DNV·GL

DIGITAL SOLUTIONS

TRAINING CATALOGUE

RAM analysis

Maros and Taro

Global training

Our increased focus on global training, including basic and advanced user courses, and the high level of expertise of our team of instructors, benefit users in all regions. Our training catalogue lists our many and varied technical courses and workshops spread across all brands. In addition we run customer specific courses. Many of these courses are held jointly by our own software support team and by engineers from DNV GL, who bring essential expertice domain
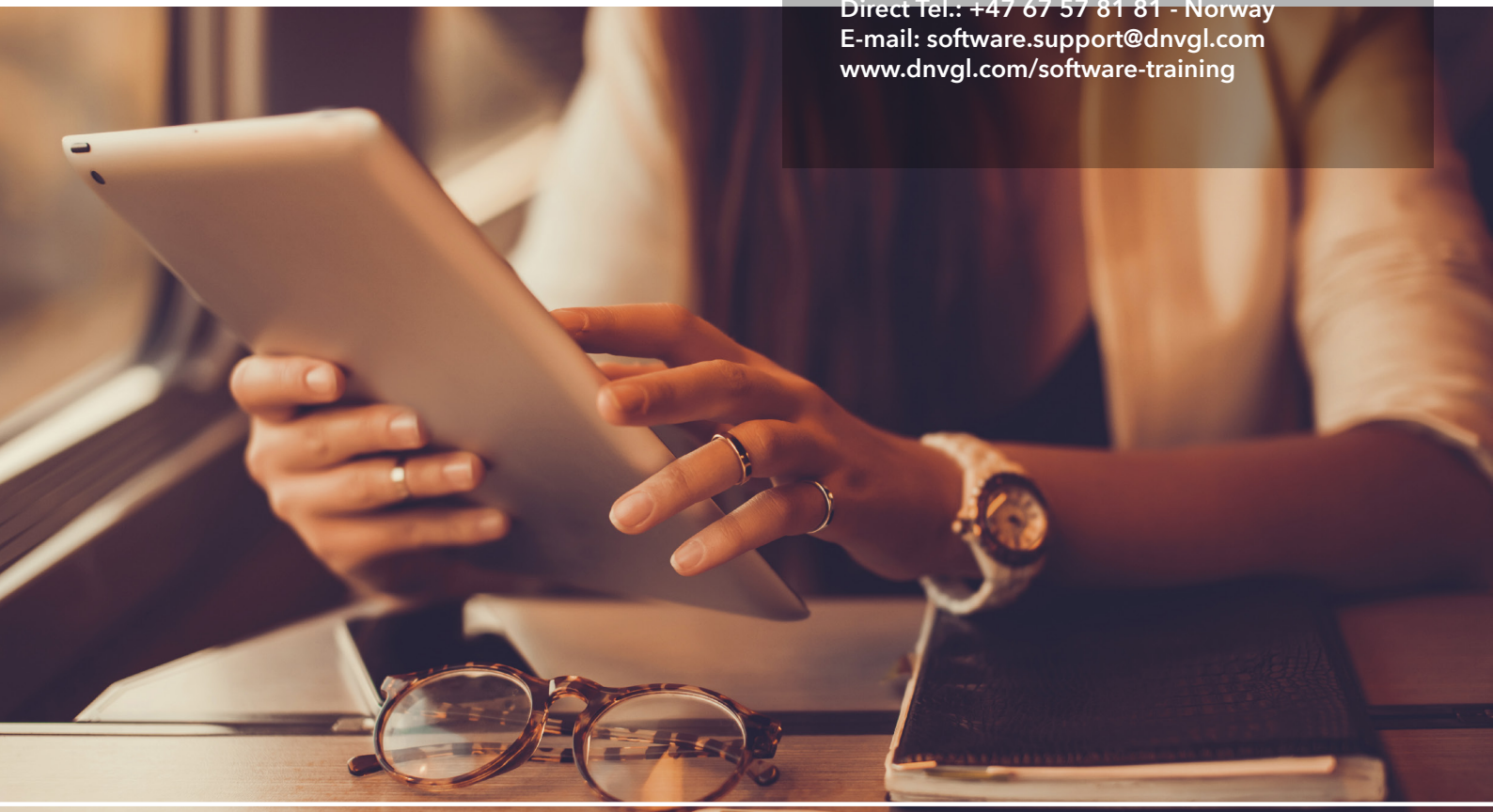
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MAROS TRAINING

Description
The course provides extensive guidance on how to use Maros to perform a range of analyses from a basic to a more advanced Reliability, Availability and Maintainability (RAM) study. All the key aspects of typical upstream asset evaluation and optimization studies are covered.

Some of the topics included are:
- Introduction to reliability theory and RAM analysis
- Overview of Maros modelling approach
- Construction of practical examples such as oil production system, gas network and normally unmanned facility
- Sensitivity analysis (what-if scenarios) to evaluate alternative design configurations, operational strategy, maintenance philosophy and life-cycle cost analysis (LCC)
- How to perform an effective Maros analysis

Learning objectives
The aim of the course is to explain the dynamic simulation concept used by Maros and understand the main features and functionality. You will be required to practise and apply your newly acquired knowledge of the software through extensive exercises. Upon completion of this course you should be able to scope, create and run a RAM analysis, produce results and investigate their meaning.

Target group
Users who need to carry out and/or understand the output of RAM analysis and Asset Evaluation & Optimization Studies in the upstream sector of the oil and gas industry.

TARO TRAINING

Course code: TA-01
Duration: 2 days

Prerequisite:
This course is suitable for new users who should preferably have a basic understanding of Reliability, Availability and Maintainability (RAM) analysis applied to the process industry. The course is also suitable for more experienced users who have not attended a formal training course or would like a refresher course.

Description
The course provides extensive guidance on how to use Taro to perform a range of analyses from a basic Reliability, Availability and Maintainability (RAM) study to a more comprehensive plant-wide life-cycle performance analysis. All the key aspects of a typical downstream asset evaluation and optimization studies are covered.

Some of the topics included are:
- Overview of Taro modelling approach
- Modelling typical operational procedures for downstream assets such as tank level management, logistics operations, re-routing of production
- Construction of practical examples such as refinery, LNG terminal and petrochemical facility
- Interpretation of results produced
- Sensitivity analysis ('what-if' scenarios) to evaluate alternative design configuration, operational strategy and maintenance philosophy

Learning objectives
The aim of the course is to review the main features and functionality available in Taro. You will be required to practise and apply your new knowledge of the software through extensive hands-on exercises. Upon completion of this course you should be able to scope, create and run a RAM analysis, produce results and investigate their meaning.

Target group
Users who need to carry out or understand the output of RAM analysis and Asset Evaluation & Optimization Studies in the downstream and supply chain sector of the oil and gas and refining industries.

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DNV GL

DNV GL is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas, power and renewables industries. We also provide certification and supply chain services to customers across a wide range of industries. Operating in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener.

DNV GL is the world-leading provider of software for managing risk and improving asset performance in the energy, process and maritime industries. Our solutions support a variety of business critical activities including design and engineering, risk assessment, asset integrity and optimization, QHSE, and ship management. Our worldwide presence facilitates a strong customer focus and efficient sharing of industry best practice and standards.