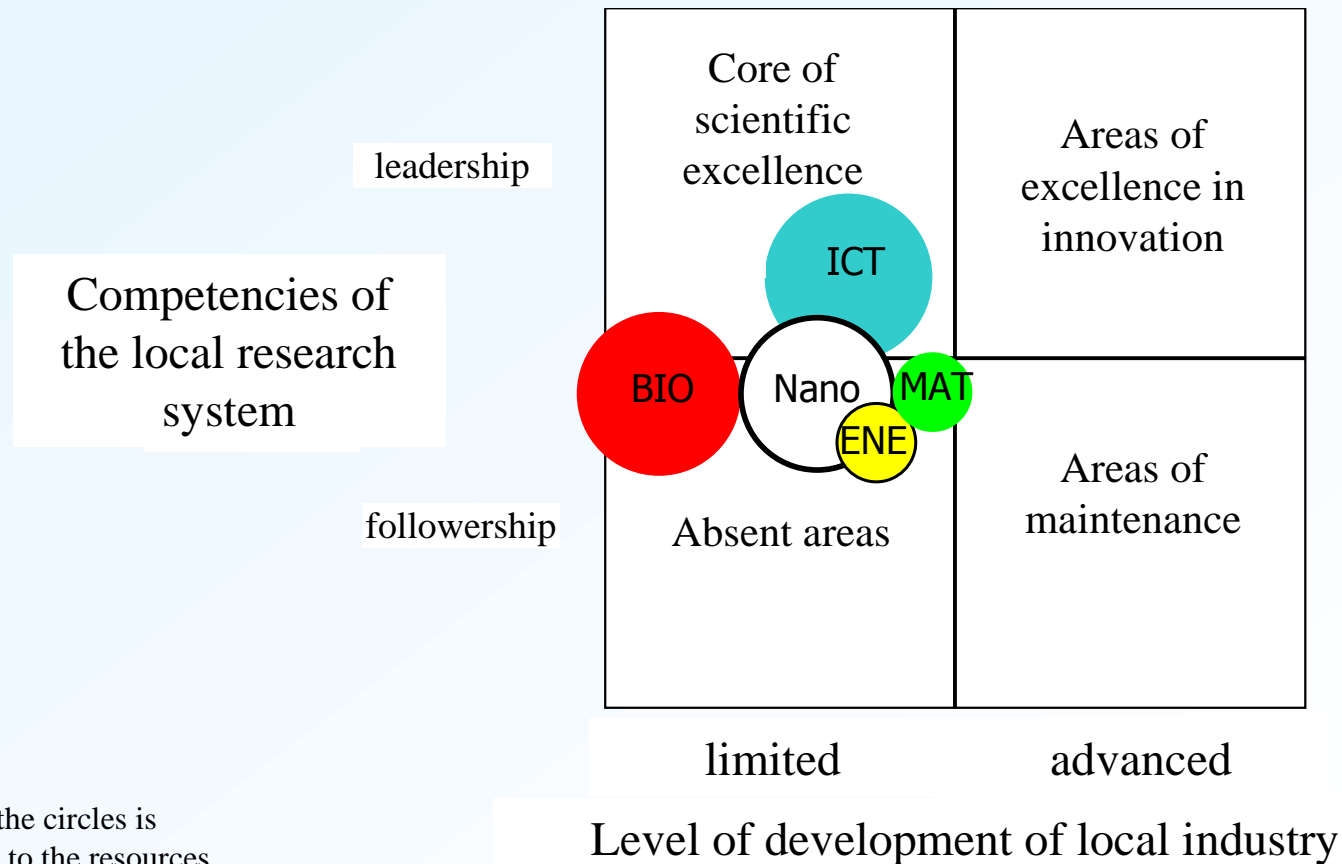
Types of analysis:

- **Qualitative (SWOT)**
 - Focused on every technological family
 - Attractiveness analysis highlights the main opportunities and criticalities related to each technological family; the analysis of feasibility highlights the main strengths and weaknesses of Lombardy
 - Therefore we can define for each technological family the main rationales, objectives, wedlock and resources to be mobilized by the regional system for its development
- **Quantitative**
 - Oriented to a comparison between technological families

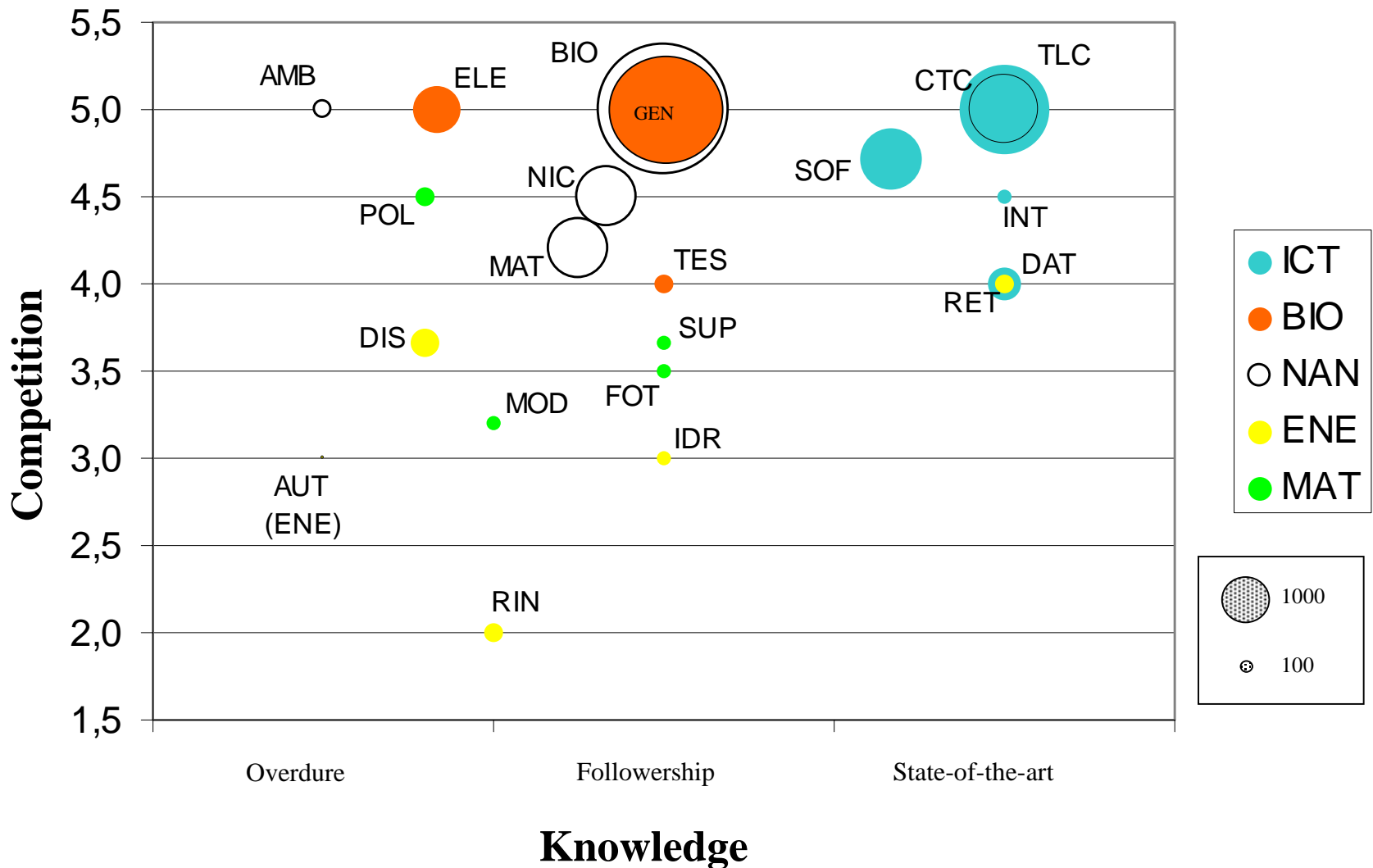
3.3 Analysis of attractiveness: Intensity of competition / Economical impacts



3.3 Analysis of feasibility: position of each technological area



3.3 Cross analysis of attractiveness and feasibility: Knowledge / Competition / Δ Resources needed



3.4 Conclusions

About methodology

The process is suitable to provide very useful outcomes, if:

- Participative approach
- Participants with broad experiences, being able to interact and to integrate their knowledge
- Knowledge system: availability of quantitative and statistical data
- Mutual validation (mostly of qualitative information)

About the First Phase:

- Opportunity of deepening the analysis of the technological area of Advanced Materials, first of all, and then of ICT and Energy Technologies