

Hilti Global Logistics
Advanced Business
Analytics
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GOR-AG:
Projektmanagement und
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GOR-AG: Praxis der
Mathematischen
Optimierung
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Herewith, we invite you to the 105th meeting of the GOR working group “Real World Optimization” jointly with the GOR working group “Project management and Scheduling” and hosted by Hilti Global Logistics. This meeting is planned to be held in person (or virtually if circumstances enforce) with the topic

The logistics of value chains in the 21st century: Digital, sustainable and optimized

The workshop takes place on September 9th & 10th, 2021 on Thursday and Friday in Schaan, Liechtenstein. If travel restrictions still apply by then, we will plan for virtual presentations and participation as well.

The working language will be preferably English as some speakers are expected from abroad.

Note that the participation in a GOR-AG-Workshop for non-members is subject to a registration fee, unless you are a speaker or a host.

The registration will be possible from April 2021 until beginning of August 2021. The latest information on the meeting is available on the homepage of the GOR (<http://www.gor-ev.de/arbeitsgruppen/praxis-der-mathematischen-optimierung>).

Yours sincerely,

Jens Schulz, Julia Kallrath, Josef Kallrath

(GOR AG)

Markus Frey

(Hilti Corp.)

Dirk Briskorn

(GOR AG)

Vorstand

Prof. Dr. Anita Schöbel (Vorsitz)
Prof. Dr. Alexander Martin (Arbeitsgruppen)
Dr. Ulrich Dorndorf (Finanzen)
Prof. Dr. Peter Letmathe (Tagungen)

Kontakt

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The logistics of value chains in the 21st century: Digital, sustainable and optimized

Specific aims

This event is dedicated to all professionals and parties interested in advanced analytical methods. We aim to offer a discussion and exchange platform for experts in academia and industry applying advanced technologies or/and methodologies like mathematical optimization or machine learning to transform logistic processes into the digital century.

Delivering an ordered good, in the right amount, at the right time to the customer with the lowest costs are the challenges within an E2E logistics value chain. While time, speed, costs, reliability, availability, productivity and efficiency have always been major key drivers, environmental aspects, e.g. the reduction of the CO₂ footprint, must also be considered to take responsibility for our society and future generations. Only by leveraging data in combination with digital technologies and state-of-the-art methodologies, companies will be able to manage and balance those key drivers in a highly competitive and demanding environment.

We welcome talks that present success stories, and even more learnings and ambitions highlighting how digitalization helps to make the logistics value chain optimized and sustainable to be ready for 21st century.

About Hilti

The Hilti AG providing leading power tools for almost 80 years developed a stand-alone business model with an end-to-end value chain covering the manufacturing of, e.g. a drill, up to the delivery to the customer's door. To manage the complexity of the logistic processes satisfying all kind of business aspects while meeting a high customer service level, a data driven, holistic and integrated planning is key breaking the functional silos. By adding real-time data, e.g. by using *RFID* chips to track products, an automated sense-and-response approach provides the right answers to obtain the highest customers' service level. Advanced methods, like mathematical optimization, is thereby one of the foundations to achieve the most accurate and most robust solutions.

Hilti Global Logistics takes up the challenges of the revolutionary digital journey. Its ambition is thereby not only to be a user of the digital technologies, but to shape the transformation process for their customers and for the future.

In talks of 25+5min or 40+5min duration, experts from practice and research will share their knowledge and learnings.

If you are willing to contribute a talk, please feel free to contact one of the organizers.

Dirk Briskorn (briskorn@uni-wuppertal.de)

Markus Frey (markus.frey@hilti.com)

Jens Schulz (schulz-gor@at.gmx.net)

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The Venue

Hilti AG, in Schaan, Liechtenstein. Details follow soon

Travel

We recommend in most cases travelling by train or plane to Feldkirch where the hotels are located. Daily travel to the conference venue is best via **public transport**, car rental and car sharing. We are investigating whether a shuttle service can be offered.

Hotel

We are negotiating rates and conditions with some closely located hotels and pensions. Stay tuned for further details.

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The following speakers are confirmed:

Torsten Gellert (Zalando)

Large Scale Discount Optimization with Business Targets

Baris Cem Sal (Deutsche Post DHL)

Data Analytics & Operations Research to support DHL Mission 2050: Zero Emissions

Ton De Kok (tba)

tba

Jesper Touboel (LEGO, VP LEGO Operations)

Digital Twins - potentials and mobile enabled production

Vorstand

Prof. Dr. Anita Schöbel (Vorsitz)
Prof. Dr. Alexander Martin (Arbeitsgruppen)
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Speaker CVs

Torsten Gellert is a Senior Applied Scientist at Zalando, one of the largest fashion e-retailers of Europe. For the last two years, he has been developing algorithmic solutions for the Pricing and Forecasting Department. Prior, he was working for three years in the Logistics Department on efficient handling of customer orders in and between warehouses. Torsten is interested in complexity theory as well as practical heuristics for real world problems.

Baris Cem Sal is the Lead Data Scientist for Operations Research in Deutsche Post DHL Group Data Analytics Center of Excellence. Baris holds a BS degree in Industrial Engineering from Bilkent University/Turkey. Working in IT, consulting and logistics, he has brought multiple Machine Learning and Operations Research use cases to production, focusing on topics like forecasting, pricing, inventory optimization, network design, and routing.

Jesper Touboel is the head of one of LEGO moulding sites and qualification factories which include both advanced mass manufacturing and maturing of new emerging technologies. Jesper has furthermore delivered organizational footprint and technology strategies within Product Design and Equipment (Manufacturing) - establishing Engineering centers in LEGO manufacturing sites in Singapore, Mexico and Denmark. During his work Jesper has profound focus on how IoT can support his visions and enable the future – a true IOT-technology evangelist.

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Abstracts

Speaker: Torsten Gellert (Zalando SE)

Title: Large Scale Discount Optimization with Business Targets

Discount decisions play a central role in Zalando's financial lifecycle. They significantly contributed to the achieved GMV of 2.455 billion Euro in Q3 of 2020 and are central for supporting the ambitious YoY Zalando growth. Over 600.000 articles offered in 17 countries require constantly updated prices. They directly impact important aspects like customers perception, revenue growth and overstock at the end of a season.

The scale of the problem imposes strict requirements on the efficiency of the optimization framework as it must be executed as a weekly or even daily routine. The implementation of this process in the past has been a hybrid of an automated optimization process and a manual selection of appropriate discount recommendations.

We built a fully automated system that will be able to provide discounts - reaching financial goals without human intervention. It aims to reach the business targets for all markets and guarantees close to optimal decisions.

The central piece of our solution is a Lagrangian Decomposition approach which was developed in collaboration with Prof. David Simchi-Levi and the Institute for Data, Systems, and Society (IDSS) of the MIT. We combine big data engineering approaches (massive parallelization with spark) and classical Operations Research tooling in order to cope with the high dimensional optimization problem. To this end, we rely on the sales forecast, based on a machine learning model.

Speaker: Baris Cem Sal (Deutsche Post DHL)

Title: Data Analytics & Operations Research to support DHL Mission 2050: Zero Emissions

Speaker: Jesper Toubøel (LEGO)

Title: Digital Twins - potentials and mobile enabled production

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