

Malmö 141121

Svenskt Gastekniskt Center AB Dr. Mattias Svensson 040-680 07 62 FOKUSGRUPPERNA

# Rapport från konferens: 3rd Annual Small-scale LNG Forum

## Bakgrund

Mattias Svensson deltog å SGC:s vägnar i konferensen *3rd Annual Small-scale LNG Forum* som ägde rum i Rotterdam, Holland 141105–141106. Ungefär 50 personer deltog på konferensen, med deltagare från hela Europa.

## Det talades om

Initierat om small-scale LNG-marknadsstatus, fokus på sjöfart, speciellt inlands vattenvägar. Alla ense om behovet av hur både marknad och kunder behöver lära sig mer för att marknaden ska växa. Pionjärsprojekten viktiga för att lösa problem och samtidigt få andra aktörer/kunder att följa efter. Innehåll konferens: Uppdateringar från större aktörer som Shell, Vopak, GLE och IMO; uppdateringar från teknikleverantörer rörande bunkringsteknik och volymsmätning; Info fr pågående EUprojekt, och fallstudier/praktiska erfarenheter.

TEN-T-medel 2014-2020 är framtungt så missa inte första utlysningens deadline 26 februari! IMO:s ECA-områden tros i sinom tid också omfatta PN och CO2. I Europa kommer EU-reglering leda till ECA-liknande områden längs hela Europas kustlinje från 2020. För inlandsvattenvägar är emissioner motsvarande Euro VI på förslag.

Påslag nybyggnad LNG-drift 8-15 % - lägre underhållskostnader jämfört med HFO, indikation att det är något mindre kostnad också för MDO. HPDI-fördelar: bara 0,5 % av bränslets energi för tryckhöjning mha kostnadseffektiva modulära lösningar; små metanslipp; dubbelrörsdragning enklare (mindre diameter)

## Intressanta bidrag

Bland många intressanta föredrag noteras särskilt följande:

- 1. Latest developments of the LNG world Joop Jonkers (Dietrich Gerstein), VOPAK
- 2. Small-Scale LNG Market Trends in Europe Kwinten Standaert (Pieterjan Renier), GLE Vice-President
- 3. Economical impact of environmental regulatory framework Per Magne Einang, Marintek (översikt IMO-regler och initierat om motoralternativ)
- 4. European Union LNG infrastructure funding opportunities Manfred Seitz Pro Danube Management (*TEN-T-möjligheter deadline 26 feb!*)
- 5. Contribution of LNG use for the safe and sustainable operation of German gas networks Alexey Mozgovy (*L-gasförsörjning via LNG; kryogen uppgraderings-pilotprojekt*)

Postadress och Besöksadress Nordenskiöldsgatan 6 211 19 MALMÖ *Telefonväxel* 040-680 07 60

*Telefax* 0735-279104 E-post info@sgc.se

Hemsida www.sgc.se

# Konferensmaterialet

Konferensprogrammet återfinns nedan. Presentationer av intresse kan erhållas vid förfrågan från mattias.svensson@sgc.se.



# **3** *rd Annual* SMALL - SCALE **LNG FORUM**

5<sup>th</sup> - 6<sup>th</sup> November 2014, Novotel Rotterdam Brainpark Rotterdam, The Netherlands

# With a Special Focus on LNG as a Fuel for Water Transportation

## INTRODUCTION

Join us at the **3<sup>rd</sup> Annual Small-Scale LNG 2014** in Rotterdam, at the core of the small-scale LNG business, discuss current trends, meet your future business partners and let's find applications for latest technology, solutions for augmenting your business while mitigating the environmental challenges through LNG.

## "LNG, THE FUEL OF YOUR BUSINESS!"

silver sponsors:





#### promotional sponsor:



endorsing partners:







# **OUR CONFIRMED SPEAKERS**

LAURAN WETEMANS Shell, Netherlands, General Manager Downstream-LNG

LAURENT RAMBAUD GDF SUEZ LNG, France Vice President Business Development Retail LNG

HIROYUKI YAMADA International Maritime Organization, Head of Cargoes Division, UK

KATJA BAUMANN Mariko GmbH, Germany Deputy Managing Director, Coordinator LNG Initiative Nordwest

#### ERIK BÜTHKER European Standards Organization for Biomethane, Netherlands Chairman

PER MAGNE EINANG Marintek, Norway Energy systems and Technical Operation Research Director

DIETRICH GERSTEIN Vopak, Netherlands Global Director LNG

ANKIE JANSSEN Port of Rotterdam, Netherlands Business Developer Gas & Power

ROB VAN REEM STC B.V., Netherlands Deputy Director

PIETERJAN RENIER GIE Gas Infrastructure Europe, Belgium GLE Vice-President

JEFFREY M. SEISLER Clean Fuels Consulting Belgium, CEO PEDRO AMARAL FRAZÃO Grupo Sousa, Portugal GASLINK Director & COO

JESPER ENGSTRAND Swedegas, Sweden Business Development Manager

FEIKJE WITTERMANS Vopak, Netherlands Business Development Manager

MANFRED SEITZ Pro Danube Management, Austria, Coordinator LNG Masterplan

MATTIAS SVENSSON Sweden Gas Technology Centre, Sweden Programme Manager

KHALID TACHI EICB, Netherlands Managing Director

**ROBERT TIEMAN Deltalings, Netherlands** Policy Advisor Environmental Affairs, Netherlands

BJÖRN VAN DE WEERDHOF Anthony Veder Group N.V. Netherlands Business Development Manager

PIET TEL Cryonorm Systems B.V. Netherlands, Owner

CHRISTIAN SATORIUS, ARTA Germany, Project Manager

ALEXEY MOZGOVY Gas and Heat Institute Essen, Germany Project Manager Gas Supply

LEO VAN DER BURG Mariko, Netherlands Project Manager

## **ADVISORY COMMITTEE**

GUNNAR HELMEN, Skangass, Norway Key Account Manager ANKIE JANSSEN, Port of Rotterdam, Netherlands

Business Developer Gas & Power **PIET KAGER, Gasunie, Netherlands** Senior Project Manager for LNG

### **REASONS TO ATTEND:**

- Be **informed** about most up to date global and **regional developments** in the LNG industry
- Discover working Small-Scale LNG distribution and bunkering of marine fuel projects
- Benefit from first-hand experience gained by shipowners, port operators and leading technical and regulatory experts
- Build commercial partnerships across the supply chain to ensure fuel security, delivery and cost competitiveness of your LNG project
- Learn about vital updates on the safety, operational, standardisation and environmental regulations directly from responsible persons
- Discover latest case studies of LNG distribution and bunkering solutions for reliable LNG delivery to marine customers
- Evaluate the **most robust**, efficient, and **cost competitive** LNG equipment designs
- Find out **strategies for subsidising** your project operations towards efficiency and profit
- Maximise your networking opportunities with senior managers involved in the LNG supply chain

## DISTRIBUTION OF PARTICIPANTS FROM THE SMALL-SCALE LNG FORUM 2013:

## **Distribution by Position**

- O C-level / Heads / Directors: 45 %
- O Managers: 25 %
- Engineers: 8 %
- Consultants, Advisors, Experts, Researchers: 15 %
- Others: 7 %

## **Distribution by Region**

- O Western Europe 55 %
- Southern Europe 8 %
- Central and
   Eastern Europe 28 %
- Rest of the World 9 %



#### MANFRED SEITZ, Pro Danube Management, Austria Coordinator LNG Masterplan

#### **ROBERT TIEMAN, Deltalings, Netherlands** Policy Advisor Environmental Affairs

KARINA WIESELER, Bremenports, Germany Port Development

## **KEY BENEFITS:**

- ✓ Integrate LNG as fuel into your operations
- Meet and Learn from the world's leading operational LNG Marine Vessel Owners
- ✓ Discuss directly with Regulatory Officers
- Develop a Solid Business Model based on Case studies
- Enjoy 10+ hours of professional networking

## WHO WILL ATTEND:

Senior Management of LNG producers/distributors, Owners and operators of LNG carriers, Ship designers and shipyards, Builders of tanks and gas fuel systems, Port Authorities

Directors and Engineers of Port and terminal operators, Charterers, Engine and Propulsion manufacturers, Production, Pricing, Trading managers

Class societies and regulators, Financial Institutions, Governmental Representatives, Researchers and consultants, Analysts and Advisors from Industry Associations and Institutes

# TESTIMONIALS FROM THE SMALL-SCALE LNG FORUM 2013 ATTENDEES:

"Very expository interesting topics and presentations. Hope to attend again next year!"

#### Topgas Global Investments, CEO, Nigeria

"Excellent opportunity to keep us updated on these subjects, good time for exchanging valuable information and excellent organisation, thank you."

GTT, Program Director LNG Bunkering, France "Gave us interesting networking opportunities!"

Gasunie, Project Manager, Netherlands

"You provided a great overview of current status and developments in small-scale LNG. Do the same next year – great mix of topics!"

Gas Infrastructure Europe, Vice-Executive Secretary, Belgium

"I really appreciate your organisation, commitment and professionalism."

Adriatic LNG, Commercial Director, Italy

"Thank you very much for the excellent organisation of the event!"

ProDanube International, Senior Project Manager, Austria

"Thanks and congrats to the organisation!" DufEnergy, Head of LNG, Switzerland

# DAY 1 | 5<sup>th</sup> NOVEMBER 2014

#### 8:30 REGISTRATION

#### 9:00 OFFICIAL OPENING OF THE EVENT BY THE PORT OF ROTTERDAM REPRESENTATIVE

# GLOBAL AND EUROPEAN SMALL-SCALE LNG MARKET TRENDS

#### 9:10 KEYNOTE PRESENTATION: LATEST DEVELOPMENTS OF THE LNG WORLD

- Production sites of LNG across the globe
- Overview of regional developments
- Price dynamics

#### DIETRICH GERSTEIN, Vopak, Netherlands Global Director LNG

#### 9:30 LNG – THE FUEL OF TRANSPORT

#### • From Vision to Reality

- Global overview of the use of LNG as fuel
- Supply dynamics

#### LAURAN WETEMANS, Shell, Netherlands General Manager Downstream-LNG

#### 9:50 SMALL-SCALE LNG MARKET TRENDS IN EUROPE

- Drivers of the small-scale LNG development
- Supply dynamics and long term contracts
- Investments in small-scale LNG infrastructure

#### KATJA BAUMANN, Mariko GmbH, Germany Deputy Managing Director

Coordinator LNG Initiative Nordwest

#### PIETERJAN RENIER, GIE Gas Infrastructure Europe, Belgium, GLE Vice-President

LEO VAN DER BURG, Mariko, Netherlands Project Manager

#### 10:30 MORNING NETWORKING OVERA CUP OF COFFEE 🖵

#### LNG AS MARINE FUEL – END USERS' PERSPECTIVE

#### 11:00 ECONOMICAL IMPACT OF ENVIRONMENTAL REGULATORY FRAMEWORK

- Emission control zones, how binding they are?
- Operational costs
- Use of multiple fuels

#### PER MAGNE EINANG, Marintek, Norway

Energy systems and Technical Operation Research Director

#### 11:30 LNG – THE FUEL OF INLAND SHIPPING

- Transport of LNG in inland waterways in Europe
- Use of LNG as fuel for inland vessels
- Potential for the growth

KHALID TACHI, EICB, Netherlands Managing Director

# 12:00 CASE STUDY: THE LNG BUNKERING VESSEL IN ZEEBRUGGE

- Spotlight on successful cooperation between GDF SUEZ, NYK and Mitsubishi in development of LNG as marine fuel worldwide
- First project in the Northern Europe Emissions Controlled Area (ECA) from Zeebrugge, in Belgium
- First LNG bunkering vessel ordered to Hanjin Heavy Industries & construction
- First LNG bunkering supply contract between GDF SUEZ and the shipping operator UECC

LAURENT RAMBAUD, GDF SUEZ LNG, France Vice President Business Development Retail LNG

#### 12:40 LUNCHEON

#### 14:00 LNG BUNKERING AND MARINE FUEL SYSTEMS – LESSONS LEARNED

- MID fiscal flow metering
- Maintaining LNG tank pressure during heavy seas
- SIL studies versus availability of products in the market

PIET TEL, Cryonorm Systems B.V., Netherlands Owner

#### **REGULATORY CORNER**

#### Moderator: JEFFREY M. SEISLER Clean Fuels Consulting, Belgium, CEO

# 14:30 IMO'S REGULATIONS ON LNG – SOLAS, IGC CODE AND IGF CODE

- Outline of regulatory frame related to LNG
- Revised IGC Code (International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk)
- Draft IGF Code (international code of safety for ships using gases or other low flashpoint fuels)
- LNG and MARPOL (environmental regulations)

HIROYUKI YAMADA, International Maritime

# **Organization,** Head of Cargoes Division, UK

#### 15:00 SAFETY STANDARDS REGARDING LNG USE

- Standardisation of safety procedures of bunkering
- Interview: Answering details
- Delegate inquiries

ANKIE JANSSEN, Port of Rotterdam, Netherlands Business Developer Gas & Power

#### 15:30 AFTERNOON NETWORKING WITH TEA AND COOKIES

#### 16:00 ROUND-TABLE DISCUSSION

Discussion Leader:

**ROBERT TIEMAN**, **Deltalinqs**, **Netherlands** Policy Advisor Environmental Affairs

- 1. To encourage discussions and learning opportunities, the delegates will split in four groups of round-tables. Each round-table has approximately 30 minutes to discuss the topic
- 2. 5 minutes presentation of conclusions delivered by discussion leaders.
- Are regulations boosting or slowing down the growth of LNG market
- Cooperation between stakeholders on small-scale LNG projects
- The First Mover Advantage Limits of Parallel Investments
- Decline of prices of LNG technological solutions Are lowest investments consistent with lowest operational costs?

#### 16:40 CLOSING REMARKS FROM THE CHAIR

#### 17:00 SPEAKERS AND DELEGATES ARE CORDIALLY INVITED TO ATTEND NETWORKING COCKTAIL RECEPTION

# DAY 2 | 6<sup>th</sup> NOVEMBER 2014

9:00	OPENING REMARKS FROM THE CHAIR:	12:40	
	COMPETITIVENESS OF LNG OPERATING PERSONNEL		AVAILABILITY AND QUALITY CORNER
9:10	<ul> <li>Harmonization of Education for LNG Personnel</li> <li>Competitiveness in bunkering</li> <li>Standards of Training and Certification for Personnel in Inland Navigation</li> <li>Safety regulations in practice</li> <li>ROB VAN REEM, STC B.V., Netherlands, Deputy Director</li> </ul>	14:00	<ul> <li>The technology and economy of liquefied biomethane production         <ul> <li>Carbon footprint of biomethane</li> <li>Overview, LNG powered truck engine technologies</li> <li>Bio-LNG use in maritime transport?</li> </ul> </li> <li>MATTIAS SVENSSON, Programme Manager Sweden Gas Technology Centre, Sweden</li> <li>4:30 Gas Quality and Availability         <ul> <li>Solutions for adaptable supply chain</li> <li>Infrastructure of LNG refuelling stations</li> <li>Technical adjustments coping with the gas quality</li> <li>European standards use of biomethane as a fuel</li> <li>Solutions for trucks and LNG use</li> </ul> </li> <li>ERIK BUTHKER, European Standards Organization for Biomethane, Chairman, Netherlands</li> <li>5:00 Contribution of LNG use for the safe and sustainable operation of German gas networks</li> <li>Predicted reduction of low calorific gas imports from the Netherlands and of German gas production as a driver for acceleration of the LNG use as an energy carrier in the gas network</li> <li>Ballasting of LNG with nitrogen with subsequent substitution of low calorific gases by it in the gas network as an alternative for the gas market conversion</li> </ul>
9:40	Case Study: Import terminal for LNG in Gothenburg Harbour  General development in small-scale LNG Why Gothenburg? Market outlook / potential end users and aggregators Status of terminal project JESPER ENGSTRAND, Swedegas, Sweden Business Development Manager FEIKJE WITTERMANS, Vopak, Netherlands Business Development Manager	14:30	
10:10	<ul> <li>A shipping owner &amp; operator perspective on Small Scale LNG Shipping and Bunkering</li> <li>Operational experience with and lessons learned from first small scale LNG carriers in the Europe</li> <li>Developing small scale LNG projects</li> <li>Opportunities &amp; challenges for the future</li> <li>BJÖRN VAN DE WEERDHOF, Anthony Veder Group N.V., Netherlands, Business Development Manager</li> </ul>	15:00	
10:40	MORNING NETWORKING OVER A CUP OF COFFEE		LNG Roadmap for Germany: demand analysis, delivery ways, industry use, public relations work
11:10	Madeira Island Case Study The Virtues and Difficulties of Delivering 450GWh/year Through a LNG Virtual Pipeline PEDRO AMARAL FRAZÃO, Grupo Sousa, Portugal GASLINK Director & COO	15.20	Small scale LNG plants as a German own source of LNG production: their contribution to the transportation sector and to the gas network's operation     ALEXEY MOZGOVY, Gas and Heat Institute Essen,     Germany, Project Manager Gas Supply
11:40	<ul> <li>European Union LNG infrastructure funding opportunities</li> <li>Practical experience from TEN-T application procedures</li> <li>Horizon 2020 and recent trends in EU subsidies</li> <li>Questions &amp; Answers</li> <li>MANFRED SEITZ, Pro Danube Management Coordinator LNG Masterplan, Austria</li> <li>SAFE TRANSFER SYSTEMS FOR BUNKERING AND REFUELLING OF LNG</li> </ul>	<ul> <li>15:30 AFTERNOON REFRESHMENT AND NETWORKING BREAK</li> <li>16:00 WRAP-UP PANEL DISCUSSION:</li> <li>Conversion to LNG - Fuel for your business</li> <li>Prerequisites for Boosting the LNG as Fuel for Marine Transport</li> <li>First Mover Advantage in practice</li> <li>Cost-efficient Converting of Vessels</li> <li>Smarter and Cheaper Solutions for New-comers to the LNG transportation</li> </ul>	
	<ul> <li>Solutions and Products</li> <li>ARTA ASK-TT Dry Break System for safe connection</li> <li>ARTA NTS-TT Break Away System protection of the loading system in case of unintended pull aways</li> <li>ARTA SHS / HHS Hose Handling System for a comfortable loading</li> <li>CHRISTIAN SATORIUS, ARTA, Germany Project Manager</li> </ul>	16:30	CLOSING REMARKS FROM THE CHAIR
Media Partner: Interyfax Mobility Natural Gas Daily Mobility SAFETY4SEA Sasworld			
Little Transpert         Interefax           Global Gas Analytics         SHUP_SHORE         Portneys         Sustainableshipping			

BOOKING LINE: Tel.: + 421 257 272 165, Fax: + 421 255 644 490, Email: michal.krajci@flemingeurope.com, www.flemingeurope.com

# OUR SPEAKERS



#### BAUMANN MARIKO GMBH

Deputy Managing Director, Coordinator LNG Initiative Nordwest, Germany

After graduating as environmental scientist, Katja Baumann worked 10 years at FORUM GmbH in Oldenburg as project manager for urban development, planning and climate protection/energy efficiency. Since 2012 she works at MARIKO GmbH in Leer as a project leader for MariTIM, which is the abbreviation of ,Maritime Technologies and Innovations - Model Region Germany/The Netherlands'. This project is cofinanced with the framework of the European Union INTERREG 4A program. Main goals of MariTIM are the research and development of new propulsion technologies for the ships of tomorrow. In the center of interest are coastal shipping and the operation of passenger and inland vessels. A substantial part of the project is the use of LNG (Liquefied Natural Gas). To analyze the LNG-potentials (implementation possibilities, infrastructure, actors/stake-holders), create economic advantages and organize know-how-transfer Mariko realized the "LNG-Initiative Nordwest", in which more than 30 German and Dutch partners along the "LNG-chain" are involved.



# **MARIKO, NETHERLANDS Project Manager**

Leo van der Burg started his career in 1992 with working several years as a second degree teacher mechanical engineering. After that he worked 4 years as project manager in the laser welding technology at Laser Centrum Friesland, continued by 3 years as a project leader high power laser welding technology for the (automotive) industry at AWL in Harderwijk. Thereafter, in 2006, Leo van der Burg started to work as a project manager at TechnologyCenter for the Northern Netherlands where he managed projects for the maritime and yacht building industry. Since 2013 he is working at NHL Hogeschool / Maritiem Instituut in Leeuwarden. Besides the responsibility for projects such as MariTIM - LNG Passenger Vessel (an Interreg IVa project for the development of new propulsion technologies using LNG), Leo van der Burg is involved in the project "LNG-Initiative Nordwest", and is partly working for Cofely West Industrie BV Marine & Offshore Gdf Suez Energy Services



EUROPEAN STANDARDS **ORGANIZATION FOR** BIOMETHANE

Mr. Büthker - has been involved in natural gas as a motor fuel for a long time. As chairman of the Dutch standardisation committee for Natural gas refueling stations and chairman of the european standards organisation

Chairman, Netherlands

for biomethane he is involved in the national and international standardisation. Nowadays, Erik is working at CNG Net and LNG 24 subsidaries of Ballast Nedam. CNG Net is setting up a network of CNG refuelling stations in The Netherlands for public refuelling and carries out the exploitation of the stations. CNG Net is responsible for all the activities from Design, Build, Finance, Maintain and Operate (DBFMO) of a network of 65 refuelling stations in The Netherlands. This includes also six bus refuelling stations, one with a capacity of 250 busses. At the moment his activities consists of setting up projects for LNG and bio methane as fuel for busses trucks and ships.



**MARINTEK, NORWAY Energy systems and Technical** Operation Research Director,

#### TBA



SWEDEGAS, SWEDEN **Business Development Manager** 

Jesper Engstrand (Swedegas AB) has worked within the energy industry since late 90's both on the commodity and with the infrastructure and gained experience particularly within Business Development and Key Account Management. 2004-2010 Jesper worked for DONG Energy with sale and business development and in 2010 he joined the Swedish TSO Swedegas as Business Development Manager with a main focus on LNG. Apart of this Jesper is also part of the IGU working group for small scale LNG.



Capt Pedro Amaral Frazão was born in Angola on the 19th July 1964. After serving the Navy for 30 years in several national posts and abroad, retired from active military duty on completion his last appointment as Madeira Maritime Commander and Funchal Port Captain. Consultant on maritime logistics and port operations, maritime safety and security, Civil Emergency Planning, Civil Protection and Energy, acted as Grupo Sousa senior project team manager for the LNG virtual pipeline implementation to supply Madeira Electricity Company's Vitória Thermo Electric Power Plant (CTVIII). Capt Pedro Amaral Frazão is GÁSLINK Director & COO and Grupo Sousa representative for international markets.

VOPAK

Global Director LNG, Netherlands

Dr. Dietrich Gerstein serves for more then 20 years in the European Natural Gas business and held various positions in the leading German gas company Ruhrgas, later E.ON Ruhrgas. In his role as Senior Vice President LNG at E.ON Ruhrgas he gained in depth knowledge in international LNG markets. In 2013 he was appointed as Global Director LNG at Royal Dutch Vopak and Managing Director of Vopak LNG.



PORT OF ROTTERDAM Business Developer Gas & Power, Netherlands

tba



#### ALEXEV MOZGOV **GAS AND HEAT INSTITUTE ESSEN, GERMANY** Project Manager Gas Supply

Alexey Mozgovoy is Scientist and Project Manager Gas Supply in the Division Fuel and Appliance Technology at the und Wärme-Institut Essen e.V. Gas-Alexey has spent 14 years studying gas network construction, operation and fuel gas sources in Germany and in Russia. He is an expert in monitoring and verification of LNG-projects and strategy of the LNG-use in Germany, as well as in Central Europe, Baltic States and CIS. He is a member of the German Technical and Scientific Association for Gas and Water's (DVGW) and works actively on national regulations on fuel gases and appliances distributing them.



**GDF SUEZ LNG, FRANCE** Vice President Business **Development Retail LNG** 

Laurent Rambaud holds a master's degree in Mechanical Engineering from ENSTA Bretagne (France), and started his carrier 2001 at Gaztransport & Technigaz (GTT). He joined GDF SUEZ in 2008 at the LNG Shipping Department where he became responsible for commercial activity. In 2012, he became in charge of business development for Retail LNG, when this new activity was created within GDF SUEZ for developing sales of LNG in small lots, either for fuelling ships, vehicles or for distribution to remote customers. In his current position of Vice President Business Development Retail LNG, he is in charge of developing the LNG bunkering activity, with a first achievement when ordering the first LNG Bunkering Vessel for Zeebrugge market.

# **OUR SPEAKERS**



#### ROB VAN REEM STC B.V., NETHERLANDS Deputy Director

STC B.V. provides tailor made training and education for the complete logistics chain, offshore, dredging, shipping, maintenance and process industry. Therewith STC B.V. contributes to optimisation of human capital and increases reliability, efficiency, safety and profitability of the sectors stated above. STC B.V. offers worldwide consultancy services for these sectors as well.membership of professional bodies:

Secretary and treasurer of the association Education in Inland Navigation (Edinna);

Member of the Examination Board for Teacher Training in Inland Navigation;

Member (Vice Chairman) of the Committee of Industry and Education for Inland Navigation;

Chairman of the section Gelderland of the Dutch Royal Skipper Society "Schuttevaer";

Member of the Inland Shipping Safety Committee (advisory board of the Minister of Infrastructure and Environment;

STC Project manager of various EU projects of STC Group such as Platina I and II, Marco Polo, LNG Masterplan.

STC Project manager of various Netherlands Initiative for Capacity development in Higher Education programmes in Egypt, Brasil, Paraquay and Vietnam (establishment of Inland Navigation Colleges).



PIETERJAN RENIER GIE GAS INFRASTRUCTURE EUROPE GLE Vice-President, Belgium

Pieterjan Renier holds a Master Degree in Mechanical Engineering from the university of Leuven (Belgium), has a Master Degree from the Vlerick Management School and a Master Degree in Law from the university of Ghent. He joined Fluxys 8 years ago, where he became responsible for LNG related regulatory aspects. Later on Pieterjan became in charge of LNG business development at the Zeebrugge LNG terminal, introducing ship loading, berthing of small scale LNG carriers and LNG truck loading, as well as the further capacity extension of the Zeebrugge LNG terminal. He was also in charge of the participation by Fluxys in the Dunkirk LNG terminal project. In his current position as Sales Manager, he is in charge for the commercialization of transmission, storage and LNG capacities. Recently he was appointed as Vice-President within GLE, responsible for small scale LNG.



CHRISTIAN SATORIUS ARTA, GERMANY Project Manager

Education: MFH Iserlohn Germany - studies in applied opto physics and electronics Boston University USA - student exchange programme applied physics Hochschule Karlsruhe Germany - research programme electronics and communication MFH Iserlohn Germany Master of Applied Physics Skills: Expert Skills in Project Management, FAT, Quality and Reasearch and Development - Loading, Transfer, Sampling, Analysis Company: ARTA GmbH & Co. KG Employed: since 01/2009 Position: Project Manager / Sales Manager



Manfred Seitz started his professional career in traffic & transport engineering and then moved to the Austrian Ministry for Science & Transport being in charge for the development and implementation of transport technology programmes.

In 1999, he led the foundation of via donau, a subsidiary of the ministry. In 2005, via donau became the Austrian national waterway organisation by merging infrastructure operation and all development activities. As managing director, Manfred Seitz was responsible for all matters of navigation & technology until the end of 2009. He initiated more than thirty projects in various EU programs and was a driving force for many national and European policy initiatives.Since 2010 he owns and manages Tethys Consulting GmbH. As from September 2011 he acts also as General Secretary of Pro Danube International which is a network of private businesses promoting a more competitive Danube logistics system.



MATTIAS SVENSSON SWEDEN GAS TECHNOLOGY CENTRE, SWEDEN Programme Manager

Mattias Svensson (M.Sc. Chem. Eng., PhD high-solids AD) is since six years responsible for gaseous transport fuels applications at the Swedish Gas Technology Centre, owned and assigned by the Swedish gas utilities to coordinate Swedish industrial interests in RDD concerning gas fuel technology. In addition he is the appointed coordinator of biomethane issues within NGVA Europe, and appointed Swedish expert in the standardization body CEN/TC408 (Natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid).



JEFFREY M. SEISLER CEO, BELGIUM Clean Fuels Consulting

Dr. Jeffrey M. Seisler is the Chief Executive Officer (CEO) of Clean Fuels Consulting with offices in Brussels, Belgium and Washington, D.C. Clean Fuels Consulting is a private company whose mission is to facilitate the commercialization of clean fuels and technologies, doing lobbying, expert consulting, analysis, communications, training and workshop development.

Dr. Seisler was the founding Executive Director of the European Natural Gas Vehicle Association (ENGVA) based in the Netherlands starting in July 1994 through September 2007. He was the founding Executive Director of the Natural Gas Vehicle Coalition (NGVC) in Washington, D.C. starting in August 1988 until July 1994 when he left for Europe to start ENGVA. He was one of the founders of the NGV Global, the International Association for NGVs in 1986. He served as its president from 1998-2002, and was an active member of the Executive Committee from 1990 to 2008. As a consultant to NGV Global and other clients he continues to do regulatory and lobbying work at the United Nations and the European Commission where he is a recognized champion of NGV development.

Dr. Seisler has been active with energy, environment, alternative fuels and new technology commercialisation issues since 1976. He has authored several hundred articles and monographs on a wide variety of energyrelated topics for newspapers, magazines and journals worldwide. He received his M.Sc. and Ph.D. from the University of London (England) in international relations, decision making and communications and earned his B.Sc. in International Affairs from the George Washington University in Washington, D.C



KHALID TACHI Managing Director EICB, Netherlands

Khalid Tachi is managing director of the EICB and is also innovation consultant at the EICB involved with the research, development and implementation of new and innovative Technologies for inland ships and inland ports project.

Khalid is involved with many IWT LNG project including the "ARGONON" and the refit of the "EIGER".

He is the initiator and the project leader the "Inland Navigation Lab" to develop affordable en generic emission reductions solutions for IWT fleet. (including LNG). Khalid is building an LNG IWT knowledge Centre (KEC). On European level Khalid is a member of the TP Waterborne on behalf of the European Barge Union and his is also a board member of the Dutch department of PIANC with an important network.

# **OUR SPEAKERS**

- As project manager Khalid is planning, executing and finalising projects according to the deadlines.
- As Innovation Consultant at the EICB he is involved with the research, development and implementation of new and innovative Technologies for inland ships and inland ports.
- As Director he manages the organisation of in total 10 employees.
- Project manager of "Inland Navigation Lab" to develop affordable en generic emission reductions solutions for IWT fleet. (including LNG)
- Project manager of "KEC": LNG IWT knowledge Centre
- Project leader of IDVV "clean inland vessels" developing policy option to speed up the greening of the IWT fleet.
- Project leader of the stimulation of IWT by the Port of Rotterdam
- WP leader of dissemination of the FP7 inland waterway project "Move-It"
- Member of the TP Waterborne on behalf of the European Barge Union
- Board Member of the Dutch department of PIANC



**CRYONORM SYSTEMS BV** Owner, Netherlands

Piet Tel is owner of Cryonorm Systems BV, working in industry over 25 years.



**DELTALINQS, NETHERLANDS** Policy Advisor Environmental Affairs

Robert Tieman graduated from the Naval Academy in 1999 with a Bachelor of Science degree in Marine and Navigation Engineering. After completing graduate school with a Master of Science in Port Management, mr. Tieman worked for Peterson International as a dangerous goods advisor (DGSA) and from 2003 till 2006 for 3E Company in the United States where he worked within the 24 hrs North American Emergency Response Center as a transportation specialist. Working for the Central Bureau for Inland Barging (CBRB) since 2006 and from september 2011 as managing director of the company with approximately 400 members and 17 employees. He is on behalf of the European Barge Union (EBU) a member of the United Nations Economic Council for Europe (UNECE) Working Party 15.AC.2 which is responsible for the regulatory ADN framework which embodies all regulations for the transportation of dangerous goods by inland waterways. This Council is also responsible for the implementation of LNG as propulsion and for the qualification of inland vessels. The CBRB has asked for a grant for the first LNG project to stimulate LNG as propulsion. Mr. Tieman is a boardmember of the Stichting Afvalstoffen Vaardocumenten Binnenvaart

(SAB) which is working on waste treaty for Inland Waterway Transport (IWT).Mr. Tieman has conducted numerous dangerous goods transportation workshops and seminars and has authored several manuals and provided training to more than 2000 people on dangerous goods transportation and emergency response procedures in the last 10 years. Mr. Tieman's hazardous materials transportation articles have appeared in Hazardous Cargo Bulletin. Mr. Tieman has provided consultation to large and small businesses, carriers, shippers, freight forwarders and non-vessel operating common carriers, agents, brokers, institutions and associations, chemical manufacturers and distributors.



Björn van de Weerdhof holds a Master Degree in Engineering from Delft University of Technology, The Netherlands. After completion of his study, he joined a world player in dredging and marine contracting, where he was employed in several operational and commercial positions worldwide. In 2011 Mr. Van de Weerdhof joined Anthony Veder in Rotterdam, The Netherlands, and is now heading the Business Development team. In this position he is responsible for the expansion of the fleet and mostly focusing on small to midscale LNG (and bunkering) projects. Recent successes of the company are the launching of the 6,500 cbm LEG/LNG carrier Coral Anthelia and two dual fuel fired 4,700 LEG carriers.



Lauran is responsible for Downstream LNG, the focus is market development for LNG as a fuel in Marine, Road Transport and Industry applications. The current business scope includes Gasnor, positions in NW Europe and in the East.

He joined Shell in 1995 he held various commercial positions including Managing the Retail Network and Downstream M&A Manager in Latin America. Most recently he was the General Manager for the B2B Fuels business in North West Europe. Lauran worked in The United Kingdom, Brazil and The Netherlands.

He is a graduate of the University of Tilburg (MBA) and attended IMD (Laussane), Harvard (Boston) and University of Chicago. Lauran is married and together they have two children.



FEIKJE WITTERMANS VOPAK, NETHERLANDS Business Development Manager

Feikje Wittermans (Vopak LNG Holding B.V.) works as an LNG professional since 2008. After spending 5 years of working at the Gate terminal (Vopak/Gasunie, started up in September 2011), she is currently responsible as Business Development Manager for the development of Small Scale LNG terminals in Scandinavia and the Baltic area. Apart from this, she is a member of the Board of the Dutch Gas Association (KVGN) and coordinates the LNG working Group within the IGU organization. In that working group, she is a member of the small scale LNG study group and is also one of the contributors of the Annual World LNG Report, edited annually by the IGU. Before 2008 she worked as manager and consultant at Gap Gemini and as financial controller and operations manager with Nedlloyd. She has a degree in Business Economics and Finance



After graduating Tokyo University (Naval Architecture) in 1985, he joined the Ministry of Transport of Japan; and gained experience in the Maritime Bureau, including a post in the Japanese Embassy in London to participate in meetings of IMO. In 2005, he joined the IMO Secretariat as a technical officer and served for various committees and sub-committees meetings. Since assigned the current post in 2012, he has been in charge of safety of carriage of cargoes, including LNG.