

R+D+4i
Research Development Innovation
Identity Impact
Infrastructure

PROJECT

EURO-ACTION GROUP ASSOCIATION

Programmatic DOCUMENT

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Programmatic Document
R+D+4i PROJECT
EURO-ACTION GROUP ASSOCIATION

A European response to the challenges of globalisation

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I. SUMMARY

The purpose of the **R+D+4i Project** is to respond to the challenges that globalisation poses to the European Union's (EU) economy. The project has been drawn up by Europe's most advanced Economic Regions, which contribute most to creating wealth in the EU.

The project aims to foster progress in the **whole** EU through the promotion of **R+D+4i Factors of excellence**, which are:

- Research
- Development
- Innovation
- Identity
- Impact
- Infrastructure

Jointly with the development of **the EU locomotive economic region** concept and updated regional policy.

The **R+D+4i philosophy** is inextricably linked to **the international cooperation, the success of real applications related to the six factors of excellence and to the introduction of a New Business Culture (NBC)**. This culture complements "scientific management" with "behavioural management". The latter is based on individuals' participation and self-affirmation. Furthermore, it conceives the firm as a powerful source of poly-centric thinking that wraps up the process, in which everyone contributes with ideas and thus helps foster quality and added value for products and services, which are highly competitive as a result. Such a New Business Culture is required to meet the challenges posed by today's competitive global economy in general and by Asian countries in particular.

Europe urgently needs to incorporate this philosophy on a broad scale if it is to successfully meet globalisation's challenges otherwise emerging economies could make Europe to be outside of main economic axis worldwide and as a result Pacific axis will raise as number one in terms of economic progress.

The **R+D+4i Project** is clearly a **bottom-up and innovative Project** whose first step is to set up a **Euro-Action Group Association on R+D+4i factors and NBC**, based upon the following social and institutional pillars:

- Business and employer associations
- Professional associations
- The academic world, including universities, business schools, research centres and humanistic foundations.

This trinomial will be constituted by each of the member EU Locomotive Economic Regions (EULER) taking part in the **R+D+4i Project**. Each locomotive economic region will provide its own organisational fabric within the Project framework.

The fact of being a bottom-up Project is a **differential and unique** feature.

The EU Locomotive Economic Regions (EULER) concept takes into account key homogeneous and solid areas of development, all over the European Union, based in socio-economic parameters (important contribution to EU's GDP, clear internal cohesion ties, wide recognised identity, business-oriented economy, diversified and tangible activity sectors, strong economic openness, belonging to the leading socio economic world wide mega regions* and capacity of leadership in these six factors of excellence).

* Following the criteria stated by Richard Florida in his book "Who is your city?"

The Project aims to build a new and strong European competitiveness frame based on a powerful and open EULER network; rethink the EU regional policy (particularly in all that concerns Research, Development and innovation enhancement); introduce a new business culture; produce reports on findings; evaluate and benchmark the current situation; propose an **Action Plan**, including the corresponding **Toolkit** for implementation, with future improvement measures for spreading excellence, exploiting results and dissemination knowledge everywhere; hold conferences that are broad in scope all over EU and neighbouring countries, on a periodic basis; reach conclusions and make these known to the relevant authorities; to reach the appropriate engagement between stakeholders and civil society; carry out suitable monitoring.

The **Toolkit** will foster all range of stakeholders and the whole EU civil society to get awareness on responsible Research, Innovation and the other four factors of excellence.

This **Toolkit** could be successfully used on both main aims: evaluation of the situation and training as well as dissemination, concerning the measures stated in the aforementioned Action Plan.

The **Toolkit** will take into account the various components of responsible Research and innovation. Among others:

- Governance of Research and innovation
- Engaging society
- Gender
- Access to scientific information
- Ethics
- Positive impact of the applications in society

The **Toolkit** will allow also possible self-evaluation by the corresponding member states and regions, as well as, neighbouring countries not directly involved in the survey. In fact, the **Toolkit** can be used, at any time, for appropriate self diagnoses and countermeasures identification for the competitiveness improvement, through the six factors of excellence, at any level.

The Project is structured in four-year cycles. Each cycle includes a work plan comprising the following parts:

- Selection and definition of both macro and micro indicators for each of the six factors of excellence in order to make the survey
- Identification of information sources jointly with the selection and commitment of institutions, organisms, associations and companies as well as the working groups, specialists and experts that will make the analysis, evaluation, diagnoses and recommendations of the survey, with international scope
- Analysis, evaluation and diagnoses of EULER network competitiveness at both macro and micro level with the corresponding recommendations
- Countermeasures Action Plan preparation from the diagnoses and recommendations
- **Toolkit** definition from the Action Plan
- **Toolkit** test
- Previous Conference on the R+D+4i Project/Approval of Action Plan, **Toolkit** and Final Statements
- Main Conference to present the Action Plan and the Toolkit
- Publication of Main Conference and Toolkit explanations papers
- Wide set of conferences and seminars all over the EU and selected neighbouring countries
- Dissemination all over the EU and involved associated countries, of the key topics included in the Action Plan through the corresponding Toolkit
- Monitoring of the key strands in the Action Plan

The aims here are to:

- Define an Action Plan to improve the **EU competitiveness** based in EULER network and R+D+4i Factors/NBC. This Action Plan will include an explanatory Toolkit to facilitate the spreading

of the Actions to SMEs and whole civil society, a series of **Pilot Programmes** to prove the suitability of the whole process as well as the corresponding dissemination stage all over the EU countries and regions **plus selected neighbouring countries**.

- Contribute to increase the competitiveness of EULERS and therefore to spread it all over the European Union, including the less developed regions **and involved associated countries**.

- Publish a sound report every four years (including the Action Plan, the corresponding Final Statement **and the updated Toolkit**). Leading institutions would back the report. It would analyse the situation in the EU's Locomotive Economic Regions (EULERS) in order to identify the problems facing Europe, putting forward the Action Plan with broad measures needed to increase European competitiveness **and a better understanding of the place of Science and Technology in civil society**. Disseminate the report by holding symposia and various complementary activities throughout the EU.

- Report every four years on the progress made in implementing the updated **Action Plan** proposed measures **and procedures duly stated in the Toolkit**. Various indicators will be used to evaluate the general level of competitiveness through R+D+4i Factors

The foregoing will be framed by the following **five** objectives:

- To foster awareness among business people **and policy makers**
- To foster awareness among public administrations
- To foster awareness in civil society
- To prepare the ground and to involve decision makers for an EU-wide Action Plan **to raise awareness on responsible Research and innovation and** to improve the competitiveness of businesses and public administrations
- **To foster legislative initiatives to enable Responsible Research and Innovation**

The recommendations made by the Euro-Action Group Association will be made to relevant institutions and policymakers.

All the EULERS taking part in the Project will establish a permanent Secretariat for the European Action Group. The Secretariat will be charged with co-ordinating and monitoring activities.

In principle, the European Union Locomotive Economic Regions (EULERS) that participate in the Project are: Catalonia, Finland, Flanders, Lombardy, North Rhine-Westphalia and Rhône-Alpes. These EULER represent near the 14% of European GDP and the target is to reach a minimum of 20%-25% throughout the incorporation of **Denmark**, North West England, the Czech Republic and other EULERS all over the EU.

Catalonia will be the host **Locomotive Economic Region** for the first four-year cycle. The **main R+D+4i Conference** will be held in Barcelona during the **first** half of **2015**.

Compared to other existing projects, the present one has an important added value since it is a bottom-up project that has been started by driving entities and organizations within its corresponding EULERS, with the purpose to share their know-how with others.

This Project will make EULERS level to increase as well as the other EU countries and regions because of a **"dragging effect"**. It has also to be underlined that this is an **ongoing process** with no deadline since it is a continuous and permanent improvement process.

Although the Project was officially born in March 2009, the idea of such innovative Project was launched much before. In fact to build up such a well-balanced network of regional organizations **all over EU** has taken a lot of time and work especially by Project promoters in terms of contacts, meetings, trips, etc. We consider that now it is time to get **institutional support** to this Project, for which we have been working during several years.

Concerning other existing programmes in the field of innovation within the EU (like Regional Innovation Monitor, Cluster Observatory, Regional Innovation Scoreboard, etc.), R+D+4i Project presents some **key differences** such as:

- R+D+4i Project is an international cooperation **bottom-up** Project rising from civil society while existing initiatives in the EU are clearly top-down ones being promoted by the European Commission itself. On the other hand, besides Innovation, R+D+4i Project incorporates three additional key factors of excellence: Identity, Impact and Infrastructure, with a high socioeconomic dimension.
- Even though other EU initiatives provide useful data on innovation issues as well as they use benchmarking tools to compare innovation situation among regions to facilitate analysis, R+D+4i Project moves a step forward since after benchmarking information analysis among locomotive regions, it makes a **deep diagnosis** of both present and forecasted situation (considering that no actions or countermeasures are defined) and so it proposes an **Action Plan, that incorporates the appropriate Toolkit**, for years to come to raise awareness on responsible Research and innovation and to improve competitiveness, that will include its corresponding **Pilot Programmes**. This will result in upgrading not only most developed regions but also it will have a positive impact all over the European Union including less developed regions.
- This process will be made on a **four year basis cycle**. During the period between the analysis stage of every cycle, the R+D+4i Project Euroaction Group will make a strong dissemination programme all over the EU, and selected neighbouring countries, including the corresponding explanations regarding how to use the concerned Toolkit. In parallel, a strong follow-up of proposed Action Plan implementation, as well as the obtained results at EULER's and whole EU level will be made.

The R+D+4i Project can be easily incardinated in the Seventh Framework Programme 2013 - CAPACITIES, launched in July 2012 (c 2012 - 4526 of 9 July 2012).

This Framework Programme states that "Europe 2020 challenges can only be tackled effectively if all societal actors (mainly: researchers and research organisations, civil society, industry and policy-makers) are fully engaged in a co-building mode in the research and innovation process. All stakeholders have a joint responsibility to provide the right solutions for the European challenges. Each stakeholder has to act responsibly to that end by foreseeing, as much as possible, how their actions fit in the broader picture and what will be their social, environmental and economic impacts".

On the other hand, in the 2013 Science in Society (SiS) Work Programme it is clearly settled that Responsible Research and Innovation is underpinned by the engagement of the whole society in science and technology, with a well understood, shared and trusted responsibility.

For all these reasons the R+D+4i Project fits in Action Line 1 of such Seventh Framework Programme 2013 (CAPACITIES), particularly in "Activity 5.1.1. Better understanding of the place of science and technology in society; Area 5.111. Relationship between science, democracy and law; SiS 2013.1.1.1-1: Production and use of a Training and Dissemination Toolkit on Responsible Research and innovation".

II. PROJECT OBJECTIVES

The **R+D+4i Project** (henceforth the Project) aims to foster progress in the European Union (EU) through **R+D+4i Factors of excellence** (Research, Development, Innovation, Identity, Impact, and Infrastructure) in order to significantly enhance European competitiveness and meet the challenges of globalisation.

The Project proposes the constitution of a **Euro-Action Group Association** on R+D+4i Factors as a matter of priority. The initiative would be backed by the EU Locomotive Economic Regions (EULER) and thus be deeply rooted in the whole European society. The following triumvirate would underlie the Group:

- Business/Employer associations
- Professional associations
- The academic world, represented by universities and business schools

The Group would be drawn from those European Locomotive Economic Regions that contribute most to wealth creation in the EU.

As it has been said, The EU Locomotive Economic Region (EULER) concept takes into account key homogeneous and solid areas of development, all over the European Union, based in socioeconomic parameters.

This EULER concept can include key political regions (or strongly interlinked groups or regions) as well as advanced states which have the consideration of EU Locomotive Economic Region.

The Euro-Action Group Association proposed actions will be based on a comparative (benchmark) study covering institutional specialisation (business, professional, and academic), and with a crosscutting EULER network vision of inter-institutional scope.

The aim is to analyse the EULERS' behaviour, through the R+D+4i Factors, in the context of global competition, identifying what Europe should do to foster economic and social development and to meet global challenges as well as to upgrade overall EU countries and regions level. EULERS driving organizations and companies have aimed to start with the process in a voluntary way in order to convey this Project in such a manner that the final results can be useful to the rest of countries and regions thanks to the aforementioned "**dragging effect**".

The key actions for achieving competitiveness in a global economy would be identified at EULER network level with a view to proposing Europe-wide measures in the future including to rethinking the EU Regional policy **to enhance the international cooperation to succeed in real applications related to the six factors of excellence** and **to introduce** a New Business Culture (NBC). Thus competitiveness at European level will be quickly increased since acting on European Locomotive Regions is the faster way to improve such competitiveness not only at EULER level but all over Europe. Finally specific actions on other regions than EULER will be defined based on EULER's own plans and results.

The **Global Action Plan**, **through the corresponding Toolkit**, will show at the end the positive impact on European economy throughout concrete actions that have been previously fixed.

The Euro-Action Group Association's recommendations would be made available to the relevant authorities and decision-makers.

A **Dissemination and Spreading Plan**, **with the Toolkit's help**, will be also defined. The first stage is a **Main Conference** -in Barcelona- to be held once the Analysis, **evaluation and diagnoses stage** is finished. Afterwards, the Action Plan will be issued with presentations all over Europe (**comprised the particular explanations regarding how to use the Toolkit**). See more details at Chapter IV.2.2. c) and d).

The Project will carry out a series of activities structured in four-year cycles. **Mainly**, each cycle will include:

- a) **Analysis, evaluation and diagnoses** of EULER network **capacities of development the six factors of excellence in order to improve** competitiveness, using "macro" (EULER level) and "micro" (business level) indicators for this purpose
- b) A **Report** presenting findings, an assessment of the current situation, and proposed future measures (included in the corresponding **Action Plan and Toolkit**)
- c) **Previous Conference for the internal approval of the Action Plan, Toolkit and conclusive statement**
- d) A **Main Conference** at which the aforementioned report will be **presented and** discussed with representatives of Regional, State and European institutions (to whom the Euro-Action Group Association's recommendations are addressed). **Final** Approval of the Action Plan, **Toolkit, and conclusive** Statement
- e) Publication of the **approved** Action Plan, **Toolkit and conclusive** Statement papers
- f) **Dissemination all over the EU, and involved selected countries, of the key topics included in the Action Plan through the corresponding Toolkit (including how to use the Toolkit) and Pilot Programmes**
- g) **Monitoring** of the key strands in the Action Plan and the **Toolkit** procedures

A **host EULER** will be chosen to coordinate all the activities planned for a given four-year cycle.

Catalonia will be the host **EULER** for the first cycle and the project promoter, and will invite other **EULER** to take part through bilateral links with the trinomial project of business, professional, and academic/civic institutions.

A permanent **Secretariat** will be established in every one of the **EULERS** for all supervising activities in subsequent cycles. The host EULER will coordinate the activities at the level of EULERS' network involved in the project cycle.

III. PROJECT PRESENTATION

III.1. Basic conceptual elements

The aim is to foster the adoption of actions linked to **R+D+4i Factors of excellence** to provide: (a) added value, and (b) deliver the applications demanded by society. Emphasis will be placed on co-ordination, comparison, and feedback to this end. The Factors involved are:

- Research
- Development
- Innovation
- Identity
- Impact
- Infrastructure

Each of these Factors comprises the items falling under the following bullet points (the indicators determining business and human progress will be detailed under each one):

- Research
 - Generic research
 - Techniques
 - Technology
 - Procedures
 - Applied research
- Development
 - New products
 - New services
 - New processes
 - New systems
 - New features
 - New “values”
- Innovation
 - In prospecting
 - In management
 - In products
 - In services
 - In the value chain
 - In thinking
- Identity
 - Self-affirmation
 - Creativity
 - Management style
 - Intellectual capital
 - New Business Culture (NBC) or the deployment of a whole range of management techniques that have been developed over the last few years
 - Social values
 - Corporate image
 - Image of product or service
 - Brand image
- Impact
 - Ability to contribute
 - Connectivity
 - Perceived value in a product or service
 - Flexibility / Multi-purpose / Reaction time (lead time)
 - Commercial strategy

- Logistics integral management system
 - Interrelationships (networks, clusters, lobbies, strategic alliances)
 - Management information systems
 - Internationalisation
 - Growth drivers
 - "Glocalisation" (local+global)
 - The environment / Externalities
- Infrastructure
 - **Research centres / Research clusters**
 - Means of Production / Resources generating added value
 - Logistic facilities / Transport Networks
 - Educational / Training
 - Cultural
 - Technology
 - Information / Communication Network
 - Science
 - Finance
 - Legal
 - Politics
 - Regional planning
 - Administration support

The key to progress lies in providing value at both the individual and collective levels.

The system for fostering progress is based on spheres that are inherent in the R&D+4i Factors, namely education, training and values. **Globalisation** spawns both new challenges and opportunities. An interactive, participative approach to globalisation makes for a rich, mutually reinforcing blend of global and idiosyncratic features.

In this form, globalisation becomes a worldwide phenomenon that harnesses ideas and economic forces, creating synergies for all mankind.

An approach to globalisation based on implementation of actions **found** on R+D+4i Factors **and the corresponding explanatory Toolkit**, would thus boost self-affirmation and produce new ideas, creating added value and better applications as a result. These outcomes would feed back into the system, driving further progress.

Globalisation needs to facilitate new ideas and concepts and foster individual and collective self-affirmation if it is to be a truly enriching phenomenon.

The **system driving progress at EU level** only works when progress involves **well defined international cooperation**, solidarity with others and its benefits are showered on society as a whole, bettering employment, training, education, and values. Such progress is the result of striking a balance between business competitiveness and society's general welfare **taking into account a true success of the real applications, related to the six factors of excellence, particularly Research and innovation**. The following figure (*Figure 1*) shows how such a system drives progress in a given society.

The underlying internal causes of this state of affairs are:

- **Poor awareness and implication regarding Research and innovation processes**
- Weaknesses in the scale of positive values
- Aging populations
- Unwieldy systems for producing goods and services that are both inflexible and provide little scope for participation
- Delays in internationalising small and medium-sized companies
- Educational systems that have little connection with **research**, business and the needs of a swiftly-changing world
- Outdated, heavy-handed bureaucracy that leads to a remote public administration that fails to serve citizens' and business needs.
- Heavy tax burden compared to other world economies,

There are also external causes, particularly competition from emerging countries (notably China, India, and South-East Asia) with cheap, disciplined, hard-working labour forces.

Europe needs to adopt a new strategic approach based on the R&D+4i philosophy and the New Business Culture (NBC) to overcome this situation.

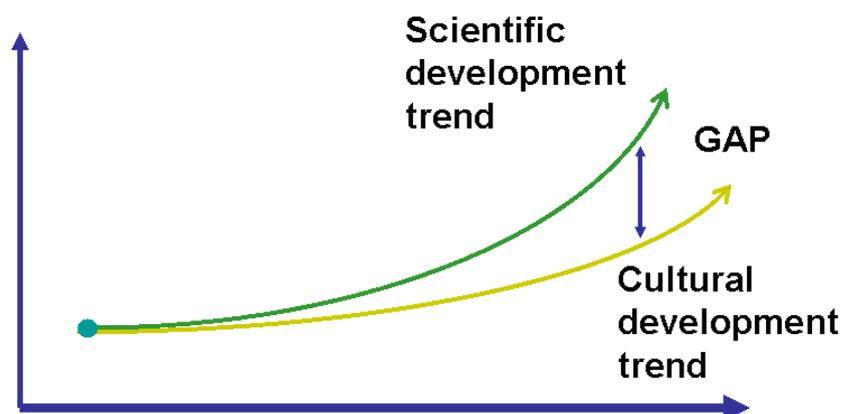
Various ratios or indicators are used to compare productivity trends in Europe with those in the United States. The problems of Europe's production systems are clearly apparent. Much the same weaknesses seem applicable in comparing Europe with Japan. (See Annex 1)

At this rate, the EU is not only likely to fall short of the objectives set in the 2000-2010 Lisbon Agenda but also runs the risk of being overtaken in the knowledge economy by Asia's emergent countries.

Clearly, the EU needs to enhance **awareness regarding Research and innovation processes**, training and education as well as the scale of values in its constituent societies. It should also concentrate its efforts on technological development (mainly ICT) and on human and cultural development. It is also evident that the gap between these kinds of development needs to be narrowed.

Poor productivity and the gap between technological development and cultural development are particularly evident in companies and severely affect their competitiveness (see Figure 2).

Figure2. Gap between scientific and cultural development



Bold adoption of improvement actions based on R+D+4i philosophy and a New Business Culture are needed to change this situation. The latter will be based on **research**, total quality, individual self-affirmation, participative management, continuous improvement and innovation, flexible production, lean organisation, anticipation, and a long-term vision.

It is obvious that globalisation yields optimal results when it is "wrapped" in all the elements that ensure the system driving progress can work to its full capacity.

This "wrapping" should not hinder the most dynamic parts of the system (which are precisely those strongly driving progress).

Over-burdening these progress drivers will not only reduce their contribution but also impair the performance of the system as a whole.

There are **key Locomotive Economic Regions** in EU that are capable of driving growth in other regions in both their own countries and in neighbouring ones.

To effectively turn around Europe's current economic situation as fast as possible, remedial measures should be channelled through those Europe's Locomotive Economic Regions capable of driving the rest forward through an enriching common setting

Most EU policies are designed to act as a great regional leveller. Unfortunately, this only puts a brake on the leading Economic Regions whilst denying the rest the prosperity they deserve. Some of the measures inherent in R+D+4i Concepts are often frittered away in regions that are poorly placed to drive growth instead of being deployed in those that can play this role.

Such policies are impoverishing, leave all socio economic regions out in the cold, and are incapable of weaving a rich economic matrix.

If globalisation is to enrich, it has been multi-centric, weaving an economic setting in which all socio economic regions can contribute and harness the forces driving progress.

Regional cohesion is much better achieved through a global Programme that first reinforces the EULERs performance, in order to get enough economic funds for further territorial balancing.

III.2. Project structure

The framework for fostering changes in the European Union -based on the principles of the R+D+4i Project- should involve the following stages:

- EULERs involvement
- Establishment of the R+D+4i Project Euro-Action Group Association
- Identification of the issues to be analysed
- Project development procedures
- Work Plan & **Toolkit**
- Dissemination and Spreading all over the EU **Member States and Regions, and selected neighbouring countries as well**

After the involvement of several key **EULER** all over EU, the R+D+4i Project Euro-Action Group Association has been set up once the R+D+4i Project principles had been established. The R+D+4i Project Euro-Action Group Association is based on a trinomial comprising business associations, professional associations, and academics. The European Locomotive Economic Regions participating in the project decided its organisation and which contribute most to wealth creation in the EU.

The R+D+4i Project Euro-Action Group Association task will be to achieve a marked improvement in European competitiveness to ensure the EU can meet the challenges posed by globalisation.

The aim is to see what Europe's leading Economic Regions (i.e. the biggest wealth creators) are currently doing and what they still need to do to meet the challenges posed by emergent economies Such as China, India, and the countries of South-East Asia.

Analysis should reveal how to carry out the necessary transformation of the business fabric to (1) achieve an economic regional setting that is more **research and** high-tech friendly, and (2) foster a

better-trained, better-educated society capable of meeting the challenges facing companies and Europe in general.

The purpose is to define which measures need to be carried out by companies, educational institutions and public administrations in order to achieve global competitiveness.

Trends in the indicators (duly selected by the six factors of excellence) determining competitiveness in a global world need to be analysed in each Locomotive Economic Region. This should be carried out by looking at both the internal and external issues affecting companies in order to propose future lines of action, and collaboration plans between Locomotive Economic Regions and business sectors to optimise the value chain.

The procedural plans consist of a cycle of activities grouped by work stages. Each successive cycle will last four years.

A host Locomotive Economic Region will be designated for each cycle. The host will co-ordinate the work plan for each of the stages making up the cycle.

Each new cycle will take into account the results from the previous one, and update R+D+4i philosophy and scope, proposed measures, **Toolkit content** and the monitoring plan if deemed appropriate.

IV. WORK PLAN

IV.1. Forecasted development phases

The project is structured in cycles of four years, each led by one of the EULERs that take part in the process. Each cycle will follow on from the previous one.

The work plan in each four-year cycle comprises five distinct parts:

- a) Preliminary Stage (only first cycle)
 - To give rise an Administrative and Technical Structure of the Project ([web site and News included](#))
 - Establishing the corresponding organisation chart
 - Drawing up the programmatic document
 - Selection of Locomotive Economic Regions **to be included in the survey**
 - **Selection and commitment of institutions, organisms, associations and companies, as well as working groups, specialists and experts that will make the analysis, evaluation, diagnoses and recommendations of the survey**
 - Selection of macro and micro indicators (*see Annex 4 and 5*)
- b) Analysis stage
(analysis, evaluation, diagnoses and recommendations of the survey)
 - Allocation of selected indicators to the involved institutions, **organisms and associations** that constitute the R+D+4i Project Euro-Action Association (*see Annex 6*)
 - Preparation of questionnaires
 - Data-gathering on macro indicators
 - Micro indicators survey: Questionnaires preparation and data gathering (from Employer Associations, field work in companies and expert panels)
 - Indicators value analysis (identification of causes, benchmarking, strong and weak points, possible countermeasures...), preparation of a comparative tabulated results **and recommendations**
 - Studying lines of action (countermeasures) and Pilot Programmes Implementation **including the corresponding explanatory Toolkit**
 - **Toolkit test**
 - Drawing up the final report
 - Detailed preparation of the subjects to be covered at the [Main Conference](#)
 - Drafting of a [Conclusions and Recommendations](#) (Final Statement), [Action Plan](#) (including the Pilot Programmes, the **Toolkit** and the Dissemination and Spreading Programme for all over the European Union **and selected neighbouring countries**)
- c) Holding of a End of Cycle Conferences
 - **Previous Conference for the internal approval of the Action Plan, Toolkit and conclusive Statement**
 - **Main Conference preparations**
 - Holding the **Main Conference**
 - Final Statement, [Action Plan](#), **explanatory Toolkit** and [Dissemination and Spreading Programme](#)
- d) Dissemination and Spreading of the Conclusions, Action Plan, Toolkit awareness/usage and Pilot Programmes Implementation
 - Publication of [the papers related to Analysis development, Conclusions and Recommendations](#) (Final Statement), [Action Plan, Toolkit and Pilot Programmes](#)

- Public presentations of the Conclusions and Toolkit awareness and usage in different European places
 - Pilot Programmes release at Global and Regional level
 - Set of conferences and seminars to spread out the dissemination process including the corresponding Pilot Programmes and how to use the Toolkit (self-evaluation process comprised)
- e) Monitoring the application of the proposed lines of action
- Settlement of a Permanent Observatory (in order to look at the evolution of Action Plan countermeasures and the Toolkit usage effectiveness)

IV.2. Responsibilities in the execution of the phases

IV. 2.1. General coordination

The overall coordination of the Work Plan will be held by the General Secretariat according to the guide lines stated by the management and governing bodies noted in the Statutes of the Association, which organization chart is shown in V.

The General Secretariat can establish a Think Tank in order to help in the work Plan and associated Toolkit development.

The management of the Project will be undertaken by the **Executive Board**, which will report to the **General Assembly**, comprising the representatives of the various entities/institutions organising the project.

There will be an **Advisory Council** comprising leaders drawn from the sciences and humanities sectors in the Locomotive Economic Regions taking part in the Project. Key experts outside the EULERS' network will also be accepted.

There will be, as well a Committee of Honour with key personalities all over the EU and the entire world that are interested in the R+D+4i Project development.

IV.2.2. Development of the phases

a) Preliminary stage

This stage will be developed by a "Think Tank" composed by specialists nominated by the different institutions that constitute the **R+D+4i Project Euro-Action Group Association**.

b) Analysis stage

The development of this stage will be managed by the "Assessment/Analysis of indicators function" of the General Secretariat and will be held in the following way:

- Allocation of indicators to the institutions that constitute the R+D+4i Project Euro-Action Group Association. In that sense, two considerations have to be taken in into account:
 - Coordinating institutions (that will coordinate the analysis of one or more indicators jointly with other institutions that will act as collaborators).
 - Collaborating institutions (that will support the coordinating institutions in the indicators analysis).
- Analysis of the indicators (trends, benchmarking, strong and weak points, causes, possible countermeasures, ...), study of Action Lines and drawing up a

Final Report, case by case (with a team composed by coordinating and collaborating institutions).

Macro indicators will be considered at Locomotive Economic Region level. The required information will be gathered from common sources (statistics recorded in the same European criteria). Human values indicators will be analysed through the opinion of leading experts.

In fact, four kinds of Macro indicators will be considered for each factor of excellence: (1) related to EULER basic characteristics, (2) facilitators, (3) related to EULER activities definition, (4) "outcome".

Micro indicators will be gathered through the business/employer associations.

- Drafting of a Final Statement by indicators and summarized by R+D+4i Factors (with a team settled by the coordinating institutions).
- Defining Pilot Programmes to be implemented at Global, EULERS and other Regions level

c) Holding of the End of Cycle Conferences

The "Conferences organisation function" of the General Secretariat of the host Locomotive Economic Region will organize both the previous and the Main Conference on the corresponding hosting EULER.

The previous and Main Conferences of the first four-year cycle will be held in Barcelona in the first half of 2015, being Catalonia the hosting Locomotive Economic Region.

The Main Conference generic programme will be:

- Official inauguration
- Inaugural address
- Three parallel workshops with selected speakers (one for each Economic Locomotive Region), drawn from universities, companies, and business and professional associations:

1st Workshop: Research and development

2nd Workshop: Innovation and identity

3rd Workshop: Impact and infrastructure

Round tables with representatives of Regional, State, and European public administrations, covering:

- Trends and perspectives for R+D+4i in each Locomotive Economic Region
- Lines of support for fostering R+D+4i
- Toolkit content and usage
- Comments on EULERS benchmarking
- Dissemination process all over EU and selected neighbouring countries

Closing session

d) Dissemination and Spreading of the Conclusions and related Toolkit

The publication of the Conference Documentation will be the responsibility of the leading institutions.

The main deliverables will be:

- A sound four-yearly report backed up by leading institutions and identifying the EU's problems through an analysis of its leading Economic Regions. The

report will set out the main measures that need to be taken to increase Europe's awareness in Research and innovation processes and global competitiveness.

- The Report will be disseminated through a main Conference and various complementary conferences, seminars and all kind of activities throughout the EU. This report will include Toolkit content and Lines of Action at Global, EULERS and all other Member States Regions level. Involved neighbouring countries will be considered as well.
- Progress on the proposed Lines of Action will be reported on every four years; the assessment being based on the various indicators for identifying the general level of competitiveness achieved through R+D+4i Factors.

This is part and parcel of the following five objectives:

- Foster awareness among entrepreneurs/businessmen
- Foster awareness among public administrations
- Foster awareness in civil society
- Lay the ground for the implementation of an EU-wide action plan (that will cover activities at Global, EULERS and other EU Regions level) to improve the competitiveness of businesses and public administrations.
- Push the Toolkit awareness and usage (self-evaluation process included)

The broader aims are to:

- Greatly improve training and education in society (values)
- Provide a favourable setting for Research and high-tech development
- Optimise transformation of the business fabric
- Lead the world in the field of R+D+4i Factors
- Improve Europe's global competitiveness.

e) Monitoring the application of the proposed lines of action

The settlement of a "Permanent Observatory" will be the responsibility of the leading institutions of the involved European Locomotive Economic Regions.

Members of all the institutions that constitute the R+D+4i Project Euro-Action Group Association are invited to participate. Key personalities of all other EU Regions will also be invited to join such "Permanent Observatory".

The leadership of the Permanent Observatory will belong to the host Locomotive Economic Region of the four-year cycle.

The duration of each of the phases will be as follows:

- (a) and (b) A year and a half to two years
- (c) Six months to a year (coinciding with stages (a) and (b)) for the Main Conference preparation and development
- (d) A year or a year and a half (in parallel with stage (e))
- (e) One year and a half to two years till the end of first cycle. (Continuous in following Cycles)

(Approximately four years altogether).

The **host Locomotive Economic Region** will coordinate the carrying out the work plan in a given **Cycle** and organise the Conference to present the conclusions of the Analysis Stage.

Each **Cycle** will take into account the results obtained in the preceding one. R+D+4i concepts and fields, proposed measures, and the monitoring plan will be updated if deemed necessary.

IV.3. Organisation chart for the First Cycle of the R&D+4i Project

Organisational scheme:

• Committee of Honour	Comprising key personalities all over the EU and over entire world selected by the Executive Board and approved by the General Assembly
• General Assembly	Comprising President, the Vice-president, members of the Executive Board and all other members of the Association. the heads of each institution from each region
• Executive Board	Comprising: Executive General Secretary, the Associate General Secretary, the Treasurer and the Members of the Board (the current coordinators of the Secretariat of each EULER) Responsibility: Overall Project Management
• Advisory Council	Comprising leading experts on R+D+4i drawn from the EULERS involved in the Project (key experts from outside the EULER network will be also accepted).
• General Secretariat	Comprising: Executive General Secretary and Functional responsible members: <ul style="list-style-type: none"> • Institutional Coordination • Assessment /Analysis of Indicators-Projection and follow-up of Action Lines • Project Spreading/DB/WEB/News • Previous and Main Conferences Organization and other key conferences and seminars • Economic Control • Technical and Administrative Secretariat
• Technical & Administrative Secretariat	<ul style="list-style-type: none"> • Department of Commissions, Activities and Services of Association of Industrial Engineers of Catalonia
• Locomotive Economic Region coordinator	<ul style="list-style-type: none"> • Catalonia
• Organising institution	<ul style="list-style-type: none"> • R+D+4i Project Euro-Action Group Association with the collaboration of the Association of Industrial Engineers of Catalonia

See the proposed organization chart in point A2.2.9.4.

Under the guidance of the Executive Board and the General Secretariat, each Locomotive Economic Region will establish its own **EULER** secretariat, comprising the institutions taking part in the R+D+4i Project.

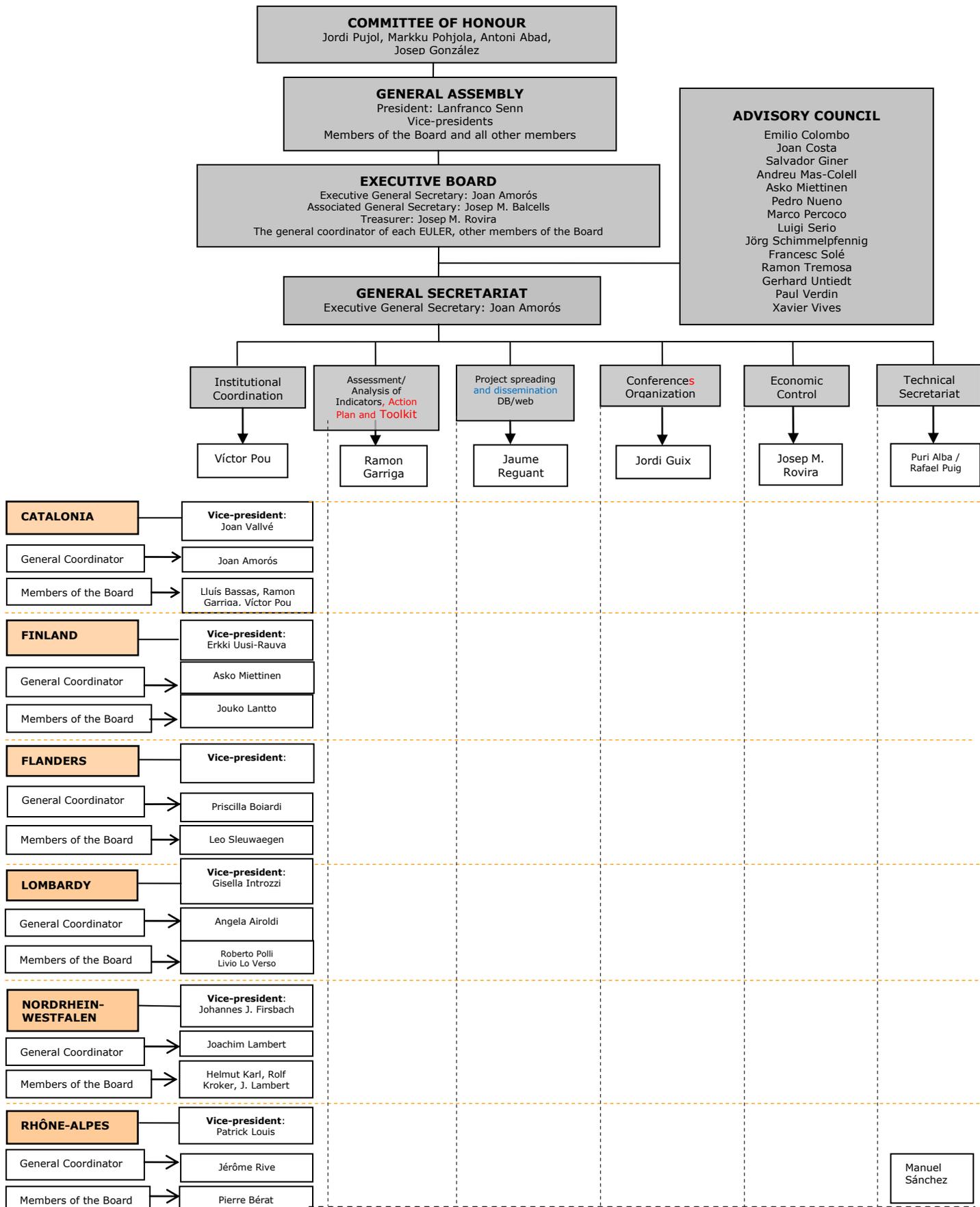
Each Locomotive Economic Region will be able to participate in the designations of:

- The Committee of Honour
- The Executive Board
- The Advisory Council
- The General Secretariat/Think-Tank

Each Locomotive Economic Region will choose a leading entity in order to place the Technical Administrative Regional Secretariat, which will coordinate the tasks at the corresponding Locomotive Economic Region.

When a given Locomotive Economic Region is selected in order to lead the four-year cycle of the R+D+4i Project, its Technical and Administrative Regional Secretariat will be converted in the General Secretariat.

V. R+D+4i Project Euro-Action Group Association Organization Chart



TO BE UPDATED!!

VI. Tentative Schedule for the First Project Cycle

CONCEPT	2010												2011												2012												2013											
	J	F	MR	AP	MY	JN	JL	AU	S	O	N	D	J	F	MR	AP	MY	JN	JL	AU	S	O	N	D	J	F	MR	AP	MY	JN	JL	AU	S	O	H	D	J	F	MR	AP	MY	JN	JL	AU	S	O	N	D
Organizational Structure	█												█																																			
R+D+I Association set-off													█																																			
Programmatic document updating													█												█												█											
Development of OIS, website and Forum	█												█												█												█											
R+D+I News edition	█												█												█												█											
Appointment of institutions by EULER	█												█												█												█											
Choice of Macro indicators	█												█												█												█											
Choice of Micro indicators	█												█												█												█											
Assignment of indicators to institutions	█												█												█												█											
Budget preparation/submitting	█												█												█												█											
Process Analysis definition (including Micro indicators survey)													█												█												█											
Presentation to EC and EULER Governments													█												█												█											
Obtaining the Grants													█												█												█											
Data Collection for Macro indicators													█												█												█											
Data Collection for Micro indicators													█												█												█											
Analysis of collected data and Benchmarking process													█												█												█											
Conclusions and Recommendations draw up													█												█												█											
Final Declaration preparation													█												█												█											
Consultation to Advisory Council members													█												█												█											
Preparation of final 1 st Cycle Conference													█												█												█											
Final 1st Cycle Conference													█												█												█											
Final Statement													█												█												█											
Publication of papers and final statement													█												█												█											
Dissemination													█												█												█											
Permanent Observatory set-off													█												█												█											
General Assembly meeting	█												█												█												█											
Steering Committee meeting	█												█												█												█											
Follow-up meetings (Think-Tank)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		

V. ANNEXS

ANNEX 1.

PRODUCTIVITY TRENDS: EUROPE VERSUS THE UNITED STATES

GDP, labour and multi-factor productivity (average annual growth rate; %)

	United States	Europe (EU-15)
GDP		
<i>2001-2009</i>	1,7	1
<i>1995-2000</i>	4,3	2,9
<i>Diff. 2001-2009 and</i>	-2,6	-1,9
Labour productivity		
<i>2001-2009</i>	2	0,8
<i>1995-2000</i>	2,3	1,8
<i>Diff. 2001-2009 and 1995-2000</i>	-0,3	-1
Multi-factor productivity*		
<i>2001-2007</i>	1,5	1,0
<i>1995-2000</i>	1,5	1,5
<i>Diff. 2001-2007 and 1995-2000</i>	0	-0,5

Source: *stats.oecd.org*

* Europe: data 2001-2007 available only for AT, DE, DK, ES, FR, IT, IE, NL, SE, UK (arithmetic mean)

ANNEX 2.

PARTICIPANTS

A2.1. Regions and institutions

A2.1.1. Regions proposed for the First Cycle of the R+D+4i Project

The following Locomotive Economic Regions (EULER) are proposed:

- Catalonia
- Czech Republic (in process)
- Finland
- Flanders
- Lombardy
- North Rhine–Westfalen
- Rhône–Alpes
- Nord West England (in process)
- Denmark (in process)
- Randstad (in process)

The First Cycle of the R+D+4i would be organised by Catalonia.

A2.1.2. Institutions taking part **TO BE UPDATED!!**

The institutions taking part in the project will be established in accordance with the three groups set out in Section II of the Programme Document:

- Business/Employer associations
- Professional associations
- Universities/business schools/Research Centres/Humanistic

Foundations

The institutions that had expressed an interest in taking part as at the 30th of June 2010 were:

In **Catalonia:**

- Associació/Col·legi d'Enginyers Industrials de Catalunya (AEIC/COEIC)
- Centre de Recerca en Enginyeria Biomèdica (CREB)
- Conferació Empresarial Catalana (CECOT)
- Col·legi d'Advocats de Barcelona
- Col·legi d'Economistes de Catalunya
- Col·legi de Doctors i Llicenciats en Filosofia i Lletres i en Ciències de Catalunya
- Consell de Cambres de Catalunya (pendent)
- EADA, Escola d'Alta Direcció i Administració. Business School
- ESADE Business School
- ETSEIAT
- ETSEIB-UPC
- Facultat de Ciències Econòmiques i Empresariales de la UAB
- Facultat de Ciències Econòmiques i Empresariales de la UB
- Facultat de Ciències de l'Educació de Blanquerna
- Facultat de Filosofia i Lletres de la UB
- Facultat de Lletres de la URV
- Facultat de Nàutica

- Foment del Treball Nacional
- Fundació Occitano-Catalana
- IESE Business School
- LEITAT, Technological Center
- Institut d'Estudis Catalans
- Institut d'Estudis Territorials (IET)
- Institut Químic de Sarrià
- Petita i Mitjana Empresa de Catalunya (PIMEC)
- Unió Patronal Metal·lúrgica (UPM)
- Universitat de Barcelona
- Universitat Autònoma de Barcelona
- Universitat de Girona
- Universitat de Lleida
- Universitat Internacional de Catalunya
- Universitat Oberta de Catalunya
- Universitat Politècnica de Catalunya
- Universitat Pompeu Fabra
- Universitat Rovira i Virgili
- Universitat Ramon Llull

In the other **EULERS**:

Czech Republic

Contacts in process:

- The Czech Mechanical Engineering Society (CMES)
- The Czech Technical University of Prague (CTU)
- Association of Mechanical Engineering Czech Republic
- Czech Chamber of Commerce

Finland

- Aalto University School of Business
- Confederation of Finnish Industries (EK)
- Confederation of Unions for Professional and Managerial Staff in Finland (AKAVA)
- Department of Philosophy, History, Culture and Arts (University of Helsinki)
- Federation of Finnish Enterprises Sypoint Oy
- Finnish Association for Human Resource Management
- Finnish Funding Agency for Technology and Innovation
- Helsinki Business and Science Park (University of Helsinki)
- JTO School of Management
- Lappeenranta University of Technology
- Swedish School of Economics and Business Administration (HANKEN)
- Tampere University of Technology

Contacts in process:

- Finnish Association of Civil Engineers (RIL)

Flanders

- FlandersDC
- Vlerick Leuven Gent Management School
- VOKA, Flanders' Chamber of Commerce and Industry
- UNIZO

Contacts in process:

- Brussels Enterprises Commerce and Industry (BECI)
- Belgium Society of Mechanical and Environmental Engineering (BMSEE)
- Transportation Research Institute (Hasselt University)
- Leuven University

Lombardy

- Assolombarda
- Centre of Research in Regional Economy, Transport and Tourism (CERTeT)
- Confindustria
- Formaper
- Fondazione Istud
- Observatorio del Lavoro
- Unione Camere
- Università Commerciale Luigi Bocconi

Contacts in process:

- Ordine degli Ingegneri della Provincia di Milano

Nordrhein Westfalen

- Association of Engineers Nordrhein-Westfalen (VDI)
- Cologne Institute of German Economy
- FH des Mittelstandes, Standort Erft
- Niederrhein Institute for Regional and Structural Research (NIERS)
- Rhur Research Institute for Innovation and Structural Policy (RUFIS)
- Rhur University of Bochum
- Zentrum für Innovation und Technik in NRW (ZENIT)

Contacts in process:

- Otto Beisheim School of Management (WHU)
- Rheinisch-Estfalisches Institut für Wirtschaftsforschung (RWI)
- Gefra, Institute for Financial and Regional Analyses

Nord-West England

Contacts in process:

- North West Development Agency (NWDA)
- North West University Association (NWUA)
- The Confederation of British Industries (CBI)
- The Manchester Association of Engineers (MAE)

Rhône-Alpes

- Chambre Régionale de Commerce d'Industrie de Rhône-Alpes
- ECAM, École d'Ingénieurs, Lyon
- Institut National des Sciences Appliquées (INSA)
- Lyon Institut d'Administration des Entreprises (IAE). Université Jean Moulin, Lyon 3
- Union Métallurgie Rhodanienne (Union des Industries)

Contacts in process:

- EM Lyon Business School Grande École
- MEDEF Rhône-Alpes (Mouvement des Entreprises de France)

NOTE. Others contacts under way

TO BE UPDATED!!

A2.2. Members of the R+D+4i Project Advisory Council (in alphabetical order)

- Mr. Emilio Colombo, professor at the University Bicocca, Milano
- Mr. Joan Costa Font, professor of Economics Politics at London School of Economics and Political Science (LSE).
- Mr. Salvador Giner, president of the Institut d'Estudis Catalans.
- Mr. Andreu Mas-Colell, professor in the Department of Economics & Business at the Pompeu Fabra University. Former counsellor of Universities, Research and Information Society of the Generalitat of Catalonia.
- Mr. Asko Miettinen, professor of Industrial Management at Lappeenranta University of Technology, Finland.
- Mr. Pedro Nueno, professor in the department of entrepreneurship at IESE, Business School. Doctor of Business Administration, Harvard University.
- Mr. Marco Percoco, professor at the Bocconi University, Milano
- Mr. Jörg Schimmelpfennig, Chair of Microeconomics, Ruhr University Bochum
- Mr. Luigi Serio, director and professor of Fondazione Istud of Milano

- Mr. Francesc Solé-Parellada, professor of Business Organization at Polytechnic University of Catalonia.
- Mr. Ramon Tremosa i Balcells, professor of Economic Theory at Barcelona University and expert in fiscal balances.
- Mr. Gerhard Untiedt, professor Dr., Technical University of Clausthal-Zellerfeld, Institut für Wirtschaftswissenschaft,
- Mr. Paul Verdin, professor at Solvay Business School (Chair in Strategy and Organization, Université Libre de Bruxelles), and at INSEAD.
- Mr. Xavier Vives, professor of Economics and Finance at IESE Business School and Research professor at ICREA-UPF.

NOTE. Others qualified experts are also proposed.

ANNEX 3.

RESULTS SOUGHT

The results will be the fruit of the R+D+4i Project objectives and work plan as set out in the Programme Document.

The Project is forward-looking and will be carried out in various stages.

The basic results sought are to:

- Issue a sound 4-yearly Report backed by leading institutions and identifying the EU's problems through analysis of its most dynamic Locomotive Economic Regions. It will set out the measures required to enhance global competitiveness [through the corresponding Action Plan and related Toolkit](#).
- Disseminate the report through [the End of Cycle Conferences](#) through a range of complementary activities [including a wide set of Conferences, Seminars, Pilot Programmes and associated Toolkit](#), throughout the EU and [selected neighbouring countries](#).
- Show the progress made every four years on the [Action Plan](#) proposed measures, based on indicators revealing the general level of competitiveness in R+D+4i Concepts.

There are [five](#) objectives:

1. To foster awareness among businessmen [and policy makers](#)
2. To foster awareness among public administrations
3. To foster awareness in civil society
4. To foster an EU-wide [Action Plan](#) to [rise the civil society awareness on Responsible Research and Innovation](#) and to improve the competitiveness of business and public administrations
5. [To foster legislative initiatives to enable Responsible Research and Innovation](#)

In addition to attaining the foregoing objectives, the results sought for the whole of the EU over time are:

- A significant improvement in training and education levels (values) in society
- A setting that fosters high levels of [Research, innovation and](#) technological development
- Optimal transformation of the business fabric
- World leadership in R+D+4i Factors and indicators
- Greater global competitiveness
- Better prospecting system and procedures

ANNEX 4.

R+D+4i Project – MACROINDICATORS LIST

(Work in progress, issued June 21st, 2010)

RESEARCH AND DEVELOPMENT

1. Total R&D expenditure as a percentage of GDP

The values available are "Total intramural R&D expenditure (GERD) by sectors of performance and region" as well as "Public R&D expenditures (GOVERD) as a percentage of GDP" and "Higher education sector expenditure (HERD) as a percentage of GDP" and "Business R&D expenditures (BERD) as a percentage of GDP". We suggest using the four indicators.

The definition of GOVERD, HERD and BERD can be found in "Regional Innovation Scoreboard 2009 Methodology report" as all R&D expenditures in each sector, according to Frascati-manual definitions. In national currency and current prices. GERD refers to all expenditures of different sectors.

Source: EUROSTAT

2. Patent applications to the EPO per million inhabitants

Number of patents applied for at the European Patents Office (EPO) per million inhabitants

Source: EUROSTAT, Regional science and technology statistics

3. Number of researchers per million inhabitants

The values available are "Total R&D personnel and researchers by sectors of performance, region and sex."

Source: EUROSTAT, Regional science and technology statistics + additional calculation

4. Percentage of patent applications by families: High-tech, ICT and Bio

The three statistics available are "High-tech/Information and Communication Technologies/Biotechnology" patent applications to the EPO by priority year at the regional level". This indicator relates with number 2.

Source: EUROSTAT, Regional science and technology statistics

5. N° of projects approved in regional, national and European R&D plans

It is necessary to make the differentiation between leading projects and participating projects.

Source: All regions have access to the information of regional, national and European programs, In the case of Catalonia it is possible to consult: CDTI, CENIT, the Catalan Foundation for Research and the European Framework Programmes, among others.

6. N° of doctoral theses read

N° of doctoral theses read according to the field of study.

This indicator can be complemented with the number of students per 1000 inhabitants.

Source: **EULER** statistics bodies (IDESCAT for Catalonia)

INNOVATION

7. Sectorial distribution of Gross Value Added

This indicator will use only the values of the primary, secondary and tertiary sectors. This indicator will be completed with the participation of the most important industrial sectors, as they are defined in all the European countries, in the regional Gross Value Added.

Source: EUROSTAT (GDP and GVA are comparable)

8. Venture capital investments as percentage of GDP

Venture capital investment measured in terms of its percentage of GDP.

In this indicator, venture capital is considered as the capital provided as seed funding to early-stage, high-potential, growth companies and more often after the seed funding round as growth funding round in the interest of generating a return through an eventual realization ...

Source: **EULER** Sources available.

9. Innovation activity and expenditure

We will measure this indicator with the concept: "Non-R&D innovation expenditures of all enterprises as a percentage of turnovers" This indicator is available in EUROSTAT Regional Innovation Scoreboard (RIS) 2009 except for some regions.

Source: **EULER** statistics or national values from EUROSTAT (CIS 2006) – Community Innovation Survey 2006

10. Percentage of innovative companies

We will measure this concept with the indicator: "SME's innovating in house as a percentage of all SME's".

Source: EUROSTAT Regional Innovation Scoreboard (RIS) 2009 except for some regions. These regions can try to obtain the values from regional statistics or to use EUROSTAT (CIS 2006). SME as defined in all EUROSTAT statistics.

11. Spin-off created from Universities

The number of cutting edge regional technology companies being created from universities. In Catalonia, each university has a department in charged. UPC-Innova, etc...

Source: Universities

IDENTITY

12. Proportion of employees in medium-high-tech manufacturing, in quickly expanding sectors and in knowledge intensive sectors.

According to the industry classification that makes the OECD:

- Service sector: Kisa (Knowledge Intensive Service Activities) vs. Non Kisa (We have the translation in CNAE code)
- Industry: High tech and medium Industries

Source: **EULER** statistical bodies

13. Number of new trademarks/commercial names

This indicator can be obtained from the following two indexes:

- Community trademarks per million population and
- Community designs per million population

Source: **EULER** bodies and OHIM. EUROSTAT (European Innovation Scoreboard) gives national values to be used when regional data not available.

14. Number of firms with CSR certified (Corporate Social Responsibility)

We will take as reference the certification following the referential SA8000 but we will admit also certifications made following local reputed referents (SG21 of FORETICA in Spain and similar)

Source: Local certification bodies

Obs. The responsible for this indicator will decide if it will be referred to the total of firms or only to the total of big firms.

15. EULER Business Schools & Research Centres

This indicator must be completed with the order of business schools in some of the International admitted rankings, i.e. The UTD Top 100 World Rankings of Business Schools Based on Research Contribution 2005-2009,...

Source: **EULER** statistical bodies

16. Entrepreneurial activity. Companies' creation rate

It is "Firm renewal" (sum of the number of births and deaths of SME's with at least 5 employees and who are active in NACE classes C, D, E, G51, I, J, and K), as a percentage of all SME's.

Source and definition: EUROSTAT. The EULER's must make an effort to obtain regional data. When not possible, the GLOBAL ENTREPRENEURIAL MONITOR (GEM) gives national data. A similar indicator is given by the European Innovation Scoreboard (EIS) also at National level.

17. % of companies cooperating with Universities as a % of all companies

This indicator must be obtained locally in each EULER. When an enterprise cooperates with more than one university must be considered only once.

To complete (or to substitute in case that would not be possible to obtain) this indicator we will introduce also the following: Innovative SME's collaborating with others as a percentage of all SME's.

Source: EUROSTAT Regional Innovation Scoreboard (RIS) 2009

18. Participation in long-life learning per 100 population aged 25-64

Refers to education and training of people, in terms of what is meant as Continuous Education or Vocational Training

Source: EUROSTAT Regional Innovation Scoreboard (RIS) 2009

19. Level of education attained by the population.

Will include three indicators:

- Percentage population between 25 and 64 with secondary education
- Percentage population between 25 and 64 with tertiary education
- Percentage of population between 18 and 24 in tertiary education

Source: **EULER** statistical bodies

20. Importance of the work well done

Job characteristics and working conditions foster a creative spirit and the intellectual curiosity of employees.

Innovation and creativity are encouraged; imagination and constructive problem solving are valued, and, as a result, work is undertaken in a reliable manner and high quality products and services are achieved.

Source: Survey expert panel.

Each region chooses a group of five experts, that assign a value from five (strongly agree) to one (strongly disagree) to the following sub-indicators. The arithmetic mean is calculated for each expert, and afterwards the arithmetic mean of the five experts will provide the final number.

All the questions shall be answered from the point of view of the Region that is evaluated.

This comment is also valid for the indicators 22, 23, 24 and 25.

Given the great importance of the values espoused by indicators 20 and 21, which hardly can be found at the enterprise level if is not part of the culture of society, the panel of experts (that analyses the situation in the company) will also analyse how these values are being teach in the school and are transmitted by the media.

21. Positive attitude towards work and disposition to do things right

Motivation and attitudes at the workplace foster a passion for work that translates into willingness to overcome obstacles, openness to change, entrepreneurial spirit and initiative, yearning for continuous improvement, ambition to achieve goals, and perseverance, constancy and responsibility.

Source: Survey expert panel

22. Personal relations within the organizations that trigger creativity and innovation

Personal relations within the organizations create an atmosphere of trust, loyalty, respect, participation, fairness, collaboration and teamwork that are conditions for innovation and creativeness. Leadership and example from the management team, transparency in communication and encouragement of diversity promote employees' sense of freedom and responsibility, and autonomy at work.

Source: Survey expert panel

23. Contribution to society

Companies contribute to the development of the societies where they operate, incorporating criteria of social responsibility within their decision making processes. Economic, social and environmental issues are taken into account and companies evaluate their performance based on these three dimensions. Companies engage in fruitful dialogue with their stakeholders and promote long term relations with social agents.

Source: Survey expert panel

24. Professional and educational training

The continuous training of their employees is in the interest of the companies. They have the right and the duty to assure the employability and the professional competence of their employees. This continuous vocational training includes not only the technical skills but also the social and interpersonal abilities and the ethical attitudes that people need in order to accomplish successfully their endeavours.

Source: Survey expert panel

25. Awareness by civil society of the contribution to global welfare and progress of Research / Development / Innovation

Source: EULER's statistical bodies and panellists

26. Number of dissemination programmes in the communication media:

- Total number of hours
- Audiences

Source: EULER's statistical bodies and panellists

27. Awards to SMEs concerning Research and Innovation Programmes and results

- Number of awards conceded
- Importance of the awards conceded
- Newness/Novelty of the applications awarded

Source: EULER's statistical bodies and survey of Expert Panel

IMPACT

28. GDP per inhabitant/Evolution of GDP per inhabitant 2001-2006

Source: EUROSTAT, Regional economics accounts – ESA95

29. Tax burden – Fiscal balance

The experts will decide which calculation method, of two usually employed, is the most convenient to use.

Source: Regional statistical bodies and EUROSTAT

30. Inward and outward Foreign Direct Investment (FDI) in M Euros and as percentage of GDP

This indicator originally was "Number of multinational companies in the EULER". To clarify, can be splitted up in two "total number of multinational companies working in each EULER" and "number of multinational companies generated by each EULER".

The responsible for this indicator will decide to use three indicators, only the first, two of them... and what to do with those not used (to avoid them, to use them as micro indicators...).

Source: Regional statistical bodies and OECD

31. Proportion of world trade (international score)

- Exports to the EU countries
- Exports to countries not EU

Source: Regional statistical bodies

32. Unemployment rate and Employment by full-time/part-time and sex

- Number of jobs in % of population
- Cost to cancel a non-temporary contract
- % of temporary contracts over the total of contracts

Source: EUROSTAT, Regional labour market statistics

33. Regional export and regional import as percentage of GDP as well as openness index (Three different indexes).

From the same source, it is possible to obtain a complementary index: "High-tech exports in total regional exports".

The regions where is not possible to obtain this last index can use the national values from EUROSTAT (Comet) "High-tech exports in total national exports"

To remember: EUROSTAT defines the NACE sectors included in each of the definitions (high-tech, medium/high-tech, knowledge intensive services...) used in different indicators. See, as example, "Regional Innovation Scoreboard 2009 Methodology report"

Source: Regional statistical bodies and EUROSTAT.
Observations: This indicator could be in the Impact factor.

34. Air transport at regional level

- Air transport of passengers at regional level (total passengers embarked and disembarked) tonnes goods loaded and unloaded)
- Air transport of freight at regional level (total tonnes goods loaded and unloaded)

Source: EUROSTAT, Regional transport statistics

35. Use of the Internet and Internet activities

- Individuals regularly using the Internet
- Individuals who have never used a computer
- Individuals who ordered goods or services over the Internet for private use

Source: EUROSTAT, Regional information society statistics

INFRASTRUCTURE

36. Transport Infrastructure.

We will use four values:

- Road network in km/km
- Rail network in km/km²
- Waterways in km/km²
- N° of harbours with international traffic
- N° of airports with international traffic
- N° of intercontinental flights per week
- N° of m² used as intermodal traffic areas (logistic areas)

The two last values can be referred to the total national or to the total European values. The responsible will decide.

Source: EUROSTAT. Other indicators obtained from EUROSTAT can be considered if the EULER feels it interesting.

37. Railway, roads and inland waterway evolution

Take a period and compare final and initial index.

The results must be enriched considering other factors like density, orography, people localisation...

Source: Regional statistical bodies and EUROSTAT

38. Energy, water infrastructure index

Water indicator: Supply warranty

Is an internationally admitted index regionally obtainable and refers to possible reserves and consumption.

Energy indicator:

It will be represented by means of three indexes with a relative weight to be defined by the responsible of this indicator:

Installed electrical power in the EULER/ electricity consumption in the EULER

Installed electrical renewable power in the EULER/Total installed electrical power in the EULER

Installed electrical cogeneration power in the EULER/Total installed electrical power in the EULER

All these index are easily obtainable from regional information. They must be enriched with other information's related with tariff, legislation, and help to renewable...

Regional statistical bodies. For Catalonia ICAEN and IDESCAT

39. Crime rate

- Crime solved rate and crime detection rate

Source: **EULER** statistical bodies

40. Number of tourists

- Arrivals and Nights Spent per year and inhabitant

Source: EUROSTAT, Regional tourism statistics and Regional statistical bodies

41. Degree of red tape: % of civil servants

% of civil servants, distinguishing health and education from the rest (*over the total employees / over the total population?*)

Source: **EULER** statistical bodies

42. Number of jobs in % of population

- Employment by full-time/part-time and sex

- Cost to cancel a non temporary contract

- % of temporary contracts over the total of contracts

Source: EUROSTAT, **EULER** labour market statistics and Regional statistical bodies

43. Number of victims in labour and road accidents at regional level

Two indicators:

- N° of hours lost due at labour accidents as percentage of n° of working hours
- N° of victims in road accidents at regional level

Source: EUROSTAT, **EULER** transport statistics and Regional statistical bodies

44. Educational infrastructure

Four indicators:

- Number of primary schools per inhabitant
- Number of students per teacher
- Number of secondary schools per inhabitant
- Number of universities per inhabitant
- Total number of universities and world ranking

Source: **EULER** educational authorities. Academic Ranking of world Universities

45. ICT Infrastructure

We will use five indicators:

- Households with access to the Internet at home
- Households with broadband access

Source: EUROSTAT, **EULER** information society statistics

46. Number of Scientific Parks, Technological Parks and relevant Scientific Infrastructures

Science and Technology infrastructures. Three sub-indicators, one per type of installation.

Source: **EULER** statistical bodies

47. Social capital

On "Social capital" we should leave open debate in two ways:

- Line 1: develop a synthetic index or work with individual indicators. At this level has not been worked enough to see how they could integrate different indicators into a synthetic index. (Making shots). In fact, the original source works indicators separately.
- Line 2: Reduce the number of indicators (or add if deemed appropriate). All the individual indicators have been extracted from the 'European Social Survey and Regional Statistics' data includes, between others, the following countries: Belgium, Finland, France, Germany, Spain, and United Kingdom.

Source: Regional statistics bodies and European Social Survey (National level)

See a brief description of what each section includes:

- Trust in country's parliament (grade 0 to 10)
 - 0 – do not trust at all
 - 10 – Complete trust
- Trust in the legal system (grade 0 to 10)
 - 0 – do not trust at all
 - 10 – Complete trust

- Trust in the European Parliament (grade 0 to 10)
 - 0 – do not trust at all
 - 10 – Complete trust

- Voted last election
 - Voted in the last [country] national election
 - 1 – Yes
 - 2 – No
 - 3 – Not eligible vote

- How satisfied with the way democracy works in country (0-10)
 - 0 – Extremely dissatisfied
 - 10 – Extremely satisfied

- European Union: European unification go further or gone too far (0-10) Evaluate European unification process as a whole
 - 0 – Extremely dissatisfied
 - 10 – Extremely satisfied

- Individual happiness (0-10)
 - How happy would you say you are?
 - 0 – Extremely dissatisfied
 - 10 – Extremely satisfied

- Member of trade union or similar organization
 - Are you or have you been a member of a trade union or similar organization?
 - 1 – Yes, currently
 - 2 – Yes, previously
 - 3 – No

- Done voluntary work last month
 - In the last month, have you done any paid or voluntary work?
 - 1 – Yes, paid work only
 - 2 – Yes, voluntary work only
 - 3 – Yes, paid and voluntary work
 - 4 – No, neither

FINANCIAL INFRASTRUCTURE

48. Business generation

- Total capital funds available. % Capital per GDP of the region.

Source: Mergermarket.com/Bloomberg

- Number of organized capital markets

Source: Chambers of Commerce

- Business (in millions annually) of financial consultancy projects, including mergers, acquisitions, business valuation, outings to bursa, etc.

Source: Mergermarket.com/Bloomberg

49. Business attractiveness

- Total liabilities of commercial banks headquartered in the region. Relationship with regional GDP

Source: Central State Bank

- N° of offices of the first 6 of global investment banks (international banking).

Source: the website of these 6 banks

50. Attractiveness of talent

- N° of top Business School with finance department.

Source: EFMD

- N° of papers published in the most important Business magazines (financial arena)

Source: Source Premier.

- N° of employees in big six firms (Banks) and (financial consulting) per 1000 inhabitants

Source: the website of these 6 banks and the financial consulting

TOTAL MACRO INDICADORS: 50

RG/FM/JA/PA
21/06/2010

ANNEX 5.

R+D+4i Project MICROINDICATORS

EVALUATION APPROACH

The micro indicators must provide the R+D+4i Project the picture of the reality in the companies of every EULER. This picture will enrich the analysis made with macro indicators data, which are more statistical and thus, colder.

Among others, the micro indicators should give an approach of the **level of excellence in Research, Development and innovation as well as of the implementation of the so called "modern methods of management"** in our large, medium, small and even, if it is feasible, the very small companies. See below a list of the suggested micro indicators.

We all know that some micro indicators can be obtained from available statistical sources (we kindly request to all experts to share where these sources, when they are available, can be found) but most of the indicators must be obtained either through special surveys or by panels of experts.

Special surveys shall be made, on the spot, by individual experts (duly coordinated and adequately trained) considering a representative sample of research centres and all kind of companies. The results of such survey will be duly assessed and weighted by panels of experts in every EULER.

The expert's panel seems to be the best method for most of the indicators **either after the individual expert reports or, in some cases, avoiding this previous step.** At its moment, it would be necessary to have cleared the patterns about the composition and origin of the experts in relation to the kind of micro indicator (R+D, Innovation, Impact, Identity and Infrastructure...). Possibly, in some cases would be better an expert coming from the business and in other cases from the academic world.

Therefore, the expert's panel will require an agreement in the evaluation criteria to evaluate the micro indicators in the same way in all EULER.

For these reasons, with the participation of all the entities and just after the list of micro indicators be agreed, a document shall be released stating to these methodological aspects: evaluation criteria, composition of the panel, kind of expert regarding the group of indicators, the way the results have to be shown, etc.

R+D+4i Project - MICROINDICATORS LIST

RESEARCH & DEVELOPMENT

Since the total expenditure in R+D is analysed as a macro indicator, **it is as well of interest** to consider **it** in relation to the business size and sector. Thus, we propose:

1. Expenditure in percentage of total, by size of company, at least three groups:

- More than 250 employees (large firms),
- From 50 to 250 employees (medium enterprises) and
- From 10 to 50 employees (small business)

2. Spending, in percentage of total, of the five most important industrial sectors

3. Perception by SMEs of the support delivered by official institutions (EULER, Member State and EU levels) to their own processes of Research and Development.

INNOVATION

We would say the same **stated** for research and development. Thus, we propose:

1. Expenditure as percentage of total and for each of the groups identified above

2. Spending, in percentage of total, of the five most important sectors

3. Perception by SMEs of the support delivered by official institutions (EULER, Member State and EU levels)

4. New advanced management tools developed by SMEs (according to the different fields stated in Chapter III.1 of IDENTITY factor). To identify clear examples of this innovation applications at EULER's level

IDENTITY

1. Perception of quality in middle management (rating between 1 and 10)

2. Perception of knowledge of English to different levels of the company (three levels) by size and by sector (rating between 1 and 10)

3. Perception of application of advanced management tools, distinguishing between SME and large companies: (rating between 1 and 10)

Some examples of these advanced management tools are:

- Definition of strategy, planning and organization
- Design and product design capacity
- Value management
- Advanced techniques of production and development: Simultaneous engineering, Continuous improvement, Value analysis, Quality Function Deployment, flexible production, etc.
- Quality management systems (ISO, EFQM and others)
- Management function of supply and suppliers (purchasing global enhancement, suppliers evaluation, development and participation, etc).
- Participative management and motivation techniques: Communication, commitment, long-life training, internal careers development, change management, delegation of responsibilities, etc.
- Global chain of added value improvement, integral logistics.

4. Perception of level of education and training. (Rating between 1 and 10)

5. Perception of the availability of technology companies -production and ICT equipment. (Rating between 1 and 10)

6. Perception of the company culture. (Rating between 1 and 10)

Here it might be included:

- corporate values
- management style,
- communication,
- teamwork,
- result orientation,
- adapting to change

IMPACT

1. Percentage of total exports over total sales
2. Percentage of exports on total exports of SMEs (outside the EULER or outside the State)
3. Enumeration the five most important exporting sectors.
4. Perception of the actions of official entities to help companies to export (Rating between 1 to 10)
5. Perception of the actions of private entities to promote exports (Rating between 1 to 10)

INFRASTRUCTURE

1. Quality perception of the Logistics Infrastructures: roads, bearing in mind that you must pay tolls on motorways, railways, ports, airports ... as a facilitator of economic activity and a special way of export (grade 1 to 10)
2. Perception of the university training as a facilitator of economic growth (grade 1 to 10)
3. Perception of the vocational training (grade 1 to 10)
4. Perception of the facilities for collaboration with research centres, university or not (grade 1 to 10)
5. Perception of the financial facilities support to productive activity (public subsidies, the banking activity) (grade 1 to 10)
6. Availability and pricing of industrial land
7. Availability and prices of offices

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RG/FM/JF/JA