



Join forces and increase our potential!

From 11 to 17 July 2008, Brest will be organising its fifth renowned international Festival of Sailors, a tall ships rally. This iconic event, which welcomes hundreds of thousands of visitors, is a powerful symbol of the city's openness to the oceans of the world. The sea is at the heart of what goes on in Brest, representing a research and development challenge on a global scale for the city today.

The Brittany headland is in buoyant mood. Two globally focused centres of excellence were officially recognised by the government in 2006 – the *Pôle Mer*, a hub of maritime competitiveness, and the *Pôle Images et réseaux*, an Images and Networks hub. This significant step is an acknowledgement of the expertise and dynamism centring on the Technopôle Brest-Iroise. Through its companies and educational and research establishments and by developing its technologies, Brest has successfully built up an international network of partners. This is one of the city's priorities and one of its strengths. Brest possesses all the necessary assets locally in the infrastructure of its public and private and civil and military sectors and in its port and maritime environment.

The city's active support has enabled the synergic relationship among all professional partners to be strengthened. This powerful collective force makes an impact across Europe and elsewhere in the world. From Qingdao to Yokosuka, from Kiel to Cadiz, exchanges, projects and joint contracts create a federative partnership among numerous countries and enable experience and expertise to be shared.

For this reason, the Technopôle Brest-Iroise is launching the "TBI-News", a newsletter which aims to put European and global centres of excellence in touch. We will be introducing our projects and activities but will also welcome your contributions to make the Newsletter a genuine showcase for international innovation and research relating to the sea and communication technologies.

Join forces and increase our competitive potential!

Marc Labbey
President of Technopôle Brest-Iroise

Risk Management: The RACR 07 Symposium in Shanghai from 25 to 26 September 2007

Organized by the Maritime University of Shanghai, this international symposium covers numerous topics from forecasting and prevention to intervention techniques and from natural to industrial, maritime and coastal risks. The symposium therefore offers a **unique forum for exchanges on the theme of "global risk"**, a concept currently focused on by risk management specialists.

As part of its partnership with the Maritime University of Shanghai, the Technopôle Brest-Iroise is co-organizing this event and has particular responsibility for the sessions on maritime and industrial risks. Special emphasis will be placed on risk management in ports and harbour cities. These zones, which are the economic lifeblood of maritime regions, are subject to intense land- and sea-based activity. Prevention techniques, regulations and strategies must find the right balance between reducing risk and protecting maritime, industrial, port, tourist and urban activities.

The IMAPS project results (see article) will be presented as a starting-point for discussing management techniques for harbour zones and activities. The subject matter here overlaps with the MITS programme and its applications in the field of multimodal transport, logistics and the safety and efficiency of the logistics chain.

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"Towards safer, cleaner seas":

SAFER SEAS, Brest, 9 to 12 October 2007

Brest métropole océane urban community council, working in collaboration with a broad spectrum of scientific and technological partners and, in particular, with the Technopôle Brest-Iroise, and with the support of the Pôle Mer Bretagne hub of economic competitiveness, is organising Safer Seas, a follow-up international event devoted to the issues of maritime security and safety.

Against an international background increasingly affected by the globalisation of trade, the interpenetration of national economies and the role of maritime transport, more robust maritime regulatory measures and public enforcement at a national, European and international level have been pursued. From a technological point of view, the rapid developments witnessed, in particular in the field of information science and technology, afford

new opportunities both from an economic and a maritime safety perspective.

Today, the work of the International Maritime Organisation (IMO), negotiations relating to the “Erika III package”, the initiative surrounding the green paper for an EU integrated maritime policy, discussions prompted in France by the Secretary-General of the IMO, the involvement of the Brittany region in current discussions and the contributions made to them by a network of local authorities, researchers and professionals all testify to the dynamism of the debates underway and the importance of a global approach to maritime challenges.

By holding a fresh SAFER SEAS event, with high-level support from the IMO, EU and French government, Brest métropole océane is seeking to demonstrate that it subscribes to this general drive for progress. **The event offers a forum for continued international exchange where the views of different scientific, technological and political communities, as well as the maritime industry in general,** can be expressed within a multidisciplinary context. The 2007 event will moreover devote special attention to co-operation between Europe and Asia.

The conference is structured around 3 themes, each of which is broken down into 8 working groups:

Theme 1: Strengthening maritime safety policy – Leverage, perspectives and technological developments.

Theme 2: Stepping up action against marine pollution – What are the resources, sanctions and perspectives?

Theme 3: Facing new threats – Issues of maritime safety and security.

Themed workshops will be organized before and after the plenary sessions based on current European projects and focusing on three areas of maritime safety: Pollution management, Integrated management of port zone risks and MITS – new, maritime safety technologies.

More information at: www.saferseas-brest.org

[Information and Communication Technology]

Cooperative Programme Serving Innovation: ITS-T (Intelligent Transport Systems)

The federated programme involves a group of scientists, academics and industrialists who have agreed to work together in order to:

- Develop innovative products and services,
- Promote technology transfer between partners,

- Support businesses in developing expertise and conquering new markets.

The ITS-T programme aims to develop innovative products and services for the transport market. The cooperative programme relies on the skills of Brest-based businesses – Thales, Alcatel, Altran, Cap Gemini, Cabasse, etc. – and research bodies – ENST Bretagne, PRACOM (Centre for Advanced Research in Communications), CERV (European Centre for Virtual Reality), etc. Those skills are:

- Wireless networks and antennas
- Detection technology (radars, lidars, etc.)
- Telecommunication technology,
- Virtual reality,
- Embedded electronics,
- Electronic device and circuit technology.



Antennessa designs and manufactures customized antenna solutions in the 80 MHz to 76 GHz range (Antennessa)

Within the cooperative programme, the role of the Technopôle is to identify a project director, find project partners and assist with technical and funding arrangements as well as help promote the project in France and abroad.

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ACC Autocruise Radar

The [Autocruise](#) Company, part of the American TRW Group, has benefited from such support in the development of its ACC (Adaptive Cruise Control) radar designed to regulate vehicle distance and speed.

ITS-T Maritime Sector Applications: MITS – Making Seas Safer By Cooperating Internationally on Global Standardized Solutions

Achieving maritime safety is the ambitious aim of a project in which the Technopôle is involving its international networks. The project is the result of the MITS programme (Maritime ITS), initiated and developed over the last year within the Technopôle. Its objective is to explore the maritime applications of ITS-T (Intelligent Transport Systems Telecommunications) ultimately to provide a new generation of standardized tools designed to strengthen maritime safety and security. This subject simultaneously addresses local concerns, the objectives of the new European maritime safety policy and international expectations, particularly in Asia, in the face of an upsurge in shipping and acts of piracy. Brest's skills and expertise in the areas of the sea and ICT and the presence of its hub of maritime excellence give the city the credentials to position itself on this market, particularly as it can count on the complementary expertise of not only its European but also its international partners in Yokosuka, Singapore, Qingdao, Shanghai and Guangzhou.

Lessons can be learned from several aspects of this programme: the sea remains a telecommunications dead zone which contributes to the isolation and vulnerability of ships. The aim is therefore to supply ships with radio communication systems capable of improving connectivity. Statutory international norms will apply in the development of a bouquet of services for transport, ports, the environment and navigation and thereby covering all inter-operational activities across geographical areas and suppliers.

Following initial meetings organized in 2006 during SEA TECH WEEK, the SAFER SEAS conference will provide the context for discussions relating to maritime science and technology, regulations and policies and will enable progress to be measured. (See article)

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Website under construction: <http://www.maritime-its.org/>

Appraisal of ITS-T Conference at the Sophia Antipolis Technopole, June 2007

Since 2005, the Technopôle Brest-Iroise has been co-organizer of the international ITS-T conference, coordinated by its Japanese partners in Yokosuka – the Science Park and NICT, national telecommunications research centre. Devoted to information technology for the transport sector, the event was held this year from 5 to 8 June in France at the Sophia Antipolis Technopole.

Applying the new technologies to maritime transport, although clearly of interest, remains an area of research yet to be developed by specialists in the maritime industry. For the first time this year and with the support of its local and international partners, the Technopole organized a special two-day session involving twenty-five participants and covering everything from research

agendas and needs expressed by city ports to the latest in logistics-related information, telecommunications, radar surveillance and space systems.

The session brought together groups of researchers studying terrestrial and maritime transport from the European Commission, EIRAC and AMRIE networks, CETMEF (French centre for maritime and waterways research), ENST (French advanced telecommunications institute), the Ecole Navale (Naval Academy), ENSIETA (French advanced weapons engineering and technology institute), Barcelona, I2R and NICT in Singapore, the Maritime University of Shanghai, the port of Gijón and the companies of THALES ALCATEL, ALENIA Space, CLS – BOOST, IBM, RAYTHEON, among others.

With a plenary session on satellite positioning systems, standardisation and markets and inter- and intra-vehicle communications technology, the 2007 event showed once again the interest of international communities in this area of research and its flourishing market.

Next event in Thailand in 2008!
<http://itst2008.nectec.or.th/>

Wim@ges - Brest's Wireless Broadband Platform

As part of the project tendering process by the *Pôle Images & Réseaux*, the Technopôle Brest-Iroise, with the support of numerous interested partners, put forward a proposal for installing a platform in Brest exclusively for wireless broadband. The project logo is "Wim@ges", combining wireless technology and images. The platform will complement other *Pôle Images & Réseaux* platforms – mobile multimedia and multiprotocol fibre-optic convergence.

The aim is to encourage and establish federated projects, and to provide partners with the human and technical resources to test new concepts and services and to share local and regional databases.

The subject areas selected are an extension of multiple studies and experiments undertaken locally over several years.

Initial themes tackled are:

1/ Maritime zone coverage:

Ship-to-shore or ship-to-ship broadband links are essentially provided at present via satellite which is costly. Wireless technologies are being put forward and are beginning to be deployed for terrestrial use as in Wimax and Wifi. Full-scale trials undertaken with the French navy (GESMA, Marins-pompiers (Marine fire and rescue service) and Ecole Navale) have demonstrated that maritime applications need the technology to be adapted to the particular characteristics of the marine environment: moving antennas, reflections off unstable

metal structures, fixing the direction for connecting to a mobile contact, etc. Our aim is to set up an experimental platform in Brest Bay enabling us to pinpoint technical constraints and test appropriate solutions, some of which, such as MIMO antennas and mesh networks, are currently at the research laboratory stage.

The platform will be connected to the Brest urban network making significant amounts of data and video material available and enabling remote accessing by laboratories which can make use of its results.

Contacts have been made with the navy, the Ecole Navale and local maritime shipping companies such as Pen ar Bed and Brittany Ferries.

2-Dead zone coverage:

Experimental solutions exist for hyper-frequency bandwidths compatible with HDTV and video on demand, at least in terms of “server-to-user” streaming.

A platform is in the process of being set up in Brest using available resources to test this technology on a panel of users in areas of uneven terrain.

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[International Collaboration]

Brest and China: Exchange Visits in June and July

In 2006, the Technopôle Brest-Iroise, along with the **University of Shanghai** created a **centre for scientific cooperation on MITS and Galileo/GNSS technologies**. The Technopole acted as interface between the public and private research centres engaged in the international “MITS for Safer Seas” collaborative venture.

In July, the Technopole is welcoming a delegation from **Qingdao** with a similar aim and on a complementary topic – **protecting the environment and marine pollution**. The **centre for cooperation** set up under the aegis of the **city of Quindao bureau of science and technology** will now be ensuring the necessary framework is in place for bipartite and multidisciplinary cooperation.



City of Qingdao

The Safer Seas conference (see article) will provide the ideal context for establishing research programmes and long-term exchanges on the theme of maritime and environmental safety. These are international issues requiring the highest level of collaborative effort among the maritime and scientific communities in order to develop joint responses to complex problems.

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Building a European Interregional Maritime Cluster - InterMareC

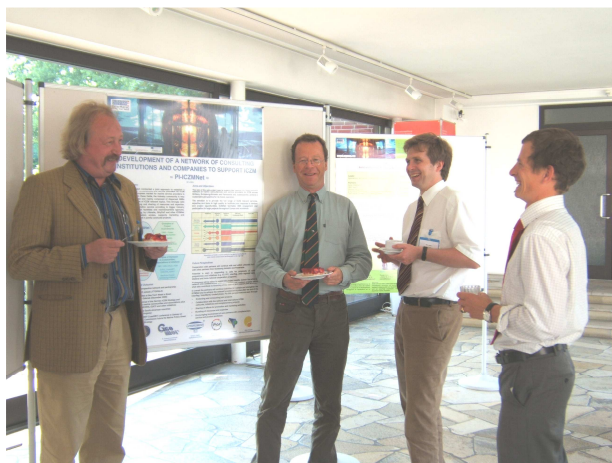
Skills and expertise in **offshore, oceanographic, integrated coastal management and shipbuilding technologies** are providing the key to economic development in 3 European regions.

The Technopôle Brest-Iroise has led the way in representing the interests of the Brittany region and has played a particular role in fostering cooperation with two other European regions with a long history of involvement in marine science and technology – Schleswig-Holstein in Germany and Pomorskie in Poland. The three areas, represented respectively by Brest, Kiel and Gdansk, plan to create an **interregional maritime cluster** in order to reinforce their economic position at a European level. To achieve this, the InterMareC programme aims to stimulate cooperative projects among the three partners and is focusing on three themes of common interest: offshore technologies and oceanography, marine resources and environment, and shipbuilding and yachting.

The project comes to an end in a few months and a meeting of the European partners was therefore held in Kiel in June. The purpose was not only to evaluate the present situation and discuss the outcomes so far reached but also to determine the framework and themes underpinning future collaboration.

A week later, all the Brittany region players involved in the “Coastal Activities” component of the programme met in Brittany to discuss the industrial outcomes of the projects.

InterMareC has enabled partners to meet and exchange views, as well as new ideas to grow. What is now expected from the InterMareC management team is to see which path the main players will take to achieve their innovative plans.



Left to right: Kai AHRENDT, Environmental and Coastal Consultants, Germany ; Gildas BOREL, Nasca Géomarine, France ; Bjorn IPSEN, WTSH ; Stefan RHEM, SCHIFF-gmbh, Germany

To date:

- **17 collaborative projects** have emerged
- About **80 people** have been actively taking part in InterMareC activities.

Commitments so far:

- From **France**: IFREMER, Thalès, Actimar, Nasca-Géomarine, etc.
- From **Germany**: CRM, Hydromod, etc.
- From **Poland**: Maritime Institute in Gdansk, CTO, etc.

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Inwaternetec – International conference and exhibition to be held in Kiel, 9 to 11 October 2007

Organized by our InterMareC partners from Kiel, Inwaternetec will have as its overarching theme, "**Resource Ocean - presentation and communication forum for systemic solutions, products and services**", with preparations ongoing for topic-based sessions on:

- 1 - Hydrographic Services & Technologies
- 2 - Marine Gas Hydrates & Mineral Resources
- 3 - Marine Living Resources
- 4 - Maritime Safety & Security
- 5 - Offshore & Arctic Technology
- 6 - Marine Research Technology

More information at: www.inwaternetec2007.de

Risk Management in Port Cities - IMAPS

Port cities from five European countries, Brest, Taranto, Matosinhos, Gijón, Cadiz, Constanza and Portsmouth and the Isle of Wight gathered in 2005 as part of a European project named "IMAPS" (Integrated Management of Port Cities). Their goal was to share experiences and use the expertise of the multidisciplinary

and multinational teams to identify common strategies and policies for the sustainable development of port cities.

Two main regulatory areas were focused on – integrated coastal zone management for environmental matters and SEVESO for industrial risks – and were examined from a regulatory, economic and scientific perspective.

IMAPS started when the European Commission launched a broad consultation for a new, integrated, maritime policy. The project will reach its final stage when the consultation work ends with the production of a Green Paper.

The series of recommendations issued by the partners on improving current regulations and practices will constitute a real contribution to the Green Paper. Port cities and harbour zones represent perfect examples for studying the principles of an integrated maritime policy. Experience on the ground in the port cities provides genuine illustrations in support of the recommendations. Together, the partner cities form a sufficiently representative sample to provide a pragmatic and accurate, if not exhaustive, analysis.

During the Safer Seas conference to be held from 9 to 12 October in Brest, a special session on risks management will be set up by the partners of IMAPS where they will present their results to other European and non European ports and cities. The experiences of the project partners will likewise be presented to a symposium on "Global Risk Management" organised in September in Shanghai by the Maritime University of Shanghai with the support of the IMO.

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Marine Pollution – MAPO

The project involves thirteen partners and MAPO database managers and brings together over nine hundred SMEs from across Europe specialising in combating marine pollution. These SMEs offer different but complementary skills and intervene at different stages in the anti-pollution process. The database therefore lists SMEs specialising in prevention, control, modelling, treatment and analysis of hydrocarbon or chemical pollution. A full range of skills can be accessed via the MAPO project website at <http://www.marine-pollutions.org/>. The SMEs have registered their details on the website to be more easily identified by European R&D project consortiums. In this way, research laboratories, large industrial groups and SMEs have reliable and rapid access to whatever expertise is sought when setting up a project for the 7th Framework Programme for Technology R&D and can find project

partners, thereby increasing their chances of securing a European contract.

The project comes to an end in October 2007. A final meeting of all partners will be held during the Safer Seas conference.



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[Four Hubs of Economic Excellence in the Brittany Region]

The Brittany hubs of economic competitiveness have official government recognition. The hubs with a global remit are the [Pôle Mer Bretagne](#) and the [Image & réseaux](#). The other two focusing on national markets are [Valorial](#), in the food-processing sector, and the [Pôle Automobile haut de gamme](#), in the top-of-the-range automotive sector. Those involved in the hubs from science and industry have the resources to be able rapidly to set up and run numerous innovative projects.

The [Pôle Mer Bretagne](#) working with the maritime industry brings together large companies, SMEs, public and private laboratories, universities and selective higher education institutes and bodies such as the Technopôle Brest-Iroise – founding member of the hub – which take an active part in running the hub. The members share knowledge and transfer skills in order to position new products and services on the world market.

Collaborative projects fall within five working themes:
The challenge – Safety and security: [Theme 1](#): Maritime safety and security, [Theme 2](#): Ship engineering, maintenance and services
The challenge – Sustainable development: [Theme 3](#): Exploiting marine energy resources, [Theme 4](#): Exploiting and developing marine biological resources: Fishing/aquaculture and Biotechnology, [Theme 5](#): Environmental and coastal management.

The Pôle Mer has approved twenty-nine joint R&D projects such as the “**MARENERGIE**” project: Using tidal power to produce electricity is the concept behind the Hydrohelix Company which has brought eight companies and research centres together under the umbrella of the MARENERGIE project. The project partners are preparing to install the first 200 kW hydro-generator – a large diameter turbine attached to an electric generator – which will transform the kinetic energy of tidal currents into electricity and then convey it by cable to the coast. After a trial period, it will be possible to connect a one-megawatt production unit comprising five hydro-generators to the grid. The use of tidal currents, which produce predictable levels of energy as they are influenced by astronomical factors and not subject to the vagaries of the weather, is just one response to the issues of declining fossil fuel stocks, diversification of energy sources and exploiting forms of renewable energy which do not generate greenhouse gases. The MARENERGIE project aims not only to develop new, French technology for use along our own coasts, but also for deployment abroad.

More information at: <http://www.pole-mer-bretagne.com>

[Noticeboard]

After ten years spent in charge of the Institut Universitaire Européen de la Mer [IUEM - European University Institute of the Sea], Professor Paul Tréguer is handing over to Professor David Nelson, who up until now has held a teaching and research post at Oregon State University. Professor Nelson, who is sixty years old, is, like Professor Tréguer, an oceanographer and biochemist.

Based at the Technopôle Brest-Iroise, the IUEM has a threefold mission: research, monitoring of marine environments and teaching Masters and Doctoral students. The Institute has 219 permanent staff covering a range of interdisciplinary expertise: chemists, biologists, geographers, geologists, etc.

More information at: <http://www.univ-brest.fr/IUEM/>

Readers, please note: TBI-News welcomes your contributions!

Inform others about your projects, achievements, conference dates and other items of interest. Send articles for the attention of Michel Morvan,
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Dates for your diary: BREST 2008
International Festival of Sailors
11 to 17 July 2008 - <http://www.brest2008.fr>

<http://www.tech-brest-iroise.fr>