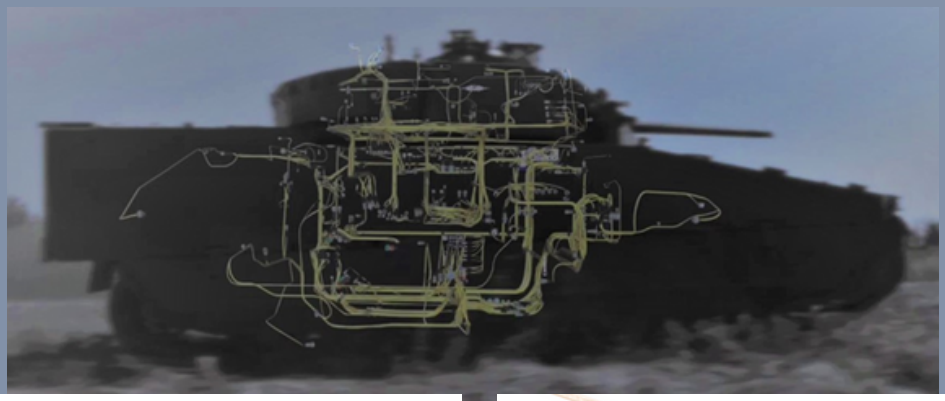
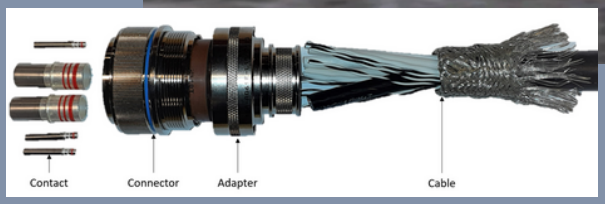
Innovation in Electrical Wire Harness and Fiber Optical Cable Design and Manufacturing

Hybrid Event – Open Workshop for the Innovators in the Wire Harness Industry





Learn About the Benefits of New Technologies, Standards, and AI for Electrical and Optical Harnesses:

- Cost reduction
- Design optimization
- Increased efficiency in production
- Shorter and automated design cycles
- Improved data exchange and sharing of PLM, CAD and digital twin data

Who Should Attend?

Are you a manufacturer or designer in the wire harness industry? Or perhaps an engineer working in the field? If so, this is the event for you. If you are neither of the above, but still think this is relevant, then you should register.

When?

September 28, 2023
9:00 – 13:00

Where?

Hybrid Event

- Teams & Høvik, Norway

SPEAKERS:

- Martin Grimsgaard, T&G Elektro
- Kjell Bengtsson, Jotne
- Jochen Haenisch, Jotne
- Sephan Rudolph, University of Stuttgart Germany
- Marc Eheim, IILS mbH Germany
- Nico Hahn, University of Stuttgart Germany

Fjordveien 1, 1363 Høvik

Contact for Registration:
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T&G ELEKTRO

Jotne

IILS

University of Stuttgart

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9:00 Welcome and Coffee

9:30 **Wire Harness Manufacturing and Problems to Adress**
Speaker: Martin Grimsgaard, T&G Elektro

9:50 **SETTING THE SCENE FOR DATA EXCHANGE, SHARING AND ARCHIVING PROCESSES OF ENGINEERING DATA**
How the ISO 10303 STEP standard will support your digital transformation projects
Speaker: Kjell Bengtsson, Jotne

DIGITAL FACTORY BASED ON OPEN STANDARDS

10:10 *Overview of ISO 10303 PLM repository*
Speaker: Jochen Haenisch, Jotne

10:40 Coffee Break

11:00 **NEW TECHNOLOGIES FOR ELECTRICAL AND OPTICAL WIRE HARNESSES**
Introducing novel technologies for engineering automation
Model based systems engineering
Speaker: Dr. Stephan Rudolph, University of Stuttgart

11:20 **DESIGN OPTIMIZATION FOR WIRE ROUTING AND OCB PRODUCTION PLANNING BY AUTOMATION**
Design automation by executable rule-based decision-making
How to safe time on design changes and explore the design space
Speaker: Marc Eheim, IILS mbH

11:50 **USE OF AI IN WIRE HARNESS MANUFACTURING**
Similarity-based connector retrieval (from PLM/CAD)
Speaker: Nico Hahn, University of Stuttgart

12:10 Summary and Take Aways

12:30 Interactive Q&A Session

13:00 Lunch

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Martin Grimsgaard, T&G Elektro: is the Chairman of the Board at T&G. He graduated from the University of Kiel in Germany with a diploma degree (Dipl.Kfm.) in business economy in 1995. He specialized in Finance and Management of Technology and Innovation. His diploma thesis deals with econometry data in production functions variables to find the impact of R&D to business and industrial development. After the studies he worked as a sales representative for Cie. Deutsch (TE connectivity) a French connector manufacturer in Sweden before he joined Nexans in Oslo as a sales manager for subsea umbilical cables in 1998. Since 2000 he has been working for T&G as a sales manager and as CEO since 2007. He has a passion for R&D and microeconomics and has managed several copper and fiber cable development programs for the telecom, industry, defense and space markets.

Kjell Bengtsson, Jotne: is a Vice President at Jotne, has a Mechanical Engineering background and a diploma in Marketing. He started out at Volvo Car and General Electric doing CAD/DB applications and later management positions and is now VP at Jotne. Kjell has been exposed to ISO 10303 (STEP),and other related standards for the last 25 years and is actively involved in Open Standards Based Digital Twin implementation projects in the most complex defense and aerospace sector projects. Kjell is a Member of the Board of PDES Inc and supports other industry organizations like AIA/ASD, NIAG (NATO), FSI, CENSSS, AIOTI, NAFEMS and more. Further, Kjell also manage the Jotne extensive R&D portfolio at EU and the European Space Agency (ESA).

Jochen Haenisch, Jotne: leads the Aeronautics, Defence and Space business area in Jotne. He has contributed to and managed many data interoperability implementations applying various STEP standards including ISO 10303-209 (Multidisciplinary analysis and design), ISO 10303-239 (Product LifeCycle Support, PLCS) and ISO 10303-242 (Managed model-based 3D engineering). In 1990 he entered into the ISO Subcommittee for Industrial Data, ISO/TC 184/SC 4, the home of STEP. He regularly attends their plenary meetings as head of delegation for Norway. Currently he is deputy convenor of WG12, Common Resources.

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Dr. Stephan Rudolph, University of Stuttgart: graduated in 1990 with an aerospace engineering degree (Dipl.-Ing.) from the University of Stuttgart. Study years abroad at the French Grande Ecole ENSICA in Toulouse, France, as well as at the Massachusetts Institute of Technology (MIT) in Cambridge, USA. Upon completion of his PhD on "Design Evaluation Methods" in 1995, PostDoc in the Systems and Design Group at the Massachusetts Institute of Technology (MIT). Habilitation (venia legendi) in "Engineering Design Methodology" at the University of Stuttgart in the Faculty of Aerospace Engineering in 2002. Stephan is Head of the Design Theory and Similarity Mechanics Group since 1995, now located at the Institute for Aircraft Design at the University of Stuttgart. Stephan's research interests and teaching at the University of Stuttgart include the methodology of engineering design, design languages and design evaluation methods, as well as applications of similarity mechanics in engineering and artificial intelligence. Within design languages, the theoretical focus lies on the questions of uniqueness, consistency, validation and verification, as well as on practical aspects of graphbased design language development for the automated synthesis of aircrafts, satellites, space stations and other lightweight structures. Stephan served as Principal Investigator (PI) in numerous research projects and has a publication list with more than 140 entries.

Nico Hahn, University of Stuttgart: acquired his M.Sc. in Aerospace Engineering in 2021 at the University of Stuttgart, Germany. Nico Hahn has a solid professional background on UML modelling involving multidisciplinary design problems, digital engineering using graph-based design languages, JAVA programming, and activities related to robotics and automated process planning. He is currently working on PhD at the Institute of Aircraft Design at the University of Stuttgart in the field of design theory and similarity mechanics.

Marc Eheim, IILS mbH: acquired his Dipl.-Ing. in Aerospace Engineering in 2009 at the University of Stuttgart, Germany. He joined IILS mbH in 2014 where he is currently employed as a lead development engineer. Marc Eheim has a solid professional background on UML modelling involving multidisciplinary design problems, digital engineering using graph-based design languages, JAVA programming, and activities related to automated mechanical design. During the IDEaliSM project he was the work package lead for the conception of the engineering services. One of those is the service for automated 3D wire harness routing, which was used and extended in various projects (like FORTIFIER) and which is his ongoing work for his PhD.