EUROPE ELIV

Call for Papers

20th International Congress and Exhibition

October 20-21, Bonn, Germany

Hand in your abstract **by March 1, 2021**
www.eliv-congress.com

Key Topics 2021:

Software Technologies

End-2-End Architectures

New Ecosystems & Connected Services

AI – Self Learning Vehicles

Automated Driving/Parking

Security

Application of Data Analytics & Data Management

Connected Experience UX

E-Mobility/Charging

E-Vehicles

Digital Interior

Mechatronics Innovations

Focus Country China

Foreword

Start up future

Currently it feels as if Covid 19 has put us in a stranglehold. However, we are not going to let it get us down. Instead, we decided to take advantage of the arising opportunities such as the long overdue digitalisation boost or the time gained through less business trips. Whoever shows strength now and looks positively into the future, will win. That is exactly the reason why we are preparing ELIV 2021 with great enthusiasm. As usual, we will offer an up-to-date program in the familiar mix of technically demanding and strategic presentations.

The hope is to hold once again a physical event with an impressive exhibition and a paradise of networking in Bonn. But even if the pandemic will not be well-disposed towards us in October 2021, we will find an adequate format to shape the ELIV platform as a trendsetter in the automotive industry.

The CASE Megatrends (Connected, Autonomous, Shared, Electric) continue to disruptively engage the industry. The **Connect** environment pursues to struggle for user-friendly services and the competition of the digital ecosystems is in full swing currently. The integration of high-performance central computer into electronics architecture presents a huge challenge to all parties involved. On the way from Level 2 to Levels 3, 4 and 5, all manufacturers are currently struggling with enormous development costs for **automated driving functions.** But at the same time, it is clear that this trend must be taken seriously, not least because of lucrative business models. These days, many new **electric vehicles** entering the market give the chance not only to discuss new concepts, but also first development and market experiences as well as drive concepts and charging. In China the development of the key technologies seems to proceed even more rapidly and is accelerated through initiatives such as "Intelligent Connected Vehicle" (ICV).

We have massively pushed ahead with the promised modernisation of the congress. With Rémi Bastien (Renault) from France and Rob Csongor (Ex NVIDIA) from the USA as new members of the programme committee, we have generated a contribution to the congress internationalisation. The selection of China as focus country for the event will provide new and highly interesting impulses.
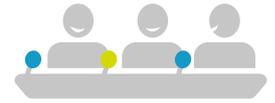
The congress will be characterised by two main topics. On the one hand, **current classic automotive challenges** such as mechatronic innovations, connected experience (UX), interiors, lighting technology and wiring system technologies will be discussed. On the other hand, in the context of megatrends, there will be room for the latest **software-oriented technologies** such as artificial intelligence, cyber security, data management, ecosystems and the associated test and validation technologies. The main technical topic is also dedicated to software matters: An initiative for the joint development of non-differentiating middleware in modern end-2-end architectures is intended to accelerate the transformation process for lucrative value creation in the software sector. The ELIV Congress will play an important public and content-related role in this context and will be a platform for all interested parties to exchange ideas on this highly sensitive topic.

Therefore, it is definitely worthwhile to present your topic at the congress, to set impulses, to help shape trends and thus to advance your ideas. The programme committee is looking forward to your submission of papers.

Dr. Rolf Zöller and Uwe Michael
On behalf of the Program Committee

Program Committee

Rémi Bastien, Vice President Automotive Prospective, Group Renault, Guyancourt, France

Dr. Klaus Büttner, Executive Vice President Intelligent Cockpit & Body + Solution Train Premium Platform, Car.SW Org., Ingolstadt

Rob Csongor, Former Vice President Autonomous Machines, NVIDIA, Pleasanton, USA

Dipl.-Ing. Harald Deiss, Vice President Electronic Systems, ZF Friedrichshafen AG, Auerbach

Dr.-Ing. Axel Heinrich, Head of Electrical/Electronic Development, Volkswagen AG, Wolfsburg

Dipl.-Ing. Christof Kellerwessel, Director, Ford MEB Office, Ford-Werke GmbH, Cologne

Ralf Lenninger, Vehicle Networking and Information, Strategy and Future Solutions, Continental Automotive GmbH, Regensburg

Dipl.-Ing. Uwe Michael, mps, Frankfurt am Main

Dr. Burkhard Milke, Director Electric & Electronic Systems, Opel Automobile GmbH, Rüsselsheim

Dipl.-Ing. Bernd Münsterweg, Member of the Executive Board Business Division Electronics, HELLA GmbH & Co. KGaA, Lippstadt

Alfons Pfaller, Vice President E/E Architecture, Automotive Security, BMW Group, Munich

Dr.-Ing. Dieter Rödder, Senior Vice President Advance Engineering Systems 1 – Future Automotive Systems, Robert Bosch GmbH, Stuttgart

Dr. Jutta Schneider, Director EE Powernet, Daimler AG, Sindelfingen

Dipl.-Ing. Stefan Teuchert, Senior Vice President, Head of Electric/Electronic Systems (EE), MAN Truck & Bus SE, Munich

Dr. Rolf Zöller, Director Smart Connected Vehicle Porsche AG and Managing Director Porsche Digital, Weissach (Chair)

Information on Coronavirus Safety

The health and safety of our customers and employees is our top priority. We have therefore developed a safety concept to ensure protection against the risk of coronavirus. We will closely observe official national and regional regulations and will, of course, comply with current coronavirus protection measures. This may in some circumstances result in some restrictions for participants.

Call for papers
Are you an expert in one of the fields listed under key topics?
If so, we ask you to contribute actively to the success of this congress with a lecture.

Please submit an abstract not exceeding one A4 page **by March 1, 2021**. You can register with your contribution online at www.eliv-congress.com.

The abstract must include (one A4 page maximum):
- The informative title of your contribution
- Details of the speaker and the co-authors (names and contact details)
- A summary with specific information
- A statement as to the degree of innovation
- The assignment to which key topic (in the Word file as well, please)
- Indication of publications on the topic

Upon submission of their abstract all submitters will receive a questionnaire asking them to give some specific details about their presentation.

The program committee will decide on the acceptance and classification of a paper in the congress program.

Evaluation criteria for the abstracts
Following the submission deadline, the program committee will evaluate the submitted abstracts. To make the selection process and criteria more transparent, the latter are described below. Those submitting an abstract are requested to critically review it once again prior to submission to see whether all question can be quickly answered by reference to the abstract. Please be sure to remember that the abstract including all further information must not exceed one A4 page.

Content
- Refrain from straightforward company and product presentations: The focus of the congress is on the exchange of information and ideas regarding the latest solutions, developments and technologies.
- Topicality: Does the subject currently and will it in future play a role in industry and/or science? Has this contribution already been presented at another event?
- Newness content (degree of innovation): Are new approaches/ideas proposed or is the product/method etc. already in use?
- Relevance of the topic: Is the topic relevant to the congress? Can the topic be found under the key topics?
- State of development: Will the product, service or the like dealt with in the lecture soon be ready for series production or is it already in series production?
- Application-related: Can the innovation or solution presented in the lecture already be implemented? Are there any field reports? What benefit can listeners draw from the lecture?
- Scientific level: Are there any references?
- Does the lecture include a strategic statement, recommendation for action or standardisation proposals?

Quality of the abstract
- Is there compliance with the formal conditions at submission of the abstract? (one DIN A4 page)
- Is a common theme recognizable?
- What scope does the topic offer? In-depth treatment?
- Is the content presented clearly and understandably?

Profile of the lecturer
- How many years of experience in the automotive industry?
- References

General information (abstracts and manuscripts)
- Please submit abstracts in English.
- The duration of lectures will be approximately 25 minutes followed by a discussion of about 5 minutes. The authors of the accepted papers undertake to submit a detailed manuscript (no more than 10-12 pages).
- The manuscripts will be published in a VDI report in the download area of the homepage.
- The manuscript as well as the presentation slides are to be written in English.
- In addition to the manuscript, the speakers are asked, a few weeks before the congress, to indicate the 3 or 4 most important key statements of the lecture. Speakers will receive further information in this regard separately.

Costs
Speakers (one author per lecture) will participate in the congress free of charge. Travel and accommodation costs will not be refunded.

Congress language
English

Deadlines
Deadline for abstracts: March 1, 2021
Deadline for the submitter questionnaire: March 22, 2021
Notification of authors: end of April 2021
Submission deadline for final manuscripts: September 1, 2021
Submission deadline for submission of 3 or 4 most important key statements: September 1, 2021

Young talent award "Auto-Electronic Excellence Award 2021"
Once again in 2021 the three best young lecturers (up to and including 33 years) will be honored with the Auto-Electronics Excellence Award 2021. The experts of the program committee rate the lectures according to numerous criteria such as degree of novelty, scientific level and application relevance. At the end of the event the congress organizer will present the prizes to the winners. (Prizes can be accepted only in person. Acceptance at a later date or the appointment of a representative is not possible.)

Technical sponsor: the VDI Society for Vehicle and Traffic Systems Technology
With its eight technical divisions, the VDI Society for Vehicle and Traffic Systems Technology forms a home for engineers of various disciplines in the field associated with the transport modes of road, rail, air and water. In an active interaction with the working groups of the VDI district associations, students and young engineers as well as other VDI societies, the VDI Society for Vehicle and Traffic Systems Technology is networked with other cooperation partners both nationally and internationally.

This VDI Society has taken on the task of strengthening perceptions of the engineering profession and further consolidating the VDI's position as a technical and scientific opinion-leader in the professional world, in politics and in society. Here it is important to promote the interaction of the different mobility sectors and to provide expert input, as well as to develop the prospects for cross-cutting topics in the fields of 'the individual and mobility' and 'transportation and infrastructure'.

For more information, please visit:
www.vdi.de/fvt
www.eliv-congress.com

Key Topics 2021

Cross-Sectional Topics

- Quality
- Laws and regulations
- Covid 19
- Internationalization
- Scalability
- Partnering
- Processes
- Organisation excellence
- Tools (including simulation)
- Life cycle management
- Carbon footprint
- New business models
- Impulses from other industries
- Test & Validation

Contributions on the above-mentioned topics can be submitted under the appropriate overall topic (e. g. End-2-End-Architecture). If it does not fit any of the Key Topics, it can be submitted under the special topic "Cross-Sectional Topics". Please visit www.eliv-congress.com and follow the instructions to submit.

Software Technologies

- Integration process
- Continuous-X
- Embedded Software
- HiL/SiL/MiL
- Agile Development vs. SPICE
- CI/CD-Chains
- Functional models for agile development
- Virtual integration
- Hypervisor technology
- SAFE
- UNECE
- Non regression tests
- Model Based Techniques
- Open source
- Reuse
- Variant Management
- Open Source SW
- Virtual test methods
- DevOps Tools
- Cloud Computing
- Diagnostics

End-to-End Architectures

- Adaptive Autosar
- Operating systems
- Automotive Software Middleware concepts
- Open Source SW
- Lifecycle Management
- Complexity Management
- Backend
- Cloud Computing
- Upgradeability SW & HW
- OTA
- Domain Architecture
- Functional Separation
- Reuse
- Common Modul Strategy
- Zone Architectures
- Energy Management
- Compute Architecture
- Decoupling
- Dependency to value stream
- High Performance Computing HW
- Many-core Microprocessors
- APP Development
- SOC

New Ecosystems & Connected Services

- Architectures
- Highspeed connectivity
- Service focus
- Examples
- Ecosystems for charging/parking
- Function on demand
- Balance embedded and infrastructure SW
- Automotive APP Store?
- Strategy
- Separation of eco systems
- Business model
- Cooperations
- Vehicle tracking
- Emergency call/service
- Local ecosystems
- Customer experience controlled by OEMs
- Ease of use/single sign in
- Seamless experience
- Response to Amazon, Google…
- B2B/B2C Services

AI – Self Learning Vehicles

- New machine learning algorithms
- Automotive applications
- New trends (explainable AI, Meta learning, Transfer learning…)
- Digital assistance
- Validation of AI algorithms – methods
- Predictive maintenance with AI
- User EX as navigation or cockpit display
- Adaptation of automatic functions to the style of driving

Automated Driving/Parking

- Assisted/Autonomous Driving from Level 2 to 5
- HW/SW-Architecture from Onboard to Offboard
- Sensor and Actuators (Lidar, Radar, Camera visible and infrared, ECU, Steering and braking system, …)
- AD SW Stack
- Functional Safety, SOTIF and Security
- Simulation (traffic, environment, open and close loop, prediction, …)
- Technology (AI, ML, neural networks, …)
- Tools and methodology
- Cooperative perception between vehicle and infrastructure for AD
- NCAP
- Market (MOD (Uber, Didi, Lyft), passenger car (OEM's), truck, delivery, US, Asia, EU…)
- HD Map
- Local Infrastructure
- Cooperative perception between vehicle and infrastructure for AD
- FOTA
- Beamforming
- Antenna Package for 5G
- V2X solutions worldwide
- Challenges for acceptance test
- About 5G

Security

- Regulations
- Processes and automotive integration
- Intrusion detection
- Validation
- Concepts
- Security chain e2e
- Security monitoring
- Experience
- Penetration Testing
- New Algorithms
- Managing supply chain
- Blockchain
- DevSecOps

E-Mobility/Charging

- Quick charging
- Infrastructure
- Connector incl. communication
- HPC
- Wallbox/Charging station
- Scalability
- 800 Volt
- AC/DC Charging Concepts
- Conducted/Inductive
- Plug and charge and all the ISO15118 potential
- Charging (Journey) Planer
- Payment – ease of use (ISO 15118)
- EMC
- Emob Concepts
- Last mile concepts
- Sustainability aspects
- Services for E Mob

Mechatronics Innovations

- Digital innovation and business
- Function on demand
- Lighting systems
- Wiring Harness
- Vehicle tracking systems
- Smart sensors
- Innovative packaging
- Energy distribution
- Ethernet
- Body electronics
- Vehicle access
- Styling freedom by electronics
- Package & electronics

Application of Data Analytics & Management

- Data Handling
- Streaming & Storage
- Real time issues
- Data compression
- Big Data
- Applications e.g. predictive maintenance, user behaviour, traffic conditions
- Vehicle health management
- Distributed data management
- Edge computing
- Seamless analytics e2e
- Methods
- Analytics for development
- Flow of data and carbon footprint

E-Vehicles

- Energy storage
- Vehicle concepts
- Functions and HV components
- 48V Hybrid
- Power electronics
- Battery
- Cells
- Simulation/Technical design Battery
- Battery health monitoring
- Energy management
- Efficiency on Component/Vehicle level
- Drive train concepts
- Battery in the cloud
- Operating Strategy
- Thermal Management
- Smart Grid
- Recycling

Focus Country China

- Business opportunities
- China specific demands
- Law & regulations
- New regulations on Automated Driving in China
- China specific technical concepts
- China ecosystem
- Experiences
- ICV

Connected Experience UX

- Concepts and technologies
- User focus
- Methods & Test
- Ease of use
- Information providing
- Driver distraction and monitoring
- User evaluation results
- UX Frameworks
- UI Concepts for AD, Charging, Infotainment, Connect Service…
- Digital assistant
- Augmented Reality
- Speech technologies
- New input/output devices
- VR-glasses - HUD
- Trends

Digital Interior

- Display Technologies
- Sound Systems
- Active Noise Cancellation (ANC)
- Driver Monitoring Systems
- New cluster instrument concepts
- Information systems
- Interior Illumination
- Infotainment services
- Augmented Reality
- Input devices
- Facial recognition
- Engine Order Cancellation (EOC)
- Camera technologies/applications
- Productivity
- Well being
- Body electronics innovations
- Personification

Previous Exhibitors

2J Antennas s.r.o
3D Mapping Solutions GmbH
A2Mac1 Automotive Benchmarking
AB Elektronik GmbH
AB Mikroelektronik GmbH
AGGIOS Inc.
Airbiquity, Inc.
AKKA Deutschland GmbH
Altium Europe GmbH
ANavS GmbH
AnSem NV
ANSYS Germany GmbH
ANTENEO
Arccore GmbH
ARM Limited
Arnold Umformtechnik GmbH & Co. KG
ARRK Engineering
Assystem GmbH
ATS Advanced Telematic Systems GmbH
Audi AG
Aurora Labs GmbH
autoaid GmbH
Autoliv B.V. & Co. KG
Automotive Artificial Intelligence (AAI) GmbH
AutonomouStuff, LLC
AVL Deutschland GmbH
Bamberg
Bertrandt AG
BFFT Gesellschaft für Fahrzeugtechnik mbH
BMW AG
BMW Group
Bombardier Primove GmbH
b-plus GmbH
Brehmer GmbH & Co. KG
Brose Fahrzeugteile GmbH & Co. KG
BURY GMBH & Co. KG
Cadence Design Systems GmbH
CarsDome Robotics, Inc.
CDA GmbH
Chroma ATE Europe B.V.
Circuits IIS
CMORE Automotive GmbH
Coat-X SA
COMPREDICT GmbH
Continental Engineering Services GmbH
Creative Chips GmbH
CTAG Centro Tecnologico
CyMotive Technologies GmbH
Cypress Semiconductor GmbH
Daimler AG
Dassault Systemes Deutschland GmbH
Delta Components GmbH

Dialog Semiconductor GmbH
Digades GmbH
Digitalwerk GmbH
Dipl.-Phys. Peer Stritzinger GmbH
DSA Daten- und Systemtechnik GmbH
dSpace GmbH
Eberspächer Controls Landau GmbH
eccocar
EDAG Engineering GmbH
e-gnition Hamburg
Electronic Specifier/Mouser Electronics
Elektrobit Automotive GmbH
Elmos Semiconductor AG
embedded brains GmbH
emmtrix Technologies GmbH
Ensinger Sintimid GmbH
ESCRYPT GmbH – Embedded Security
ESG Elektroniksystem- und Logistik GmbH
eSync Alliance
ETAS GmbH
Eximap
Expleo Germany GmbH
FEV Europe GmbH
FMS Future Mobility Solutions GmbH
Fraunhofer IESE
Fraunhofer IMWS
Fraunhofer Institut FHR
Fraunhofer IZM
GaN Systems Inc.
Gigatronik Holding GmbH
GMV
Göpel electronic GmbH
Grammer AG
Green Hills Software GmbH
HANSERautomotive
Hella Aglaia Mobile Vision GmbH
Hesse GmbH
Hexagon Positioning Intelligence
Huber Automotive AG
IAV GmbH
Ilmsens GmbH
Infineon Technologies AG
Infopulse
Inova Semiconductors GmbH
In-tech GmbH
IPG Automotive GmbH
Irdeto
IRMLER GmbH
IRYStec Software Inc.
ITK Engineering AG
IVISO GmbH
jambit GmbH

JDI Europe GmbH
K2L GmbH & Co. KG
KDPOF
Knowledge Development for POF S.L
KPIT Technologies GmbH
Kugler Maag CIE GmbH
Kyburz Switzerland AG
Laird Bochum GmbH
M Plan GmbH
MAGNA Steyr Fahrzeugtechnik AG & Co. KG
Maxim Integrated Products, Inc.
Mayser GmbH & Co. KG
Mentor Graphics (Deutschland) GmbH
Method Park Holding AG
Microchip Technology
MicroFuzzy GmbH
MicroNova AG
Mindmotiv GmbH
Model Engineering Solutions GmbH
Molex CVS Bochum GmbH
Motion-S S.A.
MS-Schramberg GmbH & Co. KG
MURATA Electronics Europe B.V.
Nauto, Inc.
NAVENTIK GmbH
Neusoft Technology Solutions GmbH
NNG LLC
NORDSYS GmbH
NovAtel Inc.
NVIDIA Ltd.
NXP
OLEDWorks GmbH
OPAL-RT EUROPE
OpenSynergy GmbH
Optics Balzers AG
P3 Systems GmbH
paragon AG
Parkbob GmbH
Peer Stritzinger GmbH
Plexim GmbH
Porsche Engineering Group GmbH
Preemoo
Prisma Sales Service GmbH
Profilregion Mobilitätssysteme Karlsruhe
Prozesswerk GmbH
Pulse Electronics GmbH
Qualcomm Communications GmbH
R.E.T. GmbH
Renesas Electronics Europe GmbH
ROHM Semiconductor GmbH
RTAE UG
RT-RK Automotive LLC

S.E.A. Datentechnik GmbH
Savari GmbH
SBD Automotive Germany GmbH
Schaeffler Engineering GmbH
Secunet Security Networks AG
Siemens PLM Software
Silver Atena Electronic Systems
SIMCom Wireless Solutions Co., Ltd.
Smart Eye AB
Socionext Europe GmbH
Softing Automotive Electronics GmbH
Solid Sands B.V.
STAR COOPERATION
Star Cooperation GmbH
STMicroelectronics International SA
Swissbit AG
Synopsys Northern Europe Ltd.
SYSGO AG
SYSTEMITE AB
Taoglas Limited
TASKING B.V.
TASS International
Tata Elxsi Ltd.
TDK – Micronas GmbH
TDK Europe GmbH
TechConnect GmbH
Technica Engineering GmbH
Telit Communications S.p.A.
Tempow
Teraki GmbH
The MathWorks GmbH
TheWhollySee Ltd.
Third Space Auto Ltd.
Toposens GmbH
TraceTronic GmbH
TSN Systems GmbH
TTTech Auto AG
ubirch GmbH
u-blox AG
understand.ai
Uptime Engineering GmbH
Vacuumschmelze GmbH & Co. KG
Valens
Vector Informatik GmbH
VISPIRON SYSTEMS GmbH
Visteon Electronics Germany GmbH
Wentronic Solutions GmbH
Winbond Electronics Corp.
XKrug GmbH
Yazaki Europe Limited
ZF Friedrichshafen AG
Zuken GmbH

Who should be exhibitor?

Manufacturers, suppliers and service providers of the automotive industry covering the following areas:

- Software and connected systems
- Automated driving and driver assistance systems
- Electrical power supply/E-mobility
- Electronic components and control devices
- Infotainment
- Comfort electronics
- HMI, operation and display
- Lighting and visibility
- Diagnostics/testing/integration
- Development services
- Special focus: China
- Start-Ups
- etc.

Sponsor 2021

KPIT

Exhibition & Sponsoring

The 20th ELIV International Congress is one of the world's most prestigious congress events for the automotive supply industry. Once again, in 2021, at the trade show accompanying the congress, more than 120 companies will present innovative and forward-looking products and services from the industry.

The exhibition is the central marketplace of the congress, where congress participants can catch up on trends in the industry. Take advantage of this attractive platform for corporate presentation and through an individual sponsorship boost your advertising impact and your image with leading decision-makers in the industry.

Use this attractive platform by taking part as an exhibitor and enhance your advertising effect and your company image among the leading decision-makers of the industry by enrolling in individual sponsoring.

Information about the trade show and the sponsorship program:
Martina Slominski, Phone: + 49 211 6214-385, Email: slominski@vdi.de

Please take note:

If your registration for the trade show is received before May 1st, 2021, your company's name will be printed in the exhibitors' list as part of the program brochure. This program brochure will be sent out to 10,000 selected addresses in Germany and abroad!

Call for Papers – 20th International Congress and Exhibition
ELIV 2021

VDI Wissensforum GmbH | VDI-Platz 1 | 40468 Düsseldorf | Deutschland

Your proposal for the future of the automotive electronics and software industry!

Early Bird Deadline
March 1, 2021

✓ **Please register for:**

Price per Person plus VAT	20th International Congress ELIV 2021
	☐ October 20-21, 2021, Bonn (01TA101021)
Participation Fee	EUR 1.540,- (Early Bird, valid March 1, 2021)

www

☐ I'm interested in Sponsoring and/or Exhibition

☐ Participation Fee VDI-Members **Save 50 € for each Workshop Day.** VDI membership no.*: _____

* For the price category 2, please state your VDI membership number

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Participants with an invoice address outside of Austria, Germany and Switzerland are kindly requested to pay by credit card. Please don't send your credit card details via email, fax or post. Please book your ticket at www.vdi-wissensforum.de. Transferring your credit card details via our website ensures your details are encrypted and security of your data is guaranteed.