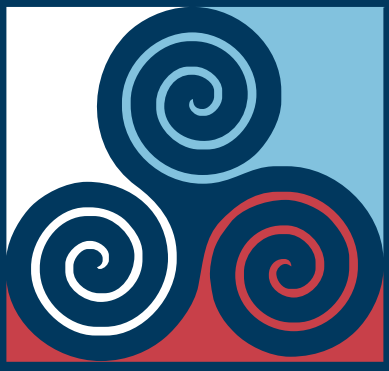
aegean energy agency
THE SUPPORTING ORGANISATION FOR GREEK ISLANDS

INTERNATIONAL CONFERENCE

PORTS MARITIME TRANSPORT & INSULARITY

Business, Innovation, Environment



10 & 11 March 2016, Piraeus

Venue: Piraeus Chamber of Commerce & Industry

CO-ORGANIZER:

HELLENIC INSTITUTE OF TRANSPORT CERTH / HIT

UNDER THE AUSPICES:

MUNICIPALITY OF PIRAEUS

WITH THE SUPPORT:

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GREEN & SMART

The Aegean Energy Agency and the Hellenic Institute of Transport/Centre for Research and Technology Hellas (HIT/CERTH)in joint collaboration with the Network of Aegean and Ionian Sustainable Islands – DAFNI under the auspices of the Municipality of Piraeus are hosting the international conference "Ports, Maritime Transport & Insularity: Business, Innovation, Environment" on 10-11 March 2016 in the Piraeus. The aim of the conference is to bring together a wide range of stakeholders including policy- and decision-makers at local, national and international levels, port authorities, representatives from the shipping sector and industry, academia, chamber associations and NGOs.

The conference seeks to highlight the vital role of port infrastructure and shipping in drawing up a development strategy for Europe & the Mediterranean that leverages the comparative advantages and further engages existing and new economic actors, with a view to improving the region's overall competitiveness and growth prospects. The strategy is underpinned by the incorporation of smart technologies and policies in port infrastructure, maritime transport and logistics. The conference will also analyze the particular challenges islands are facing with regards to the planning, management and operation of port infrastructure, but also to the maritime connections among them and with the mainland. Overcoming such challenges is crucial for ensuring the sustainable development and territorial cohesion of island and coastal areas. Particular emphasis will be given to the untapped potential of islands to function as test-beds for smart technologies in the shipping and port infrastructure sectors. This approach is part of the Smart Islands strategy, which encourages the efficient management of energy and natural resources, towards the integrated and sustainable development of islands and coastal areas. It is also part of Europe's Climate and Energy policies and Blue Growth strategy.

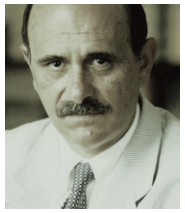
For over 15 years many European ports have been deploying information technologies as a means to improve the quality of services offered to customers. From smart lighting to automated management of entry and exit control at terminals, smart grids and cold ironing, ports are working towards introducing new solutions to improve conditions for passengers and businesses.

Like a Smart City, the Smart Port, places people at the epicenter of its activities. By using technological and management tools, the Smart Port is creating an enabling environment that spurs innovation and knowledge, thus helping generate intangible values such as quality, reliability, responsiveness, adaptation to demand, etc. At the same time the Green Port is a sub urban complex) that commits to not only meeting environmental requirements, but also raising economic benefits. The key question in a green port is to strike a balance between the protection of the environment and the boosting of economic activity.

International initiatives, such as the Ecoports programme led by ESPO and legislative frameworks set up by international organisations (mainly IMO and European Commission) constitute important tools for making port operations and maritime transports sustainable. But clearly more needs to be done. Coasts are among the most productive areas in the world, offering a wide variety of valuable services; yet they are particularly vulnerable to climate change and natural hazards, as a result of intensive concentration of population and excessive exploitation of natural resources leading to conflicts between the different uses. To address this, it is necessary to apply a long-term and integrated approach to management, one that enhances the protection of environmental resources whilst increasing their efficient use. To this end it is crucial to engage all involved stakeholders and clarify their roles and responsibilities at different governance levels, i.e. multi-level (international, national, regional and local) and multi-lateral (policy-makers, market representatives, civil society, and academia). More so, the challenge lying ahead is to find a proper way of accommodating public and private interests through the establishment of collaborative schemes, which can effectively serve the attainment of social, environmental and political goals.

Ilias Efthymiopoulos
Aegean Energy Agency Director

ILIAS EFTHYMIOPOULOS: *Ilias Efthymiopoulos has 40 years experience on Energy, Environment and Sustainable Development through national and international projects. He holds a Phd degree (Universite Paris VII) and is currently working as a local authorities' consultant mainly in insular communities and regions. He has been the founder and director of Greenpeace, Greece from 1991 to 1999, and vice Minister for the Environment at the Simitis government (2000-2002). From 1998 to 2010 he has been the scientific director for the Summer Ecology University in Greece. Since 2006 he is the general director of the Aegean Energy Agency (supporting the network DAFNI). He is the author and/or editor of various publications on sustainable economy and European affairs.*



KEY-NOTE SPEAKER

PETROS KOKKALIS, *City Council Member, Municipality of Piraeus, Greece*

As co-founder and impact investor of social enterprises such as organization Earth, an environmental NGO, and Aephoria, a sustainable development startup incubator, Petros Kokkalis is a firm believer of the transformation of local communities through mass resource mobilization. He currently serves as Vice President of the Kokkalis Foundation, a non-profit organization whose mission is the promotion of a peaceful, democratic and prosperous Southeastern Europe. He also serves as the President of Athens Information Technology, a non-profit technology academic and research institution, and he is president of Athens Tech, a private technology, innovation and entrepreneurship college. He frequently serves as judge to Greek and international business and startup competitions, mentors young entrepreneurs and also serves on the Endeavor senior advisor network. Previously, he was the Vice-President and shareholder of Intracom Holdings, one of the largest multinational technology groups in South-Eastern Europe, and the Vice-President and shareholder of Intralot S.A., a gaming technology supplier and lottery licensed operator. He was also the Vice-President of the Greek football club Olympiacos CFP from 1995 to 2008. He is currently running as an independent city council member in Piraeus Municipality responsible for European Affairs.

Smart port innovation

We are deploying a comprehensive strategy in order to meet the challenges the city and the port faces as well as the opportunities that are opening up in the coming years. Our plan is based on solid and long-term set of intervention with the aim to harmoniously combine the creation of friendly environment for business and maritime activities along with an active social and urban regeneration policy. This is our understanding of the notion of sustainable development, a new model of growth, job creation and better quality of living, for the citizens, workers and visitors of Piraeus. “Blue” – referring to the maritime sector development, “Green” – referring to the use of eco-friendly technologies, “Smart” – referring to the adoption of innovative services in the municipality and the port as well, “Viable” – referring to a holistic development approach , and “Open”-referring to the accessibility of the city, are the key words that characterize our strategy.

HELLENIC INSTITUTE OF TRANSPORT (HIT) OF THE CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS (CERTH)

The Hellenic Institute of Transport is part of the Centre for Research and Technology Hellas (CERTH) which is a non-profit organization that directly reports to the General Secretariat for Research and Technology (GSRT), of the Greek Ministry of Culture, Education and Religious Affairs. HIT’s main objective is the conduct and support of applied research activities in the field of transportation in Greece. HIT focuses mainly on issues relating to the organization, operation, planning and development of infrastructure, standardization, economic analysis, management, vehicle technology, and impact assessment of land, maritime, air, and multimodal transport services. HIT’s activities also involve training education and dissemination of knowledge and the representation of Greece in transport research and other relevant European and international scientific fora.

www.imet.gr

PANEL 1: EUROPEAN PORTS: INTERNATIONAL AND EUROPEAN LEGISLATIVE FRAMEWORK AND ENVIRONMENTAL TARGETS

KONSTANTINOS RIGAS, *Port policy expert, DG MOVE - Ports & Inland Navigation Unit, European Commission*

Konstantinos Rigas is a transport economist with more than 10 years academic and professional experience in the field. With a PhD in Maritime Studies from the University of Piraeus he has been active since 2007 in EU transport policy, both from the private and the public sector. Through his experience with the European Commission Dr Rigas has focused in maritime policy and in particular in safety and training aspects. Currently he is working for the Ports & Inland Navigation Unit of DG MOVE where he follows the Ports Policy as well as environmental aspects.

EU ports policy: helping the sector achieve its potential

For Europe, maritime transport has been a catalyst of economic development and prosperity throughout its history. Each year, more than 400 million passengers embark and disembark in European ports. Overall, maritime industries are an important source of employment and income for the European economy. The European Commission’s objective is to protect Europe with very strict safety rules preventing sub-standard shipping, reducing the risk of serious maritime accidents and minimizing the environmental impact maritime transport. The Commission supports actively the efforts of the EU Member States and of the European shipping sector offering quality shipping services in Europe and all over the world.

CHRIS WOOLDRIDGE, *Science Coordinator EcoPorts, ESPO - Senior Trainer ECO Sustainable Logistic Chain Foundation - Honorary Senior Research Fellow, Cardiff Univ., UK, Ph.D. Univ. College of Swansea*

Chris has worked on Research & Development and Training with the port sector since 1982 specializing in the environmental management of port and shipping operations. He contributed to the development of the EcoPorts tools and methodologies, and is active in their implementation internationally supported by the cooperation between ECOSLC (www.ecoslc.eu), the European Sea ports Organization (ESPO, www.espo.be) and the American Association of Port Authorities (www.aapa-ports.org). He acts as Reviewer of the EcoPorts’ Self-Diagnosis Methodology (SDM). Chris has delivered training courses on a range of environmental issues throughout Europe and in India, Vietnam, Cambodia, Thailand, Laos, Taiwan, and Colombia. He was Director of Studies, Marine Geography in the School of Earth and Ocean Sciences, Cardiff University, UK until 2011.

The European Sea and Ports Organization (ESPO) and Ecoports

Both ESPO and EcoPorts are working in parallel to achieve sustainability, cost and risk reduction, and socio-economic benefits that are very much part of the broadened ‘environmental’ imperative.We are addressing to the European Ports Authorities on the basis of voluntary self-regulation that raises standards beyond legislation through a bottom-up approach. We are serving in parallel the interests of the business and the local communities by applying a systematic ap-

BUREAU VERITAS, MOVE FORWARDS WITH CONFIDENCE

Established in 1828, Bureau Veritas Group -a world leader in classification, certification, laboratory testing & inspection services- nowadays employees more than 66,000 experts in about 1,400 offices and laboratories worldwide, offering innovative services to 400,000 clients, in order to ensure that assets, products, infrastructure and processes meet applicable standards and regulations on quality, health and safety, environmental protection and social responsibility, operating a coherent Network of 2,300 highly qualified marine surveyors-specialised in safety, security & environmental protection related rules and standards-, stretching over 180 survey stations in 90 countries.

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proach to port environmental management through appropriate structures that enable continuous improvement of performance.We are finally call for transparency in communicating and reporting on the ports' efforts and successful stories.

MARIA BOILE, *Research Director, Hellenic Institute of Transport (HIT), Centre for Research & Technology Hellas (CERTH)*

Maria Boile is a Research Director at the Hellenic Institute for Transportation (HIT), Centre for Research and Technology Hellas (CERTH), Director of HIT's Athens Office and Head of the Ports and Maritime Transport Sector. She has served as Associate Professor of Transportation at Rutgers University, co-Director of the Freight and Maritime Program (FMP) at the Center for Advanced Infrastructure and Transportation (CAIT), and Academic Fellow at the Center for Supply Chain Management of the Rutgers School of Business. She has worked on research and training projects in the U.S., Europe, Latin America, Asia and Africa. She has authored over 150 scientific articles.

Assessing the energy needs of Mediterranean ports A systematic approach and the GREENBERTH project

Reducing energy consumption in ports has evolved over the last few years as a major concern of relevant stakeholders and is ranking 3rd among the top environmental priorities of the European ports sector for 2013. This has led 57% of the European ports to develop energy efficiency programmes and 20% of them to adopt measures for directly producing energy from renewable sources. A structured approach for developing a port energy management plan highlighting the main issues, challenges and prospects that should be taken into account is presented. The role of ports in the changing energy policy framework is discussed and the value of a port energy management plan, either at a port authority or at a terminal operator level, is highlighted. Valuable insights gained from the implementation of the aforementioned approach in six Mediterranean ports within the context of the GREENBERTH project are being reported.

KONSTANTINOS CHLOMOUDIS, *Prof. at the Department of Maritime Studies of the Univ. of Piraeus*

Dr. Constantinos Chlomoudis is Professor at the Department of Maritime Studies of the University of Piraeus teaching port and maritime transport courses. His research activities have been structured around the topics of Port Administration and Organisation and the maritime transport organization of Ports. He is an expert in Port Strategy and Management with more than 70 publications in leading shipping and maritime journals.

Structure and organization of the Hellenic port system

Amongst EU member states for the year 2013, Greece holds the 8th position in the transportation of commodities, with cargo operations amounting to approx. 160mil. tones (nearly equal to Sweden), and the first position (with Italy following closely) in passenger movements, with approx. 73 million embarkations and disembarkations. Owing to the particular geomorphologic characteristics of Greece, with the extensive coastline (approximately 17.000klm) and numerous islands, ports as well as maritime transportation have constituted over time an essential prerequisite for the preservation of territorial cohesion and the balanced socio-economic development of the country. The effectiveness of the country's port terminals and the rapid harmonization with international best practices depend to a large extent on the operability and functionality of the organizational structures that form the port system itself and the effective management schemes too.

aegean energy agency
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AEGEAN ENERGY AGENCY

The Aegean Energy Agency is the technical and scientific advisor of DAFNI. It supports the members of the network to develop projects in the areas of production and management of energy, sustainable transport and mobility, ICTs, water and waste management, blue growth etc. Further the agency facilitates the access of DAFNI members to European funding and innovative financing tools for the implementation of the above.

www.aegean-energy.gr/en/home.htm

THANOS PALLIS, *Secretary General, Medcruise*

Dr. Thanos Pallis is the Secretary General of MedCruise, the association of cruise ports in the Med and its adjoining seas. A Jean Monnet Professor in European Port Policy at the University of the Aegean, Greece, he is a regular contributor at OECD, UNCTAD, European Commission, IAPH, AIVP, and ESPO discussions on ports. He served as General Secretary for Ports & Port Policy, Ministry of Development, Competitiveness and Shipping, Greece. He is the co-director of the PortEconomics web initiative, and his publication record includes the books Common EU Maritime Transport Policy and European Port Policy.

Addressing environmental challenges in cruise ports: Waste reception & lessons learnt

With cruise activities in the Mediterranean and its adjoining seas increasing, the cruise world takes initiatives to handle the produced externalities, including the waste produced on cruise ships. In recent times, cruise lines and ports have put a lot of efforts into reducing, selecting and managing generated waste implementing the requirements of the international regulatory framework as well as those imposed by the European legislation. The intervention will discuss the extent to which the current practices of cruise ports in the Mediterranean region have reached a satisfactory level of compliance and the lessons that can be extracted with regards to addressing several challenges that modern port industry faces.

MAURO RANDONE, *Project Officer, MPAs, WWF Mediterranean*

Mauro Randone is Programme Officer at WWF Mediterranean. He's the coordinator of the MedTrends Adriatic report. His education includes an IB/UWC Bilingual Diploma, a Degree in Marine and Freshwater Biology (2001), an MSc in Environmental Technology (2002) and a Degree in Sociology of the territory and the Environment (2015). In 2006 he was selected as a UN fellow for FAO in Vietnam, where he worked as a Natural Resource Unit Coordinator for the Integrated Management of Lagoon Activities (IMOLA) Project. From 2009 to 2013 he was Deputy Project Coordinator for the "Master Plan for Sustainable Development of the Caspian Coastal Zone of Kazakhstan" funded by ENI. He has been involved in several international ICZM and natural resource management projects in Uganda, Algeria, Vietnam and Iraq and he has matured over 14 years theoretical and practical GIS experience, particularly on the application of GIS to ICZM.

Regional assesment with emphasis in transports & ports. Recommendations within the Blue sustainable economy

The Mediterranean Sea is being increasingly exploited by a range of maritime activities, all of which are predicted to expand substantially over the next 20 years. These increasing trends will very likely cause increased demand for the limited space and marine resources, increased conflict between maritime sectors and increased conflict between human use and nature. The MEDTRENDS project combines the collection and analysis of geo-localised socio-economic and environmental information on 10 key maritime sectors with a wider spatial analysis, identifying interactions and conflicts between sector trends and the protection of marine ecosystems. Regional trends in Maritime Transport and WWF's recommendations for a sustainable transport sector will be described in detail.

DAFNI
Network of Sustainable Aegean & Ionian Islands

DAFNI - NETWORK OF SUSTAINABLE AEGEAN AND IONIAN ISLANDS

The Network of Sustainable Aegean and Ionian Islands, is a network of 33 island municipalities and two regional authorities (North & South Aegean) that seeks to promote sustainable development in maritime regions. DAFNI is actively involved in strategic European projects as the SMILEGOV project, and European island initiatives as the Pact of Islands.

www.dafni.net.gr/en/home.htm

PANEL 2: NEW PERSPECTIVES FOR EUROPEAN PORTS

FOTIS PROVATAS, *Athens City's Delegate for the Economic Cooperation with the People's Republic of China - President of the Hellenic-Chinese Economic Council*

Fotis Provatas works as a development and investment consultant. He has a degree in civil engineering and economics. Mr. Provatas has extensive experience in Greece and abroad, in the management of private and public sector enterprises and in the elaboration and implementation of major development projects. He has served as an investment and development consultant to governments, public organizations and multinational enterprises in Eastern Europe, as General Director of the Hellenic Post Office (ELTA), national representative to the European Centre for Public Enterprises in Brussels, and CEO and publisher of a national daily newspaper (Avgi). Most recently, he has worked as a consulting engineer in the fields of renewable energy resources.

Today he serves as: Member of the Athens City Council -Chairman of the Athens City's Commission on Tourism Development and Promotion. -Athens City's Delegate for the Economic Cooperation with the People's Republic of China - Chairman of the Greek-Chinese Economic Council, based in Athens - Deputy General Secretary of the World Tourism Cities Federation (WTCF), based in Beijing.

The new silk road and the challenges for the Greek ports

GEORGIA AYFANTOPOULOU, *Research Director - Deputy Director Hellenic Institute of Transport (HIT/CERTH)*

Dr Georgia Ayfantopoulou is Research Director at the Hellenic Institute of Transport with professional and research expertise in the Freight transport, Traffic Management, Transport Systems Management, Use of ICT applications in: Maritime, Road & Combined Transport, Fleet Management, Operations Research and in Road Safety. Her professional experience covers a wide range in studies in the areas of maritime transport, port infrastructure management, new technologies application for maritime and intermodal transportation systems' management emphasizing on the safety and reduction of environmental impacts. She has been assigned Project Coordinator, Technical and Evaluation Manager for several EU and Greek projects in this domain as well as in the field of Intelligent Transport Systems (ITS).

Integrating the ports of the future into the supply chain: New synergy facilitation platforms

Gateway ports have a dual role; as effective 'trans-shippers' and catalysts in their greater region's development. In this context, the challenges that ports of the future face are related to the requirements of direct port services users, the port competition and the port - hinterland integration. In light of the above, the integration of a port into the supply chains is a multi-faceted challenge on an organizational, operational and technological level, which requires synergies both between the 'players' of the port system and the other partners of the supply chain. Through a series of examples of the business and research area, the presentation examines the current and potential role of organizational and technological platforms as a means to achieving synergies that help integrate future ports into the supply chains.

STRATOS PAPADIMITRIOU, *Professor at the Department of Maritime Studies, University of Piraeus*

Dr. Stratos Papadimitriou is Professor at the Department of Maritime Studies, University of Piraeus. He is also the Director of the Transportation Systems Laboratory that was established over a decade ago. His area of expertise includes Transportation Systems and Logistics. He has a Bachelor Degree in Engineering from the City College of the City University of New York, a Masters' Degree in Management from the Polytechnic Institute of New York and a Ph.D in Transportation Planning and Engineering from the same University. He has also extensive administrative experience in the field of Transport. From July 2010 till October 2012 he served as Chairman of the Board of Directors of the Athens International Airport and from July 1997 till July 2002 he served as CEO of the Athens Urban Transport Organization. He is has acted as an expert and adviser to Ministers of Transport and Economy, the European Union, the World Bank, the EESC, OECD, on a variety of issues ranging from transport development, financing and transport policy formulation issues. He has written three books and over seventy research papers in academic journals.

Rebalancing global trade flows: Greek ports' role

The global trade flows have been changing for the past 10 years. The global economic crisis that started in 2008 has significantly affected dominant concepts (from outsourcing to resourcing, inventory management under uncertainty to name but a few) which in turn has increased the requirements for a new transport and logistics model. This paper analyses the emerging logistics landscape in lieu of the changed trade flows and in this context describes the role of the Greek ports in the New Business Environment.

LEO VAN DER BURG, *Project manager NHL University of Applied Sciences, Netherlands*

Leo van der Burg holds an advanced degree in mechanical engineering (Pedagogische Technische Hogeschool Eindhoven) and lectured in engineering at Friesland College for over 4 years before applying his expertise to the specialist fields of laser welding and shipbuilding as a project manager with for 18 years. His current role spanning the NHL university of applied sciences and MARIKO GmbH (Leer, Germany) on both sides of the Dutch - German border continues his project management experience with focus on LNG within the completed projects: LNG Passenger Vessel (MariTIM), LNG Wattenstart and LNG Initiative Nordwest, and actual focused on LNG projects of MariGreen (http://marigreen.eu/marigreen).

MariGreen: Cross-border cooperation to stimulate innovations in the maritime sector

The MariGreen project focuses on the development of innovations for greener and low-emission shipping that will ultimately reduce the ecological footprint of the shipping industry. This collaborative project between Germany and the Netherlands brings together shared goals to push international standards of excellence ever further whilst promoting the profile of the region as a model in Green Shipping. In the period 2015 – 2018, the MariGREEN Project unites initiatives from both countries under the banner of 'Green Shipping'. The project concentrates specifically on small and medium enterprises in the transition towards a sustainable and viable shipping industry in accordance with the environmental and transport policy objectives of Germany, the Netherlands and the EU. Through a consortium of 59 German and Dutch maritime companies and research institutions, a total of 12 innovation projects will be realized as part of the broader MariGREEN Project. The technical objectives will focus on LPG and wind-powered drive systems as well as green logistics alternatives –all with a focus on resource efficiency and safety in coastal and maritime transport. A key objective will also be the cross-border recruitment of junior staff to the maritime industry and the creation of closer partnership opportunities between Germany and the Netherlands. Project management are provided by the non-profit research institute MARIKO GmbH based in Leer, Germany and FME, The Netherlands.

YIORGOS LIVANOS, *Associate Professor, Department of Naval Architecture, TEI of Athens*

Dr. Georgios Livanos graduated from the School of Naval Architecture of the National Technical University of Athens (NTUA) with honours in 2002, obtained Master in Business Administration from NTUA in 2005 and completed his PhD dissertation in 2007 at the laboratory of marine engineering of the NTUA in the scientific field of Marine Engineering. He worked as research engineer from 2002 to 2008 and technical industrial consultant from 2002 until today. Currently he works on structural and thermodynamics issues of Marine Diesel Engines, Ship Propulsion Systems, Ship Energy Systems and applications of LNG in shipping. He has participated in several EU funded research projects and issued many scientific papers in international research journals and conference proceedings. He is currently Associate Professor and President of the Department of Naval Architecture of TEI of Athens.

Overview of the LNGcomship research programme

The use of liquefied natural gas (LNG) as fuel for propulsion of commercial ships can lead to both the significant reduction of the ship engines emissions (CO2, NOx, SOx, PM), and the lower operational cost due to the substantial lower price of LNG (compared to the Diesel fuels). The present project deals with the conversion of existing shuttle ferries and containerships in order for their diesel propulsion plants to operate on either LNG fuel, Diesel fuel or combined LNG-Diesel fuel. Open type ferries are extensively used for short distance routes throughout the Greek territory, and especially close to urban areas, so the use of LNG as fuel will have multiple benefits for the maritime companies, the natural environment conservation and the Greek economy. On the other hand, the Chinese side partners, due to their involvement in the shipbuilding activities, are interested in gaining experience in the design of LNG fueled containerships.

PANEL 3: PILOT PROJECTS AND ISLANDS

KNUD TYBIRK, *Project Manager Biogas 2020, Municipality of Samsø, Denmark*

Knud Tybirk graduated from Aarhus University in 1992 with a PhD in Biology. Since then he has held key positions in different international and national organisations, such as FAO, Denmark's National Environmental Research Institute, the Danish Agricultural Advisory Service, the Agro Business Park and the Innovation Network for Biomass. Throughout his career he has been involved in numerous international and national projects on biogas innovation. Since 2015 he is the Project manager of Biogas 2020 project in Samsø, working towards implementing the vision of biogas to LBNG for the new ferry on the island.

From biogas to LBNG for the Samsø ferry: Towards realization of the fossil free vision

The presentation will provide an overview of the history of Samsø as Renewable Energy Island in the past 10 years and describe the steps taken to realize the vision "Samsø 2.0: the fossil free society". Transportation is a major issue in this vision and the municipal investment in a new LNG fueled ferry and new port paves the way for a deeper transition of the island. Operating a ferry that runs on biogas is an example of how the circular economy works in practice, all while attracting more tourists and creating more green jobs for the future.

IAN GARMAN, *Innovation Development Officer for Community Energy Scotland in Orkney, Surf & Turf Team, Orkney Isles, UK*

Ian Garman is an Innovation Development Officer for Community Energy Scotland in Orkney and part of the team working on Surf and Turf, a community energy scheme aiming to establish renewable hydrogen for the marine sector. Ian has been based in the Orkney Islands for Community Energy Scotland since joining in 2014. CES is a charity that leads innovation projects as well as representing its non-profit members throughout Scotland to industry and political forums. Ian has helped develop several schemes - home heating, electric vehicles, marine transport, heated growing spaces - designed to find ways to promote CES's 'local energy economy' concept and to increase the productivity of the existing community-owned wind turbines in Orkney. He holds an MSc in renewable energy development and a BSc in environmental chemistry.

Everything except the Boat?
Laying the foundations to power ferries with locally-sourced energy

The Orkney Islands in northern Scotland face limits on exporting their renewable energy and high prices on imported fossil fuels. Substituting local electricity for oil and gas has obvious appeal. When Community Energy Scotland brought together groups and organisations to investigate how the essential inter-island ferries could be part of that transition, the answer was: It's just not possible. But that setback gave birth to the Orkney Surf 'n' Turf project. Surf 'n' Turf aims to establish a hydrogen supply chain across Orkney and lay the foundations – regulations, training, community buy-in – for low-carbon marine transport.

KATJA BAUMANN, *Managing Director, MARIKO GmbH/Maritime Competence Center*

Katja Baumann holds a Diploma in Environmental Sciences. She currently has 14 years of experience in sustainable development research and project coordination. She joined MARIKO GmbH in 2012 as a Project Manager, spearheading key projects MariTIM (Maritime Technologies and Innovations – Model region Germany/The Netherlands) and "LNG Initiative Nordwest". She took over the reins of MARIKO GmbH in February 2015, setting the course for an increasingly international role for the research institute. With a focus on Green Shipping, Katja Baumann has supported the development of new vessels and inland waterway-based logistic concepts through several projects in close partnership with players spanning the maritime industry in Germany and the Netherlands. 2015 MARIKO launched the "Green Shipping Competence Center". With financial support from the region of Lower Saxony, the Green Shipping Competence Center supports green shipping innovations in the region with the aim of bringing together the necessary experience and skills to address concrete challenges facing the market implementation of resource-saving and environmentally friendly shipping solutions.

The Green Shipping Competence Center to support Green Shipping Innovations

Internally established within MARIKO is the department "Green Shipping Competence Center Lower Saxony". The GSK supports green shipping innovations in the region with the aim to bring together the necessary experience and skills to address concrete challenges facing the market implementation of resource-saving and environmentally friendly shipping solutions. MARIKO is a non-profit organization which focuses on supporting small and medium sized marine companies, promoting maritime research and innovation projects including inland waterways, facilitating the communication between industry and policy makers in the German maritime industry and providing training and education courses.

ALESSANDRO COSTA, *Head of Strategic Development & Intern. Cooperation, Univ. of Venice, Italy*

Born in Venice in 1970, he holds a PhD in Environmental Science at the Ca' Foscari University in Venice, with research on sustainable urban development and the environmental impact of hallmark events (i.e. Sydney 2000 Olympic Games). Between 2004-10, he served in China as project supervisor and expert at the Sino-Italian Cooperation Programme (SICP) for Environmental Protection (www.sinoitaenvironment.org), jointly promoted by the Italian Ministry of the Environment, Land and Sea and the Chinese Ministry for Environmental Protection. From October 2011 to April 2015 he has, set-up, designed and directed the activities of the Enel Foundation (www.enelfoundation.org), a non-for-profit entity entirely funded by the Enel Group and devoted to research, institutional capacity building and dissemination in the fields of energy, socioeconomics, sustainable development and innovation. Since June 2015 he is responsible for Strategic Development and International Cooperation at Venice International University (www.univiu.org), a global association of 15 different universities based in Venice) and devoted to education and research on global issues (such as sustainable development, globalization of economy, innovation, ageing, heritage conservation, urban development).

The Certosa island redevelopment:
A public - private partnership for sustainability in the Venice Lagoon

The redevelopment of Certosa Island, located at the heart of Venice Lagoon, is an on-going example of comprehensive project of territorial rehabilitation that, due to the complexity of issues involved, could have only been enabled through a strong interaction among urban stakeholders. The coordination of environmental (land remediation, ecosystem conservation/reconstruction), infrastructural (seawalls, networks, canals, docks/berths), built (demolition and reconstruction of buildings), economic (marina, shipyards, hotel, restaurant) and social (public urban park, community activity program) activities in such a fragile area, exposed to anthropogenic impact in both its natural and historical values, may set a new benchmark for public-private partnership for sustainability.

BENGT-OLOF GRAHN, *Project Manager Environment - Energy, Region of Gotland, Sweden*

Bengt Olof Grahn served as Environmental Technical Consultant at K-KONSULT, a private company in Jönköping Sweden from 1991to 1996. Since 1996 he has been working for the Region of Gotland, helping develop the departments' environmental competence and profile on waste management, public awareness on environmental issues, AGENDA 21 etc. Currently he is project coordinator at the department for technical services, involved in various international projects dealing with energy, water and waste management. Examples of such projects include the SMILEGOV project, a multi-partnership of European islands working towards sustainability and a project partnership between Region Gotland and Kibaha Town Council in Tanzania, on water and solid waste management.

Biogas on Gotland, a beginning of a way into a gas society?

Gotland´s biogas strategy prioritizes biogas solutions, since this represents the most environmentally friendly option for vehicles and transportation. To exploit the potential of biogas production investments are required for additional production and infrastructure. Innovative production methods such as Power to Gas are also on the agenda. The end-users are buses, lorries, cars and two new LNG propelled ferries will be delivered for the routes to main Sweden. LNG or LBG or a mixture will fuel these ships.

PANEL 4: INNOVATIVE TECHNOLOGIES

IOANNIS PROUSALIDIS & DIMITRIOS LYRIDIS, *School of Naval Architecture and Marine Engineering, National Technical University of Athens*

John Prousalidis is an Associate Professor at the School of Naval Architecture and Marine Engineering of the National Technical University of Athens dealing with marine electrical engineering issues

Dimitrios V. Lyridis is an Associate Professor at the School of Naval Architecture and Marine Engineering of the National Technical University of Athens, Head of the Laboratory for Maritime Transport dealing with the areas of Shipping Finance and Economics, Supply Chain Management, Environment, and the Human Factor.

The ELEMED action:
Shipping electrification in the East Med - the beginning and the vision

The aim of this Action is to fulfill all necessary requirements for detailed studies and final assessment related to Cold Ironing in four ports of the Eastern Mediterranean Motorways of the Seas Corridor (Adriatic - Ionian Sea) extending to the Orient East Med sea corridor: Cyprus (Limassol port) – Greece (Port of Kyllini and Port of Piraeus) Slovenia-(Port of Koper) – Greece (Kyllini Port) – (Piraeus Port) – Cyprus (Limassol Port). This undertaking can be achieved by creating a transnational network, bringing together ten project partners from three countries, dedicated to designing and implementing electrical engineering solutions. Moreover, the installation of cold ironing facilities in the four ports of the SGC corridor is assessed and a modern regulatory framework to tackle barriers and encourage the wide use of Cold Ironing will be formulated. Further to the above, part of the scope of the project will be to evaluate the environmental impact of implementing cold ironing (assessing the current status of environmental pollution due to ships vs. the status when cold ironing is implemented), the impact on the electric grids of the three countries participating in the project. Furthermore, the Action aspires to extend the application of these technologies to the most appropriate ports in the region. The investment will require large funds and to this end it is examined what are the appropriate funding and financing tools to be used (for example PPP) and what are the alternatives. The ultimate goal will be to promote shipping electrification; not only cold ironing, but operation of electric or hybrid vessels for small distances complementing the transportation services offered by other low emission vessels operating at alternative cleaner fuels.

ELIZA GAGATSI, *Head of the Intelligent Intermodal Freight Transport & Logistics Unit, Hellenic Institute of Transport (HIT), Centre of Research and Technology Hellas (CERTH)*

Dr. Eliza Gagatsi is a Transportation Engineer (Msc) holding a scholarship awarded PhD in Maritime Policy. She is Senior Project Manager within the Hellenic Institute of Transport & Head of the Intelligent Intermodal Freight Transport & Logistics Unit. She is part of the scientific team of the Hellenic Institute of Transport/ Centre for Research and Technology Hellas since 2004 and has been involved in numerous EC funded and national research projects in the areas of maritime, freight transportation and logistics. Since June 2015, she is the Impact Manager of the Horizon 2020 E-ferry project.

The e-Ferry project

The extended coastlines and the strong islander character of Europe make ferry transportation a critical link for ensuring connectivity and securing economic and social cohesion. Despite the importance of the EU ferry market, the European ferry fleet remains old and in need of new, more energy efficient and environmentally friendly vessels. E-ferry is a Horizon 2020 project involving the design, building & demonstration of a fully electric powered 'green' ferry which can operate with low environmental impact. The e-ferry promotes energy efficiency & zero GHG emissions, making itideal for island communities, coastal zones and inland waterways. E-ferry goes beyond current limitations and is likely to be the ferry with the largest battery pack ever installed in a vessel. The presentation will provide an overview of the project's approach along with the competitive advantages of the new ship design in terms of cost efficiency, speed, departure frequency, capacity, dependability and overall environmental performance.

MARCO LIPPUNER, *Senior Vice President, Infrastructure & Industry Sales, SIEMENS AG*

Marco Lippuner has been with Siemens for more than 24 years, holding several managing positions all over the world. In 2015 he was appointed Senior Vice President Infrastructure & Industry Sales, where he is responsible for driving growth in markets for the Energy Management Division. Prior he managed projects in the corporate M&A department, served as President and CEO in a joint venture in China (2006/07) and CEO in South Africa from 2009 to 2013.

Siemens: innovative solutions for harbors

Siemens is active in the fields of Automation, Electrification and Digitalization. The company offers IT and digitalization solutions like intelligent traffic management systems and integrated truck guide systems that prevent congestion in the hinterland and enhance efficiency in dispatching processes. An innovative microgrid approach integrates renewable energies and optimizes the usage of fossil fuels thus cutting overall annual energy costs, reducing carbon dioxide emissions and improving operational efficiency. Another solution permits ships docked in port to connect to land-based power grids, thus allowing to shut down diesel generators and to cut off the most emissions, fine dust and noise.

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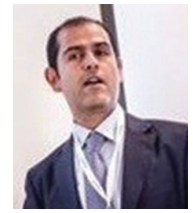

KOSTAS KANELLAKIS, *Marine and Shore Connection Business Development, Schneider Electric*

Konstantinos Kanellakis works for Schneider Electric for the past 9 years and is responsible for the marine and shore connection business development of Schneider Electric in Greece. In the past he has also worked as product application engineer and product manager for a wide range of industrial products. He has extensive experience on energy efficiency solutions for marine applications, with installation of automation systems with variable speed drives. He holds a degree on Electrical and Computer Engineering from Aristotle University of Thessaloniki and a Master in Business Administration from Athens University of Economics and Business.

Shore connection - regulations, benefits, success stories

The presentation will cover a variety of topics on the shore connection solution, such as regulations and standards which currently apply for shore connection systems, costs and benefits for ports and vessels, environmental impact and European Union funding programs. In addition, there will be a technical description of the installation for the port and the retrofit which may be needed on the ship's side, as well as success stories of already installed systems by Schneider Electric all over the world.

PANAGIOTIS MITROU, *Marine Technology & Innovation Manager, Piraeus Business Development, Hellenic Lloyd's S.A.*

Panayiotis Mitrou is the Marine Technology & Innovation Manager for Lloyd's Register in Piraeus. He is involved in technical compliance and advisory especially with respect to Joint industry projects, synergies and co-funding opportunities.

Shipping electrification, turning the zero emission vessel into a Short Sea 'Bridge'

Shipping electrification appears to be the most promising alternative towards low environmental footprint for port operations as well as short sea connections. This presentation aims at presenting the tangible benefits of this technology if it is widely applied in the Eastern Mediterranean region. A review of worldwide studies is given (such as the Juneau and Los Angeles cases in USA, Rotterdam in the Netherlands, Gothenburg in Sweden, Oslo in Norway etc.), based also in the extensive experience of Lloyd's Register in such issues. In this way, the experience gained in terms of technical and economic problems and challenges faced can be drawn. Additionally, alternative electric interconnection solutions are given considering that there is no concrete standardization. To this end, alternative schemes such High or Low Voltage levels, DC or AC technology, static or rotary frequency converter are reviewed. Providing an insight of the elements of currently mature technology along with worldwide applications, societal implications are emphasized with respect to public health, economic growth.

Lloyd's Register

LLOYD'S REGISTER

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Additionally, the potential for island connectivity and mobility of remote communities in conjunction with Greek particularities is given. The objective is to provide an overview of the tools and practices that could boost technology uptake and eventually maximize and bring closer the positive outcomes. Additionally, the potential for island connectivity and mobility of remote communities in conjunction with Greek particularities is given. The objective is to provide an overview of the tools and practices that could boost technology uptake and eventually maximize and bring closer the positive outcomes.

PANAYIOTIS GRAMMELIS, *Senior Researcher, Laboratory of Alternative Fuels & Technologies, Chemical Process & Energy Resources Institute (CPERI), Centre for Research & Technology Hellas (CERTH)*

Dr. Panagiotis Grammelis is Senior Researcher, responsible for the Laboratory of Alternative Fuels and Technologies, in the Chemical Process and Energy Resources Institute of the Centre for Research and Technology Hellas (CERTH/CPERI) since 2005. In the last decade, he has participated as senior researcher or scientific responsible, in more than 70 research projects and engineering studies for energy applications on solid fuels, i.e. biomass/waste and coal. He is a national expert for the standardisation of solid biofuels in CEN/TC 335/WG 2 and member of the Biomass Panel in the RHC-ETP (responsible for industrial boilers and district heating). Member of the Editorial Boards of the scientific reviews, International Journal of Energy Research (IJER) & International Journal of Global Warming (IJGW) and member in scientific commissions of International Conferences (GCGW, EUBCE, WSED). He collaborates with the electricity generation company PPC as an external expert on the utilisation of alternative fuels in the Greek lignite-fired power plants. He has 79 papers published in scientific journals, he has written and edited thirteen books, while he has participated to numerous international conferences, workshops and seminars. His h-index is 20 and has more than 1.281 citations (Scopus – February 2016).

The Archipelago -LNG project- The technological, economic and environmental challenges on the Greek islands

The European Project "Archipelago-LNG", co-funded by 50% from the EU (under the TEN-T program 2007-2013 and in particular the Annual Work Program 2013 of DG MOVE) aimed mainly at providing the Greek authorities with the necessary tools to adopt a regulatory framework for the bunkering and operation of maritime vessels with Liquefied Natural Gas (LNG) as fuel in the Greek Archipelago. The technical and legal aspects were investigated, the project lasted one (1) year and was completed at the end of 2015. The results highlighted the pre-conditions, capabilities and bottlenecks for the LNG growth in the region and the country.

APOSTOLOS BITZAKIS, *President and CEO, TREDIT S.A.*

Mr. Apostolos Bizakis holds a Diploma in Civil Engineering (Aristotle University of Thessaloniki, c. 1994) and a MSc in transport (State University of Kentucky, USA c. 1996). Since 2006 he is partner and CEO of TREDIT SA. Within the last 8 years besides his managerial duties, he has worked in numerous projects in the field of transport planning studies, ITS design and Port MIS System integration deployment activities as either a project manager or a key expert. He is currently Vice-President of the Greek Association of Logistics and Supply Chain Management and member of the Board of Directors of ITS Hellas.

Managing port related freight flows through process optimisation and automation

The presentation proposes a set of ICT systems providing efficiency and optimization in incoming and outgoing flows of port and container terminal operations:

- Gate Appointment Systems enabling the optimization of truck arrival patterns at the gates leading to less congestion at the entrance;
- Automation at the gates, allowing vehicle plate recognition, cargo and driver identification, parking management for safety and optimized operations;
- Interfacing of the above with Traffic Management Centres (in the context of Cooperative I2I Infrastructure-to-Infrastructure solutions) providing real time information on expected outbound flows and the possibility to implement green waves on incoming truck flows.

PANEL 5: PORTS, ISLANDS & SUSTAINABLE DEVELOPMENT

CONSTANTINOS MOUTZOURIS, *Professor, President Regulatory Authority of Ports, Greece*

Prof. Constantinos Moutzouris, currently the President of the Regulatory Authority for Ports of the Greek Ministry of Finance, Infrastructure, Shipping and Tourism, is a Professor of Coastal Engineering and Harbor Works of the National Technical University of Athens (NTUA) and the Director of the Laboratory of Harbor Works of NTUA. He has served as Secretary General of Ports and Port Policy, Ministry of Shipping and Aegean (2012 -2013). Prof. Moutzouris has also served in different positions of the NTUA, among them as Rector of the NTUA (2006-2010). In addition, Mr. Moutzouris is a former Member of the Board,Piraeus Port Authority (12 years), Invited Professor, Hannover University, Germany, and Member of the Council for Public Works, Ministry of Public Works (1998- Present).

A port policy for the Greek islands

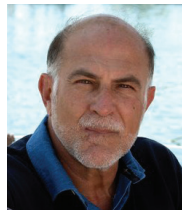
Greece has built in the past too many harbors along its almost 16.500km long coastline. Many of them have considerable technical problems, which need to be urgently solved. A considerable number of harbors were built in the Greek islands in order to obtain "territorial continuity" of the country. However, numerous harbors in the Aegean Sea are not sufficiently protected from wave action and considerable effort is need to make them safer. Further, in a time of harsh economic conditions, the expansion of the existing network of harbors does not seem reasonable. Hence, a new policy framework for harbors in Greek islands must be introduced. The allocation of funds needs to be guided more by qualitative criteria rather than quantitative ones.

GODFREY BALDACCHINO, *Professor of Sociology, University of Malta, President, International Small Islands Studies Association (ISISA)*

Godfrey Baldacchino is Professor of Sociology at the University of Malta; Island Studies Teaching Fellow and designate UNESCO co-Chair in Island Studies and Sustainability at the University of Prince Edward Island, Canada; founding Executive Editor of Island Studies Journal; President of the International Small Islands Studies Association (ISISA); and Chair of the Scientific Advisory Board of RETI, The Excellence Network of Island Universities. His research interests include island tourism and the link between transportation capacity and small island economic development.

Ports, islands and maritime connectivity: A power perspective

The airplane has become the hallmark of travel in the 21st century; but maritime travel continues to remain the cheapest form of transport. This presentation will discuss the critical role played by sea ports and maritime infrastructure in small island development, but with a critical eye towards who actually reaps most of the benefits, and with what results. Shortsea Shipping is an essential part of intra community transport and this is the reason for which Community is taking actions in order to enhance Shortsea Shipping attractiveness and competitiveness. The aim of the presentation is to assess the current state in the European industry, giving emphasis on the Mediterranean Region and particularly on the East-Med and to compare the best practices applied in the North-European states, aiming at strengthening the Shortsea Shipping activity.



GEORGE VERNICOS, *Gen. Secretary, Greek Tourism Confederation (SETE), President, Economic & Social Council of Greece OKETE*

George Vernicos was born in Athens in 1950 in a seafaring family from the island of Sifnos that first began its shipping activities in mid of 19th century in Istanbul and moved to Piraeus in the 1920's. He studied Economics at the University of Athens and University of London. He is currently President of Economic and Social Council of Greece, General Secretary of the Greek Tourism Confederation, Honorary President of the Hellenic Professional Yacht Owners Association, Member of the Board of the Hellenic Chamber of Shipping and Chairman of Vernicos Yachts, the leading yachting company in Greece for sales and crewed yacht charters. He is also Honorary Board Chair of Greenpeace Greece and member of several Organizations and Chambers that aim to the financial, cultural and social recovery of Greece and the defence of the citizens' rights.

Tourism and cruise industry in a greening economy

Fostering the efficiency and competitiveness of port facilities is of paramount importance for cruise lines, requiring continued large-scale investment through the involvement of the public and

private sector. Cruise lines operate in a globally competitive market and the industry is by definition mobile, so it needs a business-friendly environment. Furthermore, the cruise industry and the related shore infrastructures (including marinas) could be part of a general effort to green the tourism sector, reduce harmful emissions and support local sustainable economies especially in islands.

DIMITRIS SPYRIDAKIS, *Board Member of the Hellenic Shortsea Shipowners Association, President of EUROPEAN CO-OPERATION S.A*

Capt. Dimitris Spyridakis is Board Member of the Hellenic Shortsea Ship-owners Association and President of the European Co-Operation S.A. Mr. Spyridakis is active in the shipping industry since 1968, initially as Officer and Captain of Merchant Marine and later as ship-owner. He has long experience in the Black Sea market, and Inland, River & Multimodal Transport (Danube and Rhine) with corporate branches in Romania, Russia and Bulgaria. Moreover, he is active in the field of yachting/ tourism and catering. He is member of the Hellenic Shipbrokers' Association, International Society of Logistics (USA) and Head of the Navigation & Sea-River Trade Sub-Commission of the Mediterranean Community of Transport (CO.ME.TRA).

Short Sea Shipping: challenges and prospects

Shortsea Shipping is an essential part of intra community transport and this is the reason for which Community is taking actions in order to enhance Shortsea Shipping attractiveness and competitiveness. The aim of the presentation is to assess the current state in the European industry, giving emphasis on the Mediterranean Region and particularly on the East-Med and to compare the best practices applied in the North-European states, aiming at strengthening the Shortsea Shipping activity.

MARIA LEKAKOU, *Associate professor, University of the Aegean, Greece*

Dr. Maria Lekakou is Associate Professor of Maritime Economics in the Department of Shipping, Trade and Transport, and Member of the Council of the University of the Aegean. She has gained vast experience in shipping and maritime policy through her role as Advisor to the Minister of Mercantile Marine (1996-2000), member of the National Regulatory Authority for Internal Maritime Transportation (2001-2004) and maritime expert in many national or European bodies. Her research interests cover European Maritime Policy, Greek shipping competitiveness, island transports and cruise tourism.

Developing an islands' connectivity index

Greek coastal shipping plays a critical role in the country's social cohesion and economic development. Assessing the state of play of Greek islands' connectivity represents a complex issue, exacerbated by the current economic crisis in Greece, but also by the lack of a systematic decision making procedure based on monitoring, recording and processing of the available data. The Island Connectivity Index for ferry transportation, with regard to the islands' actual needs, is a useful policy making tool for both the regulator and the operator.