

Approved projects

State of Play – September 2016

1.1 – Framework conditions for innovation

- ✓ ISE
- ✓ PROFIT
- ✓ SEAS 2 Grow
- ✓ SSEnt

1.2 – Technological Innovation

- ✓ DERMA
- ✓ DOC2C's
- ✓ EDUCAT
- ✓ INCASE
- ✓ iMODE
- ✓ 3D&FPP

1.3 – Social Innovation

- ✓ DWELL
- ✓ PACE

2.1 – Low carbon Technologies

- ✓ BISEPS
- ✓ CARBON2VALUE
- ✓ MET-CERTIFIED
- ✓ SHINE

3.1 – Adaptation to climate change

- ✓ SCAPE
- ✓ SPONGE2020
- ✓ TRIPLE-C

4.1 – Resource Efficiency

- ✓ USAR

4.2 – Circular economy

- ✓ BIOBOOST



Specific Objective 1.1: Framework conditions for innovation










- ✓ ISE
- ✓ PROFIT
- ✓ SEAS 2 Grow
- ✓ SSEnt



Framework conditions
for innovation

ISE

Innovative Sector Exchange









Specific Objective	SO 1.1 Improve the framework conditions for the delivery of innovation, in relation to smart specialisation		
Lead Partner	Kent County Council		
Other partners	Chamber of Commerce for West Flanders		
	Chamber of Commerce for East Flanders		
	Innovation House Foundation		
	West Flanders Development Agency		
	Kent Invicta Chamber of Commerce		
	Agency for the development of innovation & technology for PasdeCalais		
Total budget	€ 2,855,596.80	Total ERDF budget	€ 1,713,358.08
Common challenge	The majority of businesses in the 2 Seas area are SMEs. They employ a large proportion of the population and their growth is vital to develop the economy and boost employment. SMEs grow as they innovate and internationalise and they often request coaching and support. Innovation (process, product & service enhancement) and internationalisation (collaborations/tech-transfer) are closely linked but many SMEs lack awareness of how this can apply to their sector, regional context or new markets. ISE's support packages are a value for money solution to help more than 500 SMEs address these challenges.		
Overall Objective	ISE aims at identifying SMEs in need of creating extra value and to accelerate innovation through facilitating cross-border connections, collaborations and tech-transfer with other SMEs, knowledge institutes and experts. The project aims at delivering two main support trajectories: 'introducing innovation' (WP1) to a number of priority sectors & 'incubating and clustering innovation' (WP2&3) among SMEs with growth potential from sectors highlighted in regional S3 strategies. Many partner regions are 'innovation followers'; ISE will increase the number of SMEs innovating and taking innovations to new markets.		
Main outputs	<ul style="list-style-type: none"> • Taster sessions and workshops to introduce innovation principles to a range of SMEs from priority sectors linked to RIS/S3 strategies • Updated diagnostic tools to help SMEs develop concrete plans to innovate • Intensive support through an innovation pathway events programme for SMEs with growth potential primarily (to not limit innovation possibilities) from the following sectors: mechatronica, new materials, agrifood, digital/creative • Creation of cross-border clusters and a supporting web platform and connecting members to global innovation expertise and the international business community 		
Cross border approach	SMEs recognise the need to innovate and successfully compete globally but a triple helix effort is required to help them and this needs to go beyond national business support services in order to maximise the impact on SMEs. ISE's cross-border collaboration will combine and link the individual knowledge, experience and opportunities of each partner region to harness this capability and realise innovation potential among SMEs. The project's framework of new techniques and activities will provide a unique opportunity for 2 Seas area companies to jointly adopt innovation techniques and grow their business. IMODE will use the cross-border technological platform AMPTEC recently developed in the 2 Seas Cluster action.		



Framework conditions
for innovation

PROFIT

PROfessional Framework for Innovation in Tourism









Specific Objective	SO 1.1 Improve the framework conditions for the delivery of innovation, in relation to smart specialisation		
Lead Partner	Westtoer APB		
Other partners	Visit Kent Limited		
	Essex County Council		
	Pas de Calais Tourism		
	International Social Tourism Organisation (ISTO)		
	Chamber of Commerce Opal Coast		
	HZ University of Applied Sciences		
	Impuls Zeeland		
Total budget	€ 2,915,773.30	Total ERDF budget	€ 1,749,463.98
Common challenge	In the EU Blue Growth strategy, the coastal and maritime tourism sector is identified as an area with special potential to foster a smart, sustainable and inclusive Europe. The fragmentation of the sector (tourism industry is an industry dominated by SMEs), the lack of innovation and diversification, the increased worldwide competition and the volatility of demand and seasonality are factors that prevent that this potential is exploited. To fully capture the potential benefits generated by tourism, the framework conditions for innovation, to be delivered by tourism SMEs, need to be improved.		
Overall Objective	<p>The overall objective is to raise the profitability of the tourism entrepreneurs in the 2 Seas coastal economies by developing a strategy for innovation. By working on cross border level, the project creates a critical mass to deliver framework conditions to improve innovation within these businesses.</p> <p>By identifying the values of 2 Seas destinations and using them in business, by knowing customers' needs and, importantly, their behavior, by following trainings and coaching on innovation, these entrepreneurs will be able to improve their services and products.</p>		
Main outputs	<ul style="list-style-type: none"> • Digital interactive data-analysis platform consultable by SMEs through personalised dashboards • Sustainable Innovation methodology (service design) for SMEs in the visitor economy • Approach for training and coaching businesses • Strategy with action plan to stimulate innovation in SMEs • Digital Innovation Toolkit with practical advice and inspiration for SMEs • Cross border innovation network for SMEs 		
Cross border approach	The common challenge as described above requires a broader perspective beyond country borders. The project will share knowledge and practice to improve the framework conditions for sustainable innovation for tourism SMEs. PROFIT will develop one digital interactive data platform that is relevant locally, nationally and trans-nationally, unlocking data and knowledge from all partner regions.		









Framework conditions
for innovation

SEAS 2 Grow

Silver Economy Accelerating Strategies 2 Grow

Specific Objective	SO 1.1 Improve the framework conditions for the delivery of innovation, in relation to smart specialisation		
Lead Partner	Clubster Santé		
Other partners	Eurasanté		
	Anglia Ruskin University (ARU)		
	Allia		
	Thomas More University College		
	Smart Homes		
	City of Alkmaar		
	La Vie Active		
Total budget	€ 3,277,471.02	Total ERDF budget	€ 1,966,482.61
Common challenge	SEAS 2 Grow will tackle the 2 Seas area challenge of ageing populations leading to pressure on social and medical services and housing affordability, this at a time where older adults (over 60) want to stay longer at home, even if they face new dependency. There is a need to raise awareness and co-create a Silver Economy (SE) Ecosystem with stakeholders in order to encourage and enable them to propose innovations to solve this issue. Currently, companies do not enter the European SE market not only because they are not aware of these opportunities but also because they face regulatory and market barriers.		
Overall Objective	The objective is to set up a proactive SE ecosystem accelerating the delivery of technological and social innovations for the 2 Seas SE market, by providing new tools, methods and services for companies to better enter this market and develop tailored SE solutions, especially for independent living at home. SEAS 2 Grow will also create synergies with local authorities to implement common strategies in the SE sector and develop new financial models. By reaching this objective, senior citizens and their families will benefit from innovations more suitable for them that will improve their life conditions.		
Main outputs	<ul style="list-style-type: none"> A common market referential on the Silver Economy including a Strategic Guide, novel finance models and a Strategic Action Plan A Cross border Accelerator performing 4-step testing of SE solutions, each step performed in some 2 Seas regions following partners' expertise and available facilities: exploration sessions, experts and demo houses lab in realistic user environment, living lab at seniors' homes and business lab (market access) <p>These outputs will benefit stakeholders of the 2 Seas area belonging to the 4 sectors of the quadruple helix model, especially companies & older adults.</p>		
Cross border approach	SMEs across the 2 Seas area do not all benefit from the same level of support to enter the SE because the regions are not equipped with the same facilities and services. To ensure homogeneous access to this market, a cross border approach is needed because partners' complementary skills are necessary to structure the SE market in an efficient & complete way. Moreover, SMEs also need to have access to a wider market since it will offer them bigger opportunities, enabling them to develop and implement innovations in the entire 2 Seas area, available for all seniors of this area.		



Specific Objective	SO 1.1 Improve the framework conditions for the delivery of innovation, in relation to smart specialisation		
Lead Partner	The Platform		
Other partners	West Sussex County Council		
	University of Brighton		
	Social Innovation Factory		
	The Point		
	Seinwezen Management		
Total budget	€ 3,085,633.20	Total ERDF budget	€ 1,851,379.92
Common challenge	The common challenges tackled by the project are the relatively low level of social innovation and the development of social enterprises as SMEs. Social Enterprises (SEs) are well placed to deliver social innovation in the 2 seas area. A 2012 SBS survey found 67% of UK SEs had introduced a new or significantly improved product or service in the previous 12 months compared to 43% of non-SE SMEs. Yet their dual missions of social purpose and business create complex needs which require specialized solutions in order to make social innovations commercially viable and sustainable.		
Overall Objective	The overall objective of this project is to improve the capacity of social enterprises to develop and deliver sustainable and high impact innovations. Currently there is no methodology for the consistent harnessing of sustainable social enterprise innovation and a lack of joint tools and services for their development. The expected change this project will make will be an improvement in the framework conditions for innovation through enhanced cross-border cooperation, increase in innovation partnerships and R&D, and new and more effective models and tools for delivery of social innovation.		
Main outputs	<ul style="list-style-type: none"> • Formulation of a joint strategy and action plan to improve capacity of SEs to deliver sustainable and high impact innovation • Establishment of a SE Innovation Accelerator network of quadruple helix partners in the 2 seas area • Establishment of a joint framework methodology for SE sustainable innovation • Development of actions to support established social entrepreneurs through a cross-border innovation accelerator programme linked to the framework • Establishment of pilot actions linking capabilities of partners to develop an online training tool linked to the framework for SE Start Ups 		
Cross border approach	Working cross-border, we will capitalise on smart specialisation to share knowledge and experience in this relatively new sector to inform successful implementation of sustainable innovation within SEs. Cross-border collaboration will enable smart specialisation and develop a market to transfer innovations from SE across the regions. We will further address the threat identified in the SWOT analysis "Social economy covers different realities in the four MS which may endanger the development of cooperation" by working collaboratively to build a platform for future cooperation.		

Specific Objective 1.2: Technological Innovation







- ✓ DERMA
- ✓ DOC2C's
- ✓ EDUCAT
- ✓ INCASE
- ✓ iMODE
- ✓ 3D&FPP








DERMA

Design of Enabling-Regenerative Materials

Specific Objective	SO 1.2 Increase the delivery of innovation in smart specialisation sectors		
Lead Partner	University of Brighton		
Other partners	University of Portsmouth		
	Ghent University		
	Eurasanté		
Total budget	€ 2,724,815.20	Total ERDF budget	€ 1,634,889.12
Common challenge	DERMA will address the common challenge of improving the quality of life of the increasing elderly population of the 2 Seas area. By 2025, more than 20% of Europeans will be 65 or older, with a large increase in those over 80. We will tackle the problem of advanced age (or illness) associated inflammation, infection and ulceration of the skin which costs the EU €6.5 billion per year. Dermal ulcers are a source of physical discomfort, can lead to further medical complications, and can release offensive odours that are distressing to the patient and may lead to social isolation and depression.		
Overall Objective	The objective of DERMA is to develop new interventions for the management and treatment of dermal ulcers and related skin conditions, including stomas. By addressing market and patient needs, as identified by the Observer Partners (OPs), the project will deliver advanced new technologies (incorporating marine sourced biopolymers) ready for exploitation by industry to manufacture improved products for the treatment of patients. It is expected that these enabling technologies will provide cost savings to the EU by improving the efficiency and success of wound management by healthcare providers.		
Main outputs	Technologies with increased readiness levels for the treatment of dermal ulcers, peristomal inflammation, and related conditions in response to identified market and patient needs. <ul style="list-style-type: none"> • a dressing for wound odour and infection control (TRL 3 to 5); • a dressing with a diagnostic indicator of early wound healing status (TRL 3 to 5). 		
Cross border approach	The problem of dermal pathologies of the elderly is a shared one of the 2 Seas region. To effectively tackle this growing problem, new improved technologies and management options to reduce costs and improve outcomes are needed. This can occur by pooling the cross border expertise of the consortium, in the field of wound care, towards critical mass for technological innovation. This will promote product development by 2 Seas industries encouraged by dissemination to our regional SME networks. Ultimately, this will improve the quality of life of the elderly population across borders.		








Specific Objective	SO 1.2 Increase the delivery of innovation in smart specialisation sectors		
Lead Partner	PWN Technologies R&D		
Other partners	South West Water		
	De Watergroep		
	Lille 1 University		
	Delft University of Technology		
Total budget	€ 4,189,795.60	Total ERDF budget	€ 2,513,877.36
Common challenge	<p>The common challenge tackled by DOC2C's is the existing low technology infrastructure for drinking water production, soon inadequate to ensure supply of excellent water quality while adapting to pollution and climate change. Production of safe drinking water is increasingly under pressure in the area. The main concern is the growing concentration of Dissolved Organic Carbon (DOC) in surface water since DOC:</p> <ul style="list-style-type: none"> • Reduces the efficiency of all treatment steps • Threatens water quality due to emerging substances, formation of harmful disinfection byproducts and lowered biostability in the network. 		
Overall Objective	<p>The project main objective is to develop new environmental technologies for efficient, future proof drinking water production in coastal areas, able to cope with mounting levels of DOC.</p> <p>The rapid uptake of the R&D innovation will be ensured through:</p> <ul style="list-style-type: none"> • Intense collaboration of different utilities, research institutes and technology providers • Abatement of the exorbitant investment costs associated with production plants and pilot research. 		
Main outputs	<ul style="list-style-type: none"> • 4 integral pilot plants ready for R&D • Pilot testing of several innovative technologies to prove their efficacy, leading to rapid market uptake • A cross-border testing facility open to pilot new innovations from technology providers testing (?) surface water from several production sites. <p>Contractors and technology providers will profit from preparation of the pilot sites. The latter will also benefit from access to the cross-border testing facility. Utilities and citizens will benefit from sustainable, cost-efficient drinking water treatment, and ultimately from better water quality.</p>		
Cross border approach	<p>Increasing DOC in surface water is a serious threat for drinking water in the coastal 2 Seas area. Within a single country the total number of drinking water facilities relying on surface water is rather limited but the investments in R&D and full scale treatments are huge. This makes innovation slow and location specific: promising technologies exist but are not validated yet in an integrated process, scientific knowledge is fragmented and exchange of experience cautious. Cross-border cooperation within 2 Seas areas is therefore essential to create critical mass and reach the intended change.</p>		



EDUCAT












Empowerment of Disabled people through the User Coproduction of Assistive Technology

Specific Objective	SO 1.2 Increase the delivery of innovation in smart specialisation sectors		
Lead Partner	Group HEI-ISA-ISEN		
Other partners	University of Kent		
	East Kent Hospitals University Foundation Trust		
	Catholic University Leuven		
	Voka – Chamber of Commerce of East Flanders		
	Sussex Community NHS Trust		
Total budget	€ 2,997,871.00	Total ERDF budget	€ 1,798,722.60
Common challenge	The first challenge is to develop, through the use of information and communication technologies, innovative products and services that ensure three criteria are met: usability by a large number of end-users, acceptance and long term use. The second challenge is to demonstrate the potential of the products and facilitate their uptake on the market. Both challenges will be addressed using a bottom-up approach called coproduction, where the active participation of end-users (disabled/elderly people, caregivers), health professionals, researchers and companies is essential.		
Overall Objective	<p>The project objective is to develop and deliver embedded hardware and software devices in the health sector using a bottom-up approach. The new Assistive Technologies (ATs) developed will be open, modular and able to adapt their assistance (or to be adapted by the user) to the user's needs and give feedback to users in response to their needs.</p> <p>The expected benefits are cost and time savings for companies (for developing technologies) and hospitals (for care) as well as a higher efficiency of use of the technology, and better quality of life for disabled people.</p>		
Main outputs	<ul style="list-style-type: none"> • Innovative pilots, developed using a bottom-up approach, based on a new open modular adaptive framework to plug in different apps and sensors, for improved rehabilitation and greater independence. • A feasibility study researching better diagnosis possibilities by analysing data collected by apps and sensors connected to the framework. • Interactive e-platform with two parts: a part for the stakeholders with whom we will actively collaborate to develop the technologies by bottom-up approach, and a part for SMEs (technological transfer) and hospitals (more effective care for their patients). 		
Cross border approach	Different approaches by health authorities across the 2 Seas region regarding the supply of assistive technologies lead to variation in care. Certain industries have well defined standards within which they operate, but the assistive technology health care field is relatively new and presents unique challenges. Current and past research has shown that these challenges are common across borders. Sharing our different points of view based on varying cultures and backgrounds is very useful to co-elaborate new assistive technology and to find the best solutions for all stakeholders.		



INCASE












towards Industry 4.0 via Networked Control Applications and Sustainable Engineering

Specific Objective	SO 1.2 Increase the delivery of innovation in smart specialisation sectors		
Lead Partner	Ghent University		
Other partners	Catholic University Leuven		
	Groupe HEI-ISA-ISEN		
	Lille 1 University		
	Voka – Chamber of Commerce of East Flanders		
	ICAM		
	CITCEuraRFID		
	Impuls		
	University of Kent		
	University of Essex		
	HZ University of Applied Sciences		
Total budget	€ 4,568,617.44	Total ERDF budget	€ 2,741,170.47
Common challenge	The challenge is to prepare the industrial economy (automation & manufacturing industry) for the future “Industry 4.0” (I4.0) and “Industrial Internet of Things” (IIoT). Focus is on strengthening the manufacturing industries by developing and demonstrating key enabling automation technologies, preparing practicing engineers for the future smart interconnected factories, smart buildings and sustainable engineering. Further computerization of industry in high wage countries, enabling small production series and interconnected factories, is essential for the industrial economy in all Member States.		
Overall Objective	<p>Industry 4.0 (I4.0) is the next industrial revolution. Manufacturers are focusing on client-specific production and added-value products. In Germany 84% of the companies feel the pressure to digitize and 57% will significantly change their business model due to the digital revolution. Germany is world leader in this revolution.</p> <p>The project main objective is to close the gap between the region and Germany as well as other leading countries, by developing and demonstrating the necessary key technologies to companies, in this way facilitating the conversion towards I4.0.</p>		
Main outputs	<ul style="list-style-type: none"> • INCASE will develop knowledge, innovative applications and pilots on key enabling automation technologies for the future I4.0. • INCASE will deliver 10 thematic demonstration trajectories on those key enabling automation technologies for smart factories and green technologies for smart homes and factories. 		
Cross border approach	<p>Cross border cooperation allows partners to have access to shared knowledge. Due to the complementarity of the partners, a stronger interregional cooperation and cross pollination will occur.</p> <p>Using similar basic equipment, jointly developing demonstrators and pilots provides more intensively (on large scale) tested demonstrators and better pilots.</p> <p>Cross border cooperation makes large scale testing on new emerging technologies possible. F.i. the “interconnected factory” using ProfiCloud combines national demonstrators into 1 interregional large scale demonstrator yielding new test possibilities.</p>		



iMODE








Innovative Multicomponent Drug dEsign (IMODE) for enhancing regional strategic advantages in pharmaceutical and biomedical applications

Specific Objective	SO 1.2 Increase the delivery of innovation in smart specialisation sectors		
Lead Partner	University Lille1		
Other partners	University College London		
	University Lille 2 Law and Health		
	Ghent University		
	University of East Anglia		
	ImaBiotech		
	University of Greenwich		
	Eurasanté		
	Ashford and St Peter's Hospital's NHS Foundation Trust		
	Cubic Pharmaceuticals Limited		
	Roquette Frères		
Total budget	€ 5,960,060.00	Total ERDF budget	€ 3,576,036.00
Common challenge	The IMODE project is motivated by an unmet need for developing solutions to address societal challenges for improved healthcare, novel medicines while maintaining low medical costs. This will be achieved with the collaboration of academic research groups and SMEs through a trans-disciplinary applied research programme in materials science, pharmacy, biology and medicine. The project will strengthen innovation in the 2 Seas Area in order to obtain a strategic advantage for novel pharmaceutical and medical applications bridging the current gap between academia and the private sector.		
Overall Objective	The overall objective is to enhance R&D on major societal challenges for improved healthcare by developing solutions for novel pharmaceutical products and medical devices through new multicomponent drug systems. Our strategy will involve major stakeholders in the field including universities, small and large enterprises and end users (patients) as well as an economic development agency. Technology transfer and industrial competitiveness will be enhanced. Trainings through technological development will create highly skilled scientists reducing the shortage of qualified staff in the field.		
Main outputs	Novel screening and manufacturing technologies, formulations and medical devices based on drug-drug combinations with superior capabilities: stability, efficacy, delivery. Outputs (TRL: 4, 5) will be ready to use and either patented or patentable. The novel technologies and products will provide novel and effective solutions for various cardiovascular or digestive diseases and will improve patients' quality of life and wellbeing by personalized medicines. Targets are pharmaceutical and biomedical industries (SMEs and large companies). The final beneficiaries are the patients.		
Cross border approach	The challenging objectives of the project require a crossborder approach in order to reach a critical mass in terms of expertise, human resources and equipment which does not exist on a single national site (academia or industry). Technology Transfers are facilitated by the crossborder nature of the partnership involving: the economic development agency EuraSanté, 4 SMEs + 1 large company (ROQUETTE) and preexisting collaborations with other companies in the 2 Seas Area. IMODE will use the crossborder technological platform AMPTEC recently developed in the 2 Seas Cluster action.		



3D&FPP

Integrating metal 3D printing and flexible post processing

Specific Objective	SO 1.2 Increase the delivery of innovation in smart specialisation sectors		
Lead Partner	University of Applied Sciences Rotterdam		
Other partners	RDM Makerspace BV		
	Hittech Multin BV		
	3T RPD		
	TNO Innovation for Life		
	University of Exeter		
	ARGON measuring solutions		
Total budget	€ 3,553,244.25	Total ERDF budget	€ 2,007,084.55
Common challenge	Additive Manufacturing (AM) is the process of joining materials to make objects from 3D model data, usually layer upon layer, as opposed to subtractive manufacturing methodologies. A major challenge for the industry is to move this emergent technology forward from its prototyping history into a true manufacturing capability. The process has the potential to revolutionise design, production and supply of parts, but exploitation has been limited, especially for AM of metal parts, because the post processing of AM manufactured parts is too costly in terms of time and energy.		
Overall Objective	The objective is to design, develop and implement one efficient, fast and affordable post processing solution based on existing technology that can be part of an integrated system for post processing AM parts. This will help to significantly increase the possibilities for 3D metal printing in industries that need high precision manufactured metal parts, like the medical, semiconductor, maritime, and aviation industry, as well as new emergent clean tech industries that will be able to produce lightweight and/or more efficient metal parts through 3D printing.		
Main outputs	<ul style="list-style-type: none"> • New applications for a 3D production chain, like integration of CAM, the mapping of printed parts. • A solution for flexible clamping and a solution to integrate the surface polishing step in the 3D printing process. 		
Cross border approach	Through this project the knowledge and skills that are currently dispersed among the regions can be aligned. There is a need for expertise and skills on both 3D printing and high precision post processing, as well as on the needs of the maritime, aviation, and semiconductor industry in the 2 Seas area. The 3D&FPP partners have this knowledge as well as the power to actually implement the needed activities to reach the project outputs. It will provide the partners with the chance to combine knowledge, facilities and research capacity into strong partnerships and be able to tap into the innovative potential of the regions.		

Specific Objective 1.3 Social Innovation











- ✓ DWELL
- ✓ PACE



DWELL



Diabetes and WELLbeing

Specific Objective	SO 1.3 Increase the development of social innovation applications in order to make more efficient and effective local services to address the key societal challenges in the 2 Seas area.		
Lead Partner	The Health and Europe Centre		
Other partners	Blackthorn Trust		
	Artevelde University College Ghent		
	Kinetic Analysis		
	Medway Community Healthcare CIC		
	Kent County Council		
	Canterbury Christ Church University		
	Hospital Centre of Douai		
Total budget	€ 3,169,849.95	Total ERDF budget	€ 1,901,909.97
Common challenge	Diabetes is not just a clinical issue, but a long term non-communicable disease of huge societal and economic concern. Type 2 diabetes (90% of those with the disease) is acquired in later life and can be successfully controlled through healthy lifestyle choices. In 2012, approximately 32 million people in the EU had diabetes. On average 10% of state healthcare expenditure is on treating the disease and related complications. Research shows that intensive self-management is required, but that there currently is no standard approach. Initiatives to increase effective, low cost self-management are essential to the sustainability of treatment.		
Overall Objective	DWELL is an empowerment programme enabling patients with type 2 diabetes to access tailored support, giving them mechanisms to control their condition and improve their wellbeing. Ultimately they will successfully self-manage their diabetes. This empowerment will increase adherence to treatment and improve health and well-being measures, giving economic benefits to health services. In short, patients will be healthier for longer, reducing costs to state healthcare.		
Main outputs	<ul style="list-style-type: none"> • Patient support programme that will empower type 2 diabetes sufferers to self manage their condition. • Training programme for staff to ensure they are able to deliver the patient support programme effectively. • A review of existing free online diabetes support tools and creation of a new platform/app. • A patient led support network and community directory to provide patient benefit after the project ends. • Evaluation reports to show clear economic, service and patient benefits. 		
Cross border approach	Prevalence of diabetes is increasing in all ages across the 2 Seas region (11% of deaths in 20-79 year olds). Health services will be overwhelmed by diabetes and its complications if whole society strategies are not put in place. According to the International Diabetes Federation, countries need a stronger strategic approach; Belgium and France have no national diabetes plan. There is inconsistent diabetes self-management education with different approaches taken across the 2 Seas region and shared learning does not take place. DWELL will ensure this becomes standard practice in the future.		



PACE

Providing Access to Childcare and Employment

Specific Objective	SO 1.3 Increase the development of social innovation applications in order to make more efficient and effective local services to address the key societal challenges in the 2 Seas area.		
Lead Partner	City of Mechelen		
Other partners	Wattrelos Association of Community Centres Jean Ferrat Social Services Centre in Arques Karel de Grote University College Artevelde University College Ghent Cluster of Social Services Centres in Saint-Martin Boulogne Community Center 'De Mussen' City of Ghent Brighton and Hove City Council (BHCC) Kent County Council City of Turnhout Welfare Service Mechelen		
Total budget	€ 6,551,267.06	Total ERDF budget	€ 3,930,760.24
Common challenge	A lack of affordable childcare is identified as a major barrier to employment (Resolution Foundation, 2014). By supporting families to access quality Early Childhood Education and Care (ECEC) PACE can improve incomes, enhance participation in society and reduce child poverty. Research proves impact of good ECEC on child development is visible throughout the whole school career. (Sylva, Melhuish, Sammons, Siraj Blatchford,& Taggart, 2004). PACE supports parents to return to or enter employment using accessible childcare as a gateway, and improves the life prospects of vulnerable and deprived families.		
Overall Objective	PACE establishes research backed tests that improve access to childcare, with special attention to employment of vulnerable families. PACE offers a method to use parental involvement, voluntary engagement, training and tailored employment programmes to remove barriers to participation, to labour market and society, including building relationships and community spirit. PACE broadens skills of childcare staff and improves soft skills of volunteers and parents and coaches them towards employment, improving the living conditions and life prospects of vulnerable and deprived families.		
Main outputs	<ul style="list-style-type: none"> • Tests to improve childcare access and parents' employment include centres of excellence, based on cross border learnings. • Research, new work methods of childcare and guidance of parents towards employment, policy recommendations and best practices for childcare. • Tests to improve parent engagement/awareness including skills training, trust building, self help and introduction to wider services. 		
Cross border approach	The 2 Seas area faces changing realities on citizenship of young children and complexity of labour market and requirements from job seekers. PACE develops common solutions to improve access to childcare while using childcare for the parents' access to the labour market at the same time. Cross border diverse expertise, common research, development of methods and monitoring of results is needed to achieve impact at 2 Seas scale most efficiently. Testing, sharing and blending results in sustainable models for childcare, particularly in settings that engage with vulnerable families.		

Specific Objective 2.1 Low carbon Technologies











- ✓ BISEPS
- ✓ CARBON2VALUE
- ✓ MET-CERTIFIED
- ✓ SHINE



BISEPS



Business Clusters Integrated Sustainable Energy PackageS

Specific Objective	SO 2.1 Increase the adoption of low-carbon technologies and applications in sectors that have the potential for a high reduction in greenhouse gas emissions		
Lead Partner	Intermunicipal Association Leiedal		
Other partners	The West Flanders Development Agency (POM West Flanders)		
	West Flanders Intermunicipal Association		
	European Metropolis of Lille (MEL)		
	Municipality of Breda		
	West Sussex County Council		
	Ghent University		
	Center for development of eco-enterprises		
Total budget	€ 3,908,750.85	Total ERDF budget	€ 2,345,250.51
Common challenge	<p>The scale of a business cluster like business park fits spatially and energetically very well with midsize sustainable energy like heat exchange, wind energy, biomass, combined heat & power, smart grids or large scale solar panels. Clusters offer great potential for greenhouse gas reduction. But, businesses do not adopt sustainable energy because too complex.</p> <p>The challenge is to enhance market uptake by clusters of businesses and create synergies within business clusters. Existing barriers to implement available solutions (technical, but also financial and organizational) need to be eliminated.</p>		
Overall Objective	<p>Increase the adoption of midscale sustainable energy technologies (heat exchange, wind energy, combined heat & power, smart grids or large scale solar) in business clusters resulting in less carbon emissions and a greener and competitive 2 Seas region. Remove interacting barriers, local and international, to enhance the creation of energetic synergies between businesses.</p> <p>Reorganize the supply side on a business cluster level: integration and tuning of available low carbon technologies and surrounding services (financial, organizational, legal...) into integrated sustainable energy packages.</p>		
Main outputs	<ul style="list-style-type: none"> • The development of 10 business cases to prepare investments in sustainable energy. • A BISEPS model to determine the optimal low carbon technology solutions for business clusters. • Tested guidance program to roll out the BISEPS model. 		
Cross border approach	<p>Partners will learn from each other and will bring together available knowledge on demand & supply side about barriers, drivers and solutions (technical/energetic, financial & organizational). Creation of cross-border taskforce by the partnership & stakeholders. The development, testing and rollout of a cross-border transferable BISEPS model to ensure transferability beyond project & partnership.</p>		



CARBON2VALUE













Development and demonstration of low CARBON technologies to transform CO₂ and CO streams from the steel industry into new VALUE chains

Specific Objective	SO 2.1 Increase the adoption of low-carbon technologies and applications in sectors that have the potential for a high reduction in greenhouse gas emissions		
Lead Partner	Arcelor Mittal Belgium NV (AM)		
Other partners	LanzaTech UK LTD (LT) Dow Benelux B.V. (DOW) Institute for sustainable process technology (ISPT) Development Agency POM East Flanders University of Lille 1 (UL)		
Total budget	€ 10,475,999.80	Total ERDF budget	€ 4,377,882.54
Common challenge	In this joint initiative, AM will lead a consortium formed by Belgian, British, French and Dutch partners to prove a potential reduction of CO ₂ emissions (30,45%) across the major energy intensive steel sector by demonstrating an innovative technology to separate CO ₂ streams and valorise CO and potentially CO ₂ in the future. Two valorisation routes will be studied during the project, i.e. ethanol as a drop-in transportation fuel and synthetic naphtha as a drop-in chemical building block. Collaborations with other programmes and job growth will be fostered throughout the programme area		
Overall Objective	The objective is to demonstrate the potential of reduction of GHG emissions in the steel sector by 30+%, by implementing a cost efficient breakthrough solution for the separation of CO ₂ and CO unavoidably emitted. This will be achieved by processing in a pilot line carbon rich gases into 2 streams, one rich in CO and another one in CO ₂ that could be valorised into promising chemical building blocks in the future. We will also take into account the reuse of any byproducts to further induce fossil fuels' replacement and GHG emissions reductions.		
Main outputs	<ul style="list-style-type: none"> Operational and maintenance manuals of the pilot line (including GMS/PSA and CO/CO₂ separation pilots) Demonstration report of the pilot line CO₂ stream on specifications (% of pure CO₂ in the stream) CO stream on specifications (% of pure CO in the stream) Life Cycle Assessment Technology's economic feasibility study Pilot line erected and ready for demonstration (including GMS/PSA and CO/CO₂ separation pilots) 		
Cross border approach	<p>Arcelor Mittal has partnered strategically with experts/technology owners:</p> <ul style="list-style-type: none"> DOW is expert in CO₂ separation technology and CO conversion technology. LT, DOW and UL will assess the quality of separated streams and their full characterization for future applications, using existing (DOW, LT) and innovative technologies (UL). ISPT (NL), POMOV (BE) and UL (FR) will bring all the actors together to create awareness of the project and favor future rollout of the pilot line in companies across borders. AM and DOW are located on the Gent Terneuzen Canal (15km) enabling efficient materials transfer. 		
















MET-CERTIFIED

Development of International Standards and Certification schemes for Marine Energy Technologies

Specific Objective	SO 2.1 Increase the adoption of low-carbon technologies and applications in sectors that have the potential for a high reduction in greenhouse gas emissions		
Lead Partner	Tidal Testing Centre NL (TTC)		
Other partners	The European Marine Energy Centre (EMEC) Ltd		
	Lloyd's Register EMEA		
	IFREMER		
	Tocado International BV		
	Perpetuus Tidal Energy Centre		
	NEC		
	Huisman Equipment BV		
	DNVGL		
	Regional Development Agency West Flanders		
	Ghent University		
	Damen Shipyards		
Total budget	€ 9,284,697.31	Total ERDF budget	€ 5,570,818.39
Common challenge	<ul style="list-style-type: none"> Reducing carbon emissions: there is a need to shift to non-fossil fuel energy generation. Increase collaboration between test facilities: there is a need for collaboration between the marine test facilities on consenting, best practices for testing and certification. Increase innovative capacity: there is a need for cooperation between supply chain, networks and developers to implement cost-effective innovations for marine energy generation (wave & tidal) Preserving and protecting the environment: there is an opportunity to share data and best practices. 		
Overall Objective	This project brings together stakeholders across the 2 Seas region in a coordinated effort to demonstrate the first internationally recognised certified tidal power technologies for both floating and dam integrated markets in the 2 Seas region by 2019. The expected result of the project is increased adoption of insurable and therefore bankable tidal power project arrays in the 2 Seas region and beyond.		
Main outputs	<ul style="list-style-type: none"> 7 mature and verified international standards and 3 certification schemes 3 certification pilots for existing devices: submerged (UK), dam-integrated, floating (NL), avoiding 2482 tons of CO2/y 4 scale tests under controlled conditions (FR) Demonstration of 500kW floating tidal turbine avoiding 690 tons of CO2/y (UK) Best practices for International Open Water Test Centres Marine Innovation Site North Sea (BE) Solutions for barriers and bottlenecks to market uptake (EU) Stakeholder events on certification (EU) Roadmap for innovation and business development 		
Cross border approach	Development of a certification scheme requires cross border understanding on technical requirements and needs. Experts and stakeholders that can contribute to this process are located in the 2 Seas region: DNVGL, Lloyd's Register and EMEC offer knowhow of the UK market. France has unique test facilities, Belgium has interest to develop marine test sites and Netherlands offer offshore capabilities.		



Specific Objective	SO 2.1 Increase the adoption of low-carbon technologies and applications in sectors that have the potential for a high reduction in greenhouse gas emissions		
Lead Partner	Intermunicipal Organisation of the Campine Region		
Other partners	City of Sint-Niklaas		
	Thomas More Kempen vzw		
	OCMW Ieper		
	Brighton & Hove City Council (BHCC)		
	Amicus Horizon		
	Hastings Borough Council		
	Energise Sussex Coast Ltd		
	Habitat du Littoral		
	Communauté d'agglomération du Boulonnais		
	Kamp C		
	Cv Zonnige Kempen		
	Association for research and development of industrial methods and process		
	Clavis		
Total budget	€ 7,066,533.27	Total ERDF budget	€ 4,239,919.96
Common challenge	The challenges facing all partners include: increasing energy use, fluctuating prices, fuel poverty, energy security and finite resources, environmental threats and community resilience. These are issues that cross borders and therefore require a joint approach. In addition, since the partners share similar maritime climates and housing stock profiles, there are synergies and benefits in sharing solutions. Residential dwellings are a major part in our GHG emissions, so major reductions are possible by retrofitting homes and directly engaging with communities to reduce their energy usage.		
Overall Objective	The overall objective of SHINE is to reduce carbon emissions in residential dwellings. SHINE wants to accelerate the hesitant process of the participating regions on adoption of energy efficient and renewable energy technologies in the retrofitting of residential dwellings. SHINE will develop and implement a cross border approach for district renovations, which paves the way for a wider uptake. The impact of joint renovations is bigger by engaging a whole community. This effect is enhanced by the participation process which tackles the barriers of retrofitting and effective CO2 reductions.		
Main outputs	The main outputs are the pilots of the renovated districts and the method to renovate districts with private owners. These will show that a more energy efficient housing stock is possible. Therefore a method to set up a participation process with a bottom-up approach is elaborated in SHINE.		
Cross border approach	Districts in SHINE differ in technical aspects but also in social context. Project partners will look for cross border similarities in their districts. Based on these similarities, SHINE will set up joint approaches to increase the energy efficiency of the housing stock. The project will test the approaches in a sufficiently large number of houses, in all MS and in different circumstances so that the robustness and transferability of the methods can be demonstrated. After evaluation the project partners will, with the help of the large network of observer partners, disseminate the methods in and beyond the 2 Seas area.		

Specific Objective 3.1 Adaptation to climate change



- ✓ SCAPE
- ✓ SPONGE2020
- ✓ TRIPLE-C



SCAPE

Shaping Climate change Adaptive PlacEs













Specific Objective	SO 3.1 Improve the ecosystem-based capacity of 2 Seas stakeholders to climate change and its associated water related effects		
Lead Partner	City of Ostend		
Other partners	FARYS		
	Province of West Flanders		
	Flemish Environment Agency		
	Kent County Council		
	Brighton & Hove City Council		
	Municipality Middelburg		
	Waterboard Scheldestromen		
Total budget	€ 6,350,313.15	Total ERDF budget	€ 3,810,187.89
Common challenge	Coastal landscapes in the 2 Seas area are particularly sensitive to the water related effects of climate change, specifically flooding, rainfall and drought. To become more resilient to climate change and to cope with intense rainfall and rising sea levels, a better understanding of water management solutions that can improve the ability of these landscapes is needed. Using a landscape led design (LLD) approach, SCAPE will address this challenge by developing and testing innovative water management solutions for coastal sites in urban, rural and fringe areas that experience flooding problems.		
Overall Objective	SCAPE will develop LLD solutions for water management that make coastal landscapes in the 2 Seas area better adapted and more resilient to climate change. SCAPE will work with the key stakeholders to increase the cost effectiveness of water management applications and will deliver pilots to test innovative tools/solutions that, among other effects, reduce floods. The project will bring together water managers, planners and architects from across the partnership to jointly develop an approach that uses the landscape to tackle water management problems in rural, urban and fringe coastal areas (=LLD).		
Main outputs	<ul style="list-style-type: none"> • 1 LLD strategy for incorporation of landscape led design solutions in water management • 1 LLD method that provides landscape led design guidelines for partners and target groups • 6 Pilot sites to validate the use of landscape led design in different urban, rural and fringe coastal landscapes 		
Cross border approach	SCAPE partners have common concerns about water management. Via cross border cooperation they have identified being at different stages in applying landscape led design solutions for the water management in their own urban, rural or fringe landscape context. Moreover, it will allow them to share expertise from different countries and specialist viewpoints to develop innovative best practices via water management pilots and accelerate the uptake of these practices. Finally partners will learn from each other by jointly developing, implementing, monitoring and evaluating solutions that then can be shared across the 2 Seas area.		



SPONGE2020

Co-creation and implementation of innovative, participative climate adaptation solutions in densely built areas






Specific Objective	SO 3.1 Improve the ecosystem-based capacity of 2 Seas stakeholders to climate change and its associated water related effects		
Lead Partner	Regional Water authority of Schieland and Krimpenerwaard		
Other partners	Municipality of Rotterdam		
	City of Antwerpen		
	Somerset County Council		
	Westcountry Rivers Trust		
	Essex County Council		
	Municipality of Westland		
	Regional Water Authority of Delfland		
	Southend on Sea Borough Council		
	Municipality of Leiden		
Total budget	€ 6,840,256.83	Total ERDF budget	€ 4,104,154.10
Common challenge	<p>Cities and densely built areas in the 2 Seas must adapt to more frequent intense rainfall and increased risks of urban flooding. Traditional public investments in drainage and sewage infrastructure cannot solve this challenge due to financial and spatial constraints.</p> <p>Local (water) authorities must resort to alternative, innovative solutions that integrate smart adaptation features in public and private spaces and buildings across their territory. Moreover, local stakeholders must become prominently involved in the implementation of those adaptation measures in and on their own properties.</p>		
Overall Objective	<p>The objective is to improve the adaptation capacity of cities and densely built areas in the 2 Seas region by co-creating and implementing innovative climate change adaptation solutions with local stakeholders.</p> <p>This will result in an increased adaptation capacity of densely built area's in the 2 Seas region by at least 25,000 m3 as well as costs saving of 10 - 50% compared to the use of traditional adaptation investments.</p> <p>SPONGE paves the way for a wide rollout of these innovative participatory adaptation solutions to reduce the risks of and damage from urban flooding across the 2 Seas area at considerably lower costs.</p>		
Main outputs	<ul style="list-style-type: none"> • 7 complementary pilot actions to co-create and implement innovative, place based climate adaptation solutions with local stakeholders. The partners jointly plan, design, implement & evaluate the pilots • 1 toolbox for stakeholder engagement in climate adaptation • 1 guidance pack for participative climate adaptation in densely built areas • 1 Cross border action plan to introduce participative local climate strategies 		
Cross border approach	<p>Involving local stakeholders in co-creation and implementing innovative climate adaptation measures brings local (water) authorities on new terrain. In our consortium we have partners with experience in alternative adaptation techniques, stakeholder mobilisation and co-creation of public interventions.</p> <p>By putting these capacities together in a cross border cooperation we create the opportunity to develop, pilot and demonstrate participative climate adaptation actions to increase the adaptation capacity of our partner cities and other densely built territories in the 2 Seas area.</p>		

Specific Objective	SO 3.1 Improve the ecosystem-based capacity of 2 Seas stakeholders to climate change and its associated water related effects		
Lead Partner	Somerset County Council		
Other partners	Farming and Wildlife Advisory Group – (FWAG South West)		
	Devon Wildlife Trust		
	Kent County Council		
	Brabantse Delta WaterBoard		
	ZLTO (Southern Dutch Farmer and Horticulturists Organization)		
	Province of Antwerp		
	Inagro		
	ABC Eco ² (Agroenvironmental management centre Eco ²)		
	Province of East Flanders (PCM)		
	Vegetable research centre East Flanders (PCG)		
	The Flemish Environment Agency		
Total budget	€ 5,108,892.00	Total ERDF budget	€ 3,065,335.20
Common challenge	Climate change is predicted to involve more extreme rainfall events with accelerated loss of topsoil, and hence an increased risk of flooding and drought. This increase in natural risks is combined with a low awareness of the impact and risks of climate change. Given the high economic impacts of flooding, there is a need to maintain and strengthen adaptive capacity in the coastal hinterland areas. New solutions need to be developed and applied to improve resilience. In a context of reduced public financing, better, more robust and cost-effective erosion control and flood defenses are needed.		
Overall Objective	The objective is to implement a set of cost-effective, innovative actions to reduce flooding. A new participative approach to problem solving and implementation with landowners will be developed. Upstream implementation of the water retention and erosion control measures will reduce flooding and associated issues further downstream. This will result in an additional 168,000m ³ water storage, €6.1M cost savings from reduced flood damages and dredging costs, and 1150 households with enhanced flood protection. Successful solutions will be replicable in other regions.		
Main outputs	<ul style="list-style-type: none"> • Implementation and demonstration of water retention features and erosion control measures, and method developed to build knowledge capacity and effective implementation. • An enhanced knowledge base will stimulate application of principles elsewhere. 		
Cross border approach	Whilst the participating catchments have different agricultural landscapes they share similar flooding and erosion problems and each country has its own distinct approaches with associated strengths and weaknesses. There is however a market failure in that whilst low cost techniques that offer multiple benefits exist, they are not widely implemented, and flooding problems are increasing. With a cross border approach we can take the best of these differing approaches and skills and develop new hybrid approaches that improve the coordination between strategy and ground-based actions.		

Specific Objective 4.1: Resource Efficiency



✓ USAR

Specific Objective	SO 4.1 Increase the adoption of new solutions for a more efficient use of natural resources and materials		
Lead Partner	Regional Water Authority of Schieland and Krimpenerwaard		
Other partners	Waterways and Seacanal		
	ARMINES research centre		
	Westcountry Rivers Trust		
	Brightlingsea Harbour Commissioners (BHC)		
Total budget	€ 4,821,010.01	Total ERDF budget	€ 2,892,606.01
Common challenge	<p>Water management authorities are responsible for keeping waterways in the 2 Seas area free from accumulating sediments to reduce risks of flooding and to keep waterways accessible for water-based transport. Most of this sediment is transported and dumped as waste, which is a very costly and wasteful operation.</p> <p>USAR introduces an alternative, resource efficient approach based on the potential to use sediments as a resource for new materials. USAR will identify, demonstrate and test new methods and develop the business models and tools that water managers need to apply this circular approach in practice.</p>		
Overall Objective	<p>Introduce technologies, methods and tools for the use of dredging sediments as a resource into the practice of water managers by identifying, analyzing and testing potential applications that make use of dredging sediments and by developing sediment management tools to enable water managers to organise this circular approach to sediment management.</p> <p>This results in the following changes:</p> <ul style="list-style-type: none"> • Adoption of new resource efficient technologies, methods, tools for using sediment as a resource • Reduction of volume of sediment treated as waste and of operational costs of water managers 		
Main outputs	<ul style="list-style-type: none"> • Inventory catalogue of possible uses of sediment as a resource and conditions, potential, limitations for use • Recycling strategies for partner territories based on local potential for uses of sediment • Pilot tests to validate new uses of sediment on different sites • "Operational Sediment Management System" – ICT tool for water managers to make business cases and management decisions for recycling of sediment 		
Cross border approach	<ul style="list-style-type: none"> • Partner territories represent all main sediment types: polluted/non-polluted, high organic, low organic/sandy and salty. This allows us to test and validate new use in all possible conditions. • Experts from all partners will jointly design and follow-up pilot tests, which improves quality and robustness of these new applications beyond what individual partners could achieve. • Working with partners from different territorial, policy and legal backgrounds ensures that all outputs are validated for application in all countries in 2 Seas. 		

Specific Objective 4.2 Circular economy



✓ BIOBOOST



BIOBOOST

Acceleration of transition to a bioeconomy in horticulture

Specific Objective	SO 4.2 Increase the adoption of new circular economy solutions in the 2 Seas area		
Lead Partner	Municipality of Westland		
Other partners	Catholic University College VIVES		
	Institute for Agricultural and Fisheries Research (ILVO/EVILVO)		
	Centre of Expertise for Plant Compounds (Foundation)		
	NIAB (National Institute of Agricultural Botany)		
	Inagro		
	Greenpack		
	Transportbedrijf Van Vliet B.V.		
	Epping Forrest District Council		
Total budget	€ 5,873,742.83	Total ERDF budget	€ 3,381,512.83
Common challenge	The project addresses the need for an environmentally friendly and resource efficient economy focusing on horticulture, using plant resources in a more sustainable, efficient and integrated manner. Although the horticulture industry presents multifaceted societal benefits, the need for transition towards bio-economy is largely overlooked so far. There is much potential, but development, testing and uptake of green innovations is slow due to suboptimal interaction between researchers and SMEs, problematic financing and lack of cross disciplinary working and effective support strategies.		
Overall Objective	To accelerate the transition to a bio-economy by implementing regional test and pilot projects for development of new techniques, methods and products in the horticultural sector and supporting their development towards market uptake. Central challenges are to strengthen the supportive role of public authorities to better facilitate and support SMEs to develop more innovations and bring them to the market, to valorise horticultural waste streams and byproducts by extracting valuable plant compounds, and to encourage support from SMEs for the bio-economy and understanding the opportunities.		
Main outputs	<ul style="list-style-type: none"> • Specific approach to support the transition to a bio-economy • 3 Regional bio-economy partnerships that facilitate SMEs (UK, BE, NL) • 3 Regional action plans (UK, BE, NL) • Bio-economy awareness and activation campaign • Open innovation platform Bio-based Horticulture • 9 Pilot projects dealing with horticultural waste streams and byproducts for use for food, feed, green pesticides, materials, pharmaceuticals and cosmetics 		
Cross border approach	<p>The bio-economy, green innovations and its markets are developments that go far beyond regional and national scale. Developments towards a bio-economy are relatively new and it is of the greatest importance that parties forge links, share perspectives, and build new approaches.</p> <p>Therefore there is potential and need for the front runners to engage in cross-disciplinary, and cross border thinking in creating the solutions. Vice versa these front-runners have a strong impact on the actual implementation of green innovations and thus cross border cooperation increases this impact considerably.</p>		