Knowledge Angels

Integrating Research Excellence for a Networked Knowledge Economy in Europe
Summary of the proposal for a Network of Excellence

Date of submission: 24. April 2003
Type of Instrument: Network of Excellence
Strategic objectives: Networked businesses and governments
Participants: 106 Organisations (315 individuals)

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Proposal Summary

Objective is to strengthen scientific and technological excellence in research on the Networked Knowledge Economy (NKE) by integrating the research capacities of individuals and organisations in a European research landscape. This is with the intention to advance the way research is carried out in Europe with respect to speed, quality, costs, innovation and impact, to overcome the fragmentation of the European Research Area and to provide a major contribution to the strategic goal set by the European Council to become the most competitive and dynamic knowledge-based economy in the world.

Knowledge Angels has defined 11 areas for integrating research and technological developments as short-, medium-, and long-term actions for RTD in the NKE

1. Emphasise Knowledge Advantage
2. Explore Winning Knowledge Strategies, Competencies and Leadership
3. Establish Flourishing Knowledge Environments
4. Learn about Knowledge Networks, Connections and Community Dynamics
5. Design Enhanced Knowledge Flows
6. Mobilise Knowledge Activity
7. Stimulate Knowledgeable People
8. Unlock Technological Potential
9. Develop Mechanisms for Harvesting Knowledge
10. Ensure Quality of Knowledge Efforts
11. Measuring and Managing Intellectual Capital

Knowledge Angels will also

- initiate the discussion on a common, trans-disciplinary theory of science on research in the NKE, for the purpose of achieving an integration of related disciplines
- achieve a closer co-operation between industry and academia
- exploit and compare research already made on topics relevant to the NKE across countries, regions and cultures in Europe and to unlock the potential of European diversity
- encourage positive action in terms of gender integration in all aspects of the project
- concentrate the virtual interaction of researchers on a central infrastructure platform (KnowledgeBoard.com)
- provide overview and common access to various information repositories
- make accessible facilities to researchers in Europe, and provide an arena for innovations
- connect individuals, organisations and networks for spreading excellence and knowledge on the NKE widely
Objectives of the Network

Knowledge Angels are starting off from two beliefs:

1. The future of value creation in Europe is based on knowledge and intangibles.
2. Value will be created by networked individuals and organisations.

It with this thinking that we formulate our mission statement

To strengthen scientific and technological excellence in research on the Networked Knowledge Economy by integrating the research capacities of individuals and organisations in a European research landscape.

This is with the intention to advance the way research is carried out in Europe with respect to speed, quality, costs, innovation and impact, to overcome the fragmentation of the European Research Area and to provide a major contribution to the strategic goal set by the European Council in Lisbon for Europe to become the most competitive and dynamic knowledge-based economy in the world by 2010.

In order to reach this objective, we will pursue the following sub goals:

1. To co-ordinate and integrate the members’ research activities in 11 areas of research and technological development (RTD Areas) as shown in Figure 1.

2. To initiate discussion on a common, trans-disciplinary theory of science on research in the “Networked Knowledge Economy” (NKE), and corresponding methodologies, for the purpose of achieving an integration of related disciplines.

3. To achieve a closer co-operation between industry and academia, in order to “flatten the Ivory Tower of Research” and “bring to light the hidden treasures of experiences” of industry for improving the quality of research and learning on both sides.

4. To exploit and compare research already made on topics relevant to the Networked Knowledge Economy across countries, regions and cultures in Europe and to unlock the potential of European diversity.

5. To encourage positive action across all aspects of the project in terms of gender integration and to promote equal opportunities for women in the research, evaluation, consultation and implementation processes being undertaken.

6. To concentrate the virtual interaction of researchers on a central infrastructure platform (KnowledgeBoard.com) to facilitate communication, co-operation and exchange of data and information.

7. To provide an overview and access to all activities, repositories, experts, developments, technologies, etc. relevant to research in the Networked Knowledge Economy.

8. To identify available facilities, make them accessible to researchers in Europe, and to provide an arena for innovations in, and visions on the development of the Networked Knowledge Economy.

9. To support dissemination of research outcomes of Knowledge Angels NoE to both research and practice; and to provide researchers with educational activities and resources that allow them to develop competencies required for open networking and sustainable integration.

10. To establish open relationships among the manifold stakeholder within and outside of the network and to connect to individuals, organisations, and networks in a living systems approach.

11. To run a strong marketing campaign in order to raise awareness about the activities of the network and promoting its activities and results.
12. To plan and organise a series of **events** in order to bring together like-minded people through physical and virtual means for sharing and exchanging ideas, research results and experiences.

**Figure 1:** Knowledge Angels areas for joint research and technological development (RTD Areas)

With all this, our **vision** is:

*To make Europe lead the way in research on the Networked Knowledge Economy and thus to create sustainable economic growth with more and better jobs and greater social cohesion.*
Workplan

Figure 2 depicts the envisaged Knowledge Angels NoE integration philosophy. The model was adopted from Tuckman’s [Tuckman, 1965] stages of team development. Each year the Knowledge Angels NoE shall progress towards integrating the network more and more, until resulting in an integrated European team of researchers and organisations who do collaborative, coherent and excellent research in the area of the Networked Knowledge Economy in Europe. As the Knowledge Angels NoE aims at a 5 year duration of the project, each year is dedicated to one of the phases of team development. The only difference to the original model of Tuckman is the addition of a last phase, which is “Sustaining”.

![Figure 2: The Knowledge Angel’s integration roadmap](image)

The following explains how the Knowledge Angels’ NoE Joint Programme of Activities (JPA) and the respective work packages (WPs) are in principle structured. Figure 3 shows the logical structure of a common JPA.

![Figure 3: The Joint Programme of Activities](image)
Figure 4 provides an overview of the defined work packages within the Knowledge Angels NoE. Each work package is broken down in 1 up to 4 tasks for each year of the 5 years project duration. A brief description of objectives is given in the following.

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**Figure 4: Work package overview**

**WP 1 - Trans-disciplinary Integration:**
It is recognized, that knowledge is gaining increasing importance for a dynamic and networked economy. To aid Europe in its shift from a primarily resource-based view economy to a knowledge-based one it is the aim of this activity to at least initiate and drive the discussion on a common, trans-disciplinary theory of science on research in the “Networked Knowledge Economy” (NKE). Further, it is the aim to accompany this integration of theories and disciplines by identifying, evaluating and comparing suitable methodologies. This should then be implemented in running and future research projects, but should also find their place in the education of new researchers and European citizens. This activity implies an at least partial integration of complementary disciplines, and therefore also a need for new rules of conduct in academic institutions e.g. increasing the focus on collaboration and cooperation.

**WP 2 - Industrial & Academic Integration:**
The quality of research either in academic institutions or in industry has achieved considerable results over the last years. However, both sides often criticize each other: “Academics only sit in their ivory towers, and are far away from industrial practice!” and “Companies do not open up their organisations, in order for researchers to bring to light the hidden treasures of practical experience!”. It is the aim of this activity to identify good practices of academic and industrial co-operation in Europe, analyse them, and transfer them to other European regions. Further, it is the aim to achieve the agreement on a memorandum between academia and industry, by jointly defining rules of engagement in which companies and
academic research institutions jointly support their mutual collaboration, in order to improve the links between both.

**WP 3 - European Integration:**
The European diversity of cultures, languages, nationalities etc. is often considered to have a great potential for creative problem solving, and innovative product development. This diversity, however, should somehow be channelled and integrated in order for Europe to be able to make use out of it. Therefore, this activity aims at exploiting and comparing the research already made across countries, regions and cultures on topics relevant to the “Networked Knowledge Economy”, with the intention to collect and analyse them with respect to their commonalities and differences. These shall then be reflected, in order provide recommendations for researchers and companies how to make use of the European diversity.

**WP 4 - Gender Integration:**
In networked knowledge economy ‘knowledge’ is considered to be the prime resource. Though research on aspects related to the networked knowledge economy has never made a difference of genders, the Knowledge Angels NoE strives for a higher integration of the genders with the aim to increase the number of female researchers in the European Research Area. With currently existing technologies, and those that are to come, it is expected that it will be possible to do research work in a more flexible way as now. Research can then be done from any place e.g. from home, so that an integration of family life and research work could be realised. In this activity the Knowledge Angels NoE wants to collect data from current integration initiatives, identify existing barriers, link with gender equality networks and identify transferable good practices. Further, it will be the aim to initiate gender integration activities into marketing, dissemination and educational activities so as to ensure explicit references are made to the various dimensions of the project and to trigger future interest of women knowledge workers in schools and universities.

**WP 5 - Workspace Integration:**
It is common practice of researchers to have their own isolated workspaces in which collected data and information is stored, so that getting access to it is very difficult. Further, some researchers, due to limited resources, do not have the infrastructure to co-operate with others. The Internet offers innumerable possibilities of communication and data storage. The IST-project “European KM Forum” has shown with great success and acceptance, that a common digital platform supports the integration of researchers from different countries, cultures and research disciplines at relatively low costs. The overall aim of this activity is to digitally concentrate the workspaces of researchers on a central platform to facilitate communication, co-operation and exchange of data and information. Building on the success of the “European KM Forum” the Knowledge Angels NoE envisions to continue this work and expand it beyond the research arena of Knowledge Management towards research on the Networked Knowledge Economy. For that purpose new requirements will have to be gathered, and new functionalities will have to be implemented. Beyond that, a business plan for the Knowledge Angels NoE ICT infrastructure shall be developed in order to ensure its self-sustainability after the projects duration.

**WP 6 - Picturing, Connecting and Guiding the Research Landscape:**
Research in the field of the Networked Knowledge Economy is scattered and fragmented, and it is hardly possible to obtain a single point of access to the matter, due to the diversity of research disciplines involved. Therefore the baseline for this activity along the duration of the project will be to provide an overview of all activities, repositories, experts, developments, technologies etc. relevant to the “Networked Knowledge Economy”. A marketplace shall be set up to bring together finished projects, new project ideas and interested researchers and companies, with the aim to exploit the existing and to avoid the “re-inventing the wheel” effect. The collection of raw data shall be coordinated in future projects, meaning e.g. that not every new project needs to develop a new “state-of-the-art on …”, but that new projects could simply build upon the state-of-the-art provided by already running projects. Another example would be the coordination of interviews related to “barriers of managing…”. It shall also be possible to identify subject matter experts more easily, and to analyse, explore and exploit already collected data e.g. by text and data mining technologies. The generated maps and the marketplace shall then be freely accessible by researchers of all disciplines.

**WP 7 - European Innovation Park:**
Many research institutions across Europe often have similar foci and objectives, and therefore often tend to develop similar tools or services. Further, it is not very transparent for outsiders to now “who does
what” and “where can I best do research on...”. The aim of the Knowledge Angels NoE in this activity is therefore to identify available facilities, make them accessible to researchers in Europe, and to provide an arena for innovations in, and visions on the development of the “Networked Knowledge Economy”. This partially virtual and partially physical “European Innovation Park” shall integrate the European research facilities and services for the Knowledge Angels NoE topics. Beyond that, the European Innovation Park shall incorporate a Vision Tank, consisting of high level experts and thought leaders, who shall discuss relevant topics and provide their visionary input and ideas to the researchers in the field. At the same time the European Innovation Park shall run a Creativity Tank consisting of diverse researchers from across all related disciplines, however not limited to only traditional ones but unconventional ones such as e.g. art, architecture etc. Besides aiming at an integrated, virtual/physical, and regionally distributed research lab, the Knowledge Angels NoE further aims at providing supportive funds for mini-projects, allowing researchers to play around or experiment with new ideas, that emerged from either the RTD Areas of the Joint Research Activities Programme, or from the Creativity Tank.

**WP 8 - RTD Area 1 – Emphasize Knowledge Advantage**

The objective is to identify the European research landscape on knowledge advantage during the forming phase. The overall goal in this phase is to involve the relevant people, to identify relevant research in organisational and management theories such as resource-based view, or knowledge-based view of the firm. The objective of the second year (“Storming”) is to develop a baseline version of the “Guide for Exploiting the Knowledge Advantage”.

**WP 9 - RTD Area 2 – Winning Knowledge Strategies, Competencies and Leadership Style**

The objective is to identify the European research landscape on KM strategy. The overall goal in the first year is to involve the relevant people, to identify relevant approaches on KM strategy, knowledge based competencies and leadership styles as well as on organisational theory concerning living systems. The objective of the second year (“Storming”) is firstly to identify of the real needs and requirements of living social systems concerning strategy development and implementation. Secondly, the different approaches of existing theories on emerging/evolving knowledge strategies in living systems identified in the first phase will be analysed. Thirdly, the influence of individual and organisational knowledge competencies and leadership style on strategy development will be investigated.

**WP 10 - RTD Area 3 – Establish Flourishing Knowledge Environments**

The objective of RTD Area 3 is to identify the key drivers and preconditions of different Knowledge Eco-systems (e.g. within/across large enterprises, SMEs, governmental institutions, etc.), to consolidate and integrate European research in that area, to develop case studies, and to develop means to support these Knowledge Ecosystems (e.g. technologies, methods, guidelines, etc.).

**WP 11 - RTD Area 4. – Knowledge Networks and Community Dynamics**

The objective of RTD Area 4 is to consolidate and integrate European research in the area of knowledge-related networks. It aims to identify the means to support knowledge-related networks and to develop case studies. It envisages to develop a taxonomy of different types of knowledge-related net-works and communities, identify their building blocks, and investigate the factors that enable or inhibit their efficient and effective formation and operation. This data will be used in order to identify methodologies, organisational techniques and ICT tools that can enhance the enablers and reduce the impact of inhibiting factors and develop guidelines for sustaining knowledge-related communities and networks in Europe.

**WP 12 - RTD Area 5 – Design Enhanced Knowledge Flows**

The objective of RTD Area 5 is to explore and realise the potential for inter-operability and integration of existing methods related to people, processes and knowledge in order to understand, analyse and design enhanced knowledge flows in value networks.

**WP 13 - RTD Area 6 – Mobilise Knowledge Activities**

The objective of RTD Area 6 is to consider the requirements of mobile knowledge activities and develop guidelines and recommendations on methods, tools, technologies, policies and practices for the realisation of innovative, mobile KM systems and management approaches. Research outcome is targeted at ICT hard- and software developers, policy makers, and managers of private and public knowledge intensive organisations.

**WP 14 - RTD Area 7 – Stimulate Knowledgeable People**

The objective of RTD Area 7 is to investigate how individuals and organisations can interact in the best
manner so to increase motivation and improve both the individual’s contribution to the organisation’s wealth and the organisation’s contribution to the individual’s satisfaction. Within this goal it will integrate European research activities for developing guidelines in the area HR practices, organisational culture, creativity, and the role of ICT for knowledge workers motivation.

WP 15 - RTD Area 8 – Unlock Technology Potential
The objective of RTD Area 8 is to unlock the potential of information, communication, and knowledge technologies by intertwining emerging and existing technologies and their ethical, social, and psychological application requirements into sustainable, socio-technical systems development. Technologies to be addressed include multi-agent systems, content management, case-based reasoning, ontologies, semantic web, Grid computing, as well as CSCW.

WP 16 - RTD Area 9 – Develop Mechanisms for Harvesting Knowledge
The objective of RTD Area 9 is to merge, enhance and evaluate basic technologies for harvesting knowledge as there are data, text and Web mining techniques, text analysis, and visualisation techniques. This is with the aim to capitalise knowledge flows and automatically understand content structure in data, text and multimedia content in person to person and person to document communication.

WP 17 - RTD Area 10 – Quality of Knowledge Efforts
The objective of RTD Area 10 is to play an integrating role across the RTD Areas and to build bridges towards standardisation and policy initiatives in the field of the Networked Knowledge Economy in order to provide reference models to European organisations. It will monitor current trends and the work in the RTD Areas and will stimulate initiatives for standardisation.

WP 18 - RTD Area 11 – Intellectual Capital
It is the objective of RTD Area 11 to establish a European framework on Intellectual Capital Transparency Governance and to apply and evaluate it for win-win socio-economic advantage. This shall enable Europe to lead the way in transparent value creation in a Networked Knowledge Economy.

WP 19 - Education Academy:
The Education Academy will be a place students, lecturer, researcher but also European citizens can turn to in order to learn about the Networked Knowledge Economy, or to simply inform themselves about current activities in the area. This place shall be based on co-operation among leading educational institutions, that share their curricula (or parts of it), education material or even lecturer. Materials should be made public to the co-operating institutions in order to be compared. The idea behind it, is not to identify the “best”, but to support other institutions in improving the quality of educational material. Depending on gaps these institutions identify, new material or curricula elements will be jointly developed and continuously fed back into running courses. Along with that, and due to the insights that will be obtained in “Activity 1 – Trans-disciplinary Integration” new rules of conduct will have to be elaborated in order to achieve an efficient and effective transfer of knowledge from teachers to classes, teachers to teachers and possibly from classes to classes. In the first phase of the project the viability of a virtual academy will be analysed, and, if proven viable, the development of it will be fostered and supported.

WP 20 - Network Relationship Management:
The Knowledge Angels NoE is a space in which researcher, practitioners and European citizens shall have the possibility to freely and openly interact with each other. Nevertheless, a clear networking and communication strategy will have to be set up, in order to best communicate the efforts of the network, and to draw the attention of relevant stakeholders to the network. This strategy must follow the overall goals of the project, but also be adaptable to changes that might emerge. Ambassadors will be nominated to function as linking pins between other networks, that might be similar or complementary to the Knowledge Angels NoE. The collaboration with other networks and communities will not be limited to the European area (regional networks, language specific networks etc.), in order to not lose the opportunity to profit from the expertise outside Europe. To focus the communication within the network and to allow non-members to interact with the network of researcher, special interest groups (SIGs) will be set up and facilitated. This instrument has already proven great efficiency during the IST-Project “European KM Forum”.

WP 21 - Marketing & Dissemination:
To attract more people to the Knowledge Angels NoE, and to present the network achievements to a greater public, professional marketing activities and dissemination material will have to be produced.
These will then serve the purpose of spreading the intentions and achievements of the network either internally among the members, as well as externally to the greater public. It will be a major goal to achieve high informational impact to masses, whereas Activity 20, with its Ambassadors and SIGs will allow for a more specific communication and negotiation (e.g. with policy makers, trade associations etc.).

**WP 22 - Events:**
Events will focus on face-to-face interactions between researcher, leading experts, and other stakeholders. Gatherings of various kinds (e.g. Knowledge Cafés, workshops, conferences) will be organised according to a previously defined strategy. This being complemented by annual events of the Knowledge Angels NoE and a yearly summer school. These gatherings and events will take place at different locations across Europe in order to allow as much researcher, experts and European citizens (should it be open to public) to participate, without having to much travel expenses. Summer schools have proven to have high impact since these allow for a close and intensive interaction between PhD students and subject matter experts. Summer schools also offer a good platform for the initiation of alumni networks consisting of young researchers who will stay in closer contact over the duration of their professional careers, and eventually also on a private basis.
**Organisation of the project**

The project management approach considered for the Knowledge Angels NoE is based on the previously described organisation of the JPA and on management plans and techniques which have been used successfully for previous international projects. The primary aim of this management structure is to match the network organisational structure and decision-making mechanisms to the complexity of the network and to the degree of integration required. Network organisation and management structure are designed to foster both self-organisation and the achievement of the goals of the JPA through integrated research activities.

Therefore, project management will be performed by an **Integration Office** which has the major task to facilitate and support the NoE activities according to the achievement of its goals. Within the RTD Areas, the management of specific RTD Area research and integration goals will be carried out by the **RTD Area Facilitators**. Furthermore, a **Governance Council** consisting of all RTD Area Facilitators, the Integration Office Members and one representative of all SIGs will be set up which is aimed to decide about strategic directions for the whole NoE concerning research activities. An **Advisory Board** will help the NoE to assess and reflect its activities continuously. Figure 11 shows the elements and leading roles within Knowledge Angels NoE management. The individual elements are described in the following sections:

![Figure 5: Management and organisation structure for a network acting as a living system](image-url)
New Participants

The KA network is open to new members

- Applicants must show excellence in the area of the network
- This is defined not only by proven record of research and reputation, but also and equally by connectivity, active participation, commitment to integration, commitment to KA values, and more
- Formal membership is limited to organisations (due to EC rules)
- Open to interact and share its results and knowledge with the whole of Europe
- This includes both individuals and organisations

The proposal has been submitted on 24th of April 2003. Provided the evaluation will be successful and you are interested in participating you should do the following:

Write an email to Frithjof Weber: web@biba.uni-bremen.de

In a first step you will then be asked to

- Specify what you want to contribute to which RTD area
- What you expect to gain from your participation
- What other work packages (except the RTD areas WP 8-18) you are interested to work in

In a second step of the post nomination you will be asked to

- Discuss with the respective RTD Area Facilitators how to integrate your research work
- Commit your organisation by sending a letter of commitment (template will be sent through)
- Send an A2 Form (template will be sent through)

Comprehensive further information can be found at KnowledgeBoard in the Knowledge Angels Special Interest Group at:

http://www.knowledgeboard.com/community/ zones/sig/angels.html