BEST PRACTICES IN HEAVY TRANSPORT AND LIFTING, EMPHASIZING SAFETY
26 - 28 JUNE 2019, SINGAPORE
AN ESSENTIAL GUIDE ON SAFETY, PLANNING, CALCULATIONS, COSTING AND MAINTENANCE

LEARNING OBJECTIVES
- Understanding the importance of good and correct communication, examples from NASA
- How to plan a project, understanding the planning and execution of a transport and lift covering the load, the route to travel, equipment selection and execution
- Selecting the right transporter or crane for the load or job
- What is possible and what is not, learn how to take equipment to the max in a safe way
- Understand why it is important to know the application and limits of each equipment, rigging tool
- Learn why it is important to agree on terminology before starting the job
- Recognize unsafe situations before they occur
- Understanding and calculation of ground pressure
- Learn how to assess (complex and multi-discipline) transport and lift plans
- Learn how to properly prepare and perform a load-out
- A thorough understanding of all Heavy Lift and Transport aspects beyond the common boundaries

ABOUT YOUR COURSE DIRECTOR
Marco J. van Daal

Marco J. van Daal has worked in the heavy lift and transport industry since 1993 starting with Mammoet Transport from the Netherlands and later with Fagioli from Italy, both respected companies and leading authorities in the industry. His 20 years-plus experience includes projects on five continents and in over 55 countries and has resulted in a best-selling book, "The Art of Heavy Transport". Early in his career, Marco worked mostly in the Middle East and East Africa. He joined Fagioli in Houston, USA, in 2001 and left for Aruba in the Dutch Caribbean in 2004 to set up a heavy lift company specializing in work in the Caribbean islands. In 2006, he set up his own business in heavy lift and transport training and education, working with companies such as Mammoet, Siemens and Bechtel.

His book, The Art of Heavy Transport, is in its third reprint and is an authority in its field. It has earned Marco a contributing membership with the American Society of Mechanical Engineers (ASME) on the committee that sets the standards for the use of cranes and other lifting devices. A committee focusing on a transport standard is in the making. Marco's skills are wide ranging, including project preparation and planning, equipment selection, engineering and scheduling plus the execution, managing, and guiding of heavy transports. He has experience with SPMT, conventional and multiple transporters, multiple operators, ro-ro operations and site moves. In addition, he has experience of lifts with hydraulic cranes, crawler cranes, ring cranes, multiple crane lifts, uprighting and tailing, hydraulic gantries, and strand jacks, just to name a few.

Marco has a real passion for sharing knowledge and experience, the prime reason for his frequently held seminars all over the world. Marco is one of 12 pioneers that have designed an online Lift & Transport Engineering course that has been approved by the ASME and accredited by the Lifting Equipment Engineers Association. It is the only course in the world carrying this approval/accreditation. An engineering graduate, he is a member of NIRIA, the Dutch Engineering Society; FEANI, the European Engineering Society; and he holds a post graduate degree in general management and economics from Hogeschool in Amsterdam.

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COURSE OVERVIEW

The efficient and safe execution of lifting and transporting objects that are heavy or awkward in size or shape involves specialized load handling equipment and various different modes of operation. These kind of operations require a thorough understanding of the physics and laws of nature that contribute to the success of such activities. This course is designed for personnel involved in specialized transportation and lifting from contract transport organizations and original equipment manufacturers (OEM) to engineering companies and project owners in the oil and gas, power generation and other plant-environment industries.

Characteristic for this industry is often the absence of standardization across multiple countries or companies. This leads to unique engineering and planning for each project, a truly indispensable element in projects of this nature. The engineering principles of hydraulic platform trailers like self-propelled modular transporters (SPMTs) are delved into along with a variety of other load handling equipment. Heavy lift, jacking and skidding, and load-out (roll-on/roll-off) project case studies are utilized for participants to gain a broad understanding of the art and science of specialized transport and heavy lift operation.

The knowledge gained in this course is universally applicable to all specialized transport and heavy lift projects as it is based on solid engineering principles, it will provide each participant a life time of benefits.

WHO SHOULD ATTEND

- CEOs and Company Owners
- Crane & Transport Contractors
- Freight Forwarders
- Lifting Engineers
- EPC Contractors
- Operation Managers
- Cargo Superintendents
- Marine Warrantee Surveyors
- Rigging & Transport Supervisors
- Offshore Installation Contractors
- Transport & Lifting Supervisors
- HSE Managers & Engineers
- Onshore/Offshore Project Managers & Planners
- Construction Managers
- Structural Engineers
- Naval Architects
- Lift Directors & Planners
- Rigging Foremen
- Heavy Lift Managers
- Crane and trailer operators
- Refineries
- Oil & Gas
- Power Plants
- Construction
- Marine Warrantee
- Insurance Companies
- Consulting Companies
- Crane Rental Companies
- Fabrication Yards
- Project Logistics Companies
- Heavy Lift Shipping Companies
- Freight Forwarding Companies
- Heavy Transport Companies
- Engineering Companies

TESTIMONIALS

“I’ve known Mr. Marco J. van Daal since 1995. Due to the fact that he has been in the industry for 20 years, he knows every major player in the industry, not just us but also the international customers of Scheuerle, Nicolas and Kamag. The international experience that he brings to the table benefits every level in a transport and/or lift organization, starting from the pre-engineering phase, to equipment selection, to logistics and execution. His in-depth knowledge has been of great value to numerous individuals and companies around the world. Not only is he a true asset to our industry but I consider him a personal friend as well.”
- Bernd Schwengsbier, President, Scheuerle, Nicolas, Kamag

“Great and valuable information, in particular I loved his comparison to the World Cup, I am going to use that to motivate my own personnel.”
- Response from an anonymous participant of the SC&RA Crane & Rigging Workshop

“When I need information on transporters, I turn to Marco. His worldwide exposure and experience has led him to become one of the most knowledgable engineers on hydraulic transporters and SPMT’s in our industry.”
- Kent Goodman, Director of Construction Technology, Fluor Daniel (retired)

“I had the privilege of hearing Marco present in Alberta, Canada. His knowledge, skills and experience are extremely valuable to draw from and he openly shares practical insights. You will find his Heavy Lift & Transport seminar is exceptional. I highly recommend him.”
- Bill Teichgraber, Wire rope & rigging business, Trainer & Consultant

IN HOUSE TRAINING

If you like to conduct individual training courses onsite in your company, we will be happy to work with you to design tailored programmes to meet your company’s exact requirements. Or choose a training course from our range of programmes and the structure and contents will largely be retained.

Please contact info@opuskinetic.com for a no obligation discussion.

PRE COURSE QUESTIONNAIRE

In order to derive the maximum benefit from this course, delegates are invited to fill up a questionnaire on what they hope to learn and achieve, so that the trainer can tailor the course as best as he can to the delegates’ expectations.
Session 1:
- Introduction & Terminology
  - transporters
  - cranes
  - barges

Session 2:
- Dimensions & Weights
  - laws of Newton
  - mass vs. weight
  - combined forces (vectors)
  - wind & water forces
  - acceleration & deceleration
  - friction forces
  - calculations of weight

Session 3:
- Center of Gravity
  - what is it
  - how to treat it
  - how to determine it
  - C.O.G. in three dimensions

Session 4:
- Transport (Principles)
  - Difference between trailers and transporters
  - Definition of hydraulic platform transporters
  - principles of hydraulic platform transporters
  - Equipment selection (the right tool for the right job)
  - Suspension settings (what, how and why)
  - The equalizing effect
  - stability (structural & hydraulic)
  - stability area
  - stability limits
  - self propelled vs. pull type (steering, propulsion)
  - propulsion (truck vs. power pack)
  - forces on a transport
  - lashing and securing
  - Combining different brands
  - Combining conventional and self propelled
  - The use of turn tables on long loads
  - transporting long loads without turn tables
  - Ground and soil forces
  - Most common accidents and how to avoid them

Session 5:
- Heavy Transport (Execution)
  - the transport plan
  - surveys (points of attention and required documents)
  - equipment check
  - loading the load (from supports, crane or ship)
  - transporting the load
  - offloading the load

Session 6:
- Heavy Lifting
  - detailed overview of cranes and crane types
  - manufacturers vs. owners
  - definitions
  - principle of lever & principle of pulley
  - capacity vs. load moment
  - How to determine the size of a crane without having a chart
  - Spreader bars and lift beams (design and use)
  - Basic and advanced rigging (explanation and examples)
  - Lifting loads in and out of the water
  - Multiple crane lifts
  - Wind energy and cranes
  - Tailing a load
  - Most common accidents and how to avoid them

Session 7:
- Jacking & Skidding
  - Jack & pack
  - principle and working of climbing jacks
  - Strand jack working
  - strand jack applications (vertical, horizontal, up-side-down)
  - Jacking towers
  - Skidding applications (wood, steel, Teflon, stainless)
  - disadvantages of skidding
  - hydraulic gantry working
  - hydraulic gantry operations
  - Moving on air (airbags, air pallets)
  - Moving on rollers (Hiliman, rail)

Session 8:
- Load-outs
  - barge types and applications
  - Hydrostatic particulars for barge/ship (KM, LCB, LCF)
  - Archimedes law
  - barge/ship movements
  - tides (how & when)
  - tidal prediction
  - Tidal movements during a load-out
  - ballasting
  - Load-out onto a floating barge (tidal and non-tidal)
  - load-out onto a grounded barge
  - beach landings
  - case studies

Session 9:
- The anatomy of an accident
  - Accident categories
  - common mistakes
  - case studies
  - Recognizing an unwanted situation before it escalates
  - Crew Resource Management (an effective way of accident reduction, source NASA)
  - Safety practices

Session 10:
- Maintenance
  - Terminology
  - Maintenance, inspection, certification
  - certifying bodies
  - PM vs. repair
  - check lists
  - PM (what, where, how and when)