Final evaluation of the Regions of Knowledge 2007-2013 (FP7) Programme

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Abstract

The Regions of Knowledge 2007-2013 (RoK) Programme was created to strengthen and develop research and innovation excellence in EU regions. Hence, the RoK focused on fostering regional growth and competitiveness, on enhancing regional investment in research and innovation, on facilitating transnational cooperation of clusters, and on supporting the emergence of European networks on the global stage. Furthermore, RoK tried to foster the inclusion of more regions into the ERA.

This final evaluation of RoK, carried out by COWI, looks into the questions of the programme’s relevance, efficiency, effectiveness, and the impact and sustainability in achieving this aim. It does this through a desk study, a questionnaire survey of RoK-project coordinators, and ten case studies of selected projects.

The evaluation concludes that RoK has been a successful programme, although there are some risks regarding the sustainability of the RoK achievements.
Executive summary

This final evaluation of the Regions of Knowledge (RoK) Programme, which was created to strengthen and develop research and innovation excellence in EU regions in the period 2007-2013, has been carried out by COWI during January-April 2014.

Through a standard triangulation approach involving desk research, a questionnaire survey that was sent out electronically to the project coordinators of RoK-supported projects, and case studies for ten selected RoK-supported projects, this report looks into questions of the programme’s relevance, efficiency, effectiveness, and the impact and sustainability in:

- strengthening and developing research and innovation excellence in all EU regions;
- fostering regional growth and competitiveness;
- enhancing regional investment in research and innovation;
- facilitating transnational cooperation of clusters;
- supporting the emergence of European networks on global stage; and
- integrating actors into the ERA

These objectives have been promoted by encouraging the development of regional, innovative clusters, entailing the collaboration of triple helix actors – i.e. collaborations that associate universities and research centres with enterprises and regional authorities.

Relevance

The relevance assessment is about whether the RoK interventions have been pertinent to the problems and objectives targeted by the programme.

The questionnaire survey reveals that well over half (62%) of the respondents deem their RoK project of ‘high relevance’, compared to only 10% which considered their RoK projects to have ‘no or low relevance’.

Also the case studies point to a high degree of relevance of the RoK programme. Not just at a regional level, but also at a transnational and even global stage, the RoK projects have collectively succeeded in the achievement of all of the abovementioned objectives.

In this way, RoK has proven to be a unique and relevant programme at both regional and European level, addressing a real and previously unmet need for awareness and funding for projects, which are aligned with Smart Specialisation strategies and which are pertinent to issues of research and innovation excellence at a national and international level. Considering that Smart Specialization strategies is a fairly novel policy tool, it is also worth noting that the final evaluation indicates how Smart Specialization has benefitted greatly from the RoK programme, both in scale and scope.

Efficiency

The assessment of efficiency concerns the research achievements – qualitative and quantitative – in relation to the inputs. Furthermore, it was important for this evaluation to assess to which extent these achievements were dependent on RoK support.

The questionnaire survey showed that 90% of the project coordinators found that the RoK programme was ‘efficient’ or ‘very efficient’ and indicate that especially collaborative activities, data-collection and implementation processes have been efficient.
Furthermore, the case studies tell a story of a huge regional potential which has been unlocked by participation in the RoK programme. Many project coordinators report that although some of the projects have struggled due to lack of alternative funding and have definitely depended on the RoK support to achieve their objectives, the RoK funding has not only been instrumental in realizing the innovation and knowledge potential of their region – and others – but has acted as a catalyst or a ‘legitimization’ for alternative sources of funding.

In this way, RoK has been efficient in terms of returning benefits and achievements in the core focus areas. Although it is considered too soon to give qualified comments regarding the efficiency of the RoK projects, this final evaluation indicates that there has been a great return on the funds invested in the projects.

**Effectiveness**

The effectiveness criterion of this evaluation concerns the extent to which the RoK programme has attained its specific objectives and achieved its intended results.

In the questionnaire survey, 76% of the project coordinators respond that both the RoK programme and the individual projects have achieved the intended goals. Furthermore, the survey shows that 85% of the respondents assess that both the RoK programme as such and their individual RoK projects have been ‘effective’ or ‘highly effective’ in meeting their intended objectives.

Although many project coordinators claim that further implementation of the projects is needed to be able to assess long-term effectiveness, there has been an increase in the establishment of new relationships and/or R&D partnerships – especially at a European level; and especially relationships with public authorities, universities and public research institutes have increased.

The case studies have also addressed issues of effectiveness and point similarly to a high success rate of achieving results stemming from participation in the RoK programme. Many project coordinators especially highlight the establishment of research-driven clusters, fostering transnational collaboration between triple helix actors, as well as exchange of knowledge and ‘best practices’.

Finally, there are indications in both the questionnaire survey and the case studies, that there is a need as well as a wish for further involvement of the private sector such as SMEs, and this might therefore be an area suitable for further development.

In this way, it is concluded that the RoK programme and its projects have been effective in meeting their intended objectives, both on a regional, transnational and European scale.

**Impact and sustainability**

The evaluation of the RoK programme’s impact and sustainability centres on the extent to which the research results have led to wider effects and the extent to which these wider effects are likely to last after the RoK-funded activities have terminated. The questionnaire survey results indicate that the five most important RoK impacts are:

- Enhanced knowledge of R&D needs in the sector of the cluster
- Strategic inputs to regional policy-making
- Establishment of a critical mass between RoK partners for R&D projects
- Enhanced reputation and image of participation organisations within their regions
- Enhanced public awareness on the benefits of research-driven clusters in the regions
Regarding ‘exchange of best practices’, ‘access to complementary competences’ and ‘visibility’, the RoK programme scores an average of 70% in ‘higher benefits and added value’.

The case studies show that the RoK programme and its supported projects have excelled in establishing new relationships, creating awareness and put activities within research, innovation and knowledge on the regional agenda.

In this way, the RoK programme is expected to have lasting impacts on the core areas of its supported projects. Furthermore, many future activities are already planned, suggesting that the relationships and initiatives will be sustainable long-term. However, since only 38% of the project coordinators report that their projects will continue after the termination of the RoK programme, the need for regional, national and European-level investment is significant and necessary if the impacts of RoK are to be maintained and developed in the long term.

**Recommendations**

The above assessments of RoK’s relevance, efficiency, effectiveness, and its impact and sustainability give rise to a number of recommendations. Since this final evaluation acknowledges that the RoK programme is coming to a halt, the recommendations merely concern lessons learnt for future similar actions.

Regarding relevance: a recommendation is that the ‘relevance’ variable remain part of the evaluation at all stages, since it still lends insights into the nature of the programme which would otherwise remain undetected.

Regarding efficiency: a recommendation is to continue to support such efficient research-driven clusters that develop and strengthen research and innovation excellence in their regions should be kept a core focus of future actions. Furthermore, it should be acknowledged that many of the reported achievements of the RoK projects would not have been obtainable without support from the programme.

Regarding effectiveness: a recommendation is to build on the high overall effective RoK programme activities. Hence, continued focus should be on the participation of enterprises, which is valued as crucial by the project coordinators, and it is assessed to be valuable to develop the opportunities for collaboration of the triple helix actors further. This can be done through ensuring funding that makes it feasible for e.g. SMEs to engage in new relationships, or to employ new, open innovation business models. Either way, it must be recognised that the business sector works on a different time and pay scale than the other actors.

Regarding impact and sustainability: a recommendation is to ensure that future support programmes will focus on developing existing clusters rather than initiating new projects. This should partly be seen in the light of the fact that additional funding is required for the sustainability of the results obtained within the RoK programme. Hence, it is recommended that the next step of future programmes is to refocus attention to the internationalisation of national and regional clusters. In this way, the potential for research and innovation excellence which has been unlocked in the existing clusters will develop and spread at a transnational and European level, ultimately fulfilling the EU Innovation Union initiative where research and innovation drives competitiveness, jobs, sustainable growth and social progress.
Résumé
Cette évaluation finale du programme « Régions de la connaissance » (RoK), qui a été créé afin de renforcer et de développer l’excellence dans les domaines de la recherche et de l’innovation au sein des régions européennes au cours de la période 2007-2013, a été réalisée par COWI entre janvier et avril 2014.

Dans le cadre d'une approche standard par triangulation, qui comprend de la recherche documentaire, un questionnaire envoyé par voie électronique aux coordinateurs de projet des projets soutenus par le programme RoK et des études de cas pour une sélection de dix projets soutenus par le programme RoK, ce rapport examine la question de la pertinence, de l’efficacité, de l’efficience, ainsi que de l’impact et de la durabilité du programme dans les domaines suivants :

- renforcement et développement de l’excellence dans les domaines de la recherche et de l’innovation au sein de toutes les régions européennes ;
- stimulation de la croissance et de la compétitivité régionales ;
- accroissement des investissements régionaux dans la recherche et l’innovation ;
- facilitation de la coopération transnationale des « clusters » ;
- aide à la création de réseaux européens au niveau mondial et
- intégration d’acteurs dans l’EER

Ces objectifs ont été appuyés en encourageant le développement de « clusters » régionaux innovants, notamment des collaborations de type « triple hélice » – c'est-à-dire des collaborations qui associent des universités et des centres de recherche à des entreprises et des autorités régionales.

Pertinence
L’évaluation de la pertinence consiste à déterminer si les interventions du programme RoK ont été pertinentes par rapport aux problèmes et aux objectifs du programme.

Le questionnaire révèle que plus de la moitié des personnes interrogées (62%) considèrent que le projet RoK a été « très pertinent », contre seulement 10% qui considèrent que leurs projets RoK ont été « peu ou pas pertinents ».

Les études de cas soulignent également le niveau de pertinence élevé du programme. Non seulement au niveau régional, mais également au niveau transnational, voire mondial, les projets RoK sont généralement parvenus à atteindre les objectifs mentionnés ci-dessus.

A cet égard, RoK s’est avéré être un programme pertinent et unique aussi bien au niveau régional qu’à l’échelon européen, répondant à un besoin réel, jamais satisfait jusqu’à présent, de sensibilisation et de financement pour des projets conformes aux stratégies de spécialisation intelligente et pertinents par rapport aux enjeux d’excellence dans les domaines de la recherche et de l’innovation aux niveaux national et international. Les stratégies de spécialisation intelligente étant un outil politique relativement nouveau, il faut également noter que l’évaluation finale souligne à quel point ces dernières ont bénéfi cié du programme RoK, aussi bien en termes d’ampleur que de portée.

Efficacité
L’évaluation de l’efficacité consiste à examiner les résultats de recherche – qualitatifs et quantitatifs – par rapport aux efforts déployés. De plus, il était important de déterminer, dans le cadre de cette évaluation, dans quelle mesure ces résultats ont été liés au soutien du programme RoK.
Selon le questionnaire, 90% des coordinateurs de projet considèrent que le programme RoK a été « efficace » ou « très efficace » et soulignent que les activités de collaboration, la collecte de données et les processus de mise en œuvre ont été tout particulièrement efficaces.

De plus, les études de cas indiquent qu’un énorme potentiel régional a été libéré grâce à la participation au programme RoK. De nombreux coordinateurs de projet soulignent que même si certains projets ont connu des difficultés dues au manque de financements d’autre nature, et ont fortement dépendu de l’aide du programme RoK pour atteindre leurs objectifs, les fonds débloqués par le programme ont non seulement joué un rôle essentiel pour réaliser le potentiel d’innovation et de savoir de leur région – et d’autres –, mais ont également agi comme moteur ou source de légitimité pour d’autres sources de financement.

Ainsi, le programme RoK a été efficace en termes d’investissements et de résultats dans les principaux domaines cibles. Bien qu’il soit trop tôt pour formuler des observations qualifiées concernant l’efficacité des projets RoK, cette évaluation finale souligne l’excellente rentabilité des fonds investis dans les projets.

**Efficience**

Le critère d’efficience de cette évaluation consiste à déterminer dans quelle mesure le programme RoK à atteint ses objectifs spécifiques et obtenu les résultats escomptés.

Dans le cadre du questionnaire, 76% des coordinateurs de projet ont indiqué qu’aussi bien le programme RoK que les différents projets avaient atteint leurs objectifs. De plus, 85% des personnes interrogées considèrent que le programme RoK en tant que tel, tout comme ses différents projets, ont été « efficaces » ou « très efficaces » quant à la réalisation de leurs objectifs.

Bien que selon de nombreux coordinateurs de projet, il soit nécessaire de poursuivre la mise en œuvre des projets pour pouvoir évaluer leur efficience sur le long terme, les nouvelles relations et/ou nouveaux partenariats en R&D ont pris de l’ampleur – notamment au niveau européen, et plus particulièrement les relations avec les autorités publiques, les universités et les instituts de recherche publics. Les études de cas ont également examiné la question de l’efficience et soulignent un taux de réussite élevé quant aux résultats obtenus grâce à la participation au programme RoK. De nombreux coordinateurs de projet soulignent notamment l’établissement de « clusters » axés sur la recherche, qui encouragent des collaborations transnationales de type « triple hélice », ainsi que l’échange de connaissances et de « bonnes pratiques ».

Enfin, le questionnaire tout comme les études de cas indiquent la nécessité, pour le secteur privé tel que les PME, de participer davantage, ainsi que des souhaits en la matière ; il pourrait donc s’agir d’un domaine à renforcer.

En conclusion, le programme RoK et ses projets ont été efficaces dans la mesure où ils ont atteint leurs objectifs aux niveaux régional, transnational et européen.

**Impact et durabilité**

L’évaluation de l’impact et de la durabilité du programme RoK consiste à déterminer dans quelle mesure les résultats de recherche ont permis de renforcer l’impact du programme et dans quelle mesure cet impact renforcé est susceptible de se maintenir après la fin des activités financées par le programme. Selon les résultats du questionnaire, les cinq principaux points d’impact du programme RoK sont les suivants :
• Connaissance accrue des besoins en R&D dans le secteur du «cluster»
• Contribution stratégique à l’élaboration des politiques régionales
• Établissement d’une masse critique entre les partenaires du programme RoK pour les projets de R&D
• Amélioration de la réputation et de l’image des organismes participants au sein de leurs régions
• Sensibilisation du grand public aux avantages de «clusters» axés sur la recherche au sein de leurs régions

Concernant «l’échange de bonnes pratiques», «l’accès à des compétences complémentaires» et «la visibilité», une moyenne de 70% des personnes interrogées considèrent que le programme RoK a apporté «de grands avantages et de la valeur ajoutée».

Les études de cas soulignent que le programme et ses projets correspondants ont permis d’établir de nouvelles relations, de sensibiliser et d’intégrer au programme des régions des activités dans les domaines de la recherche, de l’innovation et de la connaissance.

Le programme RoK devrait ainsi avoir un impact durable dans les principaux domaines de ses différents projets. De plus, de nombreuses activités sont déjà prévues à l’avenir, ce qui suggère que les relations et les initiatives seront durables sur le long terme. Cependant, étant donné que seuls 38% des coordinateurs de projet indiquent que leur projet se poursuivra au-delà du programme RoK, il est important et nécessaire de veiller aux investissements aux niveaux régional, national et européen, afin de maintenir l’impact du programme RoK et de le renforcer sur le long terme.

Recommandations

L’évaluation ci-dessus de la pertinence, de l’efficacité et de l’efficience du programme RoK, ainsi que de son impact et de sa durabilité, donne lieu à plusieurs recommandations. Cette évaluation finale confirmant que le programme RoK s’arrête, les recommandations concernent uniquement les enseignements tirés pour de futures actions semblables.

Concernant la pertinence : l’une des recommandations est de s’assurer que la variable «pertinence» continue de faire partie de l’évaluation à tous les stades, car elle donne une idée de la nature du programme, qui serait sinon insoupçonnée.

Concernant l’efficacité : l’une des recommandations est de continuer à soutenir les «clusters» axés sur la recherche, qui développent et renforcent l’excellence dans les domaines de la recherche et de l’innovation au sein de leurs régions, qui resteront au cœur des futures actions. De plus, il faut souligner qu’une grande partie des résultats des projets RoK n’aurait pas été obtenue sans l’aide du programme.

Concernant l’efficience : l’une des recommandations est de capitaliser sur les activités globalement très efficientes du programme RoK. Ainsi, il faut continuer de mettre l’accent sur la participation des entreprises, qui est considérée comme essentielle par les coordinateurs de projet, et utile pour développer les opportunités de collaboration de type «triple hélice». Pour ce faire, il faut garantir des financements qui permettent aux PME, par exemple, d’établir de nouvelles relations ou d’utiliser de nouveaux modèles d’activité ouverts dans le domaine de l’innovation. Dans tous les cas, il faut tenir compte du fait que le secteur privé opère à une autre échelle en termes de temps et d’argent par rapport aux autres acteurs.
Concernant l’impact et la durabilité : l’une des recommandations est de s’assurer que les futurs programmes d’aide aient pour objectif de renforcer les « clusters » existants, et non de lancer de nouveaux projets. Et ce, notamment compte tenu du fait que des fonds supplémentaires sont nécessaires pour assurer la durabilité des résultats obtenus dans le cadre du programme RoK. L’une des recommandations est donc, pour les futurs programmes, de mettre l’accent sur l’internationalisation des « clusters » régionaux et nationaux. Ainsi, le potentiel d’excellence dans les domaines de l’innovation et de la recherche qui a été libéré dans le cadre des « clusters » existants sera renforcé et transposé aux niveaux transnational et européen, ce qui permettra, au final, de remplir les objectifs de l’initiative « Innovation Union » de l’UE, où la recherche et l’innovation stimulent la compétitivité, l’emploi, la croissance durable et le progrès social.
Introduction

The final evaluation of the Regions of Knowledge 2007-2013 (RoK) Programme has been carried out by COWI during January-March 2014.

This evaluation report introduces the background for and purpose of the RoK evaluation, followed by a brief description of the adopted evaluation methodology. It then presents the findings from applying the two main methodological tools: a questionnaire survey and ten case studies. Based on an analysis of these findings and other information sources, answers to the evaluation questions are provided about the relevance, efficiency, effectiveness, and impact and sustainability of the RoK achievements. Finally, conclusions and recommendations are provided.

Background

The evaluation takes its outset in the overall aim of RoK, i.e. that it was created by the European Commission (EC) to strengthen and develop research and innovation excellence in EU regions. More precisely, RoK focused on fostering regional growth and competitiveness, enhancing regional investments in research and innovation, facilitating transnational cooperation of clusters and emergence of European networks on the global stage, and reaching inclusion of more regions into the ERA.

To achieve this aim, the EC allocated 126 million Euros to 79 RoK projects under the 7th Framework Programme (FP7). Hence, the average RoK project received around 1.5 million Euros in support from the EC. Most of these projects have been completed as of March 2014, while some of the projects funded via the last calls for proposals will not complete before the end of 2016.

The RoK calls have all pursued the establishment or strengthening of existing research-driven clusters that – in balanced partnerships in terms of ‘triple helix’ – associate universities and research centres with enterprises and regional authorities. This has been done under headings such as “facilitating the emergence of new clusters and mutual information”, “analysis, mentoring and integration of research actors”, “trans-national co-operation among NCPs (National Contact Point)” and “transnational cooperation between regional research-driven clusters”.

The RoK programme has through Coordination and Support Actions provided funding for activities\(^1\) such as:

- analysis, development and implementation of research agenda for regional or cross-border clusters;
- mentoring of regions with a less-developed research profile by highly-developed ones;
- initiatives to improve integration, such as increasing the research potential and researcher mobility, improving and sharing research and technological development infrastructure (RTD) infrastructure, supporting research projects, promoting and enhancing networking and knowledge transfer between research organizations and enterprises (in particular SMEs);
- initiatives for improving availability of and access to SME support services and private financing for RTD and outlining of a business plans – e.g. defining how to finance the joint action plan by using possibilities afforded at national/local level or at Community level (Framework Programmes, Structural Funds); and
- dissemination activities, such as conferences, workshops, publications, web-based initiatives.

Suitable participants were thus ‘consortia of regional research-driven clusters or a single research-driven cluster having multinational partnership’ – i.e. concentrations of research organisations (public research centres, universities, not-for-profit bodies), enterprises (large firms, SMEs), regional or local authorities (local government, regional development agencies), and appropriate local entities such as chambers of commerce, savings banks and banks, operating in a particular scientific and technological domain or economic sector.

A further and central background for this final evaluation is the reporting of an interim evaluation (impact assessment) carried out by Technopolis (2010). The questionnaire survey carried out within this final evaluation makes use of parts of the Technopolis questionnaire and its results from assessing the 42 first RoK projects funded by the EC in the period 2007-09. A noticeable conclusion from the Technopolis analysis is that the RoK programme was initially neither launched with clearly defined objectives nor with a well-defined approach defining how the objectives could be met. Furthermore, Technopolis found that the specific objectives, the activities and the thematic focus have considerably changed over the years with the RoK programme being gradually steered by the EC services towards a focus on excellence and existing research-driven clusters rather than including more regions in the ERA. In other words, Technopolis points to that it may be difficult to assess objective achievements of the RoK programme.

**Purpose**

Against this background, the overall purpose of this final evaluation is to provide the EC, DG RTD, with an evaluation report that fulfils the EC’s evaluation requirements\(^2\) regarding EC-funded research programmes. Hence, DG RTD is provided with evaluation results that are both retrospective in the sense that they assess whether or not RoK achieved what it set out to achieve, (although Technopolis claims that this issue is not fully clear), and prospective in providing lessons learnt for the planning of Horizon 2020 activities.

More specifically, the purpose of the final evaluation is to provide information on the relevance, efficiency, effectiveness, as well as the impact and sustainability of achievements under the RoK programme.

**Relevance** is about assessing the extent to which the RoK interventions have been pertinent to the problems described in the background section above.

It must, however, be acknowledged that the question of relevance at this ex post stage of the RoK programming cycle may be the least important to answer. This is due to the expectation that the question was thoroughly analysed at the beginning of the programming cycle, and when the different calls for proposals were designed. In other words, it is assumed that the relevance of RoK was confirmed at earlier stages.

In this context and as just mentioned, the Technopolis report questions the feasibility to assess relevance due to a gradual shift in the EC focus. Furthermore, this final evaluation – at least with regards to relevance – mainly sheds light on whether the supported RoK projects are in line with the research priorities/strengths of their respective regions.

**Efficiency** concerns the extent to which the desired effects were achieved at a reasonable cost. In other words, efficiency measures the research achievements – qualitative and quantitative – in relation to the inputs.

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\(^2\) See e.g. DG Budget (2004).
Within the context of an EU programme such as RoK, efficiency is particularly about the added value of the EU support. Hence, focus is on the extent to which the research achievements can be attributed to the support from the RoK programme as well as an assessment of whether the research achievements that would have been achieved anyway – e.g. through other funding sources. The issue of the counterfactual situation, or baseline development, used to assess the RoK results is important for all evaluation questions but it is directly addressed by the efficiency question – i.e. if the research achievements/results are not considered to be a consequence of the RoK input, this will also be the case for the research impacts.

Furthermore, since one of the objectives of RoK is to deal with a lack of access to funds by the targeted research actors, focus has been on assessing financial barriers and on how RoK has been efficient in overcoming these. Finally, the evaluation looks into the efficiency of RoK processes and procedures.

**Effectiveness** assesses whether the objectives set by RoK were achieved. In other words, RoK will be assessed to have been effective if it has attained its specific objectives and achieved its intended results. Hence, the finding of Technopolis of somewhat vague RoK objectives should again be kept in mind.

Focus is therefore, as already mentioned, on the contribution of RoK to foster regional growth and competitiveness, to enhance regional investment in research and innovation, and to facilitate transnational cooperation of clusters. More specifically, this final evaluation emphasises the establishment of research-driven clusters that – in balanced partnerships, termed ‘triple helix’ actors – associate universities and research centres with enterprises and regional authorities.

**Impact and sustainability** is about the extent to which the research results have led to wider effects and the extent to which these wider effects are likely to last after the RoK-funded activities have terminated.

Focus is therefore partly on assessing the likely success of the technology transfer process. This includes assessments of whether RoK-funded research activities have led to the internationalisation of regional research-driven clusters, and whether relationships with science and technology policy-makers have been improved. Furthermore, there is a focus on integration into the ERA – hereunder getting access to EU Structural Funds, and on how the research, innovation and technological advancements have contributed to the economic competitiveness of the respective regions of the research actors – hereunder having established links to Smart Specialisation strategies\(^3\).

In the widest context, the assessment of impact is about whether RoK projects are in line with aspirations of the EU’s Innovation Union\(^4\) initiative. This initiative underlines that research and innovation are key drivers of competitiveness, jobs, sustainable growth and social progress. It addresses exploitation issues like capabilities for innovation and dissemination and the enhancing of the use of the generated knowledge (e.g. protection of Intellectual Property rights).

**Methodology**

The methodology applied for this final evaluation follows a standard triangulation approach where the evaluation questions are answered on the basis of information

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originating from different sources. These sources are desk research, a questionnaire survey, and case studies.

**Desk research**

As mentioned several times already, the reporting from Technopolis (2010) provides much information for this final evaluation as it addresses most of the evaluation questions directly and assesses the added value from RoK. In other words, it provides assessments of the contributions of RoK to the generation of research achievements and so Technopolis has had to consider the counterfactual situation without any RoK support.

The analysis of comparator programmes and the interaction of RoK with other parts of FP7 and with the Competitiveness and Innovation Framework Programme (CIP) and the Structural Funds has, however, mostly relied on the findings of the Synergies Expert Group (DG RTD, 2011).

A contribution to the assessment of the relevance of the RoK projects comes also from reviewing the various RoK materials available through the websites of the EC or received from the EC. These include, for example, the documents connected with the different calls for proposals.

Finally, some of the written outputs from the supported projects have been reviewed. This has not been done in a systematic manner but merely in connection with analysing the selected case studies (see below).

**Questionnaire survey**

A questionnaire was developed and sent out electronically to the project coordinators of RoK-supported projects. This questionnaire took outset in the questionnaire used by Technopolis (2010), which also made it feasible to reuse the answers provided to this interim survey as a means of comparison. It should, however, be noted that Technopolis also received answers from project participants that were not project coordinators, resulting in the two sets of survey answers not being fully comparable. The final questionnaire covered, as shown in the analysis below, answers to the relevance, efficiency, effectiveness as well as impact and sustainability questions.

The questionnaire used for this final evaluation was not sent out to the first 41 projects already surveyed by Technopolis, since these project coordinators did not need to be bothered with the same questions again. Furthermore, it can be argued that the answers from this second group of respondents – from projects being implemented during 2011-14 – are comparable with the answers to the 2011 survey which concerned projects that were implemented during 2007-2010. In both cases, answers come from projects that have been under implementation for 1 to 3 years.

Hence, the questionnaire was sent out to 38 RoK project coordinators that had not been surveyed earlier. The project coordinators were given two weeks to respond, where-after non-respondents received a reminder, and the survey was finally closed around two weeks later. The final response rate was 52%, which is lower than preferred, but still high enough to infer some tendencies from the survey results.

**Case studies**

This final evaluation also investigates the achievement of the RoK objectives with the input of case studies for ten selected RoK-supported projects. Although it must be acknowledged that ten projects do not comprise a representative sample of the
RoK programme, they still contribute with valuable insight. To ensure a high degree of validity, the following selection criteria have been adopted:

- **Geography.** The aim was to cover projects with project coordinators from different EU Member States. As shown in Table 1 this aim was fulfilled.

- **Research theme.** Although the RoK programme focuses more on research tools/set-ups – i.e. research-driven clusters, rather than on the coverage of specific research themes, an attempt has been made to cover a variety of research themes. Note in this context that several of the RoK projects cover more than one research theme.

- **Project period.** Projects which received funding from the first calls for proposals were selected as they in particular might shed light on impacts and sustainability; and newer projects are selected as the project coordinators might have more present information about e.g. project implementation issues.

Finally, a number of projects have by DG RTD been considered to be “success stories”. Some of these projects, which also fulfilled the above selection criteria, were selected with the purpose of learning lessons about good ways of carrying out the given types of projects, good ways of achieving sustainable impacts etc. Hence, it can be argued that the value of the case studies especially comes from providing an understanding of concrete steps that helped the research actors who participated in RoK projects to climb up the technology transfer ladder.

### Table 1: Ten selected case studies

<table>
<thead>
<tr>
<th>RoK project: acronym</th>
<th>Geography</th>
<th>Research theme</th>
<th>Project period: start year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BRIDGE-BSR</td>
<td>Denmark</td>
<td>Biotechnology</td>
<td>2008</td>
</tr>
<tr>
<td>2. ICT WIELKOPOLSKA</td>
<td>Poland</td>
<td>ICT</td>
<td>2009</td>
</tr>
<tr>
<td>3. JADE</td>
<td>Italy</td>
<td>Medical/socio-economic sciences</td>
<td>2011</td>
</tr>
<tr>
<td>4. ROK-FOR</td>
<td>Finland</td>
<td>Energy</td>
<td>2010</td>
</tr>
<tr>
<td>5. ERDC</td>
<td>Slovakia</td>
<td></td>
<td>2008</td>
</tr>
<tr>
<td>6. TERM</td>
<td>France</td>
<td>Medical sciences</td>
<td>2010</td>
</tr>
<tr>
<td>7. BIOCLUS</td>
<td>Finland</td>
<td>Energy (biomass)</td>
<td>2009</td>
</tr>
<tr>
<td>8. AFRESH</td>
<td>Germany</td>
<td>Agriculture/socio-economic sciences</td>
<td>2010</td>
</tr>
<tr>
<td>9. REDICT</td>
<td>Netherlands</td>
<td>ICT</td>
<td>2008</td>
</tr>
<tr>
<td>10. REMCAP</td>
<td>UK</td>
<td>Environment</td>
<td>2012</td>
</tr>
</tbody>
</table>

The case studies were in practice carried out by sending a case study template to the selected RoK project coordinators by e-mail, who filled in the template in writing. These answers were then reviewed and where necessary, they were followed up by an e-mail or phone call to clarify selected issues.

### Questionnaire survey

As mentioned above, the questionnaire survey analysis builds both on answers to the survey carried out within this final evaluation and on the answers provided to the Technopolis (2010) survey. It is in the following tables made clear when answers from one or the other, or both, surveys are used.

Table 2 contains – as there is not complete information about this in the Technopolis reporting – only information from the final evaluation survey about
which main activities in the research-driven clusters which are covered by the responding projects and about the home country of the project coordinator.

The table also shows that there is an insufficient number of responses to be able to distinguish the answers in between main activities and in between country of project coordinator. Hence, this is refrained from in the following.

Table 2: Respondents to final evaluation questionnaire survey

<table>
<thead>
<tr>
<th>Main activity in the research-driven cluster</th>
<th>Number of respondents</th>
<th>Country of project coordinator</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancing public-private research and development collaborations</td>
<td>1</td>
<td>Austria</td>
<td>1</td>
</tr>
<tr>
<td>Implementation of public policies</td>
<td>4</td>
<td>Finland</td>
<td>1</td>
</tr>
<tr>
<td>Intermediary innovation activities</td>
<td>5</td>
<td>France</td>
<td>3</td>
</tr>
<tr>
<td>Policy-making activities</td>
<td>3</td>
<td>Germany</td>
<td>3</td>
</tr>
<tr>
<td>Regional economic development activities</td>
<td>1</td>
<td>Hungary</td>
<td>1</td>
</tr>
<tr>
<td>Research performance enhancements</td>
<td>2</td>
<td>Ireland</td>
<td>1</td>
</tr>
<tr>
<td>Service providing activities</td>
<td>4</td>
<td>Italy</td>
<td>2</td>
</tr>
<tr>
<td>Supplier activities</td>
<td>1</td>
<td>Poland</td>
<td>1</td>
</tr>
<tr>
<td>Dissemination activities</td>
<td>1</td>
<td>Spain</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sweden</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switzerland</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Netherlands</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UK</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total number of respondents</strong></td>
<td><strong>21</strong></td>
<td><strong>Total number of respondents</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

Source: COWI.

Relevance

Technopolis (2010) covered in its survey only to a limited degree the question of the relevance of the RoK programme. It did, for example, look into the relevance of the requirements for the selection of RoK projects. Table 3 shows that almost all respondents found the mentoring of institutions from less-developed region by institutions from more-developed regions to be a very relevant part of the RoK setup. Furthermore, most respondents found the participation of public authorities in the ‘triple helix’ balanced partnerships to be valuable. Finally, around two-third of the respondents see a relevance in the involvement of partners from other countries, which also means that around one-third of respondents found the transnational aspect of the RoK programme less important.
Table 3: Relevance of the requirements for the selection of RoK projects

<table>
<thead>
<tr>
<th>Selection requirements</th>
<th>Scores</th>
<th>Shares of scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement of partners from other countries</td>
<td>0-1</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>68%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>4%</td>
</tr>
<tr>
<td>Participation of public authorities</td>
<td>0-1</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>82%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>2%</td>
</tr>
<tr>
<td>Mentoring of less-developed regions</td>
<td>0-1</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>93%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Technopolis (2010).
Notes: Scoring system: 0 = irrelevant, 1 = mostly irrelevant, 2 = neutral, 3 = mostly relevant, 4 = highly relevant.

Table 4 shows that the respondents to this final evaluation survey assessed that RoK was very relevant in the context of regional priorities and strengths and thus that it is likely to be in line with Smart Specialisation strategies. As many as 62% (13 out of 21) of the respondents state that their RoK project is of ‘high relevance’. By comparison, only 10% (2 out of 21) of the respondents consider their RoK projects to have ‘no or low relevance’.

Table 4: Relevance of the RoK projects in the context of the research priorities/strengths of the region of the project coordinator

<table>
<thead>
<tr>
<th>Scoring system</th>
<th>Percentage</th>
<th>No of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not relevant</td>
<td>5%</td>
<td>1</td>
</tr>
<tr>
<td>Low relevance</td>
<td>5%</td>
<td>1</td>
</tr>
<tr>
<td>Average relevance</td>
<td>29%</td>
<td>6</td>
</tr>
<tr>
<td>High relevance</td>
<td>62%</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

Source: COWI.

Efficiency

The efficiency question is addressed to a limited degree only within the questionnaire survey, while it is more thoroughly covered by the below case studies. Focus in Table 5 is how the respondents perceive the overall efficiency of the RoK programme and their own projects, respectively.

Table 5 shows that 90% of the respondents (19 out of 21) found the RoK programme to be ‘efficient’ or ‘very efficient’. By comparison, 10% of the respondents (2 out of 21) found the programme to be ‘neutral’, whereas no respondents found the RoK programme to be inefficient overall. The distribution of scores is similar when it comes to the respondents’ assessment of their own efficiency in carrying out their respective projects.

A number of RoK project coordinators indicate that it has been especially efficient to enter into new collaborations, to gather valuable data and to engage in the implementation of new types of activities. However, many RoK project coordinators argue that it is a bit too soon to comment on actual efficiency, since many of the projects are still ongoing.
**Effectiveness**

While the above survey answers suggest that the RoK programme and projects have used the available financial and other resources efficiently, the important question remains whether the efficient activities have been effective in establishing research-driven clusters that engage in transnational cooperation, which contribute to enhancing regional investment in research and innovation and so to fostering regional growth and competitiveness.

Although Technopolis (2010) found that the RoK objectives were somewhat vaguely formulated in the material provided by the EC, Table 6 shows that most respondents to this final evaluation questionnaire survey, assess that both the RoK programme as such and their individual RoK projects have achieved their intended objectives.

**Table 6: Has the RoK programme/projects achieved the intended objectives?**

<table>
<thead>
<tr>
<th></th>
<th>RoK programme</th>
<th>RoK projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>No</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>No view</td>
<td>19%</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: COWI.

This conclusion can also be deducted from Table 7 which shows that most respondents assess that the RoK programme has been ‘effective’ or ‘highly effective’ in meeting its objectives. However, similarly to the efficiency question above, many project coordinators – responding to the final evaluation survey – claim that a further implementation of the projects is needed to be able to assess long-term effectiveness. This said, the establishment of new collaborative networks are particularly highlighted as positive outcomes of the RoK programme.
Table 7: Effectiveness of the RoK programme

<table>
<thead>
<tr>
<th>Effectiveness scores</th>
<th>Technopolis(1)</th>
<th>Final evaluation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not effective</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Not so effective</td>
<td>0%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Neutral (neither efficient nor inefficient)</td>
<td>0%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Effective</td>
<td>43%</td>
<td>52%</td>
<td>48%</td>
</tr>
<tr>
<td>Highly effective</td>
<td>55%</td>
<td>33%</td>
<td>44%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Technopolis (2010) and COWI.
Note: (1) Technopolis has used a slightly different scoring system, where e.g. “fully achieved objectives have been used instead of “highly effective”.

Figure 1 below describes in more detail the effects of the RoK programme and its respective projects. Whereas areas such as the ‘creation of competent and highly qualified experts/professors’, ‘applications for PhD positions’ and ‘requests to access new equipment’ are not assessed to have increased due to RoK funding, especially ‘the number of networking, collaboration and research network with other institutions’, participation in FP7 projects’ and ‘participation in EU level research activities’ is considered to have benefitted substantially from participation in the RoK programme.

Figure 1: Effects of the RoK programme and projects

Has there been an increase in participation by your organization/institution in FP7 projects following your experience in the RoK project?

Has there been an increase in the number of networking, collaboration, research network with other institutions from the start of the project to today?

Is there an increase in the number of applications for PhD positions due to the RoK project from students in the immediate region?

Is there an increase in the number of applications for PhD positions due to the RoK project?

Has there been an increase in the number of requests to access new equipment in your institution acquired with RoK funding?

Has RoK contributed to enabling your researchers to successfully participate in research activities at the level of the European Union?

Has RoK contributed to your institution in creating competent and highly qualified experts/professors?

Source: COWI.

In other words, the figure gives an overall picture of the effects of the RoK programme and the subsequent RoK projects, determining these to be mostly
effective regarding areas such as research collaborations, participation and networking activities.

The Technopolis report from 2010 covered additional aspects of the RoK programmes’ future effectiveness. Figure 2 shows the potential network and collaboration effects expected to arise from participation in RoK.

Network and collaboration effects are always difficult to assess, but in accordance with the objectives of the RoK programme and the selection criteria of the funded projects, the variables included an assessment of the expected network and collaboration effects, focusing on relationships and/or R&D partnerships with a variety of organisations: public research institutes, universities, SMEs, non-profit associations and large enterprises. Furthermore, since there are number of differences regarding whether the networking/collaboration takes place at European level, in between regions of your country or within your country, this distribution is also shown in Figure 2.

**Figure 2:** Potential network and collaboration effects

![Figure 2: Potential network and collaboration effects](image)


Figure 2 shows that most potential network and collaboration effects are expected at the European level. Especially partnerships with EU-level public research institutes, universities and public authorities are perceived as potential collaborators, though it should be mentioned that public authorities and SMEs are also perceived to be potential partners at a regional level.

Figure 3 represents the corresponding analysis from the final evaluation questionnaire. Much like the initial assessment provided by the Technopolis report, the final evaluation shows that in all the addressed areas, except for a few regions,
there has been an increase in the establishment of new relationships and/or R&D partnerships – especially at a European level. Just as presented in Figure 2 above, it is relationships with public authorities, universities and public research institutes which have increased the most. In brief, Figure 3 suggests an overall effectiveness of the RoK programme in meeting its specified objectives.

**Figure 3: Network and collaboration effects from participation in RoK**

<table>
<thead>
<tr>
<th>Establishment of new relationships/R&amp;D partnerships with public authorities</th>
<th>Within your region</th>
<th>At European level</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>76%</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Establishment of new relationships/R&amp;D partnerships with universities</th>
<th>Within your region</th>
<th>At European level</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>14%</td>
<td>5%</td>
<td>76%</td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Establishment of new relationships/R&amp;D partnerships with public research institutes</th>
<th>Within your region</th>
<th>At European level</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>71%</td>
<td>19%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Establishment of new relationships/R&amp;D partnerships with non-profit associations/foundations</th>
<th>Within your region</th>
<th>At European level</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>14%</td>
<td>57%</td>
<td>29%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Establishment of new relationships/R&amp;D partnerships with large enterprises</th>
<th>Within your region</th>
<th>At European level</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>19%</td>
<td>29%</td>
<td>43%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Establishment of new relationships/R&amp;D partnerships with small and medium sized enterprises</th>
<th>Within your region</th>
<th>At European level</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>29%</td>
<td>14%</td>
<td>33%</td>
<td>24%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Establishment of new relationships/R&amp;D partnerships with others</th>
<th>Within your region</th>
<th>At European level</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>14%</td>
<td>33%</td>
<td>43%</td>
</tr>
</tbody>
</table>

Source: COWI.

**Impact and sustainability**

Finally, the questionnaire has addressed issues of impact and sustainability of the RoK programme. Table 8 shows that the five most important RoK outcomes seem to be:

- Enhanced knowledge of R&D needs in the sector of the cluster
- Strategic inputs to regional policy-making
- Establishment of a critical mass between RoK partners for R&D projects
- Enhanced reputation and image of your organisation within your region
- Enhanced public awareness on the benefits of research-driven clusters within your region
### Table 8: Importance of RoK project outcomes

<table>
<thead>
<tr>
<th>Statements</th>
<th>Scores</th>
<th>Technopolis</th>
<th>Final evaluation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment of a critical mass between RoK partners for R&amp;D projects</td>
<td>0-1</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>14%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>79%</td>
<td>37%</td>
<td>58%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>4%</td>
<td>55%</td>
<td>30%</td>
</tr>
<tr>
<td>Strategic inputs to regional policy-making</td>
<td>0-1</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>81%</td>
<td>42%</td>
<td>62%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>1%</td>
<td>50%</td>
<td>26%</td>
</tr>
<tr>
<td>Creation of a new research-driven cluster within your region</td>
<td>0-1</td>
<td>10%</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>20%</td>
<td>3%</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>63%</td>
<td>16%</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>8%</td>
<td>66%</td>
<td>37%</td>
</tr>
<tr>
<td>Enhanced knowledge of R&amp;D needs in the sector of the cluster</td>
<td>0-1</td>
<td>3%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10%</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>85%</td>
<td>39%</td>
<td>62%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>2%</td>
<td>50%</td>
<td>26%</td>
</tr>
<tr>
<td>Enhanced knowledge on cluster management</td>
<td>0-1</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>25%</td>
<td>8%</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>68%</td>
<td>39%</td>
<td>54%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>2%</td>
<td>47%</td>
<td>25%</td>
</tr>
<tr>
<td>Enhanced R&amp;D capabilities in your organisation</td>
<td>0-1</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>24%</td>
<td>11%</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>52%</td>
<td>13%</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>7%</td>
<td>61%</td>
<td>34%</td>
</tr>
<tr>
<td>Enhanced knowledge on markets in project partners’ countries</td>
<td>0-1</td>
<td>9%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

Source: COWI and Technopolis (2010).

Notes: Scoring system: 0 = not important, 1 = less important, 2 = neutral, 3 = important, 4 = strong importance.

*All sums which differ from 100% are due to rounding of decimals.
In an additional attempt to describe the impact of the RoK programme, the questionnaire survey also investigated what the benefits and added value from the RoK programme has meant for the organisations taking part compared to other initiatives. As Figure 4 below shows there is a substantial increase in benefits and added value for the part-taking organisations, which stems from the RoK programme, compared to other initiatives and/or programmes. Especially regarding the ‘exchange of best practices’, ‘access to complementary competences’ and ‘visibility’, the RoK programme shows a highly significant impact, scoring an average of 70% in ‘higher benefits and added value’.

**Figure 4:** The benefit and added value of the RoK project compared to other initiatives

![Bar chart showing the percentage of benefits and added value](image)

Source: COWI.

With regards to sustainability, the questionnaire especially focused on whether the RoK programme has enabled projects which will continue despite the termination of RoK funding. Table 9 below describes this issue and demonstrates, much like previous tendencies, that there is an uncertainty of the long-term impact of the RoK programme. This is, according comments provided by the project coordinators, either because they struggle to receive alternative funding after RoK, or because plans for new projects are not yet in place.

**Table 9:** Projects that will continue after the RoK programme

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>38%</td>
</tr>
<tr>
<td>No</td>
<td>33%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>29%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: COWI (2014)

In sum, it can therefore be said that the questionnaire survey has shown positive results in terms of the RoK programme and the various RoK projects being relevant, efficient and effective, as well as having a progressive impact and possibilities for future sustainability. These insights are further elaborated below.
Case studies

The assessments provided from the ten case studies are, to a large extent, the assessments of the project coordinators. The evidence for the claimed assessments has been reviewed by COWI, but otherwise it is the experience of the project coordinators which is expressed here, since they are considered the most knowledgeable, having followed the projects throughout the process of implementation. Next, follows a description of the ten case studies, which more closely investigates the achievements of the selected projects in accordance with the RoK objectives.

Case study 1: BRIDGE-BSR

The BRIDGE-BSR project has been especially efficient in terms of developing regional research and innovation excellence. This was done through identifying and overcoming gaps in cooperation between the public and the private sector as well as identifying regional bottlenecks. Subsequently, BRIDGE-BSR has initiated mentoring promotions, use of best practices and pilot activities.

The BRIDGE-BSR project has further been effective in meeting its objectives – In particular with regards to establishing research-driven clusters with ‘triple helix’ partners.

The project’s most significant achievement is enhancing regional investment in research and innovation activities through the establishment of the ScanBalt network. This network is, apart from creating regional value, also involved in transnational collaborations especially concerning initiatives to promote ‘talent attraction and talent retention’ in the European Union.

Finally, it is assessed that the RoK funding has been an indispensable catalyst for further funding opportunities.

<table>
<thead>
<tr>
<th>Name/acronym of your project:</th>
<th>Bridging Life Science Research and SMEs in the Baltic Sea Region – Putting Cluster Policies into Practice for the Benefit of SMEs / BRIDGE-BSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project period:</td>
<td>1/1 – 2008 to 30/6 – 2010</td>
</tr>
<tr>
<td>Research theme/tool/set-up:</td>
<td>Cluster policies/SMEs/Tools for collaboration</td>
</tr>
<tr>
<td>Project objective:</td>
<td>Cluster development is an integrated policy tool in The Baltic Sea Region to increase impact of policies and to enhance cooperation between the public and private sectors. However there is a broad gap in transnational cooperation and cross-border efforts to support SME based entrepreneurship and innovation beyond the interests from the single regions. Bridge-BSR developed tools to overcome these gaps in ScanBalt BioRegion. Bridge-BSR identified regional bottlenecks in ScanBalt BioRegion for bringing the benefits of Academic research to SME’s, developed a regional innovation agenda, promoted mentoring, use of best practises and bench marks, prepared action plans to remove bottlenecks and initiated pilot activities. Bridge-BSR builds on: Analysis: (1) An analysis of regional cluster innovation strategies for bridging academia and SME’s; (2) An analysis of regional Intellectual property bottlenecks (IP) and development of IP indicators; (3) An analysis of Regional SME financing bottlenecks and mapping of investors. Desk studies, workshops, expert panels, visits are the tools. Pilot activities: Bridge-BSR initiates 3 pilot “bridging” activities: (1) Model development for transregional integration of IP-issues; (2) A Top of Europe Life Science Foundation; (3) Shared SME support service. Innovation Action Plan, Mentoring, Implementation:</td>
</tr>
</tbody>
</table>
(1) An Innovation action plan for ScanBalt BioRegion will be prepared based on the analysis, the pilot activities and preparatory work.

(2) A Bridge-BSR Innovation Council provides expert knowledge.

(3) The analysis and the Innovation Action Plan serve for mentoring and implementation of best practises between clusters, networks and regional/national authorities.

The partners represented triple helix clusters, public authorities, a tech transfer specialist, a National Contact Point and a transnational cluster collaboration. Specifically, these were: ScanBalt FMBA, Denmark; Steinbeis Forschungs- und Entwicklungszenitre GmbH, Germany; Institute of Fundamental Technological Research, Poland; BioForum Oulu, Finland; Medicon Valley Alliance, Sweden/Denmark; Latvian Biotechnology Association, Latvia and Estonian Biotech Association, Estonia.

See: http://scanbalt.org/projects/bridge+bsr/partners

In the evaluation:
- Bridge-BSR got 14 out of 15 points
- Finished 1st of 12 funded projects
Approx. 100 applications delivered

Alignment of project objective with regional objectives:

Bridge-BSR served as the think tank for health and life sciences and the development of the EU Baltic Sea Region Strategy.

The concrete outcome was the establishment of the EUSBSR flagship ScanBalt HealthRegion which attracted structural funds from the Baltic Sea Region Programme for implementation via the project HealthPort coordinated by ScanBalt.

Bridge-BSR initiated the discussions of macro-regional SME support &n financing networks which today is being realized during Accelerace Life and the Nordic-Baltic Investment Funds, see e.g. http://scanbalt.org/press/news+archive/view?id=3027

Bridge-BSR played a significant role in the development of the national EE strategy for biotechnology and also led to regional investments into trans-national Baltic Sea Region efforts via establishment of regional ScanBalt liaison offices.

Research results:
1. Innovation Agenda published and implemented in later projects
2. Concrete collaboration models and tools applied to ScanBalt BioRegion
3. Establishment of EUSBSR flagship ScanBalt HealthRegion
4. New clusters initiated
5. Follow-up projects via structural funds established/innovation platforms and SME business development tools
6. Initiating discussions on macro-regional SME support and financing networks

Importance of RoK funding:

The results could not have been obtained without EU funds as it has been a catalyst for mobilizing regional and national investments into macro-regional development.

Impact and sustainability:

BRIDGE-BSR has been a catalyst and provided the models for development of innovation platforms, triple helix set-ups and SME business development tools implemented in later projects. This again has led to concrete business development based on ideas from clinics, see e.g. http://scanbalt.org/press/news+archive/view?id=3080; http://www.scanbalt.org/projects/scanbalt+health+region/pathos

The establishment of the member financed non-profit network ScanBalt® fmba in 2004 has in this as in other projects working with ScanBalt BioRegion provided the back bone for sustainability.

The capacity of ScanBalt BioRegion has been positively influenced by Bridge-BSR not least due to development of concrete models for collaboration and innovation.
Lessons learnt:
The Baltic Sea Region benefits hugely from the fact that collaborative efforts have been ongoing since early 90-ties and ScanBalt BioRegion as a project was initiated already 2001. This also means it takes time, however for new macro-regions the time span may eventually be shortened down by close collaboration between new and more established macro-regions.

At the intra-macro-regional BSR level there are today serious threats against interregional cooperation which need to be dealt with. One example is the significant difference in talent attraction and talent retention capacity between the BSR countries, see e.g. Global Competitiveness Report 2012: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf
This may negatively influence R&D capacity in the lesser scoring regions and create obstacles for collaboration due to competitive issues between the individual countries.

ScanBalt BioRegion aims to target this and related issues directly in a new project for the Health call “Bridging the divide in European health research and innovation” in collaboration with the Danube macro-region.

A high level advisory board is working on recommendations for talent attraction and talent retention, especially such which can be applied in a trans-national setting within the Baltic Sea Region.

The initial data compilation will during 2014 be supplemented with other data which shall assist in priority setting and decision making for the Baltic Sea Region on talents and related issues.
See e.g. http://scanbalt.org/press/news+archive/view?id=3099

Mentoring is an integrated part of ScanBalt BioRegion since 2001 – In fact ScanBalt BioRegion is by itself a mentoring process. The economic crisis proved to be a threat for BSR collaboration however the health and life science sector /health economy/bio economy demonstrated to be remarkably resistant and thus the concept of ScanBalt BioRegion was able to be strengthened also in times of crisis.

This indicates, that at the macro-regional level, it may be an advantage to focus on sectors which show progress and sustainability over longer periods of time - incl. periods of crisis.
Case study 2: ICT WIELKOPOLSKA

The ICT WIELKOPOLSKA project has focused on strengthening and developing regional research and innovation excellence both through fostering regional growth and competitiveness in establishing 15 new clusters, representing a variety of industries and actors, but also by enhancing regional investment in research and innovation through the increased collaboration of triple helix actors.

The project was thus very effective, firstly in spurring a wide variety of activities both regionally, nationally and internationally, and secondly in the establishment of a strong ICT cluster in the Wielkopolska region which has grown both in members and in activities.

In addition, the project highlights some of the challenges of triple-helix collaborations: It is important for the success of such a project that both business and science are prepared to engage in collaborative projects.

Finally, it is reported that while the RoK funding was not instrumental in the achievement of the project’s objectives, it greatly accelerated the necessary processes and created incentive for SMEs with few resources to participate.

<table>
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<th>Name/acronym of your project:</th>
<th>ICT Wielkopolska</th>
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<td>Project period:</td>
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<tr>
<td>Research theme/tool/set-up:</td>
<td>Information and Communication Technologies Research Driven Cluster in Wielkopolska Region</td>
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| Project objective:          | In autumn 2007 a group of commercial companies in the Wielkopolska province, local municipal authorities supported by the Regional Marshal Office, economic consultants, PR and marketing specialists as well as highly ranked research and development institutions running research activities within European consortia and EC framework programs decided to build an open regional initiative to enable deployment of new ICT solutions. The result of the above-mentioned meeting was an agreement to establish the ICT research driven cluster in Wielkopolska region. The mission of the cluster is maximizing the benefits of regional ICT research infrastructure for Wielkopolska province economic development through the deployment of new information technologies. The ICT sector development is one of the main priorities of the regional strategy aiming at structural changes to the high-tech solutions and closer cooperation with similar initiatives as well as strengthening knowledge-based European economy cooperating and competing with regions and economies outside Europe. General objectives of the ICT Wielkopolska project were as follows:  
  - work out an effective scheme to prepare a group of brand new original technologies and final products promoted as "regional specialty",  
  - work out some kind of a business code allowing for transparent and honest transactions and efficient management of the cluster,  
  - work out the scope of close cooperation between science and industry engaging and meeting requirements and needs of the business partners,  
  - preparing a support data centre with the current and targeted advisory and consultancy information available for the cluster members,  
  - create an efficient mechanism for the absorption of ICT innovations and the cluster products via its wide dissemination and promotion. |
| Alignment of project objective with regional objectives: | A very well developed and established R&D sector (numerous and significant universities, research institutes and development units) with the leading role of the ICT branch is one of the most important strengths of the Wielkopolska Region. From the other side the Wielkopolska Region represents the highest entrepreneurship level in the whole country with the leading role of the SME companies. Between them the fast developing branch of the ICT high technology companies with the great number of Start Up projects is very considerable for the knowledge based economy. Poznań Start Up society is regarded as the most active in Poland. All those significant factors of competitiveness are reflected in the regional and local strategies, like the Wielkopolska Development Strategy 2012, Regional Strategy of Innovation and the City of Poznań Development Strategy 2030 as well. The common purpose of all those |
local strategies is the knowledge based economy development as the only way to develop the effective and competitive business activity. It will be achieved through strong and close collaboration between science and business sector. Developing research oriented clusters as well as the other cooperation networks including R&D and business partners is said to be one of the effective ways to achieve those strategic goals.

So that is why the ICT Wielkopolska project objectives are aligned with the local and regional strengths and policies.

As the main result of the project the strong and significant ICT cluster was established in Wielkopolska Region. As the formal organisation of 101 (for today) companies and R&D units, the Cluster represents well developed management structure and the very significant and attractive business portfolio as well. The positive experiences collected during the project and its published results are the inspiration for another research oriented technology clusters and cooperation nets which are active or under development in the whole region.

Now around 15 clusters can be found in Wielkopolska in such branches like poligraphy, chemistry, furniture design and production, renewable & green energy, automatics and others. The successful realization of the ICT Wielkopolska project may also enhance the scientists to apply for FP as well as another EU grants for common R&D and business projects.

Moreover, cluster companies have openly declared budgets in readiness for innovation projects. Cluster scientists show a growing engagement in business development, either by participating in EU funded projects or by straight realization of orders from companies. Some scientists have started their own businesses and hence changed status.

Research results:
The general result of the project was strengthening of the cluster as the well-integrated, sustained, durable and effectively managed organization. Another important result was the wide public promotion of the cluster as the case of fruitful collaboration between ICT business and R&D based on common interests and projects.

The detailed results of the ICT Wielkopolska project were as follow:

1. Preparing and implementing the Wielkopolska ICT Cluster corporate identity book as the general element of cluster branding strategy. It includes complete graphic projects of layout, which is officially used in cluster promotion.
2. Preparing and successful holding two Annual Project Conferences promoting ICT Wielkopolska Cluster as well as project idea and results, widely opened to the ICT branch, R&D units as well as public administration and media (total registered audience 245 attendants)
3. Preparing and dissemination of the final reports, as follow:
   - Report on the ICT Wielkopolska cluster business portfolio
   - Report on new ICT technologies planning
   - Report and delivery of data base of the ICT projects in Wielkopolska
   - Report on ICT technology match-making possibilities;
   - Report on ICT cluster education and training program
   - Dynamic SWOT analysis for the ICT cluster; ICT-intensive sectors development diagnosis and the report on emerging technologies market
   - IP rights and scenarios
   - New ICT technologies marketing approaches and targeting the cluster audience scenarios.

All those products were successfully and practically absorbed by the ICT Cluster.

Importance of RoK funding:
Without the RoK funding the ICT Wielkopolska Cluster project would be carried out also but in significantly slower rate and less widely. So the 7 FP grant resulted in huge acceleration of cluster development which was very advantageous for strength and competitiveness of the ICT branch in Wielkopolska. There around 200 ICT companies being active in Poznań region. The wast majority of them are micro and small businesses. Thus the competitiveness and market position of such single company is of course relatively small. The faster development of the Cluster (thanks to RoK funding) offered the opportunity for such small companies to create business consortia in order to obtain the big contracts or projects commonly.
Impact and sustainability:
The main impact of the project was establishing well-integrated ICT Cluster being active business community focused on the new research driven technologies development. During two year’s period of ICT Wielkopolska project duration the significant development of the cluster organization as well as significant growth of its activity has taken place. Some most important facts of it are mentioned below:

ICT Cluster is formally registered (in regional court register) business society, with 101 regular members representing most important regional ICT companies and R&D units, Since 5 years (from 2009 to 2013) the number of cluster members has grown from 39 to 101
The cluster has its own budget to cover the costs of maintaining the office.
There are also developed two very important instruments of promotion and communication: Cluster Brand Book and official web site.
Strong branch sections were established inside the Cluster’s organizational structure in order to carry on some important common research project in near future.
An international activity and promotion of the Cluster is expressed in its regular participation during International ICT Fair “CEBIT” in Hannover every year. The Poznań Supercomputing & Networking Center plays the role of the scientific coordinator of the Cluster. The PSNC used to be or is now the leader of near 130 R&D big projects in ICT advanced technologies mostly financed from different programs of EU Structural Funds. A numerous part of those projects were realized in cooperation with another cluster’s members and partners. The results are practically implemented as the new ICT technologies and solutions and in this way there is also the contribution to strengthening the local economy competitiveness.
As an organization, the ICT Cluster is also strongly involved in supporting the IT Start Up projects developed by young people and students by offering them the Co-working Zone (very cheap or even free of charge) or Start up IT mentoring and pre-incubating program. The cluster is also involved (together with the City of Poznań) in carrying out the Start Up Poznań Event.
Engagement of members’ own funds accounts for the cluster long term sustainability.
Cluster’s scientific partners build legal and administrative tools to enable technology transfer:
- Technology Transfer Center has been established at the Technical University,
- A consulting company has been launched at the University of Economics,
- Poznan Supercomputing and Networking Center has started an intellectual property management company to allow tech-transfer via licensing and sale of research results.

An array of cluster activities support the impact the ICT cluster environment has in the region:
- The cluster coordinator is a legally registered association with 15 board members, including all triple helix representatives,
- The cluster meets at least 4 times a year plus workgroups project-oriented meetings,
- cluster is active on international and global scale activities (associations, advisory groups, international tenders)
- The cluster continuously redefines its strategy to best align with all actors’ expectations. Redefinition is done via surveys and informal talks/meetings with proactive members.
- The cluster launches services for its members, such as: d.challenge prototyping program, recruitment facilitating activities,
- The cluster develops ICT environment in the region by supporting non-ICT communities and organizations,
- The cluster supports the start-up community by organizing prize contests and sponsoring community building activities.

Lessons learnt:
Realization of how ICT Wielkopolska on the one hand has brought science, business and administrative ICT enthusiasts closer, on the other hand it has exposed new areas that need solving, such as: inefficient collaboration instruments, discrepancies in defining common goals, insufficient funding capacities or limited tolerance to risk.
The project activities are continued from cluster members’ own funds without EU support. However, a series of drawbacks, mainly of legal and financial nature, keep cluster working groups away from a constant innovation growth tendency – innovation develops in a temporary manner.
Science and business, even within the same industrial area, are distinct environments and require constant and consistent enhancement from intermediaries to collaborate. Although they are open for collaboration, both sides remain sceptical about real value they can get from the other party. Consequently, mutual offers are approached sensitively. Project realization led to clear identification and understanding among cluster members. However, it takes more than just understanding. The project proved it takes trust and consistent involvement of roughly 25% of players to launch innovation projects.
The ICT Wielkopolska as the "Cooperation" project was in the opinion of all partners (representing R&D, business and local authority) a very precious and valuable source of experience in collaboration based on trust and awareness on the common purpose. In such a situation the competition is replaced in natural way by cooperation.

The most important "Cluster" cooperation initiative is the wide promotion and support offered to the ICT "Start Up" business projects created by students and young people. The experienced companies being the Cluster members provide the start up's with mentoring, cooperation and VC - like invesments. The ICT Wielkopolska Cluster also provides the start - up's the coworking zone (cheap or even free of charge).

By studying the cases of the most successful Western clusters much evidence for the above mentioned conclusion can be founded. "As much competition as necessary and as much cooperation as possible" should be the base for developing of the "culture of cooperation". In my opinion this is the most important result of the ICT Wielkopolska project and this is the right way to establish the competitive knowledge based economy in Poland.
Case study 3: JADE

The JADE project was in particular effective in achieving its results of strengthening and developing research and innovation excellence both at a regional, national and international level. With a specific focus on collaboration, knowledge sharing and European policymaking concerning assisted living, the Jade project has had an impressive impact on the development of new projects, cooperatives, contacts and other networking activities both across countries and disciplines as well as developing the competitiveness of the region.

The project highlights the importance of meeting and ‘matching’ collaborators within the project period in order to establish trustable and concrete relationships between them.

It is emphasised how the RoK funding has accelerated a regional process of aggregation of triple helix actors as well as the opportunity for transnational networking activities.

<table>
<thead>
<tr>
<th>Name/acronym of your project:</th>
<th>Joining innovative Approaches for the integration and Development of transnational knowledge of cluster policies related to independence of Elderly/J.A.D.E. project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project period:</td>
<td>01/02/2011-31/01/2014</td>
</tr>
<tr>
<td>Research theme/tool/set-up:</td>
<td>COORDINATION AND SUPPORT ACTION</td>
</tr>
</tbody>
</table>
| Project objective:            | • Define a common research agenda, driven by needs of the elderly in the area of ambient assisted living leading to the creation of a joint action plan which will help drive EU research and policy agendas  
• Foster transnational scientific cooperation and collaboration between clusters of assisted living  
• Raise, share and disseminate knowledge and understanding and develop common approaches to enhance research and policy effort in ambient assisted living. |
| Alignment of project objective with regional objectives: | Healthy ageing and the independent living of aged people is a central milestone of the regional government political programme. As a matter of fact, Italian Ministry of Health funded and based in the Marche Region INRCA: the national leading public institute in gerontology and geriatrics devoted to improving health and quality of life of elderly that in 2010 was appointed to lead the "Italian Network on Active and Healthy Ageing". The Regional Programme Strategy "MARCHE 2020" launched in February 2011 and focused on the strategic vision of the Marche social and economic scenarios includes the Active Ageing as strategic regional objective up to 2020. The Marche Region Employment and Productive Activities Plan for 2011-2013 specifically mentioned the new enabling ambient intelligence technologies for independent living services dedicated to elderly needs as the most important regional emerging sector with high potential in terms of private and public demand. In addition, home automation is one of the selected “Smart Specialisation strategies” included by Marche Regional Government in the “Strategy for R&I for Smart Specialisations” requested by EC as preliminary step to the allocation of 2014-2020 ERDF and ESF regional funds. On the implementing point of view, a key-initiative is the "regional project smart home for independent living of elderly” whose core is the building - by 2015 - of an industrialized prototype of "smart home" for independent, secure and healthy living of end-users, mainly aged and disabled people; as such, focused objectives in order to move on with the up scaling of successful innovative embedded projects. Regional Government is investing about 16 millions of Euros from 2011 to 2015. Also, to be mentioned that the past 2007-2013 ERDF Regional Operative Programme has allocated about 8.000.000,00 € since 2008 until 2011 to regional enterprises with project on JADE topics.  
JADE has not received other additional funding, but it has contributed to calibrate the Regional Government investment strategy on such specific topics and business sector. |
| Research results:             | - more than 120 contacts among partners and other cluster actors involved in JADE networking events  
- at least 7 industrial/commercial/research agreements (at regional and transnational level) signed after JADE networking event and/or cross-field visits  
- at least 5 researcher mobility agreements signed between JADE universities/research centers  
- At least 25 synergies and cooperation realized with other ongoing regional, national or European project and/or programmes.  
- At least 35 new partnerships for regional, national, transnational projects realized through JADE |
contacts and events.
- 13 projects ideas for H2020
- over 30 people (researchers, companies) in mobility with over 100 meetings organized
- 4 transnational focus-groups: the 4 JADE HAILs (Healthy Ageing Innovation Lab)
- About 180 speaking opportunities and other dissemination/promotion activities implemented by partners and members at local/national/EU/international level. Jade has been disseminated in 4 continents: Europe, Asia (China and Korea), North America (Montreal and Boston) and South America (Brazil)
- 4 follow up projects realized by SVIM at EU territorial cooperation level with multilevel objectives and targets.

**Importance of RoK funding:**
The impressive quality and quantity of results achieved by JADE project are due to a mix of elements: the possibility to have a great numbers of partners (nearly 40) including also the enterprises, the possibility to continuously recalibrate the projects activities to real needs and opportunities appearing during the project implementation, the flexibility of the programme financial rules and the possibility to include even international/extra-EU partners (ex. Turkey) and implement activity in extra-EU territory (ex. North America). It wouldn't have been possible neither with national, neither with EU territorial cooperation programmes where the strict structural funds rules tend to limit the projects, obtaining a lower impact at local level.

Specifically, the RoK funding has accelerated the abovementioned regional process of aggregation of involved actors (Industry, Research and Institutions) and has strongly launched our emerging RDC on a transnational networking level allowing the exchange/contact/agreements among all the RDC entities of the EU and not-EU partners.

**Impact and sustainability:**
The regional RDC –emerging at the time of the JADE proposal drafting- has been in the meanwhile recognized at national level even thanks to the acceleration of the internal process of aggregation of all the involved regional actors (regional authority, universities, enterprises, technology transfer centres) towards a unique goal. The RoK programme has also facilitated rapid internationalization of our regional RDC thanks to the several networking/brokerage vents organized at EU transnational level and intercontinental level (with North America e-health market). Definitely it has contributed to prepare the ground for the advancements of competitiveness our regional businesses and research organization dealing with ambient intelligence technologies. In the long term the impact will be guaranteed by the regional funding (especially through the 2014-2020 ERDF POR), by the national funding derived by the approval of the e-LIVING dedicated project, and by further EU funds obtained by SVIM and the other RDC’s actors.

**Lessons learnt:**
The most important lesson we have learnt from RoK is that to produce a real local impact of interregional/international cooperation actions (where we are very experienced thanks to the drafting and implementation of more than 20 projects funded by INTERREG III, INTERREG IVC, MED, IPA ADRIATIC CBC, SEE, etc.) it is necessary to involve as many as possible actors/stakeholders of the cluster/regional research and innovation community, and make them meet and "matching" during project life time in order to establish trusted and concrete collaboration.

This involvement was facilitated in the following way: The first part of the project (18 months) has been focused on the organization and realization of 5 workshop-exchange meetings organized by each of 5 the RDC partners: every meeting (lasting not less than 4 days) was dedicated to the current JADE technical topics and issues, but the most part of the meeting was dedicated both to matchmaking events among industries, research and institutional bodies coming from the 5 regions involved and to cross-field visits to the most important local sites regarding home automation, care & cure of elderly, health system management, etc. Moreover, the continuity of the initiatives have been ensured through the second part of the project, which focused on the implementation of the JADE Joint Action Plan, and has animated the partners aggregation, collaboration and synergies through a very effective mobility Programme, interesting focus group managed at transnational level and –mostly- a transnational call for expression of interest for participating in project ideas to be submitted in first call of H2020 or AAL. The continuity of such collaboration relays on the common will to go on working together thanks to 2014-2020 new funding possibilities and to the mobility/collaboration agreement signed among many of partner and/or external partners involved in the 5 regional clusters.
Case study 4: RoK-FOR

The RoK-FOR project was in particular successful in facilitating transnational collaboration of varied regional clusters within the fields of bioenergy, bio based products and sustainable construction. Furthermore, it is reported that the chance to exchange experiences and practices with triple helix actors internationally was extremely valuable, compared to solely regional projects.

Although it is assessed that it is still too early to evaluate the project’s long-term impact and sustainability, future regional funding and evaluation programmes are in place to secure the continued description of the results.

The project emphasises how important it is to understand the different conditions the triple helix actors work under: Especially the businesses need viable opportunities when participating in future initiatives.

Furthermore, lack of continuity is identified as the main problem or ‘bottleneck’ especially in terms of maintaining international relationships. However, it is suggested that incorporation into other regional processes will ensure this continuity. Finally, RoK funding is described as especially effective with regards to increasing regional and interregional cohesion and openness as well as creating links between interested actors.

<table>
<thead>
<tr>
<th>Name/acronym of your project:</th>
<th>Sustainable forest management providing renewable energy, sustainable construction and bio-based products/RoK-FOR</th>
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</thead>
<tbody>
<tr>
<td>Project period:</td>
<td>1.2.2010 – 31.1.2013</td>
</tr>
<tr>
<td>Research theme/tool/set-up:</td>
<td>Fostering co-operation</td>
</tr>
<tr>
<td>Project objective:</td>
<td>RoK-FOR aimed to determine and start strong co-operation between trans-national and within inter-regional, research-driven, forestry-based clusters, through formulating a joint strategy and action plan for sustainable forest management and development, leading to increased innovativeness and competitiveness with help of the metacluster. The target areas for the project were bioenergy, bio based products and sustainable construction. The RoK-FOR metacluster was planned to be strong in all specified fields i.e. forests and forestry (as the basis), wood construction, bioenergy and biobased products, as well as ensuring that the participating regions were versatile in natural conditions and regional approaches giving excellent grounds for innovative, productive and long-lasting co-operation.</td>
</tr>
</tbody>
</table>
| Alignment of project objective with regional objectives: | 1) RoK-FOR project was designed to be consistent with EU strategies and regional strengths & needs in the various regions. The regions were different (e.g., Croatia, Serbia compared with all others) for their stage of development; thus opportunities to exchange approaches and various backgrounds were good. This was also according to the strategies and strengths of the other regions. Development of a new cluster in Croatia was initiated during the project and studies & pilot investments took place.  
2) Project partners in regional clusters included the organisations (and in some cases even the very persons) administering structural funds: the approach guaranteed information flow between the project and structural funds administration. These links still exist and the lessons learnt have been incorporated into the regional funds administration procedures; this was also obvious as, e.g., in North Karelia the project was targeted to benefit the regional cluster based on wood processing. The cluster is a regional priority. |
| Research results:            | 1) Analysis of the regional setup, the strengths and weaknesses was done in each of the regional clusters; it helped understanding the regions’ situation as related to the other participating regions and gave a good baseline for the future work within the fields of bioenergy, bio-based products & wood construction  
2) An action plan was compiled for the project; it consisted of regionally relevant studies, various direct actions (e.g., visits, exhibitions, training) and initiation of processes (e.g., use of value chain analysis models and related development)  
3) Research and development collaboration was initiated and continued: - interesting and important study setups can be easily found between the contrasting regions; - bilateral development alliances |
were formulated (e.g., North Karelia and Catalonia in bioenergy) and - excellent partnerships (personal, research/working groups) between all the regions were established to make it easier to work with new projects. The RoK-FOR process was an excellent experience to learn international cooperation and also work with dedicated and skilful personnel in the commission.

**Importance of RoK funding:**
Most of the issues completed wouldn’t have been happened without RoK-FOR funding. The international point of view was the key to results; well formulated approach in the RoK-programme helped a lot to concentrate on transnational issues. E.g., a regional analysis is normally done everywhere, but the perspective is very narrow and it is impossible to gain the well formulated results from other regions to help regional interpretation of the results and simultaneously find partnerships and joint development targets.

National programmes seldom or never give opportunities for regions to work in extensive international setups on strategic level and on action level. Pan-European strategies are formulated in international collaboration units of, e.g., wood processing industry, which is quite far from the regional realities.

From these perspectives, the RoK-approach is very much welcomed, as it takes into account regions and their point of views and “forces” to collaborate with other countries through research and the development of joint actions plans, also bringing other international actors and stakeholders into the picture. Careful selection of the right and capable partners is of great importance to get the desired results. This selection of partners is also well taken care of in RoK programme, due to the rigorous application demands, which meant that negotiations with possible partners was ongoing for years and a network of triple helix actors was developed.

**Impact and sustainability:**
RoK-FOR brought together various, relevant partners - businesses, administration and research - from the regions and created new and strengthened existing collaboration (collaboration groups, regional committees etc.). These procedures and regional forms of collaboration are voluntary and will only sustain if they are beneficial to all partners.

Regional relationships between policy makers (science & technology) are improved by working with the actors having direct contacts to policy-makers or being policy-makers themselves. The goal of the action wasn’t to increase co-op between national policy makers (however, this is one of the normal tasks of the regional officials taken part in the RoK action).

Structural Funds: Project results and approaches are integrated into planning and use of 2014 – 2020 structural funds by RoK-FOR project partners.

European Research Area: Research co-operation was promoted, but European Research Area approach was not directly taken into account in RoK-FOR process.

There are no scientific proofs/reports available of the influence of RoK-actions in the regions (so far). The processes are long, and one year after the project is too short a time to make any conclusions. As the RoK-FOR process was integrated in, e.g., the North Karelia province development processes, the results and lessons learnt have been directly taken into account in development.

Long-term sustainability: the proposals and actions of RoK-FOR have been integrated into regional development processes (Regional Council and development companies use the results; regional funding process evaluates and adopts results as collectively needed)

**Participation:** The actors in the regions have varied possibilities to promote international actions – capability and willingness from the regional actors is needed, as well as structural support from a national level. The smallest units of businesses are, in general, not capable of taking part in the international actions regardless of their innovativeness and willingness.

A list of collaborative partners can be seen below:
Lessons learnt:

- RoK-approach brings businesses, administration and research together. A considerable problem is that the logic of actions and time-frame is totally different in research and administration and in business. Businesses - especially SMEs - are short-term oriented and do not speak the same language with administration and research (which, to large extent, understand each other). This gap should be filled, and in the present development situation co-op funding is necessary, but especially the businesses need to be taken into account so that they can technically survive during the lengthy research and development process.

The ROK-FOR project had mainly “a business interface” consisting of companies specialized to work with businesses. This makes it easier for the project, but the details of the companies somewhat disappear as the direct contact is seldom available.

Various sectors are different. For example in North Karelia: In forestry and bioenergy the cluster is well developed and it is easy to work with the cluster representatives. The information can easily be transferred to and from. In wood construction and biobased products there’s no clear cluster existing, but discussion requires much more time and specific knowledge about the very actors in the field.

These things could not be taken into account beforehand, but were clarified within the project. The background situation is now better known and can be taken into account when formulating new projects and other collaboration actions.

Collaboration agreements, MoU’s (Memorandum of Understanding) or other agreements are a good tool to maintain the relationship and keeping it on the agenda.

- Mentoring – at best - helps and improves the performance of both the mentees and the mentors. In all cases also the mentor will learn about the new situation and increase both understanding and options to develop services/products. A balanced and equal approach is necessary in mentoring situations.

- Innovation performance, international/interregional co-op & competitive/sustainable growth can be promoted by RoK-process especially by creating links and increasing openness to facilitate better results for all participating in the actions. Special incentives and local co-operation are needed to get small actors taking part in existing international networks and development actions.

This can happen also without, e.g., RoK funding, but RoK is an effective way to increase regional and interregional cohesion between actors. The example of RoK-FOR also showed, that a large consortium always also includes bright individuals with specific skills to create new approaches.

Continuity is the main bottleneck. International relationships should be maintained also with formal agreements. The key thing to improve continuity is to incorporate project into existing, permanent, regional development processes which include both administration and businesses, in best option also research. From this ground also international co-op will be needed and willingly maintained. If possible, also international processes should be within the scope of a project.

Research groups etc. live with external (e.g. EU funding), and if they are successful, they continue the jointly beneficial work. International research groups get funding more easily; results are – in general – better, and visibility & distribution of results is more extensive.
Case study 5: ERDC

The ERDC project was effective, firstly in establishing new research-driven clusters with triple helix actors - especially the collaboration with all the technical universities of Slovakia. Secondly, the project succeeded in strengthening and developing the research and innovation excellence within their region especially through fostering growth in regional investment – for example with the funding of the NITT project, which was spurred by activities and awareness generated within the RoK programme.

Although it is not mentioned whether the project spurred transnational collaboration, it is obvious that the project has generated attentiveness to the need for technology transfer support on a national level and that funding these kinds of initiatives is a challenge.

**Name/acronym of your project:** ERDC

**Project period:** Months 01-24 (as defined in contract)

**Research theme/tool/set-up:** “Facilitating the emergence of new clusters and mutual information”

**Project objective:**

The main objectives of the proposed project are as follows:

- To develop a methodology for establishing sector based research-driven clusters in new Central Europe member states as well as in other convergence regions
- To disseminate the methodology throughout European convergence regions and
- To establish an automotive research-driven cluster in West Slovakia specialising on new materials, micro- and nanotechnologies and IT.

**Alignment of project objective with regional objectives:**

The project focused on building of new research-driven clusters associating universities (primarily in Western Slovakia, but subsequently was joined by all technical universities in Slovakia. The project tried to influence Structural funds planning, which was partly successful. On the base of project outputs specific calls for technology transfer activities of Slovak academic sector were initiated by structural funds.

Based on this call the system of technology transfer support in Slovakia was built. (NITT project)

**Research results:**

Main result of project were

- Clustering of Universities in approaching specific sectors (originally automotive, but subsequently also IT and other sectors)
- Technology transfer activities focusing on SME and international markets
- Creating of technology transfer centres at universities focusing on commercial outputs of research activities carried out at Universities
- Increasing the attractiveness and credibility of regions under project in terms of exploitation of science and research outputs achieved in the region in commerce.

All activities of the project were also focused on improvement of utilisation of specific tools of EU – mainly FP7.

**Importance of RoK funding:**

Specific contribution of RoK funding was that specific set-up of key role players was established with capacity to influence structural and national funds planning to focus on specific goals of commercialisation of R and D outputs. Based (partly) on projects activities the specific activities in area of technology transfer activities were set up.

The RoK funding triggered the NITT project which aims based on structural funds to provide sustainable infrastructure supporting technology transfer activities of universities, academic institutions or their clusters.

However, still we miss specific financial tools supporting specific clustering activities.
Impact and sustainability:
The impact of project was as follows:
- improvement of internal capacities of Universities and research sector in the area of intellectual property managements
- improvement of internal capacities of universities and research sector in the area of technology transfer support
- awareness of policy makers in the area of necessity of technology transfer support and their subsequent activities in regional innovation planning, specifically projected in S3 strategy developed for Slovakia
- by S3 strategy – integration into European Research Area
- some success stories in the area of technology transfer of academic RandD outputs into commerce (after project commencement)

Sustainability of project is based on
Creation of national system of technology transfer support with participation of all relevant universities of the region
Supported by NITT (National infrastructure for technology transfer support) project financed from structural funds

Lessons learnt:
Main lessons learnt are:
- Cooperation of national and regional governments in the area of innovation and technology transfer support
- Specific tools and its operation/financing in the area of technology transfer
- Ways of approaching of private sector with outputs of research and development
- Effective use of specific tools of EU to support the national systems (community funds, specifically FP/CIP funds)
- Impact of EU tools on national structural funds planning.
Case study 6: TERM

The TERM project has been effective in developing research-driven clusters across European regions and actors with interest and expertise in the RegMed area. The RoK programme was helpful with regards to the collaboration between European research-driven clusters and the formulation of a joint action plan. Furthermore, RoK funding was essential for the mobilization of triple helix collaborators and the exchange of experiences between the respective clusters.

Unfortunately the allocated three-year period of RoK funding was not long enough for the project to attain full sustainability, and some of the partnerships have ceased, while others are still ongoing due to alternative funding. The hope is to facilitate consortia for the H2020 calls.

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<tr>
<th>Name/acronym of your project:</th>
<th>Tissue Engineering and Regenerative Medicine (TERM)</th>
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<tbody>
<tr>
<td>Project period:</td>
<td>36 months</td>
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<tr>
<td>Research theme/tool/set-up:</td>
<td>Tissue Engineering and Regenerative Medicine</td>
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**Project objective:**
The TERM project has the objective to encourage and reinforce the attractiveness of European regions supporting research-driven clusters in the field of Tissue Engineering and Regenerative Medicine.

**Alignment of project objective with regional objectives:**
Regenerative medicine is one of the three biomedical domains of excellence, in addition to radiopharmaceuticals and immunological biotherapies that have been considered in Nantes’s Research and Innovation strategies for Smart Specialisation.

The TERM project allowed increasing the visibility of our new regenerative medicine Institute (BIOREGATE), the establishment of new European relationships with other TERM members, and eventually the initiation of future collaborative programs in R&D, innovation support and education. Joint actions also allowed us to link with other European initiatives such as the FP7 BIOMAT’IN project, FP7 SUDOE project and other RoK programs.

**Research results:**
The TERM consortium has worked to foster cooperation and exchange of know-how between regional research-driven clusters implicated in the RegMed area by helping:

- Identify potential partnerships and funding for joint R&D projects responding to existing market demand (market-pull) through:
  - The organization of matchmaking events targeting researchers, companies, infrastructures, education staffs and investors,
  - The launch of a new interactive web platform (the TERM Portal) to increase visibility and exchanges.

- Set up shared educational programs targeting science and entrepreneurship (release of a proposal for educational exchange programs),

- Support early innovation (proof-of-concept) and venture creation at the European level through the publication of a proposal for a multiregional innovation program.

In particular, the consortium has developed a web Portal with the purpose to gather a large, diverse community of actors in RegMed area that encompasses individuals (i.e. researchers) and institutions (i.e. companies, clusters, infrastructures, universities, investors). The TERM portal was designed as a multi-functional tool that can be used for:

- Showcase of training/education institutions and funding resources,

- Networking,

- Project management.

**Importance of RoK funding:**
With regards to Smart Specialisation Strategies, the RoK program helped European research-driven clusters dedicated to regenerative medicine, to work together to the definition of a common action plan, which ultimately aimed at accelerating the development of innovative biomedical products, suitable for the patients.

The RoK funding was essential to bring together actors of the knowledge triangle (research, innovation and education) in the field of advanced therapies. It helped clusters less familiar with the translational
medicine to better understand that integrative approach.

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<tr>
<th>Impact and sustainability:</th>
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<tr>
<td>The RoK-funded TERM project was the preliminary step, leading to the identification of bottlenecks, strengths and opportunities. Unfortunately, the 3-year period was not long enough to allow the full implementation of the tools. Unfortunately, their sustainability issues could not be successfully addressed and actions involving more than 2 partners had to be stopped due to the lack of funding. Some collaborative programs involving Nantes and one of the TERM partners are still in progress (i.e. with BIOWIN in research; Goteborg in education). But hopefully, links are still alive among all the 7 clusters, facilitating the constitution of consortia for the future H2020 calls.</td>
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<tr>
<th>Lessons learnt:</th>
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<tr>
<td>According to us, we spent too much time on the SWOT analysis of the TERM consortium. That analysis was too detailed to be really informative. It would have been much more fruitful to start by an extensive analysis of the already-existing networks and initiatives in Europe. Our tools would have gained in interest and sustainability if they had been designed in link with these networks directly.</td>
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Case study 7: BIOCLUS

The BIOCLUS project is a very good example of how the RoK programme has had a substantial impact on regional achievements i.e. the strengthening and development of research and innovation within and across five European regions, dedicated to the sustainable use of biomass resources. First of all, the project has been effective in fostering growth and competition within the regions through the establishment of a variety of initiatives. Secondly, the project has succeeded in establishing research-driven clusters engaging triple helix actors in transnational collaboration.

Finally, the project has for some of the participating clusters been a unique opportunity for funding – one which has enabled the bringing together of various actors from across Europe and the rest of the world. Especially networking and knowledge-transfer experiences are emphasised as positive outcomes of participation in the RoK programme.

Name/acronym of your project: Developing innovation and research environment in five European regions in the field of sustainable use of biomass resources/ BIOCLUS

Project period: 12/2009-11/2012

Research theme/tool/set-up:

Project objective:
BIOCLUS’ objective was to boost the regional competitiveness and growth in five European cluster regions: Central Finland, Navarre (Spain), Western Macedonia (Greece), Slovakia and Wielkopolska (Poland).

The project aimed to promote collaboration and integration of cluster regions and to strengthen the innovation environment by improving research potential and innovation management. Besides, the project has supported sustainable development by improving the use of biomass resources. The development was achieved by:

- Promoting scientific, strategic and business competence at a cluster and consortium level
- Developing collaboration capabilities in the clusters and consortium level
- Improving innovation to business environment by mutual learning and by mentoring

Alignment of project objective with regional objectives:

The focus is really both the EU level and the regional level – but in the perspective of the achievements at the regional level that would not have happened without the RoK support

Central Finland

Central Finland region aims to continue in the strong track of bioeconomy related business and research. There are several clusters related to bioeconomy. Central Finland has also strong role in the recently launched Innovative Cities (INKA) initiative.

BIOCLUS supported strongly regional and national targets and it improved strongly regional research related cooperation at the personal level. Furthermore the triple helix actors had arranged a platform orientated towards joint research related activities and joint development and innovation actions. The results of BIOCLUS were partly related to structural funds and national innovation fund, Tekes. For example there have been ideas developed in innovation in the field of wood fuel supply chain. Also wood chip storage research has been launced. Also joint innovation promotion actions between universities have been successful. Furthermore there have been new FP7 actions initiated between BIOCLUS regions.

Wielkopolska

BIOCLUS project objectives were in line with different administrative documents as policies, strategies and regulations. Regional authorities were partners in the project. They supervised and gave feedback about elaborations for Wielkopolska Region as Strategic Research Agenda, Joint Action Plan, etc. Special stress was given to international experiences in biogas stations construction for biowastes utilization, new draught resistant plants implementation in the region (Wielkopolska is drying due to climate changes), land reclamation after closed opencast mines and all problems linked with biomass supply chains. They were predicted for further solution by common international collaboration. Study tours were organized in project partners regions. Scientists, regional authorities’ and business sector
representatives took part in events organized within the project framework. Knowledge transfer resulted in cardoon seeds planting at the research field in Wielkopolska. All works linked with planting (field preparation, planting, plantation weeding, etc.) were done by funds out of project. Decisions and funds were arranged by the regional authorities. Cardoon seeds were transferred from Macedonia Region after regional authorities study tour in Greece. During this study tour, information about cardoon resistance on drought was given together with explanation about resistance on frost and low temperature. Cardoon Cynara cardunculus as the energy plant was a new idea in Wielkopolska. It was regarded as a plant with drought resistance which could be cultivated during land reclamation after closed opencast mines. The experiment/research continues. Land reclamation subject was also discussed with Greek partners. Contacts established inside BIOCLUS consortium led to three preparations of common project proposals.

Navarra

The project BIOCLUS was in line with the policies and research objectives in Navarra. On the one side with Navarra’s Economic Development Model, MODERNA NAVARRA which is a regional economic strategy by 2030, completing a shift from a productive economy to a knowledge one, following a Smart Specialisation process on 12 priority sector/clusters, including Renewable Energies. And also with the 4th Technology Plan of Navarra 2012-2015, the regional innovation strategy, as short medium time deployment of MODERNA NAVARRA, focused on the Smart Specialisation of regional innovation ecosystem, the internationalization and socialization of R&I and the embracement of an open innovation culture.

The situation in Navarra was:

There was no formally established biomass cluster in Navarra, but actors somehow cooperated. The main cooperation is practically carried out between companies (both entrepreneurial and SMEs) and R&D centres in biomass related research areas. Also municipalities and regional authorities cooperate in order to promote biomass practices in the municipalities.

- The different key stakeholders from biomass sector in the region of Navarra, which already had some kind of cooperation, and that were participating and involved in BIOCLUS were the following:

  **Regional authorities and policy-makers**

  - Enterprise Directorate: Defining and executing the Regional Technological Plans and Regional Energetic Plans. It is responsible for funding R&D projects in which research centres and companies are involved.

  - International Development Directorate: Defining Operative Programme in the region, (ERDF) and promoting the international policy of the Navarra Government. It is responsible for Department applications to international calls for proposals.

  - Environmental and Water Directorate has specific skills in forestry, on the legislative side, manager and inspector.

  - Professional Training and University Directorate: Executing and funding regional and national educational programmes.

  - Local Council

  **Entities related to R&D in Navarra:**

  **Technological Centres:**

  - CENER: National Renewable Energy Centre

  - IDIMA: Environmental Centre for Research, Development and Innovation.

  - AIN: Association of the Industry of Navarra

  - L’Urederra: research and technological development in the fields of new materials and advanced environmental technologies.

  - CNTA: National Centre of Food Technology and Food Safety

  - CEMITEC: Cetena Foundation’s Multidisciplinary Innovation and Technology Centre of Navarre

  - Universities: Public University of Navarra and Private University of Navarra

  - Companies and Associations in biomass sector:

    **Companies:**

    - Publics

    - Private.

    - Associations
Slovakia

Bioclus objectives in Slovakia harmonized fully with national and regional policies and strategies within Energetics, Forest based industries as well as Environment. Results and outputs are utilized by relevant stakeholders. National programme of wood utilization and related action plan were significant documents elaborated as impact of BIOCLUS results in Slovakia. Links to the EU Structural Funds were established and are taken into the consideration within H2020 programming period.

Research results:

Central Finland

In Central Finland, for example JYU/VTT nanotomography co-operation continues INT-Testaa intl. co-operation. Besides, the BIOCLUS works continues under national Innovative Cities initiatives that JAMK, JI, Regional authority Keski-Suomen liitto, Benet and VTT are involved in. Jyväskylä (the capital of Central Finland) is one of leading parties in the national Bioeconomy cluster.

The innovation environment has been developed at different levels in different clusters. For example, in Central Finland the new concept to support potential and new entrepreneurs, Yritystehdas (Business factory) has been initiated. It is operated in cooperation between JAMK, JYU and JI/ Protomo.

The regional biomass use and potential up-dated analyses will be used in the climate strategy up-date work. Furthermore, CERTH and VTT has introduced topics for RHC-platform, such as Advanced Fuels (sustainable production of biomass feedstock for new biocommunities (thermally treated biomass e.g. torrefied biomass and pyrolysis oil) and Industrial heat (Agrobiomass cofiring) and for EERA Bioenergy cooperation. JAMK and the vocational school of natural resources (POKE) have agreed about future training cooperation in the field of Solid biofuels standards. The basis of this training is in cooperation with VTT experts that have been participating in the international standard group. The first training will be in April 2013. The Central Finland JAP will be used in the further innovation work related to sustainability and biomasses, such as Innovative city initiative.

In praxis, the cooperation continues also in the field of shared facilities in terms of:

JYU/VTT nanotomography co-operation continues.

JYU/VTT Future fibre products development facilities co-operation.

JYU/VTT PhD-thesis of Janne Keränen: Increasing the drying efficiency of cylinder drying, where the potential of impingement drying for improving paper drying rate and quality were demonstrated.

JYU/VTT PhD-thesis of Antti Oksanen (December 2012), Improving the material efficiency of furnishes in papermaking by stratification and chemical modifications.

JYU and VTT nanotomography and dewatering cooperation continues. Cooperation includes measurement and modelling in these areas.

JI and VTT: INT-Testaa intl. co-operation: Piloting possibilities to small and medium sized companies (SMEs) is offered. The previous TESTAA-project was launched to build up co-operation between the SMEs, large companies and research institutes in national level. In this concept SMEs proved the potential of their technology cost-effectively in pilot-scale papermaking environment. Only own costs were expected to cover by SMEs. New SMEs were sought all the time from different business areas: process devices, measurement and sensors, materials, chemicals, modelling etc. During BIOCLUS-project VTT enlarged this work for international level in project called INT-TESTAA.

JAMK coordinates the regional R&D&I environment cooperation related to biomass supply chain and storage research.

Wielkopolska

Clustering and collaboration together with exchange of researchers employed were regarded as main research results.

Tangible outcomes were as follows:

Prepared common project proposals with other BIOCLUS partners and cardoon research field establishing. Impacts were extended to long-term effects as strong willingness to cooperate in biomass cofiring technology improvement in Poland with VTT from Finland, biomass supply chains optimization together with all BIOCLUS partners (Poland is biomass importer out of EU thus import stream exchange or biomass yield increase in Poland are crucial), technology preparation for second generation biofuels production in industrial scale together with CENER from Navarra region in Spain (CENER owns laboratories, equipment and a research installation for testing biofuels production at industrial scale), cardoon plantation supervising together with the Macedonia region, common problems solving with land
reclamation after closed opencast mines with Macedonia Region, tightening cooperation with Slovakia in forestry biomass subject and biomass logistic subject, tightening cooperation with Central Finland region for emissions decrease of ammonia and other nutrients to Baltic Sea Region, etc. Knowledge about ready research installations in different regions (Navarra – CENER, Central Finland – VTT, Jyvaskyla University, Western Macedonia) gave immediate synergy effect in decisions about resignation of similar constructions of installations in other regions. That saved money for installation construction. Common researches were planned in existing installations. However, plans were postponed, when funds on common projects would be achieved.

Other long term impacts which are going to be achieved with all BIOCLUS partners and other EU partners, were identified as solving problems with sustainability, fighting with climate changes and GHG emissions decrease, increasing biomass yield, technologies optimization for biomass production and logistic, etc. Inside project, Strategic Research Agendas for each region were prepared. Based on them, Strategic Research Agenda for whole consortium and Comparative Strategic Research Agenda for whole consortium were prepared. In similar way, Joint Action Plan for each region and common Joint Action Plan for whole consortium were created. Also Mentoring Mutual Learning Plans were elaborated in each region. All the project long-term impacts were described in these documents. Documents coordinated future works foreseen between BIOCLUS partners.

Navarra

The main results in Navarra during BIOCLUS project could be summarized in:

- Biomass is added as a specific priority in the 3rd Energy Plan of Navarra.
- ENERMASS project (SUDOE) approved in NA for the creation of a biomass cluster.
- NA taking part in a ERANET+ BESTF.
- “Renewable Energy Technician” (including biomass energy) will be possible since 2011.

7th FP projects: SECTOR and LOGISTEC will make it possible to research deeply torrefaction and logistic issues related to biomass.

The abovementioned actors improved their cooperation and acted as a research driven cluster encouraged by the activities carried out in the framework of BIOCLUS. The cooperation modes were possible due to BIOCLUS project. These were heterogeneous, both at regional but also at international level.

Regional:
- Most of them participated in 4 regional workshops (related to SRA, JAP, Innovation..)
- All of them gave input in regional JAP process
- CENER, BIOTERNA, CEMITEC participated in short regional exchanges

International:
- CENER participated in innovation workshop in Slovakia
- CENER and Government of Navarra participated in study tour and workshop in Wielkopolka
- FORESNA, ZUBILLAGA and ECOFUEGO participated in benchmarking to Austria
- University of Navarre participated in benchmarking to Michigan
- CENER, Government of Navarra, ECOFUEGO, BIOTERNA, ZUBILLAGA, Acciona, Smurfit Kappa, UPNA hosted 4-5 long term exchanges and 2 short term exchanges
  - Leader in other RES as wind power, and this can be a first step to become also in biomass energy, since it has the potential.
  - RES and biomass energy, as well as R&D&I have regional priority. Navarra’s New Economic Development
  - Model, MODERNA NAVARRA (regional economic strategy), purports a Vision for the region by 2030, when Navarra has completed a shift from a productive economy to a knowledge one, following a Smart Specialisation process on 12 priority sector/clusters, including Renewable Energies.

National Renewable Energy Centre is located in Navarra. Regional capability and opportunity to develop further in the research area.

- In the framework of “Navarra Wood Forum”, Government, forest owners and forest industries agree on establishment of small co-generation plants using forest biomass coming from forests under forest management plans, ensuring, therefore, an essential sustainability from an ecological, economical and
environmental point of view.

Slovakia

The BIOCLUS Slovakia team established a link to the CLUSTERAT clustering initiative, which was developed into V-4 intense research cooperation and cross-border project cooperation (Slovakia – Hungary research project) and Slovakia – Ukraine research project.

In short term the most concrete result of this networking and capacity building are the joint R&D activities, such as proposals, at regional, national and European level. The planning work was supported by the cluster level and consortium level workshops. For example, in the field of torrefaction research VTT, CENER and JYU has had very active personnel exchange and two successful joint project proposals.

Some highlights of cluster competence promotion are:

- A private company Gizex (PO) has contacted a Spanish boiler company. Now collaboration together for the use of straw as raw material.
- A private company Gizex (PO) with the ideas raised in the workshops has produced a new machine for hot air generation.
- The regional authority UMWW (PO) is promoting an Eco-Energy & Innovation Centre based on some ideas of the visit to NA
- The regional authority UMWW (PO) is collaborating with CF for the improved of their training programs, focused on more practical aspects
- A private company BIOTERNA (NA) has developed and established their pellet production certification systems ENplus.
- The University JYU (CF) carried out two month long personnel exchanges in CENER (NA)
- with the topic solid biomass sustainability
- The cooperation of our regions in now behind of us, and it will last for the future
- Biomass is now included with an specific chapter in the 3rd Energy Plan of Navarra
- In Navarre (SP) the regions has reach to have a relation of different areas of the regional administration dealing with biomass
- In Navarre (SP) it has been approved an ERANET+ BEST Bioenergy
- In Western Macedonia (GR) the regional authorities are very willing to make district heating projects

Importance of RoK funding:

Central Finland

BIOCLUS offered an extraordinary opportunity to network and cooperated at regional, national and EU level. At European level BIOCLUS gave great input in technology platform work, especially for Renewable Heating and Cooling Platform. It offered an opportunity to learn about and prepare oneself for Horizon 2020. It supported many European networks by offering opportunity for participation and information dissemination, e.g. Fedarena cooperation and standard promotion. Besides the network development lead to new expertise networks that have already resulted for example Biodrying proposal for FP7 proposal.

BIOCLUS supports the joint use of research facilities by disseminating information about them and by introducing a model for the joint use of facilities. From a business point of view, BIOCLUS supports the international cooperation for the fuel biomass market. The project has increased technology transfer (and practice transfer) between research orientated clusters and between EU and USA as well as technology optimisation. Furthermore, the benchmarking visit in USA gave excellent opportunities for European experts, businessmen and decision-makers to learn about innovation management as well as initiative development.

At international level, there will be dissemination activities related to the best practices biomass solutions. For example, biomass boilers will be exported from Poland. Cooperation with other foreign units will be done for biomass sector development. At international scale, ideas will be implemented in practice from following documents elaborated in BIOCLUS SRA, JAP and Mentoring and Mutual Learning Plan.

BIOCLUS Central Finland didn’t receive any other funding except the EU contribution and own finance. Especially JAMK had committed to large finance of its own. However, that was later compensated partly by EU since some BIOCLUS partners didn’t use their budgets and the finances were reallocated.

Wielkopolska

RoK funding was important for establishing long-term cooperation between consortium members. Without RoK funding, the cardoon research plantation would have been prepared. However, it should be
stressed that without information during the BIOCLUS seminar from Western Macedonia Region, as well as the study tour of regional authorities (both events financed from RoK) the research plantation would not have happened. Contacts with other BIOCLUS participants have changed the mind-set around the EU experiences in the biomass sector.

The willingness to solve problems together with other BIOCLUS and EU members, immediately encountered some barriers inside the Wielkopolska cluster and inside participant organizations. Also legal barriers (at national and EU level) and financial barriers were encountered. Inside Wielkopolska cluster there was a lack of established procedures for aligned cooperation. Actions were taken ad hoc and the barriers have been addressed to appropriate instances. The fastest response and actions came from Regional Authorities, Institute direction and GIZEX. Regional Authorities adapted BIOCLUS conclusions to political decisions about region development and formal actions. Recently, the Marshall Office of Wielkopolska Region (Regional Authority) has regularly organised seminars, workshops and conferences. Especially active in this field is the Department of Agriculture and Rural development. The Department's basic concern is analysis of the current situation and planning of rural and countryside development under the Programme "Development Strategy in the Wielkopolska Region" and the "Rural and Village Areas in Wielkopolska Development Strategy". Furthermore, the Department cooperates with the Chamber of Agriculture and with farmers' social and professional organisations, unions and branch associations, scientific and educational institutions and with foreign agencies to collectively solve the rural problems of the Region.

The Department informs its rural areas' inhabitants about possible actions in agriculture and village modernisation, and also tries to create non-agricultural possibilities for earning money. In order to activate the inhabitants of these areas, the Department carries out different contests, such as the "Wielkopolski Rolnik Roku" (Farmer of the Year in Wielkopolska) and "Polish Food Producer", and cooperates in the "pro-ecological and pro-cultural activities under the framework of rural areas development strategies" contest. This last contest is also a part of the heavily promoted Wielkopolska Ecological Rural Development Project. The Department is also responsible for protecting rural and forested areas. It gives opinions on the proposals for changing those areas' purpose and controls abiding regulations arising from law regulating those issues. The Department of Agriculture and Rural Development also gives opinion on the financial and assignment plans of the Government agencies and The Regional Directorate of the State Forests, so that they are in line with the Region's Strategy.

Institute of Technology and Life Sciences (ITP) is implementing long-term changes. The Institute structure has been simplified. The new position of the Manager of Technology Transfer Centre has been created. It should facilitate cooperation between the Institute and business sector. Intensive activities are carried out for new proposals preparations. New research problems are discussed and investigated in the Institute in accordance to elaborated Strategic Research Agenda, Joint Action Plan and Mutual Learning Plan in BIOCLUS project. There is expected the new restructuration of the Institute with focus on better collaboration with business sector.

The Wielkopolska cluster needed some improvements observed in other more developed clusters. Inside participant organizations there were different reasons due to different organization types. Institute of Technology and Life Sciences was (and is) R&D organization. Anyway, their ideas were created constantly together with conducted researches. However, habits (both scientific and administrative) and other factors occurred as a barrier. These habits and factors were identified as lack of willingness to learn something new (e.g. English language), not flexible approach to solving problems, attachment to past, expanded internal organizational structure inside organization, problems with internal communication, complex and not clear internal regulations which consumed work time, etc. Inside Poland, many times, legislation was changed for energy production from biomass. It led to retreat of industrial investors from investments in biomass sector. They lost confidence in long term situation stability, in this sector. These investments should run whole biomass sector together with R&D. In Poland, in contrast to other countries, tax regulations do not allow to have tax reduction from expenses on R&D. It is a financial obstacle for R&D services purchase in R&D sector.

EU regulations predicted Horizon 2020 budget as one of the biggest budgets in EU history for research, products development, etc. However, experiences with projects submitted to FP7 together with other BIOCLUS members, have shown that there were too many applications comparing to predicted budget for projects realization. It seems that still Horizon 2020 budget is too small in comparison to the needs. It prohibits problems solving in regions. Budget increase depends on political decisions which were expressed in appropriate EU decisions and regulations.

BIOCLUS Wielkopolska has been partially financed by participants from their own funds. These funds would have been impossible to obtain and spend without participation in the RoK programme.
Navarra

Without RoK funding it would have been difficult to achieve the above explained results mainly due to the small cooperation between the 3 axes of the research driven cluster. There was not a cooperation framework to foster and maintain collaborative activities in the Navarra region.

In NA no such cooperation programs as RoK exist, which works in the same way. However, there are other kinds of funds that are being used for biomass cooperation at a regional, national and international level. Also cooperation is done by the organizations themselves. i.e:

- Interreg SUDOE program for the creation by the end of 2014. An Innovative transnational cluster for biomass energetic valorization in the SUDOE area.
- Interreg IVa POCTEFA program for overcoming barriers to the development of cultures of microalgae for bioenergy purposes.
- Interreg IVb SUDOE progam for the exchange and technology transfer for waste recovery vegetables transformation industry in SUDOE area.
- National program of R&D oriented to society challenges including energy challenge.
- Expectations in coming H2020 opportunities in cooperation with regional and international actors. The opportunity offered by BIOCLUS for the learning of 7th FP and H2020 improves the expectations of the region in this program.

- Navarra is taking part in different platforms:
  - Part of RHC: Renewable Heating and Cooling Platform
  - Part of BIOPLAT: Spanish Biomass Technology Platform
  - Part of the APPA: Association of Renewable Energy Producers
  - Part of PTFE: Spanish Forestry Tecnology Platform
  - Part of EERA: European Energy Research Alliance

From the 3 participants of Navarra in the BIOCLUS project (Government of Navarra, BIOTERNA and CENER) only CENER had additional funding. CENER is a non-profit foundation, in which all its trustees are public institutions, such as the Ministry of Economic Affairs and Competitiveness, Ciemat, Ministry of Industry, Energy and Tourism and the Government of Navarra. Besides, CENER obtains additional funding in order to carry out some of the R&D and cooperation activities from EU programs such as 7th PM, Intelligent Energy Europe, Interreg. Also from national programs such as Innpacto, Retos. And finally from regional Technological Pole Projects support.

From all these funding possibilities, the ROK program has had a significant impact in spreading the international network of CENER, giving the opportunity to have a network of countries, regions, organizations and individual sharing similar/common situations, problems and wishes. By BIOCLUS we have organized this network so we are aiming to obtain EU funding in order to find solutions.

In summary, CENER has increased the possibility to obtain access to EU funds that before ROK were not accessible or less accessible (depending on the topic).

The CENER Foundation started its activity in 2002 and its Board of Trustees is comprised of the Ministry of Economy and Competitiveness, Ciemat (Research Centre for Energy, Environment and Technology), the Ministry of Industry, Energy and Tourism, and the Government of Navarra.

The 3 participants of Navarra in BIOCLUS project (Government of Navarra, BIOTERNA and CENER) only CENER had additional funding. CENER is a non-profit foundation, in which all its trustees are public institutions, such as the Ministry of Economic Affairs and Competitiveness, Ciemat, Ministry of Industry, Energy and Tourism and the Government of Navarra. Besides, CENER obtains additional funding in order to carry out some of the R&D and cooperation activities from EU programs such as 7th PM, Intelligent Energy Europe and Interreg. Also from national programs such as Innpacto, Retos. And finally from regional Technological Pole Projects support.

Slovakia

There is lack of national grants and finance for RoK initiatives, BIOCLUS was extraordinary source for Slovakia, no national funds exist in Slovakia. This si also the case with regards to future funding opportunities.

The BIOCLUS results were transferred to all of Slovakia: Relevant documents and national action plans, (National programme of the woody potential utilization, approved by Government in 2013, action plan nowadays in the phase of comments process). All relevant Ministry representatives were informed,
especially within the phase of Slovakia Smart Specialisation strategy creation, significant for the future programming period. Through the Regional Government (Banska Bystrica region), more precisely the Department of Regional Development, our effort was focused on additional funding within Regional Operational Programmes, being active within INTERREG IVC KNOW HUB initiative (www.know-hub.eu), significant for regional Smart Specialisation Platform.

Information regarding the regional funding possibilities for 2014 - 2020 is expected from the Self Governing Region Banska Bystrica. Regarding national funding, Slovak biomass producers will have the chance to apply for funds within the Rural Development Programme, in the period 2014 - 2020. BIOCLUS stakeholders can also participate in the future calls of the Operational Programmes Research and Innovation, and OP Agriculture and Environment.

Some of the BIOCLUS stakeholders participated to the calls of the operational programme Competitiveness and economic growths, receiving structural funds finances (e.g. INTECH, Bučina Zvolen). Participation in BIOCLUS activities was certainly helpful and probably influenced the positive result of finally obtaining their funds.

Western Macedonia

The BIOCLUS participants did not receive any additional funding. The project built the fundament on which it was possible to establish a bioenergy cluster in the region. The cluster started with a few members in the BIOCLUS project and has since grown with over 20 members. This cluster is still at an embryonic stage, looking for further funding.

From all these funding possibilities, ROK program has impacted in a significant way in spreading the international network of CENER, giving this way the opportunity to have a network of countries, regions, organizations and individuals sharing similar/common situations, problems and wishes. With BIOCLUS CENER has enlarged this net in order to apply for EU funding. In summary, CENER has increased the possibility to obtain access to EU funds that before ROK were not accessible or less accessible (depending on the topic). Example of this are the EU projects related to this net or to biomass clustering (LogistEC, SECTOR, ENERMASS) approved taking advantage of BIOCLUS project.

Thanks to BIOCLUS, research agendas and action plans have been implemented and inserted in the regional agendas and policies.

Impact and sustainability:

Central Finland & consortium level

<table>
<thead>
<tr>
<th>Surplus value of BIOCLUS</th>
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<tr>
<td><strong>Regional level</strong></td>
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<tr>
<td>- Supports regional strategic work</td>
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<tr>
<td>- Joint strategic view of regional key actors</td>
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<tr>
<td>- Useful analyses about biomass resources</td>
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<td>- Activation of innovation systems</td>
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<td>- Increased cooperation in the field biomass</td>
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<td>- Stronger capacities for biomass R&amp;D&amp;I activities</td>
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<tr>
<td><strong>Organisational level</strong></td>
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<tr>
<td>- JAP facilitation cooperation</td>
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<tr>
<td>- Supported expertise promotion of staff</td>
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<tr>
<td>- Growth of regional and international networks</td>
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<tr>
<td>- Increased interaction of triple helix actors</td>
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<tr>
<td>- FP7 Learning process</td>
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<tr>
<td><strong>Personal level</strong></td>
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<tr>
<td>- Great opportunity to increase expertise – also at practical way (e.g. personnel exchanges, competence promotion)</td>
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<tr>
<td>- Wider personal networks</td>
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<tr>
<td>- Further knowledge about partner regions operational environment and organisations</td>
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<tr>
<td>- Intercultural skills developed</td>
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Wielkopolska
The internationalisation of the cluster in Wielkopolska was done through following activities establishing links with other BIOCLUS members during common actions, establishing cooperation with National University of Life and Environmental Sciences of Ukraine in Kiev, presence at ‘Energy Days’ organized by EU Commission together with ‘matchmaking event’ after it, common project proposals writing and applications to Intelligent Energy Europe, inviting our project partners from Finland and Slovakia to a proposal submitted to Norway Fund, participation in EU Commission events transmitted by Internet, etc. Inside Institute of Technology and Life Sciences, a position of Manager of Technology Transfer Centre in organization is at the moment in elaboration. In the position requirements were written tasks for establishing of cooperation with industry, policy makers and abroad organizations. It could be regarded as a BIOCLUS effect inside the Institute. Changes went too slowly in comparison to willingness. Other changes postulated by BIOCLUS are still not implemented. However, many other efforts have been done as Institute employees participate in courses for scientists, devoted to collaboration with industry or Intellectual Property Rights protection, etc. Institute scientists carefully observed all works with Horizon 2020 and participated in many events organized by Polish National Contact Point for Horizon 2020 after termination of BIOCLUS project. There were prepared some conceptual ideas to patent some solutions which were regarded as important for technological advancement or contributed to the economic competitiveness of region/country/worldwide. Unfortunately, knowledge learned from IPR protection lectures forbade to name them, to the moment of application in the Patent Office. The increase in knowledge about IPR protection was also the BIOCLUS effect.

Navarra
The results outlined in the previous section were longlasting in time since they are closely related to regional initiatives and policies.

Furthermore, these activities are planned after the BIOCLUS project:
- Creation of Forest Biomass Commission of NA in 2013
- 1st Biomass Energy Fair in NA in 2013
- ENERMASS project (SUDOE) running for the creation of a transnational biomass cluster between regions of France-Spain-Portugal in 2014

Slovakia
The BIOCLUS project supported and extended the possibilities of Slovakia’s participation within the European Research Area in biomass production and utilization for Energy purposes. Cooperation base for further international projects was established, consortium already develop project ideas within H2020 open calls (Bioenergy). Project outputs are contributing to the sustainable development biomass production and utilization in Slovakia from the environmental, economic and socio-economic point of view.

Lessons learnt:
Central Finland & BIOCLUS consortium in general
New biomass investment: Co-generation plan to Slovakia with the efficiency of 1,8 MWe /1,2 MWth. The company carrying out the investment is the partner in the project and got decision-making support through the project.

Networking and expertise exchange led to new R&D&I proposals at cluster and consortium level – the cooperation continues in many projects and other initiatives.

Cardoon introduction to Wielkopolska region – it was learned in the study tour in Western Macedonia and studied by the Wielkopolska cluster member in the regional project.

Biomass is added in the 3rd Energy Plan of Navarra.

BIOCLUS analyses have been used as the background papers in the regional strategy development in all BIOCLUS regions.

Technology and practice transfer between research orientated clusters in Europe and between European Union and USA.

Regionally BIOCLUS supported regional competence promotion and other campaigns and concept development e.g. to convert heating from oil to renewable heating sources (small district heating networks and village schools).

Commitment of organisations and staff - it is unusual to have 20 organisations to be cooperated for three years with same key staff!

Strategic processes were supported, e.g. Navarra got bioenergy strategy.
Intercultural skills were developed - Be hard for a problem and soft for the people.

**Wielkopolska**

Lessons learnt were as follows: Knowledge transfer, conscious change, regional Strategic Research Agenda, regional Joint Action Plan, regional Mentoring Mutual Learning Plan, collaboration with local authorities, international collaboration.

Knowledge transfer was focused on all aspects linked with biomass sustainable production and use. Scientists, industrial workers and local authorities met in different countries. They expressed opinions and methods for problems solving, and presented ready solutions that work very well in their clusters. These meetings changed conscious of people from Wielkopolska about biomass and developing research and innovation environment. In Strategic Research Agenda for Wielkopolska, the region ideal vision, missions (ways how to achieve the vision) and scientific problems were defined in relation to sustainable use of biomass sources.

A Joint Action Plan for Wielkopolska described different actions which should be taken for the region. Regional Mentoring Mutual Learning Plan stated actual situation at regional and national level. On this base, SWOT analysis was done for management systems of innovation. A real situation was described in the Plan. Recommendations for systems optimization were given for activities in future. Information from benchmarking visits, remarks and mentoring patterns was presented and summarized. At the end of the Plan, brief recommendations were elaborated for the improvement of the regional innovation system. A real situation was described in the Plan. Recommendations for systems optimization were given for activities in future. Information from benchmarking visits, remarks and mentoring patterns was presented and summarized. At the end of the Plan, brief recommendations were elaborated for the improvement of the regional innovation system.

**Navarra**

We have learnt:

The importance of an effective leadership to run such a initiative as BIOCLUS.

Real situation of our region (on biomass R&D and innovation) individually and in relation to other EU regions by system analysis or SRA, recognizing mistakes and what was working.

Our biomass research objectives in mid term by JAP.

How to carry out regional cooperation between triple helix actors.

How to cooperate and learn from other EU regions.

USA business models and EU biomass sector models by benchmarking.

Gain of knowledge of researchers.

All this lessons learnt have been documented and shared in webpage, conferences, congresses, etc.
Case study 8: AFRESH

The AFRESH project, which aimed to establish an adequate and multidisciplinary regional joint action plan within non-communicable diseases, is a very good example of the RoK objective of fostering regional growth and competitiveness as well as developing research and innovation excellence in EU regions.

Through establishing collaboration between triple helix actors from 7 different regions, the project was further successful in enhancing regional investment in research and innovation for their area and future initiatives are already being established. It is reported that the RoK funding was crucial for this achievement, especially with relation to the European-wide activities the project also spurred. Although it is predicted that the regional cooperation will continue, it is deemed very hard to continue the European-wide collaboration if alternative funding is not secured.

Name/acronym of your project: AFRESH

Project period: Sept 1, 2010 until December 31, 2013

Research theme/tool/set-up: Regional Health Strategies (Joint Action Plan) for Nutrition and Physical Activity to reduce diet- and physical activity related diseases

Project objective:

The economic burden caused by a high prevalence of diet-related and inactivity related, so called non-communicable, diseases (NCDs) is immense. The epidemic proportion of NCDs is the single largest costs to European public health systems. AFRESH therefore aimed to develop a joint action plan for reducing diet- and physical inactivity-related (chronic) diseases, such as diabetes, obesity, cardiovascular diseases and various types of cancer, by designing innovative regional strategies for products and services, policy actions and research activities within the field of nutrition and physical activity. Following this logic, the acronym “AFRESH - activity and food for regional economies supporting health” was selected. To achieve the aim of an adequate and multidisciplinary regional joint action plan at the heart of the project, a detailed work plan was followed.

Alignment of project objective with regional objectives:

Our Project was in line with regional initiatives and programmes of the State of Baden-Wurttemberg. It is also in line with federal programmes of the Federal Republic of Germany. But we also developed new strategies for example to better combine physical activity and nutrition – the dual approach in the AFRESH joint actions. Not for all seven other regions is the same density of initiatives and joint actions still developed, therefore the project was very helpful for them to improve their regional health strategies and to get new ideas. The health topic is not in the main focus of our region: we are mobility and automotive region, but on the second level health is very important for the Stuttgart Region, because especially the ageing society and the ageing workforce are great topics here. Therefore the AFRESH project especially focused on these both topics with one of four working groups. We will further develop projects of our Joint Action Plan by using Horizon 2020 or structural funds. Especially the ESF could be helpful for us.

Research results:

One very important result for our region and for all other seven partner regions, was the improvement of regional collaboration, especially between nutrition and physical activity actors. In the past they were not working together closely, but a lot of initiatives and projects has been established but without knowledge of the others. This has been improved with AFRESH and the joint actions and the regional stakeholder meetings.

A second very important result was the improved European-wide collaboration of our regional actors. In the past only some of them like University of Stuttgart had good European-wide collaborations. Now they exchanged ideas and project plans with other partners and will do it also in the future. You can say: AFRESH will bring some regional actors to the European level (in all eight regions, not only in Stuttgart Region). One successful project in FP7 has been already applied for. Some further will follow on national and European level.

The third important result was the mentoring for the mentored regions in Hungary and Poland. There has been a very successful exchange between all eight project regions and they could learn a lot from the other regions, but: the mentoring regions could also lean a lot from the mentored regions. This exchange has been very fruitful!
Importance of RoK funding:
I don’t think these results would have been achieved without the AFRESH project, because the European funding entitles us to engage personnel means and manpower in these projects. You can say the RoK-Funding was crucial for the success of the project!
But this is also the main problem for the future. If we will gain no future funding for the realization of the JAP-ideas it will be very difficult to realize these ideas and European-wide collaboration will be interrupted. But regional collaboration will be continued, for example in Stuttgart Region round tables have been established and they are independently from future funding are very successful.

Impact and sustainability:
AFRESH helped us to establish ‘round tables’ with regional enterprises, universities, policy makers and representatives of the health community.

With AFRESH we got successful access to one follow-up FP7 project. Not at the moment but for the future we think we will get better access to the Structural Funds, especially to ESF.

Of course we established better collaboration with the European Research Area. With our Conferences Health Connect Stuttgart 2013, the Closing Conference in Warsaw in June 2013, with our Conferences in Brussels and Gent and finally with the Stakeholder-Event in Brussels in December 2013 we could gain better contacts to researchers all over Europe and could present the AFRESH joint actions to them and could contact research to plan future activities with them on the European level or in the regions.

We developed measures for the mentoring of the regions with a structural change, for example in Poland or Hungary (Change Management Toolkit) but also for regions like Stuttgart Region. In the past Stuttgart Region was only an automotive region but now it is more focusing on Clean Energy and health topics.

The AFRESH joint actions we presented to regional stakeholders and especially the ideas for the workplace health promotion sector have contributed to the economic competitiveness of our regions.

The measures we have undertaken to gain sustainability of our project ideas are different from region to region. All regions established regional stakeholder meetings not only during the project time but also in the future. Therefore, all regions will check at least one time a year, which ideas are realized and which are not realized.

The Joint Action Plan is a document with very interesting ideas, which is checked by independent actors of all regions and parts of the triple-helix. Therefore, the sustainability should be guaranteed because the JAP meets a lot of demands of the single regions. The project work plan supported this sustainability because firstly; (work package 1) all relevant regional stakeholders have been identified and secondly; (work package 2) the regional needs and demands have been analysed. Thirdly; the regional possibilities have been checked by SWOT and SOR analysis (work package 3) and fourthly; the Joint Action Plan has been developed (work package 4). The work packages 6 to 8 developed future funding and product ideas to guarantee the sustainability of the JAP-ideas and the usability especially for the mentored regions. Now the future will show if the regional actors will finance the AFRESH ideas. First steps during the project have been successful, but you have to see if the long-term success will confirm these first successful steps.

We signed an ASFRESH agreement for future collaboration in December 2013, to work together on the European level in future under Horizon 2020 and other funding schemes. The project will establish future yearly meetings with all partners to check the possibilities of future collaboration and funding.

But I’m afraid if we will get no fast success with future project funding, some partners will not continue the European-wide collaboration. This will maybe cause problems with the sustainability on the European level, but for the regional level the regional collaboration will be continued also without European funding, but, of course, it would also be very helpful for the regional level to gain also European funding for the future.

Lessons learnt:
The RoK project especially helped to improve collaboration and exchange of ideas between the triple-helix actors on the European and regional level. This was especially helpful for our academic actors from universities and research institutions to exchange knowledge and research ideas and to get knowledge of project partners for the future.

It was, however, not easy to concretize these ideas for the regional economy within the RoK funding scheme, because no concrete realization of the ideas have been funded. For example if we met with a regional enterprise and presented the JAP-ideas for the ageing workforce or for workplace health promotion they asked us “very interesting ideas, but where is the European money for the realization of the health actions you presented to us?” And if we answered them, that we have to develop follow-up projects together to finance the ideas, or that we need money from the enterprise itself to implement the ideas, not at all, but a lot of them, were no longer interested in the ideas.

The actors from the public sector reacted much more open to our ideas because they have public money to realize the ideas. The aim to develop regional strategies for diet- and physical related diseases have been reached very well, but the realization and implementation of the strategies will be much more difficult and will of course differ from region to region!
Case study 9: REDICT
The REDICT project has emphasized the importance of collaboration between triple helix actors within ICT and new media clusters across 6 regions in Holland. The project was instrumental in establishing the Amsterdam Economic Board, which acts as a structural base for the co-operation between triple helix actors both regionally and internationally. Furthermore, the project has functioned as a stepping-stone for the launch of various projects concerning ICTs and creative start-ups. These initiatives were based on an analysis of ‘which factors makes a cluster successful’ and subsequently, a join action plan for cluster development has been created, which focuses especially on further internationalization in the future.

RoK funding is reported to have acted as an advantage, concerning alternative funding. Finally, the REDICT project enabled a more specific articulation of interest areas, which is considered helpful in a Horizon 2020 framework.

<table>
<thead>
<tr>
<th>Name/acronym of your project: REDICT - Regional Economic Development by ICT/New Media Clusters</th>
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<tbody>
<tr>
<td>Project period: 1-01-2008 to 31-12-2009</td>
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<tr>
<td>Research theme/tool/set-up: FP7 - Coordination and Support Action</td>
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**Project objective:**
REDICT brings together 6 regions which share a strong R&D presence in the field of ICT and New media and the sense that this position has to be exploited for maximal economic and social benefit. They see that the factors that influence the transfer of knowledge to SMEs are complex and often badly understood and want to exchange experiences and best practices to better understand these factors and to make use of them to boost competitiveness and economic performance.

The main objectives of REDICT were:

- To map all the critical issues that are relevant for improving the innovation potential of the regions involved in the field of ICT/New Media;
- To design best strategies and concrete actions based on this to strengthen the economic competitiveness of the region, with a clear focus on the role and potential of SME’s.
- To assess the effectiveness of existing mechanisms for boosting innovation and knowledge flow to SME’s in the different regions.
- To suggest practical, tailor-made strategies and action plans (JAP) for RTD-related measures, and ways in which these link to relevant economic development policies.

**Alignment of project objective with regional objectives:**
The Amsterdam region had/has a vibrant ICT cluster and high concentration of skills. Amsterdam is the most important Telecom, IT & New Media city in the Netherlands, with approximately 8,000 companies that employ about 40,000 people. Many international ICT companies have chosen for Amsterdam as a European base because of its outstanding communications infrastructure, its strategic location near key markets and logistics networks.

In the ICT/New media sector of the Amsterdam region counts for about 10-15% of total employment. The networking infrastructure is high-level (AMSIX), there is an ambitious broadband-program, and a strong leading R&D knowledge position (MultimediaN, GRID, VL-e, simulation & gaming).

Both the ICT and the creative cluster were selected as key clusters for the Amsterdam Region around 2006. From that moment, these clusters were given special attention in regional development programs (set up and executed by e.g. the Amsterdam Innovation Motor).

The project also builds on the ambition of the Amsterdam Region to enhance the co-operation between knowledge institutes, regional authorities and businesses and to stimulate the vaporization of knowledge. Amsterdam has a strong position in knowledge contents, science and infrastructure; however the effective use of this position with reference to new and growing companies and (spin-off) products needs attention: this is known as the Dutch knowledge-paradox.

The REDICT project could be seen as catalyst for the co-operation between the Amsterdam Innovation Motor, the Chamber of Commerce, Syntens and the Technology Transfer Offices of the two Amsterdam universities, that led to IK3 project. This project, which receives funding from EU Structural Funds between 2011 and 2015, was developed to enhance cluster development in ICT, creative industries, Life
Furthermore, from the REDICT project some ideas were incorporated in projects which were funded by the ERDF 2007-2013 Kansen voor West programme (e.g. Creative City Lab). The REDICT results were also used as input in the development of the Smart Specialisation Strategy of the Randstad (started 2011)

Research results:
For the Amsterdam Region, the REDICT project helped to articulate the importance of co-operation between knowledge institutes, regional authorities and businesses in general and in the ICT and creative industries clusters in particular. The REDICT project thereby could be seen as a first step that led to the formation of the Amsterdam Economic Board, a triple helix strategic body for the Amsterdam Region. The REDICT project can also be seen as a stepping stone to the launch of incubator and accelerator programs for ICT and creative startups (such as Start up Bootcamp, Rockstart, Venture Lab) in the Amsterdam Region.

Furthermore, the REDICT project spurred international collaborations for the Amsterdam region: 1) ‘Open Cities’ with Cap Digitale from Paris, 2) ‘Cross Innovation’ project with University of Amsterdam and University of Dublin. These collaborations are ongoing although ‘Cross Innovation’ is coming to an end.

In Work Package 4, a Framework of Reference (FoR) was developed to identify the conditions that make clusters successful. This question is particularly relevant in the, new and rapidly changing, ICT and New Media sector. The FoR distinguishes the following four kinds of conditions:
O Resource conditions: workforce, capital, infrastructure (physical and knowledge);
O Business context for companies: strategy to encourage investment and innovation, competitive climate; an innovation prone government;
O Demand conditions: existence of an advanced consumer community that creates the demand that drives innovation; other business sectors that are open to and receptive for new developments;
O The presence of a stimulating business environment: a creative and diverse community of companies making a strong ICT/New Media sector and more general a strong, open and innovative business community

A joint action plan was developed for RTD-related measures, and ways in which these link to relevant economic development policies. This helped the REDICT-partners to professionalize their strategy for cluster development for the ICT and creative industries cluster.

Importance of RoK funding:
It is hard to tell to what the extent the above research results would have been achieved anyway. The ICT and creative industries had already been appointed key clusters for the Amsterdam Region before the start of the REDICT project. Funds for cluster development however, both from the national as the regional level, were not made available yet.

REDICT funding was 50% from EU Commission and 50% from other partners.

The RoK funding was a leverage for persuading the other partners to participate financially – by way of the EU Commission’s support through RoK.

REDICT allowed a more specific articulation of what kind of project is found interesting, and this articulation is helpful in Horizon 2020 framework projects.

Furthermore, doing REDICT helped us to learn about ourselves and the benefits of participation with other cities and formulate additional and more specific projects within ICT.

The RoK funding thus could have functioned as a trigger for knowledge institutes, regional authorities and businesses to intensify their co-operation.

After the launch of the REDICT project partner, the Amsterdam Region have set up the Amsterdam Economic Board and more funding for cluster policies came available. On the national level the so called Topsectorenbeleid (top sector policy) was developed, that also led to (some) increase of funding opportunities for cluster development in the ICT and creative industries.

REDICT can also be considered as a first step in raising awareness on cluster development and the roles of the local government, universities and companies. As such, it has been a starting engine for other clusters in the Amsterdam region.
**Impact and sustainability:**

The formation of the Amsterdam Economic Board has given the cooperation between regional governments, knowledge institutes and companies in the Amsterdam Region a structural base. This Board has appointed 7 economic clusters that are seen as vital clusters for the economy of the Amsterdam Region. ICT and creative industries are two of these clusters. For each of these clusters core groups, (consisting of captains of industry, professors from universities and representatives of local governments), were set up that were asked to develop strategic plans for their cluster. The cluster plans that have been developed give direction to the joint efforts of all stakeholders within the Amsterdam Region.

As far as the internationalisation of regional research-driven clusters is concerned, the cluster plans that were developed by the core groups are used as a tool to give more focus to the internationalisation of these clusters: how do these clusters see their position in Europe? What strategic partnerships can help to strengthen their position? And how can EU Structural Funds be helpful in realising the ambitions of the clusters. REDICT (and some other factors as OECD reports) led to a sense of urgency for cluster development. As the SF were available for innovation and entrepreneurship, an additional criterion was added to the ERDF-programme assessment, specifically focused on contribution of project activities to priority-cluster development. At present, the triple helix partners within the Amsterdam Economic Board are preparing an Internationalisation Agenda, which is supposed to give more specific answers to questions like the ones above, and thus is supposed to enable the Amsterdam Region to make more explicit and coordinated choices in this domain.

**Lessons learnt:**

- The most important benefits of the REDICT project were on the national level. The project helped the Amsterdam Region to set up and professionalize a program of cluster development in the domain of ICT, as an example of other (later) clusters.

- It also improved the cooperation between the business sector, the knowledge institutes and regional governments in the Amsterdam Region.

- The REDICT project did lead to an exchange of knowledge and best practices between the involved partner cities, but this was not given a structural follow up. Reasons for that may have been:
  - The numerous personal changes within the delegations of the involved partner cities;
  - Differences between the involved cities in terms of both stage of and focus in cluster development;
  - (for the Amsterdam Region) The amount of time and resources required for developing cluster strategies within the own region.
  - Cluster coordination (ICT) was taken over by the Board organisation, which was focused on basic development of the Amsterdam cluster and its companies. Only recently (European) internationalisation was put back on the agenda.

- The REDICT project seems to have worked well as a first stage of international cooperation in cluster development. To make the step towards the following stages more focused projects are needed, with more focused goals and with international partners better fit the specific qualities, assets and needs of a cluster. Clusters in each of the European regions have different characteristics, scales and different stages of development. These aspects have to be taken into account when entering a new programme-period.

- The REDICT project has functioned, in part, as a ‘learning and growing experience’. Today, the cluster is much more professional, with greater knowledge of its strengths and weaknesses as well as its core focus and interests. The project can also be viewed as a catalyst, both for regional and international collaborations but also for new projects. For example one of the Smart City projects: City Zen, has obtained European funding. This is but one of the initiatives which can be seen as a ‘logical’ development from the REDICT project – however, with a far more specific aim.
Case study 10: REMCAP
The REMCAP project, which is currently at a halfway point, has especially excelled in analysing how important cluster facilitators are for the development of cluster activities in research and innovation. More specifically, eight success factors have been identified that can determine the strength and weaknesses of various clusters, which is helpful when optimizing cluster activities.

The project has further succeeded in establishing national, transnational and global collaboration with triple helix actors, as well as ensuring resource efficiency through integration of capacity across regional clusters in 6 different EU countries. The project is expected to spur further proposals for initiatives under Horizon 2020, herein an attempt to strengthen international collaboration. It is assessed that the RoK funding, especially due to its appeal to SMEs, has been essential to meet the objectives. Furthermore, REMCAP has been instrumental in attracting awareness to the need for available funding such as that provided for RoK – especially within the maritime research area.

Name/acronym of your project: REMCAP – Resource Efficient Maritime Capacity

Project period: 1/11/12 to 31/10/15

Research theme/tool/set-up: Resource efficiency

Project objective:
European seas contain abundant resources, but they are also vulnerable to misuse of those resources. As Europe, and many other parts of the world, become increasingly dependent on their marine resources, it will be essential to ensure efficient use and stewardship of those resources. It is in this context that REMCAP has been conceived, with two fundamental and closely related goals:

- To enable European centres of research and engineering expertise to achieve a step-change in their capability underpinning resource efficiency of Europe’s maritime resource exploitation activities; and
- To ensure those centres are engaged with businesses, finance providers and policy makers, to enable an accelerating capacity for innovation, leading to globally competitive solutions for maritime resource efficiency.

Alignment of project objective with regional objectives:
The Solent region has a strong maritime industrial base and several world-class universities with maritime research capacity. However, these capabilities have not been coordinated in the past, there is a lack of strategic planning, and there is a fragmentation of effort. The industry is also highly diverse, ranging from fisheries to ship repair, and public authorities at regional and national level have failed to understand the opportunities of this industry and its barriers to investment.
With the recent creation of new Local Enterprise Partnerships in England, there has been a growing recognition of the importance of maritime investment to the overall growth of the region. The REMCAP project is therefore taking place at a time when there is a strong need for improved strategic planning of maritime growth prospects and an appetite for universities and local authorities to engage more effectively with business.
The REMCAP project is offering a framework within which those relationships can be strengthened, drawing on experience from other clusters, and with resources to highlight priorities for capacity building.
The region is also struggling to address the needs for smart specialisation across the maritime innovation arena. REMCAP is well-placed to help identify specialisation topics, evidenced by analysis across both the business and academic communities.

Research results:
The REMCAP project consists of two halves: 1) developing action plans 2) Putting in place the way of implementing the action plans
The project is currently at the halfway point, where developing action plans are still in focus.
The next step, includes formation of interest groups and new collaborative groups which are expected to submit proposals for further projects under Horizon 2020.
The hope is that the regions of knowledge activity will act as a catalyst for a portfolio of other activities
which can spin out of REMCAP.

Furthermore, REMCAP is part of an action plan looking at activities which would not necessarily be future collaborative projects, but which would have an influence on different regions in the future. The support of companies in innovative actions at regional level (SMEs), is especially important for this cluster.

Although the project is only approaching its half-way point, the following major achievements can already be identified:

Characterisation of very different regional cluster structures across the consortium, with a vastly improved understanding of key success factors for clusters’ ability to drive investment. In particular, the project has analysed the role of a cluster facilitation organisation to enable cluster activities and maximise the benefits to cluster actors. This work has also defined the range of cluster models existing across the consortium, helping the less-developed clusters to benefit from the greater experience of mature clusters.

More specifically, these ‘key success factors’ which were identified, can help determine how effective a cluster can be. This process of identification included asking questions on:
- How well the cluster helps companies access the marketplace
- How well the cluster helps small companies to work with large companies - possibly in their supply chain
- Access to skills
- Access to finance

In short, the eight success factors can show how well each cluster lies in terms of strengths and weaknesses and thereby recommendations can be made regarding what steps the different cluster actors can take to improve their weaknesses.

The intention is to be able to compare clusters in terms of how they function and what they are good and bad at – it gives a structured comparison compared to more generic analyses.

A key point, which came out of this work, was a much better understanding of which success factors depend on having a cluster facilitator, as opposed to success factors that can happen by virtue of a cluster merely existing. There was a lot of confusion regarding the origin of effects prior to the project.

We have found that without an organization with responsibility to facilitate cluster activities there is a lot of value the cluster will not be able to achieve.

E.g. If you look at ‘access to marketplace’ for small companies, someone has to undertake the work to analyse the market, look at entry barriers, trends etc. If no one does that, there will still be obstacles – if there isn’t a cluster facilitator usually these activities will not happen.

The study particularly highlighted the importance of having an organization that can do this. Road-mapping of innovation priorities serving 8 major maritime growth markets, identifying key innovations of relevance to business. These markets have been analysed building upon the data published in the EC Blue Growth strategy, highlighting both growth markets (where short-term growth can be targeted), and pre-growth markets (which are more embryonic in terms of employment potential). The roadmaps are linked to knowledge and RTD requirements, providing strategic steer to universities and other research organisations;

Building of a RTD and facilities database, accessible via an online portal. This includes relevant maritime research projects at EU and national levels, as well as major research facilities.

This information resource is being used for gap analysis, identifying where additional RTD investment is needed. In the second half of the project, these results will be used to focus effort on consortium building, targeting relevant H2020 calls.

**Importance of RoK funding:**

For the Solent cluster, the RoK funding has been essential to make progress. This kind of support for building of new cluster relationships and added-value is not available from existing regional or national funding channels for business, which in the UK are much more tactical in nature. It is also extremely difficult to fund these activities via EU structural funds as there is no viable source of direct match funding for this type of activity.

Other clusters in the REMCAP consortium are in different positions, and in some cases do have access to national or regional funding for cluster activities. However, such funding is generally too restrictive to support the activities carried out in REMCAP. Furthermore, it was found that the RoK programme’s funding structure was not only less bureaucratic than other European Structural Funds, but much more justifiable and realistic for SMEs, which do not have a vast amount of especially financial resources to
invest in such projects. This point being made, it is also worth mentioning that with the termination of the RoK funding, some of the activities which were initiated under the REMCAP project will not be developed due to lack of alternative sources of funding.

**Impact and sustainability:**

The following impacts or expected impacts of REMCAP can be identified:

- Links with clusters outside EU are being actively developed (notably Canada and US in anticipation of growing collaboration under possible trade agreements);
- Strengthening the European capability in maritime resource efficiency through integration of capacity across six regional clusters in UK, Ireland, France, Portugal, Sweden and Lithuania, and creating a promotional presence through web resources and participation in international events;
- In the UK, REMCAP is creating knowledge to influence RTD and innovation funding in terms of: building collaborations with Government agencies responsible for marine resources, influencing smart specialisation at regional level, encouraging more strategic cooperation between universities and other research centres, helping define new innovation priorities with Technology Strategy Board (eg on marine autonomous systems);
- At EU level, REMCAP is providing an input to evolution of the Waterborne technology platform;
- Engagement of public authorities in REMCAP is expected to have an impact on how EU Structural Funds are prioritised and expended in the coming period. As well as highlighting key topics for structural funding, REMCAP hopes to show how the new programme can become more accessible to SMEs than the last programme.

Sustainability of REMCAP impacts are being safeguarded as follows:

- Building of trans-national consortia targeting specific maritime resource efficiency topics and positioned to bid for funding under H2020.
- Maintenance of a long-term promotional presence across European regional maritime clusters, possibly supported by a new EEIG.

**Lessons learnt:**

**Lesson 1:** the RoK support as a CSA is much more suitable to support these activities than the structural funding model, which in the past has been very unattractive to business. Innovation support programmes cannot succeed without active business involvement, and RoK allowed this to happen.

**Lesson 2:** REMCAP has indicated the potential for strengthening regional research-driven clusters by understanding more clearly how clusters, and cluster facilitators, can actually influence investment decisions by private and public sectors. Many EU regions have a strong science base but a relatively weak industrial base. Projects like REMCAP can address this imbalance.

**Lesson 3:** The blue economy is attracting more and more political interest as the potential for maritime growth and better utilisation of maritime resources become clear. Cluster collaboration projects like REMCAP can help convert that political interest in tangible actions on the ground.
Answers to evaluation questions

The above findings of the questionnaire survey and the case studies are together with findings from the desk research used to answer the evaluation questions of the Regions of Knowledge programme’s relevance, efficiency, effectiveness, and its impact and sustainability in:

- strengthening and developing research and innovation excellence in all EU regions;
- fostering regional growth and competitiveness;
- enhancing regional investment in research and innovation;
- facilitating transnational cooperation of clusters;
- supporting the emergence of European networks on global stage; and
- integrating actors into the ERA

This has especially been done by encouraging the development of regional, innovative clusters entailing the collaboration of triple helix actors: universities and research centres, enterprises and regional authorities.

Relevance

The relevance assessment is about whether the RoK interventions have been pertinent to the problems and objectives targeted by the programme. As previously mentioned, this variable is probably the least important factor of this final evaluation due to it taking place at an ex post stage of the RoK programming cycle. The selection process of candidates to participate in and receive RoK funding has been rigorous with many applying candidates. It is therefore assumed that general relevance to the project objectives has been determined at an earlier stage.

Technopolis (2010) questions the feasibility to assess relevance due to a gradual shift in the EC focus and to vaguely formulated programme objectives. However, Technopolis point to a general relevance of the RoK programme as it has “responded to a real need” in the European regions as well as a strong alignment with FP7 and with broader European level policies. Furthermore, Technopolis (2010) highlights the project coordinators’ assessment that the RoK programme “constituted a unique opportunity to strengthen R&D clusters in their region” which has not been addressed by other, similar programs (Technopolis, 2010: 9).

These conclusions correspond very well to the findings of this final evaluation. Although this report has focused a lot more on whether the RoK projects are aligned with regional priorities, it was furthermore found that none of the evaluated projects were misaligned with the higher European-level objective of fostering research-driven innovation and cluster development.

Technopolis (2010) addressed in its questionnaire survey relevance by looking into the requirements for the selection of RoK projects. They found that mentoring, the participation of public authorities in the ‘triple helix’ balanced partnerships, and the involvement of partners from other countries were generally found valuable.

Furthermore, the questionnaire survey looked into the degree of relevance in relation to regional priorities and strengths. Well over half (62%) of the respondents deem their RoK project of ‘high relevance’, compared to only 10% which considered their RoK projects to have ‘no or low relevance’. This furthermore suggests a high alignment with Smart Specialisation strategies which have, in turn, benefitted from the RoK projects.

Also the case studies point to a high degree of relevance of the RoK programme. Not just on a regional level, but also at a transnational and even global stage, the RoK projects have collectively succeeded in the achievement of all of the
abovementioned objectives. Furthermore, the case studies paint a picture of a reality where funding opportunities are meagre, indicating that the RoK programme is an answer to a real need in the regions, unlocking a massive potential for collaboration and development across fields of knowledge as well as borders. It is clear that the RoK programme has been a unique, very relevant and a much needed source of funding for many projects. These have been instrumental in implementing actual innovation and knowledge initiatives that are well in line with the key priorities of the European policy agenda.

**Efficiency**

The assessment of efficiency concerns the research achievements – qualitative and quantitative – in relation to the inputs. Furthermore, it was important for this evaluation to assess to which extent these achievements were dependent on RoK support. This issue has been thoroughly explored in the questionnaire survey and the case studies, by investigating alternative sources of funding, as well as potential financial barriers and how RoK has been efficient in overcoming these. Furthermore, the evaluation looks into the efficiency of RoK processes and procedures.

The questionnaire survey asked the respondents to assess the overall efficiency of the RoK programme as well as the efficiency of their respective projects. None of the respondents found the RoK programme in general or their own projects to be inefficient. Actually, 90% found that the RoK programme was ‘efficient’ or ‘very efficient’. Although many project coordinators commented that it is a bit too soon to comment on the actual efficiency, they indicate that especially collaborative activities, data collection and implementation processes have been efficient.

Aside from a generally impressive list of research achievements for each project, the case studies tell a story of a huge regional potential which has been unlocked by participation in the RoK programme. Many project coordinators report that the RoK funding has not only been instrumental in realizing the innovation and knowledge potential of their region – and others – but has acted as a catalyst or a ‘legitimization’ for alternative sources of funding.

Overall, the RoK programme is therefore found to have been highly efficient in terms of returning great benefits and achievements in the core focus areas.

**Effectiveness**

The effectiveness criteria of this evaluation concerned the extent to which the RoK programme has attained its specific objectives and achieved its intended results. Despite that Technopolis (2010) find that the RoK programme started out with somewhat vague objectives when it was first formulated in 2007, it seems that the programme and its supported projects have developed clearly specified and highly aligned objectives. More specifically, 76% of the project coordinators respond that both the RoK programme and the individual projects have achieved the intended goals. Focus has, as already mentioned, been on the contribution of RoK to foster regional growth and competitiveness, to enhance regional investment in research and innovation, and to facilitate transnational cooperation of clusters. Furthermore, this evaluation emphasises the establishment and development of research-driven clusters that associate triple helix actors.

Furthermore, 85% of the respondents in the final evaluation questionnaire survey assess that both the RoK programme as such and their individual RoK projects have been ‘effective’ or ‘highly effective’ in meeting their intended objectives.

However, similar to the assessment of efficiency many project coordinators claim that a further implementation of the projects is needed to be able to assess long-
term effectiveness. This said, the establishment of and participation in new collaborative networks as well as participation in FP7 projects and EU level research activities are particularly highlighted as positive outcomes of the RoK programme.

The final evaluation questionnaire survey also compared the Technopolis (2010) expectation of potential network and collaboration effects with the actually achieved network and collaboration effects visible from participation in the RoK programme. The conclusion is here that there has been an increase in the establishment of new relationships and/or R&D partnerships – especially at a European level; and especially relationships with public authorities, universities and public research institutes have increased. Hence, in this respect the RoK programme is assessed to have been especially effective – i.e. regarding areas such as research collaborations, participation and networking activities.

The case studies have also addressed issues of effectiveness and point similarly to a high success rate of achieving results stemming from participation in the RoK programme. Many project coordinators especially highlight the establishment of research-driven clusters, fostering transnational collaboration between triple helix actors, as well as exchange of knowledge and ‘best practices’.

There are indications in both the questionnaire survey and the case studies, that there is a need as well as a wish for further involvement of the private sector such as SMEs, and this might therefore be an area suitable for further development. However, the findings presented in this final evaluation report suggest that the RoK programme and the supported projects have been effective in meeting their intended objectives, both on a regional, transnational and European scale.

**Impact and sustainability**

The evaluation of the RoK programme’s impact and sustainability centres on the extent to which the research results have led to wider effects and the extent to which these wider effects are likely to last after the RoK-funded activities have terminated. In the widest context, the assessment of impact is about whether RoK projects are in line with aspirations of the EU’s Innovation Union\(^5\) initiative.

The questionnaire survey results indicate that the five most important RoK impacts are:

- Enhanced knowledge of R&D needs in the sector of the cluster
- Strategic inputs to regional policy-making
- Establishment of a critical mass between RoK partners for R&D projects
- Enhanced reputation and image of participation organisations within their regions
- Enhanced public awareness on the benefits of research-driven clusters in the regions

Furthermore, there is a substantial increase in benefits and added value for the part-taking organisations which stems from the RoK programme regarding the ‘exchange of best practices’, ‘access to complementary competences’ and ‘visibility’, where the RoK programme scores an average of 70% in ‘higher benefits and added value’.

The case studies give a more detailed insight into these impacts, although the findings are very similar. As for the questionnaire survey findings, the establishment of interdisciplinary and transnational collaboration between triple helix actors as well as exchange of know-how and ‘best practices’ are highlighted as very valuable impacts of the RoK programme. The RoK programme and its supported projects has excelled in establishing new relationships, creating

awareness and put activities within research, innovation and knowledge on the regional agenda.

Most of all, the RoK programme seems to have laid the fundament for future projects – especially pending calls for Horizon 2020 funds - as the RoK support has allowed research-driven clusters within various fields to try their strengths, to develop their capacities and clarify what exactly is needed when trying to develop research and innovation excellence within their field of interest. The ‘learning process’ has further resulted in the development of joint action plans, strategies and long-term visions, aligning regional and European objectives, also easing future similar initiatives.

There is, however, a general uncertainty of the long-term sustainability of the RoK programme due to a lack of alternative funding as well as it being too early for future initiatives to be in place. This is reflected in how only 38% of the project coordinators report that their projects will continue after the termination of the RoK programme. Although it is evident that there is no lack of ideas for future projects and activities and there are various ongoing activities and relationships founded during RoK, funding is scarce and lack of additional funding is predicted by the project coordinators to mean the termination of many initiatives on a transnational and European level. This said, the regional initiatives that particularly are aligned with the regional objectives are predicted to do better, since options for future funding are more likely. It seems that many projects have plans and activities in place to ensure a future sustainability and many also plan to apply for Horizon 2020 funds. Hence, it is assessed that RoK has been an important ‘learning experience’ which has clarified future trajectories.

In this way, the RoK programme has had lasting impacts on the core areas of its supported projects and many future activities are already planned, suggesting that the relationships and initiatives will be sustainable long-term. However, the need for regional, national and European-level investment is significant and necessary if the impacts of RoK are to be maintained and developed in the long term.

**Conclusions and recommendations**

The above answers to the evaluation questions of the RoK programme’s relevance, efficiency, effectiveness, and its impact and sustainability give rise to a number of conclusions and recommendations. Since this final evaluation acknowledges that the RoK programme is soon to be terminated, the recommendations merely concern future actions targeted developing research-driven clusters and the inclusion of the regional research actors into the ERA.

The overall conclusion of this final report is that **RoK has been a successful programme**.

First of all, RoK has proven to be a unique and relevant programme at both regional and European level, addressing a real and previously unmet need for awareness and funding for projects, which are aligned with Smart Specialisation strategies and which are pertinent to issues of research and innovation excellence at a national and international level. Considering that Smart Specialization strategies is a fairly novel policy tool, it is also worth noting here that the final evaluation indicates how Smart Specialization has benefitted greatly from the RoK programme, both in scale and scope.

Although the relevance part of this evaluation was deemed least important, due to its ex post state, we will still recommend that this variable remain part of the evaluation at all stages, since it still lends insights into the nature of the programme.
For example, a recommendation is to understand that the involvement of regional authorities and enterprises is central, both with regards to ensuring relevance on a regional and European level, but also with regards to creating awareness of and funding for these kinds of initiatives: they will never be relevant if no one is realising the potentials of such projects.

Secondly, RoK has been efficient in terms of returning benefits and achievements in the core focus areas. Although it is considered too soon to give qualified comments regarding the efficiency of the RoK projects, this final evaluation shows that there has been a great return on the funds invested in the projects. Although some of the projects have struggled due to lack of alternative funding and have definitely depended on the RoK support to achieve their objectives, it is also reported how participation in the RoK programme has acted as a catalyst for more funding.

A recommendation in this regard is that it should be kept a core focus of future actions to support research-driven clusters that develop and strengthen research and innovation excellence in their regions; and it should be acknowledged that many of the reported achievements of the RoK projects would not have been obtainable without support from the programme.

Thirdly, RoK and its projects have been effective in meeting their intended objectives, both on a regional, transnational and European scale. Especially networking activities within the establishment of research-driven clusters, fostering transnational collaboration between triple helix actors, and the exchange of knowledge and ‘best practices’ are highlighted as valuable outcomes.

While the RoK programme is assessed to have been effective there is still room for improvement. A recommendation is that in order to ensure the continued participation of enterprises, which is valued as crucial by the project coordinators, it is necessary to develop the opportunities for collaboration of the triple helix actors further. One way to do this is ensuring funding that makes it feasible for e.g. SMEs to engage in new relationships, another is to employ new, open innovation business models. Either way it must be recognised that the business sector works on a different time and pay scale than the other actors.

Finally, the RoK programme is expected to have lasting impacts in the core areas of its supported projects, and many future activities are already planned, suggesting that many relationships and initiatives will be sustainable in the long term.

It has already been mentioned that additional funding is required for the sustainability of these results. Hence a further recommendation is in order. Since so many new initiatives, activities and relationships within research and innovation excellence have been commenced, but many of them still require support in order to have full impact and sustainability, it is recommended that future support programmes will focus on developing existing clusters and their relationships, rather than initiating new projects.

Finally, while many of the projects did spur international relationships, the next step of future programmes is to refocus its attention to the internationalisation of national and regional clusters. In this way, the potential for research and innovation excellence which has been unlocked in the existing clusters will develop and spread at a transnational and European level, ultimately fulfilling the EU Innovation Union initiative where research and innovation drives competitiveness, jobs, sustainable growth and social progress.
Appendix A: Literature

DG Budget (2004), Evaluating EU Activities – A practical guide for the Commission services, July.

DG RTD (2011), Synergies between FP7, the CIP and the Cohesion Policy Funds, Final report of the Expert Group,