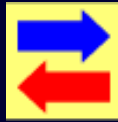




SCHOOL OF NAVAL
ARCHITECTURE &
MARINE ENGINEERING

LABORATORY FOR MARITIME TRANSPORT
NEWSLETTER No 24
January – March 2013



<http://www.martrans.org>



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Dear Reader,

The electronic newsletter of the Laboratory for Maritime Transport (LMT) of NTUA is issued regularly to inform you regarding our current and forthcoming activities. You are warmly encouraged to visit our website (www.martrans.org) for further information and to contact us about your enquiries. Your feedback will be highly valued. Kind regards...

The LMT Staff

SUPERGREEN:

A great finale for a great project



As already announced with our last issue, the final curtain for SuperGreen fell in Gothenburg, Sweden on 11 January 2013. The event was kindly hosted by SuperGreen partner DB Schenker at the Lindholmen Science Park. It included four sessions and a panel discussion and was preceded by an excellent dinner the evening before.

Fleur Breuillin of DG MOVE, the SuperGreen Project Officer, set the scene by focusing her presentation on three subjects:

- **Why SuperGreen?** In order to define the green corridor concept more precisely through a corridor benchmarking methodology using indicators (KPIs) covering major aspects related to transport operations and infrastructure.
- **Potential use of the results:** Improvements in efficiency, quality and environmental performance of freight logistics services, contributing towards achieving the policy objective of the EU (60% reduction of GHG emissions by 2050).
- **What next?** Implementation on transport infrastructure and logistics operations, use in impact assessment of European policies, potential introduction of a green corridor label.

The second presentation of the first session was given by **Harilaos Psaraftis** of LMT, the SuperGreen Project Manager. Following a brief overview of the project, the speaker focused on corridor selection and the benchmarking methodology developed by the project. The importance of stakeholder input through two plenary (Helsinki 2010 and Genoa 2011) and four regional workshops (Naples 2010, Antwerp, Malmö and Sines 2011), the project's Advisory Committee and links with other projects and related activities was underlined.

The second session was devoted to green technologies. **Anders Johnson** of Scania, Sweden presented the strategy of his company which acknowledges that *"sustainable transport is key to Scania's competitiveness and profitability both as a heavy duty vehicle manufacturer ... but also as a transport [service] buyer"*. After stressing that 'mental shift' is the most important element for the development of a green corridor, he presented Scania's solutions concerning vehicle technology, service and maintenance, driver training and biofuels. He also referred to the significant CO2 reduction potential of longer and heavier road vehicles.

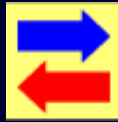
Sara Foza of D'Appolonia, Italy presented in brief the work performed by the project in relation to the identification and benchmarking of green technologies and their potential application in links and nodes of the SuperGreen corridors. About 30% of the 263 technologies examined have been characterised as promising. Among them, those exhibiting the highest potential include the use of hybrid power-trains and aerodynamic drag improvement devices for road transport, braking energy recovery and onboard energy storage systems for rail transport, as well as LNG and exhaust treatment systems for maritime and inland waterway transport.





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Rod Franklin of Kuehne+Nagel, Switzerland opened the third session with a presentation on the role of ICTs on green logistics. They assist logistics companies in greening their operations, he said, through network design tools, sophisticated demand planning and inventory optimisation systems, transport management systems, integrated telematics systems enabling real-time monitoring of vehicle performance, location and positioning, visibility and event management tools and sensor technologies. Unfortunately, though, serious bottlenecks prohibit the realisation of the full benefits of ICTs. The most important among them are:

- low penetration of electronic communication with customers due to trust, time and cost issues;
- lack of standardisation of communication formats;
- lack of interoperability of telematics systems;
- high cost of autoID technologies; and
- high level of sophistication required.

The third session was completed with a presentation of **Harilaos Psaraftis** on the benchmarking results of smart ICTs, produced by examining 15 scenarios covering all SuperGreen corridors, modes and ICT clusters. As examples, he presented the use of expert charging systems for road transport (Brenner corridor), ERTMS for rail transport (Brenner corridor), RIS for inland waterway transport (Strauss corridor) and virtual arrival capabilities connected to single-window systems for maritime transport (Mare Nostrum corridor). His basic conclusion was that ICTs have the potential to make logistics greener and constitute a 'win-win' option for logistics stakeholders through positive impacts on cost, emissions, time, safety and reliability of transport. However, he stressed the critical role of human element, as the potential performance of these systems depends more on the way they are used and less on the systems themselves.

Innovation and policy issues were the subject of the fourth session. **Rein Jürjado** of Vinnova, Sweden and former SuperGreen Project Officer presented the Swedish innovation activities in relation to green corridor development. At the sectoral level and in order to meet the ambitious target of zero CO₂ emissions by 2050, a number of activities have been undertaken including the development of the green corridor concept, the preparation of a handbook and a calculation manual, the creation of an inventory of green corridor projects, the collaboration with EU projects, the organisation of information (demo) days, the alignment with the EU policies, the establishment of a national centre for innovation and research on transport efficiency and, the establishment of the "Forum for innovation in the transport

sector", a joint venture bringing together the industry, academy and government in order to identify and focus on the strategic R&D areas in Sweden.

Even Ambros Holte of MARINTEK, Norway presented the Supergreen recommendations concerning future R&D calls. The increased focus on challenges caused by lack of data and reliable tools, the strengthening of efforts towards integration and implementation of harmonised ICTs, impact studies for assessing potential environmental performance when introducing new ICT and technology solutions and, the development of at least one certified multimodal environmental footprint calculator were among those suggested on top of mode specific ones.

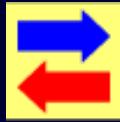
The fourth session was closed by **George Panagakos** of LMT, who gave a presentation on the SuperGreen policy recommendations. He focused on a selection of recommendations including the use of corridor approach in pursuing the targets of the European transport policy and other objectives like the internalisation of external costs, the encouragement of investments in freight villages and urban distribution centres, the collection of statistical information needed to monitor service quality indicators, the review of vehicle dimensions and loading standards, the enhancement of information sharing at a global scale and, the introduction of a standard single digital transport document (e-freight). He then offered a preview of the 'SuperGreen Green Corridor Handbook' focusing on: the characteristics that make an otherwise efficient corridor green, the development, management and monitoring of a green corridor, the role of technology mainly through alternative fuels, energy efficiency improvements and integrated ICTs and, the need for a new business models based on integrated logistics concepts like synchronomodality. The presentation was concluded with underlining the close geographic and conceptual relationship between green corridors and the recently proposed TEN-T core network corridors which, if established, will bring the vision of a green corridor network closer to reality.

The presentations were followed by a panel discussion among distinguished experts representing a variety of stakeholders and green corridor projects. They all agreed that SuperGreen has covered a lot of ground and its results will be of use in the numerous green corridor projects initiated around Europe, some of which are entering the implementation phase.



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The panel discussion. From L to R: Sergio Barbarino, Herman De Meester, Mathias Roos, Jürgen Neumüller, Jerker Sjögren, Pawel Mickiewicz and Wiktor Szydarowski.

The closing speech was given by **Gudrun Schulze** of DG MOVE, who focused on the role of SuperGreen in greening the TEN-T. SuperGreen is a major step towards more sustainable freight transport, she said, as it comprises:

- a comprehensive gathering of "greening" measures for freight logistics;
- an innovator on KPI definition and benchmarking;
- a platform for exchange and knowledge generation between a broad range of actors;
- a merging of different EU policy objectives (RTD, industrial, transport, infrastructure and climate change policies) and of business needs; and
- an excellent opportunity to put results into practice.

After a brief presentation of the latest EU transport policy developments focusing on the TEN-T core network, the speaker emphasized the role of green corridors in deploying new and sustainable fuels and propulsion systems, optimising the performance of multimodal logistic chains and in increasing the efficiency of transport and infrastructure use with information systems and market-based measures. As future actions, Mrs. Schulze suggested:

- using the KPIs in TEN-T corridor planning;
- incorporating the passenger dimension into sustainable corridor planning;
- building on existing initiatives and networks;
- setting up model corridors (call for TEN-T project proposals); and
- developing a "green" (sustainable) planning toolbox.

Other SuperGreen activities

Three days earlier, on January 8, the 3rd annual EU review of the project took place in the premises of DG-MOVE in Brussels. Two external evaluators and the Project Officer had the opportunity to review and comment on numerous reports produced by the project during its final year. The general feedback received was very positive acknowledging significant progress accomplished during the reporting period and the entire duration of the project.

One day prior to the final event, on January 10, the combined 4th General Assembly and 10th Project Management Committee meeting took place at the Lindholmen Science Park in Gothenburg, following an excellent lunch kindly offered by DB Schenker. Given that this was the last private meeting of the project, the discussions basically concerned administrative and financial issues.



Last SuperGreen PMC/GA, Gothenburg, Jan. 10, 2013

A full account of the Gothenburg workshop, as well as all public deliverables of the SuperGreen project can be found by visiting the project's web site

www.supergreenproject.eu



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Dr. Ventikos becomes member of the Hephaestus 2013 Steering Committee at Piraeus



Dr. N.P. Ventikos accepted the invitation to become member of the Hephaestus 2013 Steering Committee of Piraeus. After the success of Hephaestus 2011, Hephaestus 2013 will try to bring Greek manufacturing companies closer to the Chinese shipyards and their operations/orders; the ultimate aim of Hephaestus 2013 is to pave the way for Greek manufacturers into the 'makers list' of the Chinese shipyards. With hundreds of Greek ships currently being built in China, Hephaestus 2013 will disseminate the knowhow, practice and experience of years from the interface with the Chinese shipyards and it will provide to all of its attendees the necessary expertise and competence to get into the 'makers list' and acquire some valuable orders.

Hephaestus 2013 comprises the following events:

- Hephaestus 2013 event, hosted by EPE at Schisto Industrial Park (ViPaS) on March 29, 2013.
- Piraeus workshop (specialized seminar on commercial and marketing topics related to the operations of the Chinese shipyards) on April 19 & 20, 2013.
- Shanghai workshop (a meeting bringing together the Greek manufacturing companies with top level executives from the Chinese shipyards) at the end of May 2013.

The organizers of the Hephaestus 2013 events are the Hellenic Institute of Marine Technology (HIMT), the Marine Technical Managers Association (MARTECMA), the Hellenic Management Association, and for the Shanghai workshop: the Greek Consulate (at Shanghai) contributes accordingly.

TRAINMOS: European MoS knowledge Network



European Commission
Mobility & Transport

European Coordinator of the
Motorways of the Sea



TRAINMOS is a promising effort co-funded by the TransEuropean Network-Transport of the European Commission. Its main aim is training the Human Element for Efficient Freight Transport with Maritime Links. It is a global EU concept that organises the collaboration of European local resources to meet global challenges by adding local EU competences and knowledge in the area of Motorways of the Sea multimodal transport. NTUA participated with one of the seven Pilot Actions, namely Pilot Action 4, "Multimodality and Efficient Shipping". The course is aiming to achieve a holistic education towards an efficient multimodal network design and management. For this purpose a focused and continuous training in human capital in terms of planning, designing and operating efficiently terminals and ships has been set up. In this light the course delivered will be based upon academic knowledge and shipping community's experience and needs and will be subject to continuous updating. Dr. Lyridis is the scientific responsible of the project for NTUA. The course will take place in the Multimedia Building in the National Technical University of Athens. The course is open to all members of the maritime family and all are welcome.

Information and details can be found at

<http://www.onthemosway.eu/trainmos-knowledge-center/>

To follow the event online please visit:

<http://solvico.dialcom.com/portal/join.jsp?sessionID=86343>

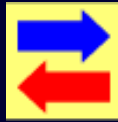
You will need to install a special software. Enter your name and do not change the SessionID (86343). For more information (in greek) see here:

<http://www.martrans.org/trainmos/spontania.pdf>



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IMO business: Expert workshop on the update of the 2009 GHG study

A specialized workshop took place at IMO Headquarters from 26 February to 1 March 2013 under the chairmanship of Mr. Andreas Chrysostomou (Cyprus). More than 100 participants from Member Governments and Observer Organizations attended the meeting. Harilaos Psaraffis attended this meeting as a nominated expert from Greece. Also attending from Greece were Messrs M. Manoledakis and E. Kalyvas of the Greek Embassy in London.

The expert workshop's task was to consider the proposal by the IMO Secretariat as set out in a draft outline for an update of the GHG emissions estimate that was endorsed, in principle, by the Committee at MEPC 64. In essence, the Expert Workshop was tasked to seek agreement on how the updated study should be undertaken and make recommendations to MEPC 65, to be held in May 2013. This would include, among others, an agreement on the methodology for an update of the emissions estimate from international shipping, the underlying core assumptions, the substances for which emissions estimated are to be updated and consequently the data products needed.

Greece contributed to this workshop with a submission which basically presented the merits of a top-down approach, based on fuel sales estimates. After discussion, the expert workshop recommended to MEPC 65 a detailed methodology on how the updated study will be conducted, with a time horizon until MEPC 66 in March 2014. Both top-down and bottom-up (activity based) approaches will be used, with a discussion explaining the possible differences in the results.

Psaraffis interviews on the port of Piraeus (TV and NY Times)

Harilaos Psaraffis was interviewed, among other people, on recent developments and prospects concerning the Port of Piraeus container terminal. The most recent interview was shown on Antenna TV on March 3, 2013. The full show (which is mostly in Greek) can be seen at this link:

http://beta.antenna.gr/webtv/watch?cid=f_ygv_r_z_d_ohx4%3d

An earlier New York Times article on the same subject that also cites Psaraffis can be found at this link:

<http://www.nytimes.com/2012/10/11/business/global/chinese-company-sets-new-rhythm-in-port-of-piraeus.html?pagewanted=all&r=0>

It is reminded that Psaraffis served as CEO of the Port of Piraeus from 8/1996 to 3/2002.

Hong Kong Polytechnic University departmental review

Professor Psaraffis travelled to Hong Kong, China in mid March 2013 to participate in the Departmental Review of the Department of Logistics and Maritime Studies (LMS) at Hong Kong Polytechnic University. Professor Chung-Lun Li is Head of LMS. Psaraffis is serving as Departmental Academic Advisor (DAA) of LMS since 2012 and for a 3-year term. Also participating in the review panel were Overseas Academic Advisors Professors Paul Zipkin of Duke University (USA) and Heather McLaughlin of the Canterbury Christ Church University (UK). Professor Edwin Cheng, Dean of PolyU's Faculty of Business, chaired the review panel.

California TSL workshop



Close to 40 papers are slated for presentation at the second TSL Society Workshop of INFORMS, which will take place June 16-19, 2013, at Asilomar Conference Grounds, Pacific Grove, California, USA. This year the topic of the workshop is Maritime Transportation and Port Logistics. Harilaos Psaraffis is a member of the workshop's organizing committee, and will also serve as guest editor of a focused issue of "Transportation Science" on the same topic. More details on this workshop, including registration information and hotel accommodation can be found at this link:

<https://www.informs.org/Community/TSL/TSL-Workshop>

The deadline for submission of papers to the focused issue is May 31, 2013.

EURO /INFORMS conference

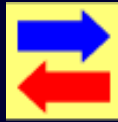


Harilaos Psaraffis has organized and will be chairing two sessions on maritime transportation in the forthcoming joint EURO XXVI-INFORMS MMXIII conference that will take place in Rome, Italy, on July 1-4, 2013. A total of 8 papers will be presented. The conference will take place at the campus of the Sapienza University of Rome.



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Dimitris Lyridis promoted to Associate Professor



Assistant Professor Dimitris Lyridis was promoted to Associate Professor. All of LMT staff warmly congratulate Dimitris, and wish him all the best in his new position.

No. 24 and counting

Editorial by Harilaos N. Psaraftis

Time flies. We have reached newsletter No. 24, spanning 6 years of reporting of our activities. Over the years, the Laboratory for Maritime Transport (LMT) newsletter, produced on a quarterly basis, has been an important tool of the LMT dissemination strategy, with the LMT web site (www.martrans.org), the LMT Annual Report, and the LMT Thesaurus (also known as the 'Bible'), being important complementary tools. The basic philosophy behind the newsletter (and the other related tools) is that nobody has an obligation to know what LMT is doing, in terms of teaching, research, publications, and other activities. If we, the staff of LMT, want other people to know, we need to go out and tell them. The important prerequisite is of course that there is a story to be told, and a substantive one at that. If the opposite is the case, there would be no need for any newsletter. It is my personal belief, and also the belief of the rest of the LMT staff, that such strategy has been a sound one, and that it has served LMT (and, by extension, the School of Naval Architecture and Marine Engineering at NTUA and NTUA itself) well over the years.

After 24 issues of the newsletter, it is now time that newer generations take over. As some of you may already know, I will be moving soon to the Technical University of Denmark (DTU), having accepted a professorship position in transport optimisation at the DTU Department of Transport. I am certain that my LMT colleagues Assistant Professor Dimitris Lyridis (who will be taking over as LMT director) and Assistant Professor Nikos Ventikos, as well as the rest of the LMT staff, will maintain the newsletter as an important showcase of LMT activities. I take this opportunity to thank all contributors to the newsletter thus far and especially Kostas Gkonis, who oversaw its production from No. 1 to No. 17, and Christos Kontovas afterwards.

Life goes on. Let's move on to the next batch of 24!

MEETINGS AND EVENTS

attended by LMT staff

- Supergreen project EU review meeting, Brussels, Belgium, 8 Jan. 2013.
- SuperGreen project PMC/GA meeting, Gothenburg, Sweden, 10 Jan. 2013.
- SuperGreen project final workshop, Gothenburg, Sweden, 11 Jan. 2013.
- WP2 meeting, EC funded project CyClaDes, World Maritime University, Malmo Sweden, 6 Feb 2013.
- 2nd PMC meeting, EC funded project CyClaDes, Instituto Superior Tecnico, Lisbon, Portugal, 21 Feb 2013.
- Expert group workshop on the update of GHG emissions estimate for international shipping, IMO, London, UK, Feb. 26- Mar. 1, 2013.
- IENE's 2nd International seminar on energy and shipping, Athens, Greece, 6 March 2013.
- Hong Kong University Department of Logistics and Maritime Studies Departmental Review, Hong Kong, China, March 17-18, 2013.

PAPERS, PRESENTATIONS & SPEECHES

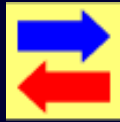
published / presented by LMT staff

- Gkonis, K.G., H. Psaraftis, "Modelling tankers' optimal speed and emissions," proceedings, Annual Meeting of the Society of Naval Architects and Marine Engineers, Providence, RI, USA, Oct. 2012.
- Lyridis, D.V., Zacharioudakis, P.G., Iordanis, S., Daleziou, S., "FreightForward Agreement Timeseries Modeling Based on Artificial Neural Network Models", Journal of Mechanical Engineering, (to appear in) 2013.
- Lyridis, D.V. and Kontovas, C.A., "Shipping Carbonomics," Carbon Management, Vol. 4, No. 1, pp 9-11, 2013, Future Science Ltd.
- Psaraftis, H.N., "IMO developments on GHGs", IENE's 2nd international seminar on energy and shipping, Athens, Greece, 6 March 2013.
- Ventikos N.P., Louzis K., Koimtzoglou A. (2013), "The Shipwrecks in Greece are Going Fuzzy: A Study for the Potential of Oil Pollution from Shipwrecks in Greek Waters", Human and Ecological Risk Assessment: an International Journal, Taylor & Francis, vol. 19, Issue 2, pp. 462-491.
- Ventikos N.P., Stavrou D.I. (2013), "Submarine power cables: laying procedure, the fleet and reliability analysis", Journal of Marine Engineering and Technology, IMarEST Publications, vol. 12, Issue 1, pp.13-26.
- Ventikos N.P., Chatzinikolaou S.D. (2013), "Envshipping project: the total environmental footprint of ships", Ecotec, Issue of Jan, pp. 40-41.



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PICTURE GALLERY



Fleur Beullin, SuperGreen Project Officer, talking at the SuperGreen final workshop, Gothenburg, Jan. 11, 2013



LMT pitta cutting event, Feb. 14, 2013



IMO expert group workshop on the update of the GHG study: the view from the desk of the Greek delegation. Feb. 26, 2013.



Gudrun Schulze of EU DG-MOVE (TEN-T) delivers the SuperGreen workshop closing speech.



PolyU LMS Departmental review panel, Hong Kong, March 18, 2013.