

Project ideas

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Priority 1 – Thinking Growth

Accelerate growth in manufacturing SME's

Acronym: AG MSME

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Central Aim

Raise the level of innovation in manufacturing SME's and thus create more growth in the companies through supporting companies heading for Industry 4.0.

Project Description

In Denmark as in many other industrialized countries, the future industries are a central business policy focus area. The movement toward Industry 4.0, which is the integration between the digital world and the physical production, is regarded as the industry of tomorrow. Therefore; it is crucial to support automation, digitilisation and servitisation of production enterprises.

The objective is to develop a project where experiences and developed methods and tools in different regions are made available for the other regions who participates in the project, so they can use and test those tools in their own environment through pilot projects etc. Over the course of the project new methods and approaches to support growth in SME's will be developed. It is expected that the transnational and manifold partnership will be particularly fruitful for the development of new ideas. Initially; the project may be divided into four professional work-packages, e.g.:

WP1: New business models and strategy development in relation to the global market

WP2: Development of products, better use of technology and design

WP3: Industrial incubation and start of new companies

WP4: Training and education as well as the recruitment of staff with relevant qualifications.

Central Denmark Region (CDR) has a variety of concepts, methods, tools, etc. related to the above mentioned work packages, which we wish to bring into the project.

In relation to WP1, we have programs targeted at SMEs with themes surrounding industrial business models, internationalisation and networks. An analysis has resulted in a model of corporate growth progress and a "growth compass". During WP2 concepts for private counselling and cooperation between knowledge institutions and businesses may be mentioned. During WP3 the region has experience in establishing ex. industry incubators. In WP4 we have analysed the future needs of skills in the industry and focused on increasing the vocational education training (VET) required by the industry.

It is possible to group some of the proposed work packages, to skip some, or to include work packages with other subjects. The project partners choose for themselves which work package(s) they wish to be involved in and thus each partner does not need to participate in all work packages.

Envisaged Output

The output and results will depend on the number of participating regions and partners. As an example, by having five regions participating the envisaged output and results will be:

- A) 30 methods and tools presented during the project period and made available for the other regions
- B) 12 improved or new tools will be developed to enhance the level of innovation in the companies
- C) 120 organisations/companies will initiate new solutions by the end of the project period and the companies will experience an increase in employment and/or turnover
- D) 1200 organisations/companies will be informed of new possible solutions by the end of the project period

What is the need for this project?

The Manufacturing industry carries a lot of weight in Central Denmark Region. It is, however, a challenge that the employment level of the manufacturing industry is decreasing, and we believe that many regions in the North Sea area are facing the exact same challenge. Obviously, this development is due to significant macro economic causes, but there are also factors which we are able to address at the regional or local level.

In the Central Denmark Region one of the problems for instance is, that many manufacturing companies have problems recruiting staff with the adequate professional qualifications and skills. Some companies are not sufficiently innovative and as a result loses market shares, or they are unable to exploit new possibilities arising at the global market. The entrepreneurial rate is lower in the manufacturing industry than in other industries.

The regional innovation system plays an important role in addressing these challenges and thereby supporting companies in generating growth. Different measures and various tools might be used to achieve this. Central Denmark Region has initiated various programmes, e.g. the programme "Future business models of the industry" to address the challenges and to support growth in the manufacturing industry. Other regions may have similar, or other, challenges and have found other solutions.

The new element in the project is the systematic pooling of experiences, methods and tools with the aim of supporting the manufacturing industry in the whole North Sea Region and also the common development of new tools. The wide base of experiences is necessary to reach the intended targets and results, as the challenges are, to a high degree, common for the manufacturing industry throughout the North Sea Region.

Thematic Keywords:

Growth and jobs, Innovative public service delivery, New products and services, Smart specialization, Training and education

Other Keywords: Globalisation

Partners Found Already: Currently none

Partners Searched

- 1) Regional or local authorities with responsibilities for, or tasks related to, business promotion - the development of business strategies and programmes for SME's in particular and with focus on the manufacturing industry
- 2) Business service centres with responsibility for implementation of business development programmes for SME's
- 3) Science parks or business incubators offering advice, technological service and networking activities etc. to the companies they are housing. They must, to some degree, focus on manufacturing companies
- 4) Technology centres, tech-trans organisations with focus on industrial technology
- 5) Trade organisations, business associations etc. which offers services to their member companies

6) Educational institutions who offer training and education to the industry

Private companies with relevant competences might be partners in the project.

Estimated Budget: 4

Acceleration Yacht MANufacturing

Acronym: CAYMAN

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Central Aim

The aim of the collaboration with the yacht building industry cluster and knowledge centres is to achieve a sustainable (digital) knowledge platform in which theory and practice strengthen one another continuously and to bring about exemplary/icon projects with best practises.

Project Description

To strengthen the economic position of the yacht building industry cluster in the NSR, we want to establish collaboration between the cluster, knowledge institutes and authorities on the basis of an integral strategy based on acceleration and cooperation within the yacht building production chain, in correlation with European social and climate challenges.

To bring about a change in the sector, research will have to be done into the current production methods, prototypes will have to be developed, hindrances to innovation should be removed and missing knowledge and expertise must be acquired.

This programme reinforces and endorses the economic, ecological, and social interests of Europe in the North Sea Region, and provides stakeholders with a strong knowledge position in the world. By working together in the context of the NSR the necessary scale will be achieved in order to become and remain a more competitive sector.

The aim of the collaboration with the yacht building industry cluster and knowledge centres is to achieve a sustainable (digital) knowledge platform in which theory and practice strengthen one another continuously and to bring about exemplary/icon projects with best practises.

The focus lies on making production methods more efficient, devoting attention to sustainability and safety, reducing the carbon footprint, cooperating and strengthening within the production chain, knowledge development and knowledge sharing, all in significant correlation with the innovation, research and education agenda of the different regional, national and European policy agendas.

A work programme/innovation agenda has been drawn up to give shape to the ambition and correlated strategy formulated above. This work programme is linked to the following work packages:

- 1) Concept development and design
- 2) Production techniques
- 3) Sustainability
- 4) Knowledge development

Cooperation in the production chain is the 'umbrella' that covers these four themes. For each theme, cooperation in the production chain is used to speed up the process so as to get results more quickly and effectively with respect to the defined development agendas.

Best practices in other industries will have to be examined closely. The innovative applications that are devised must always be deployed in a genuine environment with users: a living lab.

Envisaged Output

Within the project, the following work packages can be distinguished:

1. Concept development and design
2. Production techniques
3. Sustainability
4. Knowledge development

What is the need for this project?

Within the project, the following work packages can be distinguished:

1. Concept development and design

Problem definition: The market/demand is changing rapidly and consumers are accustomed to frequent product innovations. The yacht building industry cluster is lagging behind in this respect. The time needed to develop a yacht is too long, so it is impossible to respond quickly enough to the rapidly changing market demand.

The following questions have been formulated on the basis of the above mentioned problem definition:

- Carrying out a baseline measurement: how much time is needed from concept to product?

- Research by related industries into concept development: what elements are practicable in the yacht building industry cluster?
- What is required in order to speed up the process?
- How can a base platform be developed by cooperation in the production chain? And what data is essential in order to arrive at a base platform?
- What role could a new technique like 3D printing play here?
- Etc.

2. Production techniques

The competitive position of the yacht building industry cluster in the NSR is under pressure by the larger producers who can manufacture their products on a large scale more cost effective. The production of a custom-built or semi custom-built yacht requires a lot (too much) time. The production time must be shortened to save costs and reduce the lead time.

The following questions have been formulated on the basis of the above mentioned problem definition:

- Carrying out a baseline measurement: how much time is needed to produce the average yacht?
- Research by related industries into shortening the production time taking notice for some useful elements if possible.
- How can the lead time be shortened by cooperation in the production chain? And what data is needed for this?
- What design and engineering tools are essential?
- What role does 3D printing play?
- Etc.

3. Sustainability

What can the yacht building industry cluster contribute to the reduction of environmental pollution and reduction of the carbon footprint? Sustainability is not yet adequately integrated in the building process of the yacht building industry cluster. Research must be carried out into how sustainability can play a role and be implemented in concept development, design and production, and in the usage and end of life phases of a yacht.

The following questions have been formulated on the basis of the above mentioned problem definition:

- Carrying out a baseline measurement: how is sustainability taken into account within the various production phases in the yacht building cluster?
- Research by related industries into applying sustainability principles in the production process (e.g. limiting waste flows and consumption of raw materials).

- Research into possibilities of taking sustainability principles into account in the design process, for example dismantling after the usage phase.
- Research into the possibilities of recycling, with the focus on reuse of composite materials.
- What is required in order to speed up the application of sustainability principles in the yacht building cluster?
- Etc.

4. Knowledge development

Problem definition: How can the yacht building industry cluster satisfy an increasing need for knowledge? This demand for knowledge is related to increased complex technology that is used to design, produce and fit out yachts, in connection with the European social challenges for sustainability and corporate social responsibility.

The following questions have been formulated on the basis of the above mentioned problem definition:

- Carrying out a baseline measurement: how is the lack of knowledge being remedied?
- Research into the required knowledge in individual areas; identification of research areas.
- Research into getting the research questions acknowledged in the NSR yacht building industry cluster and addressing them.
- Research into offering bundled knowledge in the NSR.
- How can R&D facilities contribute to product development? And what are the possibilities of using R&D facilities more for SMEs?
- How can structural connections be made and coordinated between the various R&D facilities for the benefit of the industry?
- How can innovation and other facilities be shared within the NSR?
- Etc.

Joint Industry Projects

Based on the above mentioned development agendas, Joint Industry Projects are to be formulated that will enable market parties, knowledge institutions and, potentially, the authorities to work on developing the problem definitions and implementing them. A result indicator is linked to each JIP to make the result measurable against predetermined objectives in the context of the ambitions and problem definitions stated in the development agendas.

Thematic Keywords

Clusters

Digitalisation of services

Growth and jobs

Innovation capacity building
New products and services
R&D in SMEs
Societal challenges
Stimulating innovation
Training and education

Other Keywords

Yacht building industry cluster, yacht design, innovation, R&D in SMEs, production chain, education

Partners Found Already

Branche organisations in the yacht building industry and yacht building industry associations in the NSR have already been contact under supervision of HISWA.

Partners Searched

We are looking for at least eight to ten international partners who are working professionally in the yacht/maritime/production industry or research institutes (universities) who are specialised in innovation/productivity related to SMEs in the yacht building industry.

We are also interested in (sub) projects that relate to the following themes:

- E-learning in industrial environments
- QRM principles / Lean production
- Digital platforms
- Modern production techniques
- Use of high end / new materials
- Industrial design

Estimated Budget: 6.000.000

Cross Cluster Partnership Enhancing Circular Economy

Cross Cluster Partnership Enhancing Circular Economy

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Central Aim

The central aim of the project is promoting, facilitating, case-based implementing and disseminating crosssectoral collaboration as a building block of the circular economy. The project specifically addresses industrial symbiosis to 1) Enhance collaboration & synergetic possibilities for industrial partnerships, 2) Support industrial transition towards a more circular economy addressing water, energy and resources and 3) Enhance knowledge transfer between regio's and clusters.

Project Description

Industrial Symbiosis engages traditionally separate industries in a collective approach to competitive advantage involving physical exchange of materials, water and/or byproducts. The keys to industrial symbiosis are collaboration and the synergetic possibilities offered by geographical proximity. Pursuing industrial symbiosis begins with the desire of business to be profitable and competitive.(Chertow, 2000). This project will focus on facilitating, implementing and disseminating general and specific approaches of industrial symbiosis to other regions. Therefor a part of the project is subject to analysing and identifying regional thematics, characteristics, capabilities and possibilities for industrial symbiosis. Another part is subject to implementing the approaches in some realistic pilot studies identifying cases for industrial symbiosis and the adjacent sectors.

In this project transnational and cross sectoral collaboration takes place, addressing a.o. resource and waste sectors (water, energy, wood CO₂, waste, etc.) and sectors related to creative design and industrial symbiosis. Industrial symbiosis provides the opportunity to stretch and integrate the sectors and discover new product-market opportunities. The key partners involved are mainly cluster organisations being associated to industries, SMEs, governments and education/knowledge institutions. It is important that key partners get familiar with and promote industrial symbiosis. In this project the role of cluster organisations in this will be studied and evaluated, there will further be training of clusters and its associated partners on industrial symbiosis. Eventually, cluster organisation should have an initiating and stimulating role in organising business cases on industrial symbiosis. Interesting part of the project is how to support the traditional clusters on integrating their traditional themes on business cases for industrial symbiosis. Improvement of cluster organisations on industrial symbiosis is therefore part of this project.

Workpackages for this project are planned to be: 1) Analysing and identifying current situations and regional possibilities, 2) preparation and implementation of specific and generic approaches on industrial symbiosis, 3) Stimulating cross sectoral cooperation between clusters and its partners/members, 4) Dissemination and implementation of results and general approaches, 5) management and communication.

Envisaged Output

Analysing and identifying current situations and regional possibilities: 1. Overview of regional thematic and challenges, capabilities, industries, resources and resource flows, market studies 2. Overview of cluster organisations and their associated stakeholders, network partners and SMEs 3. Identification of possible cases and best-practices (specific and generic methods). Preparation and implementation of cases: 1. Selection and in-depth analyses of cases for Industrial Symbiosis 2. Theoretical exercise with 3 to 4 business cases 3. Planning and implementation of 1 to 2 practical business cases. Stimulating cross sectoral cooperation: 1. Joined vision, strategy, roadmap and action plan and circular economy improvement plan for clusters 2. Development of training programme and training of cluster organisations and its stakeholders/members. Dissemination of results and general approaches: 1. Regional and international conferences 2. Handbook on circular economy.

What is the need for this project?

Need for Industrial Symbiosis

For most industrial systems today, the speed between composition and decomposition of products are not in balance in the same sense as it is in the natural system. Therefore, recycling or by-product exchange networks in industrial systems need to be established. In industrial ecology, there are three basic arguments. Firstly, energy requirements, waste generation, and consumption of scarce resources should be minimized. Secondly, industrial waste and discarded products should be used as input to industrial processes, in the same way as in ecological food webs. Thirdly, the system should be diverse and resilient in order to absorb and recover from unexpected shocks. (Yang, et al., 2004) Industrial symbiosis is a multidisciplinary field that emerged from 'industrial ecology' and demands attention to the flow of materials and energy through local, regional, and global economies.

"There are many reasons for pursuing industrial symbiosis, beginning with the most basic desire of business to be profitable and competitive. Important social, environmental, and regulatory drivers also exist..." - (Chertow, 2007)

Economic

There are both direct and indirect economic benefits with industrial symbiosis. The direct savings can be avoided discharge fees or disposal costs. It can also be by reduced prices achieved by substitution. The direct savings can also be related to the actual value of the by-product itself. In this case, it is a tendency toward a redefinition of the exchanged materials from waste/by-product status to commercial product status. (Jacobsen, 2006) Companies can also benefit from obtaining inputs at a discount (Chertow, et al., 2005).

Indirect economical benefits are often associated with long-term strategic planning. The benefits are related to avoided investments, increased flexibility, or supply security. Indirect economical savings can generally be associated with low-value by-products, especially when the indirect economical savings is the dominating motivator for engaging in industrial symbiosis. (Jacobsen, 2006) Other indirect economically benefits can be improved reputation and facilitating the permitting process (Chertow, et al., 2005). Increased sale due to 'green' and niche marketing is a benefit that could also be obtained (Hashimoto, et al., 2010).

The advantage of scale of a collective setting is another economical benefit and these systems tends to be cheaper also because of redundancy are counteracted (Lambert, et al., 2002). More competitive production methods are another possible benefit (Hashimoto, et al., 2010).

Environmental

Industrial symbiosis can bring environmental benefits due to less raw material consumption, shorter transports, and reduction of waste disposal. This can lead to increased efficiency of resource use, reduced emissions, elimination of waste (Chertow, 2007), and reduced burden on local landfills (Hashimoto, et al., 2010).

Collaborations, such as industrial symbiosis, can realize greater benefits collectively than they would if each business optimized its performance in isolation. The collectively benefits can be GHG emission reduction through by-product exchanges and thermal recovery. (Hashimoto, et al., 2010)

Social

Industrial development is a form of economic development and there has been interest in using the concept of industrial symbiosis to revitalize urban and rural sites, to attract job growth and retention, and to encourage sustainable development. (Chertow, 2007)

Moreover, improved health by reducing solid and hazardous waste and improved public awareness are social benefit that could be achieved. (Hashimoto, et al., 2010)

Need for cluster organisations to embrace and enhance circular economy

Clusters are important instruments for the promotion of innovation. They are “industry eco-systems” providing a favourable business environment for experimenting with new business solutions. Thus, they play an important role as catalysts for structural change. In such eco-systems, new winners can emerge and thus support the development of emerging industries.

Clusters as a concept has been known for a long time that has traditionally been often (mis-)understood as a sectoral concept. Nowadays, the understanding of the concept has changed towards “clusters of related industries” and making better use of the complementarities between them to boost growth. The importance of cluster organisations as key drivers for industrial change is also a more recent phenomenon. Cluster organisations are important facilitators within clusters as they manage networks of companies, universities and research institutions that develop and sell products and services. Over the last years, there has been more and more evidence that cluster management excellence can make a difference. In other words, cluster management excellence matters.

Cluster services, meaning specific, tailor-made services provided by cluster organisations to their respective members (or cluster participants) are important tools for cluster organisations. But what role can cluster organisations play for the development of new industrial value chains and emerging industries, notably through creating a favourable environment for facilitating entrepreneurship and crosssectoral cluster collaboration? And how specifically can they contribute? What sounds rational in theory seems to

be even more difficult in practice. (European Cluster Observatory, Cluster Collaboration and Business Support Tools to Facilitate Entrepreneurship, Crosssectoral Collaboration and Growth, September 2014)

The report of the European Cluster Observatory answer these questions based on case studies/evaluations on presents cluster collaboration and business support tools that are used by cluster organisations to facilitate entrepreneurship, cross-sectoral collaboration and growth. Results of the analysis demonstrated that it is clear to cluster managers that innovation is most likely to happen at the borderlines between different industries . However, many cluster organisations still struggle with the facilitation of cross-sectoral collaborations across boundaries of industrial sectors. The report provides some inspiration for tools and services that can be used by cluster organisations to facilitate cross-sectoral collaboration, and thereby generate added value for the cluster participants.

The cross-sectoral partnership of this consortium is aiming at learning from this report and other cluster organisations and further on implementation of tools and services adressed in the report and based on best practices related to circular economy . In this project the consortium is aiming at industries and clusters in relation to the circular economy. In that way, the implemented tools and services are also expected to contribute to the stimulation of the circular economy in the North Sea Region.

Thematic Keywords

Clusters
Growth and jobs
Innovation demand stimulation
New products and services
Place-based approaches
Shared R&D infrastructure
Smart specialization
Societal challenges
Stimulating innovation
Training and education

Other Keywords

Cross sectoral collaboration, Awareness Raising, Circular Economy

Partners Found Already

- Paper Province Ekonomisk Förening Karlstad, Sweden // www.paperprovince.com
- Värmland County Administrative Board Karlstad, Sweden // www.lansstyrelsen.se/varmland/Sv/Pages/default.aspx
- Tretorget AS Kikenaer, Norway // www.tretorget.no
- Aberdeen City Council Aberdeen, UK // www.aberdeencity.gov.uk

- Province of Fryslân Leeuwarden, The Netherlands // www.fryslan.frl
- Water Alliance Leeuwarden, The Netherlands // www.wateralliance.nl
- Tel-Tek Porsgrunn, Norway // www.tel-tek.no
- SymbioseCenter, Denmark // www.symbiosecenter.dk
- Sotenäs municipality www.sotenas.se

Partners Searched

Partners with expertise in creative (industrial) design

More business cases from traditional industries

German partners

Estimated Budget: 5.000.000

Dementia Communicator

Acronym: DC

Contact

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Central Aim

Society is digitalizing. Many people in need can not cope with this because of ageing or loss of memory. Authorities, companies and care need to economize is digitalize. Dementia is a big problem. The Dementia Communicator can become the system which can indicate dementia problems and help people with dementia to communicate as long as possible. To save costs and keep them longer self-supporting in social and working life. This project should deliver a European software standard.

Project Description

Professor Sophia de Rooij of the Amsterdam (AMC) and Groningen (UMCG) hospitals is a well-known internist & geriatrician. She started the project “Transmurale Zorgbrug” which has a proven result of 37% less deaths. For the Dementia Communicator she made a datamodel to check the stage in which people with dementia are. Her model is based on the new international health-concept ‘positive health’ of Machteld Huber. Positive health means more attention for resilience and self-support in stead of only treating the illness. Her model based on this new dynamic Health-concept must be checked and improved by a network of colleague-professors in at least five North Sea Regions. So a complete overview and comparison will be generated. Nursing Diagnostics residents in all five different countries will escort patients to research and develop in co-creation the user-centered design. All data will be checked by the improved framework of Sophia de Rooij and with the Alzheimer-knowledge of the complete network of colleague-professors. In this way we can make one system which works for the complete North Sea Region. An online BYOD platform build with the latest state-of-the-art mobile technology takes part in the research. This platform Mobiléa delivers a broad range of communication and self-supporting possibilities. Like ordering your own products and services, online communication, music, reminders, social contact opportunities and so on. With this variety a practical and broad knowledge about the needs and wishes of people with dementia will become clear. At least five methods of research will be used. Such as peer group interviews, remote moderated research, A/B testing, design checks and cognitive walkthrough. Also to use is Quantified Self based on personal input from the caregivers and the people with dementia in combination with data from a diversity of sensors plus extra collected Big Data. These will be the type of measurement to check the stage of dementia and the speed of the growth of the illness. The research has also to give a total insight how interactive interfaces have to react on the users behaviour at every stage possible. How in this proces the interface has to be simplified during the different stages and on which moment this will be necessary. Further the research has to give the best solution per country for the right designs and usability. The basic thought is one generic solution, but this has to be proven.

Envisaged Output

Results should be: 1) the realization of a database for fundamental research in every region about social-medical indications in connection with the predictability of Alzheimer. And this refined per individual, 2) the publication of a generic software architecture for eHealth based on safe QS and BD with which new companies can develop or improve their eHealth solution, 3) implementation of integrated business plans refined on every North Sea Region, 4) a practical spin-off strategy between the regions so the exchange of the collected know-how will grow and lead to more and better practical eHealth-solutions, new companies and economic growth also based on export to the rest of the world. Such as better online helpdesks specialized in people with less digital knowhow. Privacy is the issue. The result has to be a system which is secure and takes into account all personal preferences. This will be the big advantage for the international acceptance and commercialisation.

What is the need for this project?

Of the inhabitants of the North Sea Region 1 in 5 will suffer dementia. Without special and safe facilities to assist this proces it will cost the society a large amount of money. Keeping people self-supporting as long as possible is the best solution for themselves and the whole society. Working online is the affordable and practical way to communicate. People who suffer dementia should not be excluded from this form of communication. Every function has to be made in a way they can follow and react on in a good logic way.

As family and friends become more and more busy the need for a 24/7 platform communication becomes more needed. On this platform people will have the chance and possibility to safely react to messages and to sent messages through to a backup. Otherwise a large commercially interesting group will be cut off. Giving people with dementia a platform to communicate opens new opportunities for a large number of different companies to stay in touch with these people. Also rural regions need new services to keep inhabitants self supporting. Self supporting people are proven to be in better health and are happier. A final check by family/friends/personal buddy gives control on this system. New companies can specialize in care and services a payable way for the society.

Thematic Keywords

Digitalisation of services
Growth and jobs
New products and services
Place-based approaches
Shared R&D infrastructure
Training and education

Other Keywords

dementia cost reduction and caregivers assistance

Partners Found Already

ACENDIO, Hanze University of Applied Sciences/Wolter Paans, diverse Landkreizen en Nederlandse gemeenten, provincie Drenthe, Mobiléa, TinZ, UMCG, Mediapioniers, Appenta

Partners Searched

large telecom provider, big data company, UX Designers per country, researchers per country, testing groups (care organisations and/or elderly homes, dementia networks)

Estimated Budget: 1.800.000

Enhancing Communities Digital Ability to Engage Using Service Design

Acronym: CLANS

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Central Aim

The central goal of the project is to help our communities to digitally engage more with their local public services and to have digital at the heart of the community. Radically redevelop our website to vastly improve usability, communication and tracking of service requests. Redesigning all services we provide using service design principles and excellent examples from partners to deliver outstanding service which meets our citizens needs and not just ours.

Project Description

Dundee City Council are embarking on a channel shift programme of work which will focus on providing a better platform for citizen online through enhanced digital services and an online portal.

Before any council services can be put online, it is essential that all processes are reviewed, streamlined, enhanced and improved to remove inefficiencies, waste and reduce processing times for the benefit of all.

To help aid this process and ensure that the citizens get the most out of the channel shift programme, the first step is to review the Councils services and the processes behind them.

This sub-project, now known as the CLANS Project, will focus on using service design principles and methodologies to understand in detail:

- The services the Council provide
- What the citizens want from them
- How service design can be used to enhance these processes
- How we can use service design in the future to build new services

Dundee has recently been awarded the accolade of being a UNESCO City of Design, an achievement which Dundee is incredibly proud of and with new developments such as the V&A currently under construction and the internationally recognised Duncan of Jordanstone College of Art and Design, Dundee's design legacy is set to get stronger and stronger.

While this focus and development on traditional design is clear within Dundee, Dundee City Council are keen to look at design from a service perspective and tap into the City of Design around us. So far, we have had opportunities to dip our toes into service design thanks to the college of design and some local design companies, however we would currently be described as enthusiastic novices within the field of service design.

Dundee City Council through the CLANS Project is passionate about collaborating and working with European partners to understand and share best practice learnings in the use of design to develop and

enhance public services, alongside how we can learn to embrace our communities further and empower them to become more engaged with the Council and the services we offer.

Dundee and Scotland have, in themselves, a strong and unique culture and outlook on what we do which will no doubt be quite different to other European countries and cities, a culture, outlook and enthusiasm we are very keen to share with anyone who wishes to partner with us through the CLANS Project.

Envisaged Output

- Design is embraced as an everyday tool, not an abstract concept
- The city of Dundee works regularly and closely with European regions on best practice
- Service design becomes essential in service redesign
- Putting the citizen at the heart of everything we do
- Building stronger communities, both domestic and international
- Strengthen prospects for designers to work with a wider range of local businesses
- Build relationships that extend beyond just local authority and include design agencies, educational institutes, charities
- Embrace digital delivery of services
- Build a network of Smart Cities, with focus on Smart Communities
- Citizen empowerment
- More efficient and better services/products for citizens

What is the need for this project?

The project aims are focused on empowering communities to engage more with their local authorities through enhanced digital engagement opportunities, all of which have been designed with service design principles and the citizen and community at its heart.

This focus on designing services for the end user and not for corporate need and on empowering citizens to take control of what they want and need out of their community, this will build stronger relationships between local authorities and their citizens but also build stronger communities which can lead their own areas and build back a passion for it.

Thematic Keywords

Clusters
Digitalisation of services
Innovation capacity building
Innovation demand stimulation
Innovative public service delivery
New products and services
Place-based approaches
Smart specialization
Societal challenges
Stimulating innovation

Other Keywords

channel shift, service design, community, smart technology, digital engagement

Partners Found Already

None - Looking for partners

Partners Searched

None - Looking for new partners

Estimated Budget: 750.000

Enhancing Regional Growth: Shaping the Future

Acronym: ERGrow

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Central Aim

Predicting demand in the skills supply chain to meet future demands for industrial growth

We are looking to share best practice and develop ideas between regions, in particular to:

- identify 'regional multiplier' impacts of future growth for sub-regions
- cascade economic benefits from intense growth points across wider regional geographies
- promote linkages between businesses to sustain growth

Project Description

Every country wants to grow its economy and most see Science, Technology, Engineering and Mathematics (STEM) as the key

In the context of globalisation and digitisation, this sets a particular challenge for Western democracies, with their mature and plateauing demographics, welfare provision and quality of life increasing in expectation. The challenge is, how to sustain high quality of life at affordable costs by remaining, as required, at the head of the economic and industrial food chain?

The answer, apparent in all economic and political strategies in these countries, is to add value:

- by investing in high level skills and knowledge
- by encouraging and capitalising on innovation
- by sustaining the lead role in creating new products and services for world markets
- by meeting domestic demand for high quality services that cannot be decentralised

How can this be done - and how can regions do it well? The key is the interplay between business growth, innovation and skills supply. Can we find a better way to:

- foresee the way key industries (particularly but not exclusively STEM) will develop?
- understand the skills needs associated with these developments?
- design for growth, so that skills are provided for industry when needed?
- focus, increasingly, on a steady supply of appropriately-qualified technicians and master technicians

Envisaged Output

Better prospects for socio-economic prosperity through:

Horizon scanning and knowledge transfer (HSKT) - relies on a steady supply of intelligence about the future derived from the work with STEM corporates and converted into meaningful guidance for meeting tomorrow's supply chain demands for skills. HEIs and FE Colleges are well placed to do this and we will demonstrate how this is best done.

Critical dependencies analysis - ensuring HSKT systems can work. This includes understanding what is expected of each actor in the chain of transfer and knowing which other agencies can help sustain the system.

Enabling business investment decisions - demands a focus on what businesses need in terms of the supply of skills, services and synergy with other businesses. This arises from the work on predicting future skills demands and on understanding the consequences of upstream innovation for downstream manufacture and services.

What is the need for this project?

The Greater Cambridge and Greater Peterborough region has a focus on STEM

Cambridge is an international centre attracting investment, innovation and skills. Yet in other parts of the region there is a struggle to attract business. The skills needed for the supply chain for future industrial growth can capitalise on the region's assets, particularly if we can see the needs ahead of time and identify growth-point locations that would work. This means:

- predicting demand in the skills supply chain to drive new industrial growth
- identifying the 'regional multiplier' impacts of such growth for sub-regions
- cascading the economic benefits from intense growth points to wider regions
- promoting linkages between firms to sustain growth, rather than compete and lose

Building on the New Engineering Foundation's ideas in, "Inventing the Future" (2013), our project will work with major STEM corporates with an interest or presence in our region to understand

- how do major STEM companies predict the future?
- what impacts does this have for supply chains?
- what impacts does this have for training and skills supply?
- what innovation projects funded by NGOs, HEIs, etc. will impact on our region?
- how will these impacts affect skills demands?

Thematic Keywords

Growth and jobs

Innovation demand stimulation

Place-based approaches

Societal challenges

Stimulating innovation

Training and education

Other Keywords

STEM; Skills supply chains

Partners Found Already

Partners Searched

Estimated Budget 2.000.000

Health in transition

Acronym: HIT

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Central Aim

New service and product design for integrated health and care

Project Description

Current situation

There is a difference between healthcare technology and services for healthcare institutes and for people living at home. The life expectancy of people is rising and to keep the costs of healthcare under control governments are stimulating people to live independently as long as possible.

This means the gap between the technology and services available in extra- and intramural settings needs to be closed and the business model of health care institutes has to be reviewed.

Project focus

In this project our international consortium will focus on two challenges in regard to the above mentioned situation. First of all we want to integrate professional and personal healthcare systems in one platform. Suppliers are invited to connect their systems to a platform creating one healthcare infrastructure for an entire city or even a country.

The second challenge is the positive business case of the healthcare institute. Typically, healthcare institutes are located in the center of their community. The healthcare organisations participating in the

project will investigate how they can reorganise their services in order to provide services to both the surrounding community of people living in their own homes and the people within the institute ('living labs'). This way they can compensate for the downturn of institutionalized services and design a sustainable business model in collaboration with other partners.

For all this to be done successfully, we shall put the needs of the individual (citizen, patient, client, user, caregiver) in the center of our thinking and co-create solutions with all partners (concerned).

Envisaged Output

TBD (new and interantonnally competitive products, services, businesses; collaborative R&D and deployment projects, new jobs)

High level output:

Better quality of life at lower costs

Sustainable healthcare system, combining a social and economic business case

Economic growth through open innovation, and no fixed IP

What is the need for this project?

Governments are stimulating people to live independently at home as long as possible to control rising healthcare costs and promote self management and particiaption within its ageing populations.

Healthcare institutes are facing unsustainable business models; health and care workers need to adopt new competences and skills.

Our ageing populations and our communities need solutions to self manage; take control of their own health and wellbeing.

Thematic Keywords

Digitalisation of services

Innovative public service delivery

New products and services

Place-based approaches

Societal challenges

Other Keywords

health and care

Partners Found Already

Denmark, The Netherlands, UK

Partners Searched

Yes please

Estimated Budget: tbd

Innovative Farming in Times of Climate Change

Acronym: ICLIC

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Central Aim

To create open-air labs along the NSR coastline to demonstrate the possibilities of agricultural production on salinized soil. To set up a transnational R&D infrastructure with a focus on the salt tolerance of crops and to create new production chains and opportunities for regional entrepreneurs to enlarge and renew their businesses. To strengthen innovation capacity building by cooperation between universities, SMEs, and the public sector.

Project Description

The NSR coastlines have been protected against seawater since centuries by higher and higher dykes, fertile sweet water areas been separated from salt water lands, where no crops would grow. But climate change makes it necessary to think differently and to find innovative ways of cultivating crops who can adapt to salt water areas. Small experiments have shown that certain varieties of plants can stand higher concentration of salt in the ground and with our project we seek to explore these possibilities along the coastal regions of all North Sea countries.

Transnational co-operation and the creation of open-air labs along various coastal zones will enable us to conduct large-scale screening of many different crops and varieties, from potato to beetroot, asparagus or barley to find out which varieties can take in the highest salt concentration. The identified crops can grow on salt affected soils and can be irrigated with brackish water, thereby saving scarce fresh water.

Experiments with the cultivation of salt tolerant crops along the wetlands of the North Sea Region will not only contribute to developing saline agricultural practices and new methods in agriculture along the North Sea Coast, it will also create new production chains and chances for regional entrepreneurs to enlarge and

renew their businesses. Smart specialization strategies for the agricultural and food sector in coastal regions can be developed, and, in addition, transnational co-operation between knowledge institutes, farmers and entrepreneurs, the public sector, and consumers will ensure knowledge transfer and boost innovation for the benefit of all North Sea Region countries and wider Europe. In this way, various aspects of salinization and salt water irrigation related to growth and quality of crops and halophytes can be researched under different conditions, while the results can be compared and taken into account for future policies of agriculture and farming in the wetlands within the North Sea Region and beyond.

Envisaged Output

A shared R&D infrastructure with a focus on salinized soil and salt tolerant crops. Results will be compared and taken into account for future policies of agriculture and farming in the wetlands within the North Sea Region. A paper on smart specialization strategies for coastal regions and policy recommendations for other European and world regions who have to cope with the consequences of climate change and salinized soils. A new brand of agricultural and food production from the North Sea region (for instance: "zilt food") to promote the region on a European and world-wide scale. A North Sea Region consultancy office consisting of various experts that can offer advice on salt food production in various countries of the world.

What is the need for this project?

Farming and cultivating crops is an important economic factor in the European Union, and certainly on the fertile grounds of the North Sea Region countries. Not only in this region, it is necessary to cope with the various phenomena of climate change, like for instance the rising of the sea water level, but worldwide about 1.5 billion hectares of land is already salt affected and this number increases by 3 hectares every minute. Agricultural research nowadays is focussed on defeating the further spreading of salinization, but there is simply not enough fresh water supply available. As the world population is expected to grow up to 9 billion in 2050, agricultural production has to increase by 70 %. With a decreasing amount of fresh water, food producers world-wide have to look for new methods and resources. A shift of paradigm is necessary.

This is where we want to start the innovation process: we seek to demonstrate the possibilities to make use of salinized soil and mixed irrigation for agricultural production. By ensuring transnational co-operation of knowledge institutes, farmers and entrepreneurs, the public sector and consumers, we endeavour to strengthen innovation capacity building along the North Sea Region coastal zones and beyond.

Thematic Keywords

Growth and jobs
Innovation capacity building
New products and services
R&D in SMEs
Shared R&D infrastructure
Smart specialization
Societal challenges

Stimulating innovation
Training and education

Other Keywords

climate change, innovative ways of farming, food production,

Partners Found Already

Waddenacademie (NL) zilt proefbedrijf Texel (NL), Royal HaskoningDHV (NL), province of Groningen (NL), MaRenate Oldenburg (D), Waterplant (D), Ökowerk Emden (D), Biosynergy (DK), Chaudhary Biosysnepal Pvt.Ltd. (Nepal), Environmental Agency, The Wash (UK)

Partners Searched

research institutes, farmers, SMEs, public sector in Belgium, Germany, Sweden and Norway

Estimated Budget: 5.000.000

Living Lab

Acronym: Living Lab

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Central Aim

Influencing and coordinating supply and demand related to new forms of housing and smart forms of densification.

Project Description

The population of city region Turnhout is growing and is aging. There is less space and we want to preserve green space. Therefore , we will actively think about smart forms of densification and new forms of housing. Examples are cohousing, creating larger density of houses in an area, In this thinking we will start an active participation project with citizens, policy and experts. We want to do so that supply and demand around smart forms of densification and new forms of housing, can be coordinated.

Envisaged Output

Develop an action framework in which criteria are listed to encourage smart forms of densification and new forms of housing. The action framework will take shape through interaction and participation processes of bottom-up (citizens) and top-down (policy) and experts.

What is the need for this project?

The population of city region Turnhout is growing and is aging. There is less space and we want to preserve green space.

Thematic Keywords

Innovation capacity building
Innovation demand stimulation
Innovative public service delivery
Place-based approaches
Smart specialization
Societal challenges

Other Keywords

Housing, densification, participation, sensitize, bottom-up, top-down

Partners Found Already

Kamp C (Center Sustainable Building and Living), Belgium
IOK (Intergovernmental cooperation between 29 municipalities), Belgium
UA: Faculty of design sciences of University Antwerp, Belgium
AR-TUR (Centre for architecture, urbanism and landscape in the Kempen), Belgium

Partners Searched

Non-Belgian project partners with similar societal changes and interests in Living Labs.

Estimated Budget: 120.000

New business opportunities for fishing communities around the North Sea

Acronym: FISHCREATION

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Central Aim

To develop a viable and sustainable future economy, based on the historic role and core qualities and values of fishing communities. It aims to make maximum use of the available social, cultural and economic capital within these communities. The project activities are focused on developing new business opportunities and innovation through cooperation of SMEs, knowledge institutes, maritime stakeholders, regional authorities and municipalities and the fishermen themselves.

Project Description

Objectives:

To enhance innovation through the development and market introduction of new business opportunities;

To create new “knowledge partnerships” and cooperation between private and public organisations, stimulating the commercial take up of innovative products and services;

To improve the competitiveness of fishing communities by place marketing.

The project aims to strengthen innovation by developing new economic activities based on the social, cultural and economic capital of fishing communities around the North Sea. New formal cooperation will be set up between SMEs, independent entrepreneurs, local interest groups, knowledge institutes, the public sector and end users (e.g. in the field of fishery, tourism, marketing, cultural and natural heritage, education, health). These new sectoral cross-overs will provide knowledge that is necessary to support the development and market introduction of new business opportunities. Involvement of local stakeholders is important to realize economic added value for the fishing communities themselves.

The project supports the creation of joint ventures between private and public organisations in order to adapt new technologies, create new products and services, organise the take up of new product-market combinations. The “knowledge partnerships” and new joint ventures will enhance the regional innovation support capacity of the fishing communities that will also increase long-term business innovation. Successful products and services will be delivered also after the project has finished and contribute to economic broadening and strengthening of the social economic resilience of fishing communities in the North Sea Region.

Envisaged Output

Improved knowledge capacity in and flows between private and public organisations related to fishing communities

Best practices and lessons learned (do’s and don’ts)

Cooperation between SMEs, research institutes (with local scope and international knowledge like ILVO or Imares), local organisations, the public sector, end users (e.g. in the field of fishery, tourism, marketing, cultural and natural assets, education, food or health)

New realised market opportunities or bigger market shares for products and services relevant to fishing communities

Tested innovative marketing approaches

Better positioning and profiling of fishing communities and harbours.

Increased knowledge flows and innovation potential on long term.

Improved support of public organisations to innovations related to fishing communities.

Involvement of local economic, social and cultural organisations to generate economic innovation and economic broadening

What is the need for this project?

Shared challenges

In the North Sea Programme area many small scale coastal fisheries are struggling financially, or are disappearing altogether, being overruled by large fishing companies with more financial resources to buy quota, or struggling under administrative burdens and inadequate policy frameworks. The European Union recognises the valuable role that small scale fishing can play in coastal communities. Socioeconomic development of small scale fishing activities in European coastal zones is needed in order to let these activities (re)flourish in a sustainable and valuable way with the potential to lead to increased employment, food security and social and cultural wellbeing of coastal communities in general.

Historically, small scale fisheries are important for local communities. However, the economic situation and outlook for small-scale fisheries in the North Sea region is not positive. Their contribution to regional income and employment is low and declining. Nevertheless, history has proven that fishing communities along the North sea Coast posses highly adaptive potential to change their way of life and business. Fishermen (and in the cultural mind set of fishing community members) contain a resourcefulness that

could be better used to tackle the actual challenges. Increased efforts are necessary to better position and profile the fishing communities and their harbours.

The partners in this project will cooperate to reinforce (the cohesion of) these communities, their economic position and their competitiveness. The project will focus on the old core qualities and values of the fisheries and fishing communities, and make maximum use of the available social, cultural and economic capital within these communities.

Business innovation and knowledge partnership

The project partners will develop new business opportunities, based on authenticity (story telling), attractive products (looks, craftsmanship) and unique selling points (attractive setting and personal touch). Joint ventures between fishing communities around the North Sea will be stimulated to generate solid sales for the SMEs involved. Contacts between fishermen and fishing communities, originating from historical fishery migrating routes, will now be recreated /tightened for exchange and trade. The project will seek to (re)discover the full innovative potential of fishing communities. Local capacity and valuable assets will be input for the development of new products or marketing channels (new and mixed media, e-marketing). At the same time partners may use region marketing and place branding to stimulate new cross overs and innovative processes.

To boost innovation, knowledge flows between research and business in this field must be improved and extended. Due to a relative self-sufficient way of living of fishermen and fishing communities, knowledge exchange with other organisations will/has not developed spontaneous.

The project will bring entrepreneurs, interest groups, public authorities, organisations representing end users and knowledge institutes together. This so called knowledge partnership will act at different level and scale with different points of view, representing fishery, tourism, marketing, education, food or even health. Different expertise, experience and information will interfere and can improve innovation processes.

Project partners will develop and test new business innovations and ensure the widest possible take up of effective marketing methods. The partners explore ways to reduce geographical barriers to new knowledge and support the (new) joint ventures in response to market changes and to access (international) markets.

The transnational cooperation will be an effective method to analyse the best circumstances for transferability / high market share and to select successful innovations. The project period has a laboratory function; economic failures and successes are both valuable. Lessons on both will be disseminated to relevant stakeholders.

Thematic Keywords

Clusters

Growth and jobs

New products and services

Place-based approaches

Societal challenges
Stimulating innovation

Other Keywords

new business opportunities & networks, small scale fisheries, innovation SMEs, knowledge partnerships

Partners Found Already

NL Gemeente Middelburg (Arnhemuiden)

NL, VHL, University of Applied Sciences

NO, Kystkommunene Trøndelag

SE, Maritimaklustret

SE, Vestra Gotaland

probably interested:

BE, ILVO (Instituut voor Landbouw- en Visserijonderzoek)

DK, Midt Central Denmark Region

Partners Searched

German and UK partners

Estimated Budget: 0

New Project Idea

Acronym: NFCC

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Central Aim

In ageing societies, the need for innovative products and clinical procedures for fracture treatment is increasing. Clinical and epidemiological registries are an important backbone for the improvement of fracture care. The NFCC project is aiming at accelerated and effective transnational collaboration for innovation within fracture management in the NSR based on a transnational fracture registry (developed in BSR project BFCC) and hospital-indus

Project Description

Clinical and epidemiological registries are an important backbone of the research and innovation infrastructure for the improvement of fracture care relevant to clinicians, hospitals, primary care, health authorities, pharmaceutical and medical technology industry. They allow for the analysis of the prevalence and incidence of different fracture types in a population and region. They can provide a benchmark of the quality of treatment in different hospitals, quality and safety of medical devices such as implants, the health outcome or the cost-effectiveness of treatment across regions and countries. In the Baltic Sea Region programme a transnational fracture registry platform will be developed within the recently approved project Baltic Fracture Competence Centre (BFCC). Within the BFCC project, this platform will be implemented in 6 hospitals from countries within the Baltic Sea Region. In the NFCC project additional new fracture registries should be implemented at several hospitals to be integrated into the transnational BFCC registry platform. This platform should be implemented, tested and enhanced in the North Sea Region to accelerate and enable effective transnational collaboration for innovation within fracture management in the NSR. This transnational R&I infrastructure fosters the evidence-based identification of clinical best-practice and needs for innovation. NFCC establishes a transnational collaboration platform between hospitals and industry in the NSR. The transnational fracture registry platform will be transferred into practical use within the NFCC project through innovation pilots between hospitals and companies from the NSR. The project partners Gothenburg University Hospital (as lead partner) and the implant manufacturer Stryker Trauma should be partners in both projects NFCC and BFCC to ensure synergies between the two projects. The project activities of these partners will be strictly complementary avoiding any overlapping. In addition partners from hospitals and companies from the sectors medical technology, pharmaceutical, imaging or wound care from the North Sea are project partners. Thus the partners in the North Sea region would benefit directly from the investments to be done in the BFCC projects in the transnational fracture registry platform as well as from the good practice in setting up clinical fracture registries and triggering innovation collaboration between hospitals and industry.

Envisaged Output

TRANSNATIONAL RESEARCH AND INNOVATION INFRASTRUCTURE: New fracture registries implemented in participating hospitals in the NSR Integration of registry data into Transnational fracture registry platform integrating data from hospitals including existing registries North Sea Fracture Competence Centre: Transnational organisational platform for research and innovation collaboration between hospitals, health authorities, companies from the pharmaceutical, medical technology and biotechnology industry in the NSR CAPACITY BUILDING: Providing access to fracture registry data for clinical research Analysis of transnational registry data and public reporting Innovation potentials of complete pathway of fracture

treatment based on registry data
Education and training of fracture clinicians and other health professionals
Research and innovation pilots with hospitals and companies

What is the need for this project?

In ageing societies, the need for innovative products and clinical procedures for fracture treatment is increasing due to more age-related fractures and comorbidities such as osteoporosis or postsurgery complications like infections. Innovations must reduce the total cost of care or clearly improve the quality of care at a justifiable cost and bring new solution to outstanding medical challenges. The industrial sectors for innovation are broad covering implants, imaging, pharmaceuticals, wound care or single-use surgery devices. These trends already led to a rising demand for innovation and investments e.g. by the European medical technology industry which increased their R&D spend 11% from 2012 to 2013. At the same time, research and innovation (R&I) within fracture management is facing various challenges in understanding clinical needs and effectiveness, reducing costs of innovation and time to market. Clinicians and companies often lack insight into the total costs of care, the effectiveness of treatment and the causes of adverse health outcome in hospitals. To overcome these challenges, clinical fracture registries can provide evidence in the clinical “real world” and reveal needs and potentials for innovation. Further, clinicians and hospitals are important actors in the innovation process helping to identify needs and to ensure user oriented products. Around 50% of new products are initiated by clinicians. Accordingly, companies in the NSR need direct access to hospitals and clinicians for collaboration within needs assessment, preclinical research, product development, clinical trials, postmarket follow up studies or health technology assessment. Moreover, an intensified collaboration between clinicians across hospitals and countries benefits the innovation of clinical procedures through the exchange of best practice, influenced by different national, organisational and regulatory conditions. Finally, successful innovation is driven by fast market access across countries which can be facilitated by collaboration between clinicians and companies, which is especially relevant for start-ups and SMEs in the NSR. The challenge is to improve the outcome of fracture treatment regarding functioning, co-morbidities and health as well as socio-economic costs. A key is a better understanding of fracture healing and of the benefits of personalised implants, optimised treatment and management of fracture care in North Sea Region countries.

Thematic Keywords

Clusters
Growth and jobs
Innovation capacity building
Innovation demand stimulation
New products and services
R&D in SMEs
Shared R&D infrastructure
Societal challenges
Stimulating innovation
Training and education

Other Keywords

R&D Competence, Clinical Education, Crossborder Innovations

Partners Found Already

Sahlgrenska University Hospital, Sweden • Stryker Trauma GmbH, Germany Both partners are participating in the approved BSR project “BFCC”, but with different functions compared to the NFCC project. While the BFCC project focuses on the development and implementation of a transnational fracture registry platform, the NFCC will transfer this platform into practical use.

Partners Searched

Estimated Budget: 3.000.000

NSR ZERO-G Innovation network

Acronym: ZERO-G Innovation network

Contact

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Central Aim

The project goal is to realise more innovation and knowledge valorisation in the Materials and Life Sciences. This is done by improving the access to research infrastructure that is currently already available in the NSR, i.e. the ZARM and NLR platforms.

Project Description

Materials and Life Sciences: drivers for sustainable economic growth

Research in materials sciences and life sciences deliver innovations and new products to the market that contribute to a sustainable future, economic growth and quality of life. Examples of these innovations are e.g. new crystal configurations for solar cells, high performance nano materials or new diagnostic tests for rapid screening. Countries and regions within the NSR-region all have an innovation and economic development agenda in place that have materials and life sciences as a focus. The transfer of knowledge and know how from academia to SME's and larger companies is a spearhead in each regional agenda. Southern Sweden for example supports the growth of material sciences and life sciences companies (www.investinskane.com), in the Netherlands the Topsector High Tech Systems and Materials and the

Topsector Life Sciences (www.hollandtrade.com) set the innovation agenda for these sectors whilst in Bremen these sectors are also identified in the recently published Innovation Agenda 2020 (www.wirtschaft.bremen.de/sixcms/media.php/13/Innovationsprogramm_2020.pdf)

Research infrastructure needed

The research infrastructure for the material and life sciences is well developed within the NSR. Each region has excellent laboratory facilities available within universities and research facilities. SME's, other companies and research organisations are stimulated to cooperate by grant schemes or other programmes, thus enabling access for industry to these facilities.

NSR ZERO-G Innovation network

However for the more in depth understanding of physical, chemical and biological phenomena companies and organisations need to carry out experiments in a zero-g i.e. a gravity-free environment. Within the NSR there are only two research platforms available where experiments in the absence of gravity can be carried out. The ZARM centre of the University of Bremen provides research infrastructure (the Bremen fall tower) for short time experiments. For longer experiments the Dutch National Aerospace Laboratory (NLR) has the availability of a plane to carry out zero-g parabolic flights. The other alternative, outside the NSR, is the A300 parabolic flight airplane in Southern France. For most smaller companies and universities the use of the A300 is too time consuming and too costly. The Bremen and NLR platforms could provide an easy access, economical alternative, for zero-g experiments to companies and research institutes in the NSR. The NSR ZERO-G Innovation network aims to realise this access.

Relevance of Zero-g research

Gravity influences most of the physical phenomena occurring on our planet. It determines nearly all physical, chemical and biological phenomena occurring on our planet. Understanding the impact of gravity will support the search for new materials and therapies. This can be investigated under gravity free conditions. Also spacecraft components have to be tested under zero-g conditions before they are put into space.

Innovation areas where zero-g research can speed up innovation include

- Material Science: e.g. crystal growth, directional solidification, metallic foam, composite materials, thermal diffusion in liquid metal, production of alloys.
- Fluid physics: e.g. mass transportation characteristics, bubble generation, fluid flow, surface tension gradients, convection, two-phase flow, surface tension-induced, convection, capillary flow.

- Biology and biomedical sciences: growth of large proteins, cell division and separation, adaptation of the human body to the space environment, blood flow and heart rate, sensor and motor coordination.

Envisaged Output

At the current stage of the proposal the output still has to be quantified. Main outcome of the project will be that innovation and valorisation in the Material and Life Sciences in the NSR will increase and speeded up. This outcome will be quantified with e.g. the following output indicators:

- Number of zero-g experiments with organisations from NSR
- Number of zero-g experiments with organisations from outside NSR
- Number of SMEs involved
- Number of Industry-Research cooperation started from the project
- Number of spin out startups
- Number of researchers involved
- Number of new or improved products
- Number of peer reviewed articles

Furthermore the project will disseminate results and enhance network forming by means of a website, workshops, an international conference and secondment / staff exchange between industry and academia.

What is the need for this project?

Thematic Keywords

Materials science
Life sciences
aerospace
zero-gravity
research infrastructure

Other Keywords

Partners Found Already

The founding partners of the NSR ZERO-G project are V-Kvadrat AB (V2) from Sweden and the Dutch National Aerospace Laboratory (NLR). V2 is an SME developing zero gravity parabolic flight platforms. NLR operates a Cesna Citation II research plane that will be made available to the project partners.

Other partners already involved include Linnköping University and the Karolinska Institute.

Partners Searched

Other partners can be organisations either active in low gravity research themselves, or SME's, large companies and research institutes involved in aerospace, material science and life sciences. Furthermore

regional enterprise and innovation agencies could join if they have an added value in binding SME's to the project

Already a number of potential partners has been identified. These potential partners will be contacted and invited to join the project within the next two months (May – June 2015). These include e.g.

- Center of Applied Space Technology and Microgravity (ZARM), University of Bremen (D)
- Chalmers University of Technology, Gothenborg (SE)
- Rigshospitalet Copenhagen (DK)
- Trondheim University (NO)
- The Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM (D)

SMEs and large companies in the areas of Material and Life Sciences are explicitly invited to join the project.

Estimated Budget: € 1.000.000

Project Idea

Acronym: Prosme

Contact

Region Västra Götaland

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Central Aim

Through transnational exchange of experiences develop innovative procurement models that enable collaboration between the public sector and small and medium sized enterprises (including social economy) with the aim of securing future welfare. To strengthen and take advantage of innovation in order to deliver quality products and services to citizens.

Project Description

Today´s models for public procurement do not contribute to sustainable development, innovation and growth in the way that they could. One reason for this is the lack of SME participation and partnerships between public and private sector.

Although much has been done to promote participation of SMEs in procurement, it is still a small percentage who do participate. At the same time, public authorities struggle with the conflicting ambitions of stimulating competition, achieving the best value for money, good quality and also difficulties in securing sustainable logistics.

A higher participation of SMEs in public procurement can lead to many benefits for the companies, including economic growth and increased job opportunities. At the same time the public sector, achieves access to a wider range of products and services and thereby take advantage of the innovation that is needed to secure public services and future welfare. Some of the questions we want to answer is: Is it possible to develop models for procurement processes that really stimulate and strengthen innovation and new solutions? How do different implementations of the European procurement legislation affect SME participation? Something we see as an area to focus on especially, is how to develop tools that enable authorities to measure the quality rather than price of the procured product. We need to develop instruments that enable procurement of outcome.

Region Västra Götaland has noticed that collaboration is a solution to improve the quality of public meals and is now working in a partnership with the County Administrative Board, The National Centre for Food, the Federation of Swedish Farmers etc. The aim of the partnership is to improve the quality of public meals, e.g. in schools and hospitals, by supporting producers with training and advice for cooperation in food procurement and also by developing delivery logistics.

Main Activities

Establish partnerships: Establish partnerships for transnational exchange of experiences in the North Sea area between the public sector, businesses (manufacturing, transportation/logistics, and various processing stages) in the participating regions/municipalizes.

Pilot projects: With aim to use public procurement to jointly develop products and services that meet the future challenges for the public sector and secure economic growth. Implement developed and existing models to include other SME sectors.

Envisaged Output

- The proportion of SMEs participating in public procurement increases
- Functioning models of public procurement in areas such as food, furniture, textiles, logistics, etc. (models for a neutral helpdesk directed at both the public and private sectors or maybe an innovative procurement process that involves SMEs etc. at an early stage).
- Conclusions in what way different implementation of procurement legislation in different regions/countries in Europe, affects SMEs as well as the outcome and quality of the public sector services and products.
- To strengthen and take advantage of innovation for SMEs.

In the long run the project will contribute to sustainable development, innovation and growth and higher quality in public services to citizens.

What is the need for this project?

Through transnational exchange of experiences between the countries around the North Sea region develop and test sustainable models for public procurement in which small and medium sized enterprises develop their potential as suppliers to the public sector and thereby improve the quality of public services.

Thematic Keywords

Innovation capacity building
Innovative public service delivery
New products and services
Stimulating innovation

Other Keywords

Procurement, SME

Partners Found Already

County Administrative Board Västra Götaland
The Federation of Swedish Farmers
The Swedish Federation of Business Owners

Partners Searched

Region Västra Götaland is primarily searching partners in the public sector (regions/municipalities) who are able to develop, or already have local/regional public private partnerships (PPPs). Partners could also be representatives of the private sector/social economy in the participating region/municipality.

We are searching for partners who see the potential in procurement as a tool to stimulate the innovation capacity of SMEs and thereby develop the public procurement opportunities.

Estimated Budget: 3.000.000



Priority 2 – Eco-innovation

Assessment of innovative anticorrosive and antifouling coatings for the maritime sector

Acronym: SHIPCOAT

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Central Aim

We have a double goal, to support both valorisation and innovative research:

Creating a platform for testing the performance of ship coatings in North Sea conditions (VALORISATION OBJECTIVE)

Using the data we obtain on this platform for modelling the interaction between coat, ship metal and environmental conditions to enhance our understanding of corrosion onset and progression, and of the role of marine bacteria in the onset of fouling (RESEARCH OBJECTIVE)

Project Description

1. Construction of a (physical) test platform in the Port of Ostend with comparison of different paint types (copper based / with nanotubes / with organic molecules as biocides/...).
2. Analysis of the technical variables linked to surface preparation (blasting, grinding, wire brushing etc.) which have a profound impact on the performance of the coating. This will provide insight into why (under which conditions) and how (by which mechanism) coating ageing is accelerated and failure starts to occur. Therefore, we will measure parameters such as surface profile, roughness, type of grit used to blast the

surface, salt levels, moisture, steel temperature, a etc... The impact of humidity, temperature, drying/curing conditions etc... during the application and drying will also be evaluated.

3. The mechanisms by which metallic materials corrode in sea water are complex and not fully understood since they are dependent of (1) the chemical composition, (2) the metallurgical characteristics such as the microstructure and final surface preparation of the materials and (3) the numerous environmental variables that can be present in the marine atmosphere during a ship lifetime that include water salinity, pH, dissolved oxygen concentration, temperature...As such, we study the interaction between coating degradation and the initial phases of corrosion.

4. Tests on microfouling comprise the analysis of microbial communities, using both quantitative (flow cytometry) and qualitative (metagenomics and metabolomics) approaches as well as more conventional testing electron microscopic analysis, fluorescent in situ hybridization, biochemical analysis of slime composition.

5. Accelerated ageing of antifouling coatings will enable us to assess the physicochemical behaviour and the antifouling performance of these coatings after five to ten years.

6. Predictive models will be developed that are able to represent the time history of the degradation of coating and the subsequent development of corrosion. In addition, these models are meant to be practical mathematical relations to be decision support tools for maintenance/repair planning. Finally, these results will be combined, by way of a comprehensive overall life cycle analysis.

Envisaged Output

Creation of a test platform for objective comparison of antifouling and anticorrosion paints on ship hulls and inside ship tanks.

A performance analysis of several typical paint types used for anticorrosion or antifouling

Formulation predictive models for anticorrosive and/or antifouling coating behavior, coating ageing and the interaction between fouling and corrosion onset

Formulation of a comparative life cycle analysis for different paint types

Scientific publications and a conference in corrosion and fouling

What is the need for this project?

One of the main threats to a ship is steel corrosion: in the western world, damage by corrosion is estimated at 4% of the gross national product (GNP), and approximately 5 tons of steel per second is lost through corrosion. In the Oil and Gas Industry (North Sea production platforms) 60% of all maintenance costs are related to corrosion, directly or indirectly (1993). 90% of ships failures are attributed to corrosion (Melchers, 1999)[1]. Corrosion is a major cause of marine structural failures: it results in loss of structural strength at local and global levels, and leads to fatigue failure and stress corrosion cracking. Consequently, the costs pertaining to corrosion are sky high: a 2006 study indicates that the US Navy alone incurred 2.44 billion dollars' worth of damage due to corrosion; for the U.S. marine shipping industry, the annual corrosion-related costs were estimated at \$2.7 billion. The latter cost is associated with new construction

(\$1.12 billion), maintenance and repairs (\$ 810 million), and corrosion-related downtime (\$ 785 million). For the whole U.S. economy, the 1998 cost of corrosion amounted to \$275.7 billion in 1998 alone (see overview on the cost of corrosion in De Baere et al. 2013)[2].

But coatings protect not only against hull corrosion. Finding proper ways to tackle biofouling (the growth of organisms on the outside of a ship's hull) is another of the challenges which the shipping industry is facing. The presence of often large numbers of organisms (barnacles, macrophytes, mollusks, ...) after all has a large effect upon the hydrodynamic shape and friction of a ship. In practical terms: every tonne of heavy fuel oil that is not consumed on board means an effective saving of 3.3 tonnes of CO₂ emissions in the ship. On a fuel consumption of 300 tonnes per day (e.g. by Emma Maersk), a reduction in consumption by 15% leads to an emission reduction of 150 tonnes of CO₂ per day [3]. Improving the antifouling performance of a coating system therefore leads to significant savings in the consumption of fossil fuels.

In addition, among the fouling on the ship's hull are plenty of rather annoying species. Some of them are invasive hitchhikers, which should be kept from undertaking long journeys towards other ecosystems. All in all, estimates of the Marine Environment Protection Committee (MEPC), a committee under the auspices of the International Maritime Organisation (IMO), indicate a total cost of more than \$ 5.7 billion per year, to be paid by governments worldwide and by the maritime sector, due to the increased fuel consumption, to repair costs and the possible consequences for man and the environment of the measures to be taken. These costs could be greatly diminished with good antifouling coating systems.

Lastly, organismal growth on the outer side of the hull, from sulfur-oxidizing bacteria to barnacle species (figure 4), may assist in coating breakdown and thereby the corrosion risk of the hull's steel. A good antifouling coating should therefore also help to prevent this kind of corrosion. In conclusion: the better the coating, the smaller the costs and the smaller the burden it presents for the environment. But who decides what is the best coating? Nowadays, the only information comes from the producers' own research labs - which all demonstrate the superiority of the own product - leaving ship owners to do their own, time-consuming and expensive tests.

Hence the double goal of the project:

- creating an objective test platform for testing the adequacy and the performance of ship coatings in North Sea conditions (VALORISATION OBJECTIVE)
- using the data we obtain on this platform for modelling the interaction between coat, ship metal and environmental conditions to enhance our understanding of corrosion onset and progression, as well as for investigating a less known element in the chain of events in fouling formation: the microbial phase (RESEARCH OBJECTIVE)

 [1] Melchers, R. E. (1999). Corrosion uncertainty modelling for steel structures. Journal of Constructional Steel Research, 52(1), 3-19.

[2] De Baere, K., Verstraelen, H., Rigo, P., Van Passel, S., Lenaerts, S., & Potters, G. (2013). Study on alternative approaches to corrosion protection of ballast tanks using an economic model. Marine Structures, 32, 1-17.

[3] Lewthwaite, J. C., Molland, A. F., & Thomas, K. W. (1985). An investigation into the variation of ship skin frictional resistance with fouling. Royal Institution of Naval Architects Transactions, 127

Thematic Keywords

Energy efficiency
Industrial design
Pilots
Reduce carbon emissions

Other Keywords

maritime, emissions reduction, innovative capacity building, corrosion, antifouling, coating

Partners Found Already

Chalmers University of Technology, Department of Shipping and Marine Technology - Sweden
Northumbria University, Faculty of Engineering and Environment, Department of Mechanical and Construction Engineering - Great Britain
Abertay University, The SIMBIOS Centre, School of Science, Engineering and Technology - Great Britain
Institute for Agriculture and Fisheries Research (ILVO) - Belgium
Geniaal bvba - Belgium
Acotec NV – Belgium

Partners Searched

Estimated Budget: 2.000.000

END-OF-BOAT_LIFE

Acronym: EOBL

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Central Aim

The project aims to perform a life cycle analyses and create a green economy for the marine industry by solving the problem of the end-of-use-boats - which are abandoned without owner around our European Waterways like waste – by; determining the size of the problem of the abandoned boats and extending the existing boat disassembly methods for SME's. On the other hand guidelines need to be formulated for disassembly methods but also while designing and building the boat.

Project Description

The project will extend the former European Lifelong Learning Programme BOAT Digest project that focused on improving the Health, Safety and Environmental (HSE) standards of recreational craft dismantling practices. And it builds on the best practices of the INTERREG IVC Waterways Forward project.

Waterway managing organisations observe an increase of the number of abandoned boats on their waterways. The project aims to determine the extent of the abandoned boats and guidelines need to be formulated for disassembly methods for the existing fleet but also while designing and/or building the boat and a model for financing this system needs to be developed.

The focus will be on:

The extend of the problem of abandoned and other end-of-use-boats. It needs to be surveyed which types, where and how many boats are end-of-use-boats, as there is no direct relationship between technical data (age, types, etc.) and the end-of-use moment. These boats are widely spread over the countries in Europe. Solving the problem in one place will only cause the problem to shift to another area in Europe. By doing this together in the EU, the boats will be dismantled instead of dumped and abandoned.

Focus on new innovative disassembly methods for existing dismantling end-of-use-boats for SME's. The dismantling process is difficult due to different materials being laminated together in one piece. New innovative ways to separate these materials are needed to recycle as much materials as possible and make recycling more profitable.

To make the disassembly possible of end-of-life-boats it needs to be financed. Therefore new and existing models in the various countries need to be compared. The focus will be on boat registration, boating tax and a waste disposal fee for boats. Many boats are old and no disposal fee has ever been paid. The legal aspects in the partner countries need to be compared, when is a boat a end-of-use boat or a 'wreck'.

Determine new standards for boats to be disassembled easily in order to recycle new build boats easily in the future in line with the Recreational Craft Directive and the harmonized ISO Standards as well as the Inland Waterways Directive requirements. If materials can be separated, it is more profitable to recycle. By taking the end-of-life state into account when designing and building the boat. Recycling it afterwards can be made easy and profitable like in the Car Industry.

Envisaged Output

A survey amongst all partner countries to determine the extent of the problem of the end-of-use-boats and the existing methods to collect and demolish these boats. The focus is also important for the location of new businesses.

A survey will be done amongst partner countries in how the boats are being collected, which disassembly methods are used present day and new innovative methods will be developed.

Before a financing model can be developed the differences in the partner countries need to be reviewed for boating tax, legal ownership, registrations systems. Partners will develop jointly recommendations for a financing model.

The car-industry proves that the end-of-life state is taken into account when designing and constructing a product, recycling it can be made more sustainable and more self-supporting. Training and education material and recommendations or even standards for the Recreational Craft Directive will be developed.

What is the need for this project?

Waterway managing organisations observe an increase of the number of abandoned boats on their waterways. It is expected that the number of end-of-use boats will increase dramatically in the near future. Owners of relatively old used boats, at a certain point, have no financial means to do maintenance or pay for a mooring place, when, for any reason, they don't use the boat any longer. The boat itself has no economic (financial) value at all and therefore boats are abandoned along our waterways like waste. However, it is illegal, it happens because it saves the dismantling fees. It needs to be prevented by all the member states, by dealing with this issue in one country, the problem shifts to another country in Europe.

Waterway managing organisations will work together with the yachting industry and a knowledge center to jointly solve this problem.

Thematic Keywords

Awareness raising
Carbon reduction
Energy efficiency
Promoting green economic activity
Recycling
Reduce carbon emissions
Sustainable resource use

Other Keywords

stimulate innovation new products and services

Partners Found Already

Waterways Netherlands, Canal and River Trust, Vripack, TCNN,

Partners Searched

Scandinavian partner

Estimated Budget: 800.000

Legolisation of bridges

Acronym: Legolisation

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Central Aim

The aim is to improve the building of bridges in regard to quality and sustainability, while at the same time decreasing both the costs and duration of the building- and maintaining process of these bridges.

Project Description

Governments within the North Sea Region are collectively faced with a large replacement and renewing tasks of their infrastructural works. Especially for bridges this requires an immense amount of resources on development in years to come. These projects are still all tailor made by bridge building governmental organisations. We would like to build bridges with standardised elements with respect to interface, function and dimensions: Legolised bridges. By cooperating our efforts in Legolisation of bridges we can boost the scale needed to make bridge building much more effective. This results in less use of resources and less time to build and maintain these bridges. This in turn vastly improves availability of the infrastructure, while at the same time making these bridges more adaptive, renewable and reusable.

Envisaged Output

Movable bridges will be built confection instead of tailor made. This will make movable bridge building a leader in legolisation. It will make the bridges better, more cost efficient, easier to maintain, built in less time and more sustainable. For each element a factor 2 is envisaged.

Bridges might look similarly, underneath they will be much more efficient.

What is the need for this project?

Thematic Keywords

Carbon reduction
Energy efficiency
Industrial design
Promoting green economic activity
Recycling
Reduce carbon emissions
Sustainable resource use

Other Keywords

Legolisation, circular, flexible, re-use, building blocks

Partners Found Already

several Local (dutch) governmental organisations

Partners Searched

Universities and other knowledge institutes (civil, electro/mechanical and organisational)
Engineering and/or building companies
Architectural offices
Bridge building governmental organisations

Estimated Budget: 2.000.000

NaTour - North Sea partnerships in Nature Tourism

Acronym: NaTour

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Central Aim

To develop a greater understanding of North Sea regional 'nature tourism' market segments, to create successful nature tourism assets, private and self-led tour itineraries and destination marketing strategies to target trans-national visitors in turn supporting and enhancing local economies.

Project Description

Objectives:

To understand the individual nature tourism/wildlife or 'eco' tourism needs of each respective North Sea regional market segment and how this may differ from domestic markets. This will allow each North Sea region country to better target alternative European markets to increase inward tourism spending.

Create knowledge partnerships between organisations responsible for destination marketing in these countries (public, private and third sector)

The creation of destination marketing plans for each country, targeting all other respective inward nature tourism markets with the tools to successfully meet visitors' expectations and encourage extended stays which benefit the local economy

Provide training for SMEs, DMOs and nature tourism asset managers on the needs of different North Sea regional nature tourism markets

Facilitate and support a marketing and communications campaign that promotes the respective nature tourism opportunities in each North Sea country to other trans national partner countries

Areas targeted may be in regions of social deprivation or coastal decline (such as East Yorkshire, UK) where nature tourism offers a sustainable tourism output to stimulate jobs and economic growth

Envisaged Output

Envisaged output

- Conferences, exchange visits and knowledge sharing for DMOs and nature tourism asset managers
- Pilot tour itineraries for different trans-national nature tourism market segments in the North Sea region
- Destination marketing plans for each country to target other respective North Sea region countries
- Trans-national marketing and promotional campaigns
- Training for DMOs, SMEs and nature tourism asset managers
- Primary research from tourism bodies and academic experts to understand market needs

What is the need for this project?

'Nature tourism' is one of the fastest growing tourism market segments in the world, and provides a sustainable option for economy growth in areas that may be experiencing economic deprivation or decline

of other tourism segments or traditional industry (such as areas of the UK coast). Research has proven that with successful destination marketing, discrete areas can drive a multi-million £/EU tourist economy based on wildlife and nature activities. In East Yorkshire, this has grown from £9m per annum to £15m per annum in 5 years (c. 290 FTE employment jobs).

However, many of these new and emerging markets have a poor understanding of trans national tourism market segments, e.g; 38% of German inbound tourists to the UK reference 'nature' as a primary reason for visiting (the second highest category after history and architecture), however the majority of these visitors travel to traditional nature tourism areas such as Scotland, limiting the opportunities for other areas such as East Yorkshire.

In addition, both DMOs and tourism SMEs may have a limited understanding of trans national markets and so are not able to effectively market to these segments or provide a high quality experience for tourists when they visit. As a result, visits may be limited in time or repeat custom reducing the local economic benefits within local communities.

It is also crucial to fully research and understand the needs of trans national nature tourism visitors to successfully target the more generalist tourism market where nature tourism may form part of a wider visit but where nature and wildlife could provide added value and encourage additional and repeat trips.

Thematic Keywords

Awareness raising
Pilots
Promoting green economic activity

Other Keywords

Nature, Wildlife, Growth, Tourism, Marketing

Partners Found Already

Partners Searched

Estimated Budget: 0.00

Piecing Together the Circular System for Housing – developing regional market and supply chains for the reuse of materials and elements in housing

Acronym: PiTCSH

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Central Aim

Investigate how to create a market and supply chain for recycling of materials and components collected by urban mining, as an important part in the construction of new houses for living. The project will identify which materials and parts of housing constructions, that are most suitable for repair, remanufacturing or recycling when building new houses and how to stimulate new and innovative dismantling processes, so that materials and parts get a high value as parts in a circular economy.

Project Description

While the principle of mining resources through the demolition of existing buildings is clear, and indeed much demolition material is recycled, the means to achieve the higher level of re-use required for a proper circular economy are not yet clear. This is particularly true for owner-occupied houses. Municipalities will have to take a lead role in collection and sorting of building and demolition waste from this source. With the intent to investigate the possibilities to create a regional market and supply chain for recycling of materials and components, this project will bring together stakeholders (owners, contractors (or trade associations), suppliers, municipalities, and waste handling businesses) to compare- and (further) develop best practices in recycling, and examine the possibilities for upcycling recovered resources.

The systems, elements, and materials, which provide the best opportunities for re-use and upcycling will be identified, and the required supply chains will be mapped out. Systems to be examined can e.g. include primary structural systems, heating and plumbing systems, electrical systems, window and doorframes, and flooring systems.

The project will test the viability of the realization of the principles of circular economy in the housing system on three levels:

- Mapping resources and estimating the volume and type of elements and materials, which can be recovered from demolition of owner-occupied housing will be a necessary prerequisite to establishing adequate material flows to justify the development of supply chains and economic incentives for the recovery of building elements in conditions suitable for re-use.
- Detailed studies of the variety of building designs and construction methods, will be performed to identify reusable elements and materials, and the, demolition techniques required to preserve the greatest feasible value from the structures to be demolished.
- Design supply chains, which can deliver the re-manufactured elements and materials back into the housing construction process.

To maximize the take-up of recovered materials and elements, markets need to be established at national and regional levels. This will require normalization of methods for mapping resources, resource recovery, and reconditioning.

By examining all aspects of the cycle, with all stakeholders, the project will attempt to test the economic viability of circular building.

Envisaged Output

Research output

Market and supply chains for a circular economy within construction by means of urban mining.

Optimization of business processes to stakeholders and construction processes in order to stimulate a sustainable circular economy.

Developing output

Bring together stakeholders within circular economy and urban mining in order to develop best practice within this area.

What is the need for this project?

In connection to the demolition of buildings which lifetime has ended, the traditional linear economy currently presents a big waste of materials and building parts.

By using the mindset of the circular economy where materials and buildings parts that haven't been damaged can be recycled and yet again be built into new houses, constructioners will be able to utilise a more sustainable use of resources. Sustainable demolition is naturally not free, however we propose that with the right supply chain, costs for demolition can be turned into an income by reusing materials and building parts, which still has a long residual lifetime.

In the construction industry we already see the first signs of resource scarcity on a global level, which means that the constructioners of tomorrow, instead of producing the parts all over again, need to become better at mapping and collecting these resources from existing buildings via urban mining.

As we are educating the constructioners of tomorrow, we as institutes of higher education feel an obligation to take our part in this process, and with this project we wish to address the need to develop

building solutions that can be included in the circular economy so recycling and upcycling can secure sustainable solutions to prevent further climate changes.

Thematic Keywords

Awareness raising
Carbon reduction
Industrial design
Locally sourced materials
Promoting green economic activity
Recycling
Sustainable resource use

Other Keywords

circular economy, urban mining, upcycling, resource reduction

Partners Found Already

DELFT University of Technology

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Erhvervsakademi Sjælland / Zealand Institute of Business and Technology

Næstved Municipality - <http://ressourcecity.dk/>

Partners Searched

Partners from other countries- or additional partners in current countries could also be very relevant, but has not yet been searched.

Estimated Budget: 1500000

SlowFarm: eco-innovation for new products and services in rural areas

Acronym: SlowFarrm

Contact

open

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Central Aim

SlowFarm is eco-innovation in rural areas for creating good foods, rural hospitality services and rural awareness for urban people. SlowFarm is innovation by SME's and farmers in rural areas, inspired by natural and cultural resources, produced in a fair and social sound way stimulating social cohesion in rural areas, collectively marketed as a sustainable quality product/service from regional-rural origin opening up awareness and new experiences for urbanized citizens.

Project Description

SlowFarm is the place where SlowFood is produced and SlowTourism is practised, where traditional knowledge meets new technology for developing new products, new (touristic) services and new supply chains for stimulating rural economies. Slowfarm contributes with its innovations and activities to the self-esteem and pride of people in rural areas.

SlowFarm stimulates innovation capacity of SME's in the rural environment by empowering them with new knowledge, partnerships, networks and tools. Slowfarm creates networks through NSR where (young) people cooperate with traditional SME's in order to develop new services for food and leisure and to develop new supply chains between rural and urban areas.

Traditional knowledge has created a plenitude of tasteful food products. Many of these products are hardly produced anymore because of industrialisation food production, (hygienic) regulations, loss of knowledge and others. Traditional food processing knowledge combined with modern scientific insights will yield new locally produced traditional food products which match modern hygienic standards and processing conditions with maintaining traditional food character and taste.

Hospitality on farms and other rural institutes provide opportunities for urban citizens for enjoying, experiencing and learning about good food production and natural and cultural heritage. Rural hospitality has the potential to create togetherness and understanding between urban and rural citizens. Rural hospitality provides the basis for appreciation of quality rural produced food products and opens up possibilities for developing regional food systems.

Farms are mostly family owned business where female partners are managing farm households. Women farmers are carriers of traditional knowledge for food production. Female farmers can professionalize their role as traditional food producer and hospitality service provider by adopting innovative approaches.

Nesting of food markets, combining transnational regional and local market approaches. Appreciation of regional produced food can be supported by specific measures for introduction of regional food products with urban institutional hospitality/catering providers such as hospitals, homes for the elderly, educational

institutes, authorities etc. "Slowfarm traditional product basket" is the flagship of regional diversity in the NSR/EU

Envisaged Output

- regional rural-urban networks for new market and supply chain development
- partnerships for innovation traditional food products between farmers, SME's and knowledge providers
- partnerships for innovation rural touristic services
- new social media tools for SlowFarm product/service promotion and dissemination
- and more to be defined....

What is the need for this project?

New product and service development for green-innovation in small scale farms and SME's in rural areas is hampered by access to new knowledge and the ability to create new supply chains for new market development. The SlowFarm project will empower small businesses in rural areas with networks and capacity for creation eco-innovative products and services for urban markets.

Thematic Keywords

Awareness raising
Locally sourced materials
Pilots
Promoting green economic activity
Sustainable resource use
Take up of new technologies

Other Keywords

regional food system; supply chain; food innovation; leisure innovation

Partners Found Already

partners found in BE, NL and DE

Partners Searched

we are looking for partners in DK, SE, NO and UK

Estimated Budget: between 3000000-4000000

Vapour Recovery and Emission Control; Paving the way to a 0% emission in VOC transport

Acronym: VOC control

Contact

On behalf of a Dutch governmental organisation

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Central Aim

Roadmap to eliminate Volatile Organic Compound (VOC) emissions in hydrocarbon transport:

- 2020 to 10% LEL or equivalent, Technical already available
- 2025 to meet the land based emissions norms Technical a challenge but achievable
- 2030 towards 0% emission, Technical innovation required

Enable implementation and enforcement in an harmonized way with as low as possible operational and financial effect on the market.

Project Description

Background

The project builds upon the results from the CDNI, CCR, Province of South Holland, Port of Rotterdam to eliminate release of organic compounds in transport, mainly shipping and terminals. Now tons VOC are blown out of cargo tanks from both inland as maritime ships each day that are highly polluting and toxic.

Project Organization

The project comprises of partners that wish to eliminate this practice in a responsible way. The project will comprise of the number of core partners, supported by partners that will carry out predefined tasks. surrounding the project associated partners will be involved for input, on site demonstrations and dissemination.

Activities

The project will comprise the following work packages:

WP 1 Management

WP 2 Dissemination, awareness and acceptance

WP 3 Enabling through technical solutions

This work package will focus on the stimulating and facilitating the needed technical development to ensure that vapor recovery can be achieved, emissions be reduced to near 0% and enforcing regulations can be supported in an effective and efficient way.

All these will result in dedicated demonstrations to learn from each other, as:

- Zero point assessment
- Demonstrations vapor recovery
- Demonstration vapor release monitoring
- Demonstration of vapor recovery tracing system
- Impact assessment on implementation of the vapor recovery on transport logistics

WP 4 Governance

- Roadmap to 2020 to 10% LEL or equivalent, Technical already available
- Roadmap to 2025 to meet the land based emissions norms, Technical a challenge but achievable
- Roadmap to 2030 towards 0% emission, Technical innovation required

WP 5 implementation, logistics and operations

- Avoidance
- Treatment
- Economic impact
- Stimulate, enable and roll out the roadmaps

Envisaged Output

- Roadmap towards elimination of VOC emission
- Certification of treatment and monitoring equipment and demonstration of their use
- First implementation of the roadmaps and support schemes to do so

Enable reduction of the VOC emission by shipping and terminals over 80%

What is the need for this project?

At this moment transport of hydrocarbons leads to emission of these products, especially in shipping and at terminals. These VOC's are highly polluting, and have a high environmental and health impact. Regional governmental organisation are taking action, however, as transport goes over transnational regions, these measures only lead to displacement and not to solving the problem.

We aim to provide the basis for solutions by validation of technologies and strategies, exchange of best practices, demonstrations, providing solutions and input to stakeholders and international platforms with the aim to harmonize the regulation and support new regulations and implementation of the solutions.

Thematic Keywords

Climate change
Ecosystem services
Sustainable environmental management

Other Keywords

Volatile organic compounds, Transport, Environmental pollution

Partners Found Already

Governmental organisations, technology providers and environmental inspections from the Netherlands and Belgium

Ports from The Netherlands, Belgium and Germany

Private companies involved in storage and transport of organic compounds from The Netherlands and Norway

Solution providers from The Netherlands

Partners Searched

Governmental organisations from Germany, UK, Denmark, Sweden and Norway

Ports from Sweden, Norway, Denmark, and UK

Private companies involved in storage and transport of organic compounds that wish to commit themselves to the objectives

Solution providers from any country

Estimated Budget: 7.500.000



Priority 3 – Sustainable North Sea Region

A Landscape Toolbox

Acronym: a Landscape Toolbox

Contact

Regional Landscape Organisations in the Province of Antwerp

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Central Aim

Through the establishment of regional service desks for landscape management, called SCAPes, this project aims to develop an instrument for the financially, ecologically and socially sustainable long term management of North Sea ecosystems.

Note: SCAPE stands for “Service desk for Common Addressing and Promoting Efficient landscape management

Project Description

SCAPE can be seen as one service desk that organizes landscape management for the region it covers. This instrument can lead to a virtuous cycle by:

- **Activating stakeholders for landscape management:** SCAPE informs and encourages all stakeholders (local municipalities and private land owners) to take up landscape maintenance. Actions are put up to raise awareness and promote active participation. Knowledge is transferred

through training and consultancy. Furthermore stakeholders will be supported by a digital platform.

- **Organizing supply and demand** concerning landscape maintenance and launching a cooperation;
- **Focus on efficiency gains** through efficient work planning, economies of scale, tailor made solutions and collaboration. A digital platform will be developed for scheduling and organizing work geographically. Bigger machines and materials can be bought and used collectively. The tailor made approach allows to link the best “actor” (green contractor, volunteer workers, agro-environmental cooperations, specialists like arborists, ...) to the job.
- Balancing between multiple objectives and optimizing ecosystem services: The cooperation and central coordination allows to draw up and implement a holistic vision on landscape level. This vision can look for the best synergies between various benefits and might maximize certain ecosystem services, e.g. climate adaptation.
- Guaranteeing a certain quality standard: Quality standards will be formulated and demanded from all actors. Various information sessions and practical trainings will be provided to meet up to these standards. In this manner, the project guarantees the optimal functioning of the landscape infrastructure.
- Alternative means for funding landscape management: harvesting products from landscape elements; mobilization of volunteers; crowdfunding; sharing and trade exchanging economy; ...

The method will be developed in pilot areas, being a part of the selected regions (e.g. 2-3 municipalities) in different member states. In a second phase the pilots will be enlarged to the whole region. In the last phase the instrument is rolled out and tested further in selected sister regions. This must lead to a fine-tuned and robust instrument that can be implemented across various regions.

Envisaged Output

- The continued existence of current and future landscape infrastructure;
- The development of a region wide and cost efficient landscape management;
- Enhancing the public support and engaging the local stakeholders for landscape maintenance;
- The development of alternative means for funding landscape management.

What is the need for this project?

Ecosystems are under great pressure in our densely populated and intensively used North Sea Region. Due to a lack of knowledge, expertise and (financial) means, local governments and private land owners are no longer capable of maintaining their landscape infrastructure. Moreover, a region wide and holistic approach is missing. The current situation of **widespread overdue maintenance** hampers the functioning of ecosystems and therefore also the delivery of ecosystem services.

Thematic Keywords

Ecosystem management
 Stakeholder involvement
 Sustainable environmental management

Other Keywords

Landscape infrastructure; Cost efficiency; Alternative funding; Ecosystem services

Partners Found Already

Following Regional Landscape Organisations are currently involved: **Regionaal Landschap de Voorkempen, RL Kleine en Grote Nete, RL Rivierenland, RL Schelde-Durme**, all situated in Flanders, Belgium. These partners get support from the Province of Antwerp.

These partners form cooperations from local governments and organisations representing various sectors and have extensive experience in integrating different interests for the region. Through a participatory approach they convince private land owners to develop valuable nature and landscape elements on their lands. They stimulate nature recreation so people can enjoy and better understand the region they are living in or visiting. They also put effort into increasing awareness and gaining public support.

This experience forms a perfect starting point to make a quick start. Therefore these partners can perfectly function as forerunners.

Partners Searched

Preferably regional cooperations from other member states, working on nature and landscape management or actors interested in starting this form of cooperation. Regions with a great fragmentation in land use and land ownership are probably most in need of this kind of approach.

Furthermore partners with extensive experience in alternative funding for landscape management.

Estimated Budget: 5.000.000

Adapting to Climate Change in North Sea Region: Risk and Vulnerability Assessment of Port Infrastructure

Acronym: RVAPI

Contact

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Central Aim

The main objective behind RVAPI is to contextualise climate risks at each North Sea Port with the view to provide information that will assist decision makers in prioritising climate adaptation initiatives. More importantly, RVAPI aims at raising awareness on the need to build port infrastructure climate resilience by highlighting the cost (consequences) of non adaptation to each port and to the regional economy at large.

Project Description

With more than 80% of the world trade being seaborne, the development and maintenance of maritime transportation infrastructure has increasingly become a key enabler and catalyst for the competitiveness and development of any regional economy. Climate change has however brought new risks to the maritime industry in general and to seaports in particular. This is mainly due to the fact that seaports are located on coasts that are susceptible to climate variations. RVAPI approach is as follows:

- Develop climate risk scenarios for each identified port in North Sea Region based on field investigations, interviews with takeholders and available data.
- Identify scenarios presenting high vulnerabilities to ports through a methodology by elimination
- Provide recommendations to decision makers in respect to port adaptation priorities.

There is a wide recognition that adaptations initiatives in the industry are often compromised due to the constant trade off between costs and solutions. The proposed ACCNSR / RVAPI approach focusses on addressing the trade off challenge by highlighting scenarios in terms priorities with the view to assist decision makers with allocation of resources where they are mostly required.

Envisaged Output

- . North Sea Port Classification in relation to climate risks
- . North Sea Port Vulnerability Assessment report
- . List of Priority scenarios requiring adaptation

What is the need for this project?

The nature of the maritime industry is in such a way that it has substantial multiplier effect on the wider regional economy. However, climate change has however brought new risks to the industry with devastating consequences on regional economy. For this reason, the building of port infrastructure resilience has therefore become compelling, in order to maintain an healthy regional economy. Moreover the constant trade off between costs and solutions necessitates the need to highlight priorities. This is what ACCNSR / RVAPI is proposing to achieve.

Thematic Keywords

Adaptation and resilience
Climate change

Stakeholder involvement
Sustainable environmental management

Other Keywords

Priorities, Decision makers, adaptation, port infrastructure

Partners Found Already

Partners Searched

Academic institutions, Ports, Private consultancies or anyone interested on the project should contact us on p1306@wmu.se

Estimated Budget: 2

Establishing Blue Belts with Marine Protection Areas

Acronym: Blue Belts

Contact

Marine Conservation Society (not lead)

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Central Aim

Creating a blue belt through the implementation of MPA's to create a rich, productive and bio diverse marine infrastructure

Project Description

We would like to work with partners to design and implement a management system and plan for newly created MPA's to monitor dredging, bottom trawling and pulse fishing

Envisaged Output

Exploring and piloting techniques to manage and monitor activities in MPA's to allow areas to recover and flourish for economic and environmental benefits

What is the need for this project?

MPA management plans are not yet designed and this will allow EU North sea nations to pilot techniques to benefit other areas. We need to make sure this is a sound and implementable system, enabling data and research to be used productively for economic, social and ecological benefits for all stakeholders.

Thematic Keywords

Adaptation and resilience
Build with nature
Catchment management
Climate change adaptation
Stakeholder involvement
Sustainable environmental management

Other Keywords

marine protection areas MCZ

Partners Found Already

Partners Searched

Estimated Budget: 1.000.000

New Project Idea

Acronym: Free Range Salmon

Contact

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Central Aim

Improve conditions for salmon to reproduce and for their migration.

Project Description

Free Range Salmon

Over the last 250 years Europe's rivers have been subject to the impacts of industrialisation in terms of their flows being managed, impounded, polluted and modified. These impacts are heightened with the advent of climate change altering flow patterns and conditions within the rivers. In essence the flows that connect the rivers and estuaries have become disjointed. This project seeks to re-join all parts of the rivers and their estuaries so that wildlife, in particular salmon, can have free range in and out of these catchments. Salmon have been chosen as they are a shared resource within Europe, crossing boundaries in their migrations and so linking countries together, and are an indicator of the health of the rivers and their estuaries.

This project will aim to quantify the range of barriers to fish migration and understand their impacts. Physical obstructions such as dams; chemical barriers such as pollution; environmental changes linked to climate change and changes caused by development of the rivers will all be considered. This will be achieved through a combination of research and seminars so that information can be exchanged on how fish are using these rivers, the challenges that these barriers represent and how they can be overcome.

Demonstration sites will be developed to look at how the Water Framework Directive can be used to alleviate these barriers in the partner countries, along with the development of a skills and knowledge base to build capacity within the partners' organisations. The ethos of the project will be to understand and reconnect these rivers whilst working alongside industrial partners so that the different demands on the rivers can be better met.

The salmon is an important resource for growth. The rivers and streams located in rural areas and sport fishing and sport fishing tourism is a major growth area for the project's partners. Hence it is important that conditions are created to enhance and sustain fish resources.

Finally the project will bring together the knowledge resource into catchment fishery management plans so that the environmental benefits of improving the connectivity of rivers and estuaries.

Envisaged Output

?

What is the need for this project?

For better understanding, solutions and make growth possible in the areas for tourism

Thematic Keywords

Adaptation and resilience

Catchment management

Climate change
Climate change adaptation
Ecosystem management
Ecosystem services
Invasive species
Sustainable environmental management

Other Keywords

Growth, Salmon, Sea Trout, Biodiversity, obstacles, fauna passages

Partners Found Already

Sweden: Laholms Kommun River Smedjeån

Halmstad Kommun - River Nissan

Scotland : River Dee

and we hope: Germany: River Rhone

Partners Searched

Denmark and Norway

Estimated Budget: 200 000 000 SEK



Priority 4 – Green transport and mobility

Connected Bike

Acronym: CONBIKE

Contact

The Netherlands: Sensor City

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Central Aim

The main objective of this project is to stimulate cycling by making the bike and its users connected through the use of different technologies. This will decrease car use in the different regions of the NSR. In this project new technologies will be demonstrated in different urban and rural areas to stimulate cycling as an alternative for using the car. This will be done in the living lab areas of the participating partners.

Project Description

Use sensors for availability of 'open/shared' bicycles and reservation of a bicycle for last-mile transportation

From ownership to open use/sharing of bicycles, what happens to open-use bicycles.
Monitoring and navigation of more safe cycling routes and the "healthiest" routes in terms of air quality (real time?)

Where did I leave my bike? Parking solutions

Cycling navigation & always green for cyclists? Smart navigation for cyclist to avoid bike congestion
Integration of cycling with Public Transport and multimodal information?

Anti-theft

Cycling Safety near junctions through communications between bicycles and cars

One day event on which all people of Assen + also other locations (?) use bicycles and get information on how much they cycled, what does this mean for their health. At the same time measuring of emissions in the city.

The City of Assen has built a high quality and large-scale measurement fiber network to allow for the development of a variety of practical applications that use complex sensor systems. Assen will function as a living lab for sensor system applications. An example could be to develop an open source platform mapping a range of useful data on cycling networks, access restrictions, traffic measures, delivery and transport facilities, districts, population, land use and carbon emissions.

Envisaged Output

- Pilot Always Green Light For Bikes, based on real time bike flow data.
- Better insights in available parking areas for bicycles and insight and availability of shared bicycles.

- Behavioral change by encouraging cycling as an efficient and healthy way of transport.
- Reduce car usages in inner cities
- Stimulate the use of e-bikes by available charging point in cities.
- Increased integration of public transport services by cycling
- Data collection cycling behavior (normal bike& e-bike): speed, distance, destinations, parking, traveling time etc.

What is the need for this project?

This project supports the desired augmentation of the use of bicycles as a transport mode throughout the NSR. This will be done by demonstrating that connecting the bike with its surrounding environment will make cycling more efficient, fun, safe and healthy and will enhance people's mobility. These demonstrations will be executed in in four different regions in the NSR. In these regions already a strong cycling culture exists or is emerging, however these regions all deal with different local challenges that hold-back further development of increased bicycle use. Successful tackling these challenges will facilitate the further roll-out of cycling in these four regions. At the same time gained knowledge and experiences assists regions that feature comparable geographical characteristics but lack a cycling culture in making the first steps towards a more bicycle-oriented culture. In this way the use of bikes will increase throughout the whole NSR but can only be achieved through transitional cooperation. Furthermore, transnational cooperation is needed as this project will not tackle a local problem but a problem existing in whole the NSR. This will be done by:

Setting-up a guideline on stimulating cycling in regions with and without an already existing cycling culture in the NSR. This guideline cannot be derived from one context. Different countries and regions have different needs, possibilities and benefits. A guideline on how to stimulate the use of bicycles in a specific region should be tailor-made based on the local characteristics as there does not exist a one size fits all policy. Based on the results of the pilots in the different urban and suburban regions, a general framework will be constructed that can be applied by many different regions throughout the NSR.

Knowledge of and experience with cycling is fragmented in the NSR countries and its regions. The Netherlands and Denmark are for example front-runners on this area. Already gained experiences, knowledge and proven policies from both countries will be shared with other partners in this project. Not all NSR countries offer the same circumstances to test and demonstrate the new technological solutions. For this reason different technologies will be demonstrated in the different participating regions in this project.

Thematic Keywords

Congestion
Emissions reduction
Healthy mobility
Living Laboratory
Multimodal
Pollution
Public transport

Other Keywords

Bike, biking

Partners Found Already

Stichting Sensor City Assen: Lead partner + Promoting the use of the Living Lab Assen with real end users
Magicview Connected Products (partner of Sensor City Assen): Developing cheap technology solutions (IOT) for multimodal services

Nimera: Nimera's interest in the SCARBIKE project is to develop a software solution (an app) that integrates information for cyclists and provides the user with the best advice on how to get from A to B at specific moment in time.

EIFI: The EIfI, short for European Institute for Innovation. They will be involved together with the Osterholz – Scharmbeck Landkreis in Niedersachsen. This region will establish a small pilot project for the use of LEVs and its infrastructure. The project includes a charging infrastructure for light-electric vehicles (LEVs) such as e-bikes, using among others “EnergyTube” batteries and a so called “EnergyLock”.

Region Sjælland: is responsible for regional infrastructure and mobility and wants to promote the increased use of bicycles from an early age. Main objective for participating is that we want to use bikes to increase the knowledge about mobility, environment and health among school children in eight pilot schools in Region Zealand, Denmark.

City of Ostend: will function as a living lab to demonstrate the functioning of the different new technologies and their contribution to the local challenges to further stimulate the use of the bike as a transport mode

FIGO: is expert in remote monitoring & control for demanding applications. Applications can be found in domains such as public safety and large scale sensor systems. FIGO has several options to realise solutions for a connected bike. E.g. e-bikes are equipped with trackers providing participants and project management detailed information on the use of the e-bikes by the participants, students of a secondary school using the e-bike for the kilometers ride between home and school.

Louis & Ralph Technologies (LR): will further develop and demonstrate their technology which is specially developed to generate and collect data about bicycle usage and bicycle localisation. To make sure this technology will work for at least 3 years LoRa is used. For the localisation of bicycles LR uses triangulation techniques in combination with WIFI geo-localisation. The actual location of the bike can be found by an app. Via the app the bike owner may receive messages when the bike is moved.

Partners Searched

This project idea was submitted as an Expression of Interest for the March 2016 call. When the Expression of Interest is selected for stage 2, other pilot cities in the UK, Sweden and Norway are welcome to join the consortium.

Estimated Budget: 4.000.000

GEOgreen

Acronym: GEOgreen

Contact

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Central Aim

The project aims to develop tailored "green" sustainable model for Geoparks and UNESCO World Heritage Sites that could supports the management bodies (public and privates) in enhancing policies for the promotion of sustainable tourism practices with special focus on disabilities and new technologies.

Project Description

The project analyses the needs and the potentiality of Geoparks and World Heritage Sites (UNESCO sites in general) in the green mobility field with special focus on supporting disabilities and with the aim to develop new tourism offers with focus on sustainable transports and new technologies.

The project will analyse the existing plan, the infrastructure, the architectonic barriers, the existing technologies and the actual infrastructural connections between public transport and the touristic "hot spots" of the UNESCO sites.

Interviews to disable people engaged in local associations will be crucial to develop the report.

The partners in the end will develop one common strategy that will allow them to fulfill the gaps underlined in the need analysis.

The inclusion of the GEOVR virtual exhibition-platform that Magma Geopark is developing inside the strategy and it will be part of the plan. In fact special stop will be planned in order to offer virtual innovative experience to the tourist and disable people that will travel inside the UNESCO sites partners of the project simply sitting in one location with the support of digital tools. The platform will be run from next year and is easy implementable by other UNESCO partners.

The GEOgreen strategy in the end will support the UNESCO sites to develop green mobility disable-friendly solutions, to connect tourist from the public transport to the localities and to the hot spot provided with GEOVR technologies, reducing the CO2 emissions and increasing the use of public transport and to erase barriers for disabilities both physicals and ideological. The GEO green strategy will be tested and adapted in order to be adopted by the Governmental bodies involved. The leader is member of the UNESCO Geoparks Network, this will allow the consortium to expand the strategy Worldwide.

Integration with European policies:

EUROPE 2020 Green economy- CO2 reduction.

Sustainable transport and mobility.

European Disabilities Strategy 2010-2020. (Accessibility and integration)

EUROPE 2020- digital society.

Envisaged Output

- Implementation of the tailored plan in the Regional policies.
- Increase the sustainability and the tourism attractiveness of remote areas for disable people.
- Increase the awareness of people in sustainable practices and disabilities issues.
- Enhance the use of new technologies inside the UNESCO Sites (Geoparks and WHL)

What is the need for this project?

Main issues (problems to face within the project):

Lack of tourism strategy plan for the development of green infrastructure in combination with the use of innovative technologies with special focus on disability.

Lack of tourism offer for disable people in the Geoparks and UNESCO World Heritage Sites that can provide them with proper means of transport.

Need of "green" transport connection between public transport stations and the UNESCO localities.

Need of expanding the use of new technologies for providing disable people with "outdoor" experiences.

Thematic Keywords

Emissions reduction

Healthy mobility

Public transport

Other Keywords

Disability, ICT technologies

Partners Found Already

Lemvig Kommune, Geopark project- Denmark.

Shetland Geopark. Scotland

Odsherred Geopark Denmark

Partners Searched

UNESCO World Heritage Sites listed (WHS)

Geoparks

Aspiring Geopark projects.

National, regional, public authorities responsible for cultural and natural heritage.

Tourism income providers.

Mobility and environmental Regional Authorities.

Development agencies- Regional and National.

Universities and private independent research centers (tourism, mobility and sociology sectors).

Organizations in economic sectors with a strong impact or dependence on natural and cultural heritage.

Association that focus on supporting the disabilities.

No profit and NGO involved in natural-cultural heritage promotion and disability sectors.

Estimated Budget: 200000

Internet of Things and City Center Logistics

Acronym: IoTLogistics

Contact

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Central Aim

The central aim of the Internet of Things City Center Logistics project is to contribute in reducing the common challenges in the NSR related to urban road congestion, increase of GHG and noise in the city centers, by making use of Internet of Things and provide a traffic management and loading system for the urban city distribution.

Project Description

The sustained increase of urbanization and the significant rise of online shopping makes urban transportation and the last mile of freight transport into an increasingly big challenge. For cities to continue to be an attractive and healthy living environment there is a need to create an urban logistics solution that can minimize the travel distance and maximize the transport capacity.

To tackle these challenges, the Internet of Things (IoT) Logistics project aims to make use of Internet of Things by collecting and integrate data in a service delivery platform, which is replicable to be tested in different cities. The platform will collect the traffic data real-time and therefore can help to define the best routes for transporters to avoid congestions, also taking into account air quality. It can also show the best parking place regarding to the delivery time and loading / unloading. IoTLogistics will pilot at least 2 IoT solutions in 3 NSR cities. The pilots will provide evidence for 25% reduced vehicle kilometres in the cities and related reduced GHG emissions.

The Internet of Things (IoT) connects different objects surrounding us (e.g. buildings, vehicles, gadgets, etc.) by sensors to the existing internet system. These sensors enable connected objects to collect a wide range of real-time data and immediately exchange it. This technology serves as a tool for creating smart cities, in this case for smart transport & logistics. This enables to:

- Determine the exact emission output and price per kilometre for logistic service providers;
- Raise awareness of GHG-emissions and help logistic service providers make a greener choice for transport;
- Define best location for drop off points outside the city center in terms of efficiency and emission output;
- Predict freight transport better and enable at an early stage bundling of freight at outside locations for efficient last mile delivery to decrease congestion;
- Measure how many trucks and vans have the same destination and what kind of load factors the vans have and define best itinerary and time for delivery (smart routing);
- Defining value added mobility services that can be transacted to storekeepers, transporters and exploiters of hubs.

Envisaged Output

The IoT Logistics project will demonstrate at least 2 solutions with the following Work Packages (apart from project management & communication):

WP3: Analysis of technologies to be used in cities involved related to available sensing / data network. The output will be used for the Service Delivery Platform that will be created in WP4.

WP4: Based on WP3, a service delivery platform / architecture will be created that can be used in several circumstances / cities, depending on the available sensors / technologies. It will be built in such a way that it becomes replicable.

WP5: Pilots in Assen (Netherlands) and Høje Taastrup (Denmark). other pilots will be identified in phase 2. The pilots in WP5 will implement the use of the Service Delivery Platform.

WP6: Monitoring effects and provide evidence for replication in other NSR cities.

What is the need for this project?

With its dense population, historical cities with narrow streets, and shopping centers and other freight destinations tucked into the city centers, the North Sea Region of Europe faces specific challenges for urban freight and last mile logistics. The activities of urban freight transport have an unsustainable impact on the quality of life in cities and add to issues like: congestion, noise nuisance, visual disturbance, deterioration of the air quality and increase in CO2 emissions. As urbanization increases and the demand for urban freight transport activities grows, there is a need for a more efficient urban freight transport and logistics system and network which could also help reduce the current negative impacts it has on a city.

Various projects exist around this topic mostly focused around network building, knowledge sharing and road mapping. With this project we want to go beyond the current state of the art and real time test solutions and demonstrate viable business cases.

Thematic Keywords

Congestion
Emissions reduction
Freight transport
Last mile
Living Laboratory
Logistics
Noise
Pollution

Other Keywords

internet of things, sensing

Partners Found Already

Lead partner Sensor City Assen (Netherlands)
NTU (Denmark)
MagicView (Netherlands)
Assen Municipality
Høje-Taastrup Municipality

Partners Searched

This project is already elaborated as an Expression of Interest and was submitted at the call that closed in March 2016. If we are selected for phase 2, additional partners are searched.

- Logistics service providers / city logistics / transporters
- Municipalities willing to pilot IoT solutions
- Parking companies
- Organisations involved in paperless transport & transactions

Municipalities with different sizes and from different NSR countries (to assure replicability) to pilot with dynamic traffic management systems (taking into account air quality), location based technology for the availability of loading / unloading facilities, flexible parking places and easy exchange information to combine loads and to transfer loads in case of multimodal solutions (i.e. from truck to cargo bike). After approval of the Expression of Interest, we will include cities from Belgium, the United Kingdom and Sweden. The participation of the German city of Oldenburg is already pending, the city of Hamburg also showed interest.

Transport associations such as FDT in Denmark and Transport & Logistics in the Netherlands (TLN) will be involved in stage 2 to represent the transport & logistics sector as the end users.

Organisations that have access to data such as data from traffic management systems. And of course organisations being able to “translate” data into applications, apps, systems. Sensor City Assen (including its broad network of organisations providing technical solutions) will bring in their practical experience on this.

Estimated Budget: 5.000.000

Green Regional Mobility Solutions

Acronym: GReMoS

Contact

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Central Aim

Encouraging and supporting the development and use of innovative, out-of-the-box concepts for green shared transport solutions and offering these solutions to the public on a virtual market place,

in order to replace regular (daily) car movements within and throughout a confined region and solving bottlenecks in key network road infrastructure.

Project Description

The project aims to increase the use of green transport solutions or providing alternative concepts for places to work, shop, sport etcetera in order to decrease car movements which are made on a regular (daily) basis. By diminishing traffic and car use the project envisages its output by relieving or even removing traffic bottlenecks without moving them to other locations. Therefore a regional approach is provided in collaborating and cooperating governments from local up to international levels.

The primary outcome of the project is a digital forum or virtual market place for providers and users of green transport solutions and innovative and out-of-the-box concepts for work, shopping, leisure, sports etcetera. The forum is accessible for all kinds of providers as long as they are delivering their products or services within a region. On the other hand potential users from green transport products and services are limited to inhabitants and employees of companies in the pilot region as they are the main objective and target group.

Besides the envisaged output on mobility issues as mentioned below the project also aims to test the concept in a pilot application on a complex network of road infrastructure and interlinked connections. The Mechelen region provides a perfect practice ground for the pilot project as the area is known for commuting on numerous distances, by several means of transport and with a large variety of destinations. It is also known for a lot of traffic that is crossing the region with nearby capitol Brussels, harbour city Antwerp and university seats of Gand and Leuven as main destinations.

However there are also international routes crossing the region that mixes with regional traffic on regional roads. Bringing in the market place for green mobility solutions as a pilot project brings the opportunity to measure the impact on several traffic streams.

To measure the impact of the market place and its offers of mobility solutions a comparison with several other regions is eminent.

Envisaged Output

- Stimulate the take-up and application of green mobility solutions for regional personal transport.
- Promoting the use of green sustainable and shared mobility solutions.
- Creating multimodal and interlinkage transport opportunities.
- Encouraging the general public to use sustainable and shared mobility solutions on a daily basis.
- Providing accessibility to green, sustainable and shared mobility solutions to the general public.
- Connecting providers and users of green, sustainable and shared mobility solutions.
- Diminishing traffic and therefore removing bottlenecks in the infrastructure network.
- Establishing a physical and/or virtual market place for innovative mobility solutions.

What is the need for this project?

As the use of digital environments and virtual communities by social media increases, goods and services are more and more offered and sold digitally by websites, virtual markets and internet auctions. Green mobility solutions are generally offered solitarily, either on or off the internet. Potential buyers and users have to browse themselves to find suitable green solutions for their mobility needs. A virtual market place will provide a digital environment for end users of green mobility solutions to meet and trade. Up till now such market places only exist, whether on a very local scale available for only a contiguous and selected number of people, or on a commercial basis and only accessible for people who subscribed membership. The concept has already been used on a smaller scale and to a strictly confined group of people. This project aims to use the concept on a regional scale and without access limitations for potential users to the offers of goods and services. The market place has also not been used yet as the main feature of solutions in the battle against congestion.

Mobility problem

The Market Place for Green Mobility may provide an innovative solution to traffic jams and congestion, to capacity problems of roads and networks, and effectively create a modal shift from cars to green mobility alternatives. As most mobility problems are likely caused by too much cars at the same time at the same spot or connection, it seems logical to diminish the number of cars, to decrease the average size of them or to spread the distribution of cars and traffic in space and time. These are solutions for congestion whilst there is no investment into more infrastructures rather than the existing infrastructure is likely to be used more efficient.

As both geophysical space and financial resources are limited, any alternative solution for congestion than building extra road capacity which is effective and contributes to enhance traffic flow will be welcome. Thus the project is also an attempt to find out if influencing mobility by providing and selling alternatives for car mobility can make a difference on car use and modal shift. If successful in this project the Market Place for Mobility might enroll as a standard option in countering traffic jams, congestion and ultimately in a possible grid lock. Therefore it is necessary to pilot the use of the virtual marketplace for mobility on a regional scale, significantly longer and equally successful.

Emission problem

New European regulations and directives indicate or prescribe further measures to decrease emissions from carbon fuels as CO₂, NO_x and PM₁₀. Most targets are at least described as ambitious. Any realistic solution that contributes to the targets should be evaluated, at least theoretical if not practical. Promoting and providing cost efficient, innovative green solutions to the general public for mobility issues and especially solutions that replace vehicles with carbon emitting engines is likely to be an effective measure.

As the Market Place for Mobility is meant as such a measure, thus it answers to the needs of the general problem about carbon emission. Because its impact is considered on a regional level, the project might prove that individual appeal and action contributes to collective targets and therefore can be an effective measure in decreasing carbon emission.

Specific need for this project in de Mechelen Region

The Flanders region (arrondissement) of Mechelen is situated in the center of the Flanders Diamond ("Vlaamse Ruit") which is formed by key cities in economic development on the corners: Brussels, Leuven, Antwerp and Gand. The region of Mechelen is geographically characterised by the city of Mechelen in the center with smaller towns and cities (such as Lier) to the west and to the east. The region has both a carbon emission problem as well as a mobility problem. The project aims to solve a mobility problem and subsequently also an environmental problem. Focus is reduction of carbon emission by replacing car movements through alternative transport and/or alternatives for places to work, shop, meet, or for Leisure, sports etcetera.

Mobility problem

Though Mechelen is considered as the hub with main facilities as education and health care, there are also connections from the region with the cities of Brussels, Antwerp and Leuven, as well as with smaller cities as Sint-Niklaas, Dendermonde, Vilvoorde, Aarschot, Herentals. These connections, both business and social, do result in a diffuse traffic and transportation pattern, relying on a grid of regional roads while the main infrastructure through the region (part of TEN-T network) is strictly north-south oriented between the Antwerp and Brussels regions. Therefore the infrastructure is mainly providing fast north-south connections through the region rather than providing fast and comfortable connections within the region. Meanwhile this infrastructure of international importance is regularly congested by regional traffic as it tries to find a congestion free route through the region at all times. There is virtually no room for

expanding the existing roads without severe urban redevelopment and there is high resistance by the people against new roads. This project attempts to offer a solution for mobility demands by offering alternative ways to travel, or provide alternative ways to do daily routines meanwhile also responding to the emission problems.

Emission problem

All over Belgium there is a problem with air pollution. The Mechelen region is situated between Brussels and Antwerp, two cities with major air problems. Pollution by traffic is one of the main causes, disposing carbon dioxide and nitrogen dioxide into the air. The region wants to enhance air quality by deminishing carbon dioxide emissions through reducing car movements within and throughout the region. By reducing the emissions the region will contribute to national and international environmental and health targets, specifically within the Flanders Diamond and therefore contributing to a healthier environment in the Brussels-Antwerp corridor.

Regional Approach eminent

Both Environmental and Mobility Problems are on a regional scale thus a regional approach is likely to start and may as well have more succes than local initiatives. Experience shows that local approaches used to backfire other initiatives by only providing solutions for small scale problems and subsequently create issues at another spot in the region. Without a regional approach both environmental and mobility problems are not solved local nor regional and eventually lead to permanent air quality deficiencies and unsolvable congestion. The project can effectively prevent the region from taking costly measures now and in the future to accommodate environmental targets or to solve a grid lock.

Thematic Keywords

Bottlenecks and barriers
Congestion
Emissions reduction
Healthy mobility
Last mile
Living Laboratory
Multimodal
Pollution
Public transport
TEN-T comprehensive network

Other Keywords

Flanders Diamond (Vlaamse Ruit), alternative transportation, shared mobility, virtual market place

Partners Found Already

Partners Searched

- Regions and areas that are confronting similar transport network and traffic problems
- providers and developers of physical and/or virtual market places for innovative mobility (traffic and transport) services
- Scientific institutions that investigate and analyse traffic and transport problems for developing innovative, creative transport solutions as an alternative for regular traffic movements

Estimated Budget: 4.000.000

Mobility as a Service in Rural Areas

Acronym: MaaS Rural

Contact

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Central Aim

The central aim of this project is to demonstrate the viability of Mobility as a Service (MaaS) as a sustainable transport solution including first and last mile transport in rural areas in the NSR. MaaS stimulates the use of more sustainable transport modes, reduces car use and GHG-emissions caused by transport. Furthermore MaaS is cost efficient and demand driven and will prevent social inclusion of specific groups strongly depending on decreasing public transport services.

Project Description

Mobility as a Service (MaaS) is a new paradigm for mobility of people and goods and has the potential to increase the efficiency of transport and reduce transport GHG-emissions by at least 20%. The concept of MaaS is to deliver a single integrated mobility service based on dynamic data and consumer-defined travel preferences whereby the combination of physical transport modes such as the buses, trains, taxis, bikes and cars is brought to the user in one single product. This enables users to travel from A to B via an integrated service and to choose more rationally about how to get from A to B. MaaS stands for a transition in mobility as users will pay for mobility services instead of investing in own vehicles.

Due to decreasing public transport services in rural areas people living in these areas are becoming more dependent on private transport modes (mainly fossil fueled) to remain mobile. Furthermore the decrease in public transport services might result in social exclusion of specific groups e.g. elderly, younger people and disabled people. MaaS offers a solution for this issue as MaaS is demand driven and delivers time and cost efficient seamless transport solutions. Thus MaaS can contribute to the affordability of mobility and to decrease of use of private transport modes.

However, there is only limited experience with MaaS in real-life as the concept is largely untested and planning and deployment is only now starting in a few regions. The main goal of this project to stimulate the roll-out of MaaS in rural areas in the NSR by gaining experience with MaaS and learn about user needs, legal aspects, business viability and environmental impact to improve mobility and reduce car use. This will be done by carrying out well-documented MaaS pilots in multiple NSR rural areas. It is of importance that MaaS services enable the bundling and sharing of transport modes.

The benefit of the project will be threefold:

Business cases for MaaS in rural areas will be validated by MaaS providers leading to the uptake of these services in rural areas;

People in rural areas will be less dependent on private (mainly fossil fueled) transport modes resulting in less car use and reduced GHG-emissions caused by transport;

Specific groups will not be isolated as MaaS will offer tailor-made and cost efficient transport solutions by enabling shared transport.

Envisaged Output

- Study the demand for MaaS services, on MaaS user groups and on tailor-made MaaS offer
- Develop and validate business models per user group;
- Carry out well-documented MaaS pilots in rural areas involving;

Car users to reduce car use;

Specific groups to prevent social exclusion.

As MaaS aims to increase car sharing and reduce car ownership this might result in more use of zero emission vehicles;

- Develop a handbook for the roll-out of MaaS in rural areas in the NSR, based on the gained knowledge during the MaaS pilots;

- Set-up a collaborative platform for authorities of rural areas in the NSR to share gained knowledge of the functioning, benefits and roll-out of MaaS in rural areas.

What is the need for this project?

In many rural areas in the NSR, regional and local authorities had to take cost-efficient decisions with regard to public transport services. At the same time, with exception of the urban nodes, commercial transport services such as taxi services have disappeared in the sparsely populated areas as these services were not economically viable. This resulted in a decline in availability of public and commercial transport services in rural areas and causes:

Increased dependency on private mainly fossil fueled transport modes producing GHG-emissions;
 Social exclusion of specific groups of people e.g. elderly, younger people and disabled people strongly depending on specific public or commercial transport services.

To overcome both issues actions are needed to improve transport services in rural areas at a reasonable cost. This project will demonstrate a viable solution to tackle these issues by making the public and commercial transport in rural areas more demand driven and more time and cost efficient by implementing Mobility as a Service (MaaS).

Thematic Keywords

Emissions reduction
 Living Laboratory
 Multimodal
 Pollution
 Public transport
 Reducing travel need

Other Keywords

Mobility as a Service, MaaS

Partners Found Already

Dutch involved cities represented by the Lead Partner

Partners Searched

Cities, (public) transport providers, Mobility as Service providers

Estimated Budget: 4.000.000

Promotion of cargo bikes - dynamic market introduction

Acronym: CABI - DYNAMIC

Contact

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Central Aim

The objective of this project is to reduce car traffic and CO2 emissions and to improve the quality of life in cities around the North Sea by transforming them from car spaces into people spaces.

Project Description

Cargo bikes are a great alternative to cars when it comes to goods transport or children transport. However, they have not yet really been taken on in the cities. There are a number of reasons, among them high purchase costs, parking difficulties or simply lack of knowledge about the possibilities. We want this to change, we want to promote the use of cargo bikes in cities, make them more visible and overcome some of the barriers for their use.

There is an abundance of possibilities what cities can do to prepare the grounds. The common denominator in this project will be the joint evaluation for an exchange of experience, for collecting good practice which can then be spread into the entire North Sea Region and beyond. With the two cycle pioneer countries Denmark and the Netherlands being part of the programme area, we are going to use a fair amount of existing experience and take it one step further.

Envisaged Output

Creating a market for cargo bikes - through inducing offer through various measures which will entail a rise in demand and so forth. Suitable cargo bike parking and a system for sharing those bikes (instead of buying one) are important issues in this context.

Through sound evaluation we are going to identify good practice to be transferred to other cities and municipalities within the North Sea Region.

What is the need for this project?

Urban transport is dominated by cars and delivery vans. Parents are taking their little children to kindergarten by car, last mile deliveries are being operated by huge lorries. The traffic (flowing and parking) that this creates is a safety, economic and health problem. Most of these trips can be done using a cargo bike with a number of advantages: it is a healthy and safe way to move, it reduces the costs for transport and creates livable cities.

Thematic Keywords

Congestion
Emissions reduction
Healthy mobility
Last mile
Living Laboratory
Logistics

Other Keywords

Cycling, Mobility management, Personal transport

Partners Found Already

team red
Calllock
Fietsdiensten.nl
City of Malmö
City of Deinze

Interested:

University of Aberdeen
City of Osnabrück

Partners Searched

Lead partner

Public authorities (cities, municipalities)
Kindergartens
Organisation for the elderly
Housing companies
Logistics companies and distributors
Industry partners, i.e. cargo bike manufacturers
(Professional) cargo bike users

Estimated Budget: 3.000.000