会议手册
EVENT GUIDE

SAE INTERNATIONAL®

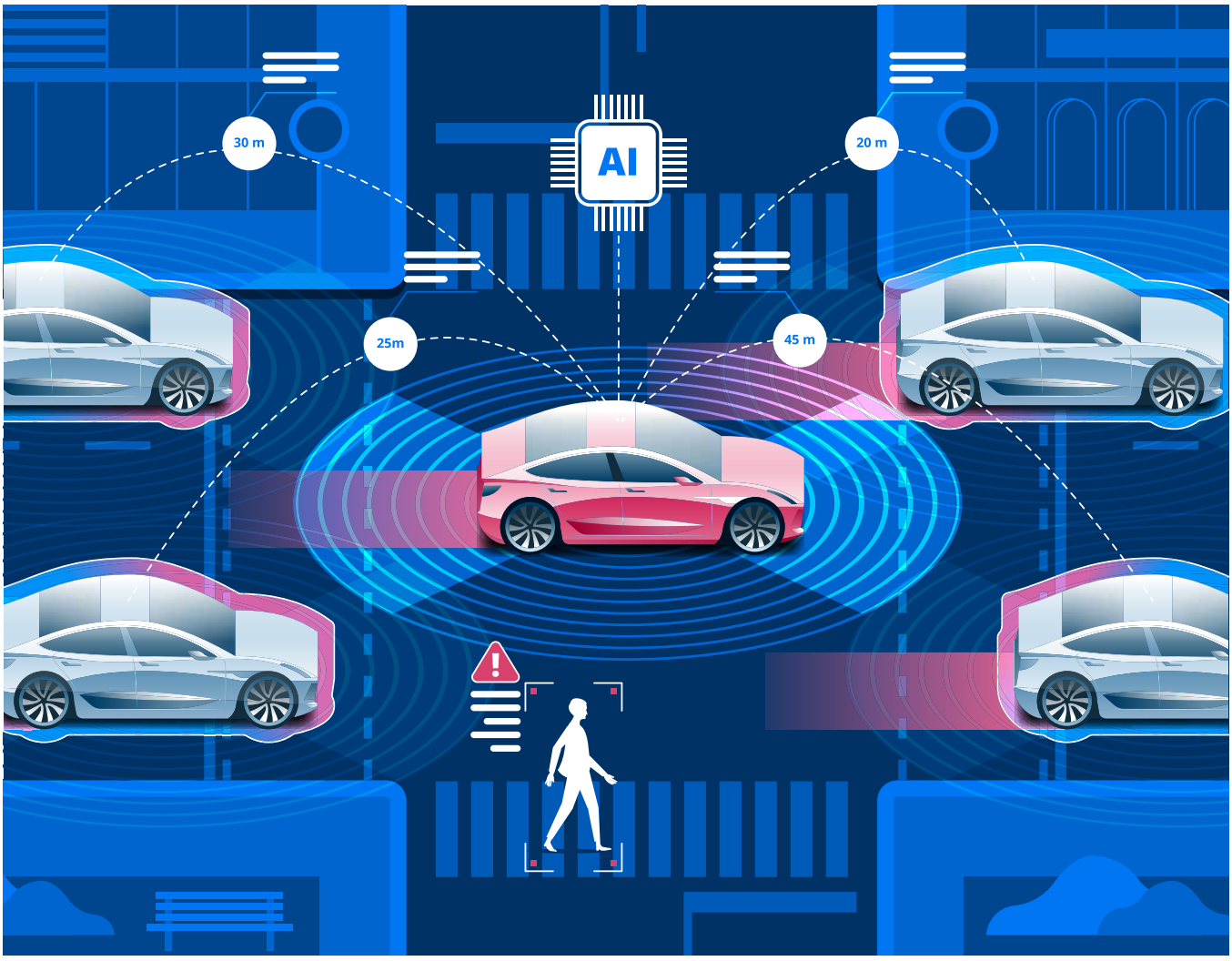
AUTOMOTIVE WORLD CHINA

SAE 2018 AUTOMATED VEHICLE SECURITY & SAFETY TECHNOLOGY FORUM

自动驾驶汽车安全技术国际论坛

2018 年 8 月 28-29 日 深圳会展中心

August 28-29, 2018 Shenzhen Convention & Exhibition Center



SAE 2018
自动驾驶汽车安全技术国际论坛
Automated Vehicle Security & Safety Technology Forum

主办单位 HOSTS

SAE INTERNATIONAL

AUTOMOTIVE WORLD CHINA

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在SAE 2018汽车智能与网联技术国际学术会议期间，若紧急情况发生，参会者须遵守规定的应急预案。靠近事件地点的参会者须向最近的论坛组织者和/或警卫人员报告，或向位于注册中心的SAE运行办公室报告。

如果发生灾难性事故，参会者须遵守事件发生时场馆发布的安全指令，其中包括听从公共广播系统提供的指令，并按指定路线撤离。

如果在本次活动过程中发生了紧急情况，或因故中断活动日程，那么参会人员与展商可拨打该号码了解活动恢复的情况。事件更新将在SAE官网http://www.sae.org上提供。

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我们通过全面的项目、产品和服务，为行业提供信息、工具和技术，以帮助专业人士更好地完成工作，并保证下一代业内工程师能够获得良好的职业发展。

自 1905 年起，SAE 就开始建立航空航天、汽车、商用车及工程农用机械领域的工程师网络，整合他们所需要的技术资源，以满足他们终生学习的需要，推动行业技术的进步与发展。

SAE International 第一任副主席是一个名叫亨利 • 福特（美国福特汽车公司创始人）的才志兼备的工程师，在最早的发展阶段，SAE 就获得了奥维尔 • 莱特（飞机发明人之一）等人的支持。在此基础上，我们建立了一个紧密合作、信息互通的广泛的中立性平台，并制定了许多首创标准。今天，SAE 已经成为了全球公认最权威的航空、汽车、商用车及工程农用机械工程知识来源，而信息共享仍然是我们的基本原则。

中文微信公众号

A professional society, SAE International is the authority on vehicle engineering. We develop more vehicle technical standards—and more aerospace standards—than any other organization. We offer the largest library of vehicle engineering content. And, we bring together the largest global network of engineers in the world.

Through a comprehensive collection of programs, products and services, we supply the information, tools, and technical know-how to help today's professionals do their jobs better while we ensure the development of the next generation of mobility engineers.

Since 1905, SAE has connected automotive, aerospace, and commercial vehicle engineers to each other and the technical resources needed to foster a lifetime of learning, solutions to improved vehicle technology, and the advancement of the mobility industry.

SAE International—whose first vice president was an up-and-coming engineering talent by the name of Henry Ford and included early supporters like Orville Wright—was based on providing a platform for collaborative and informed dialog and the impetus of its earliest standardization efforts. Today, the sharing of information remains at its core, with SAE being acknowledged globally as the ultimate knowledge source for mobility engineering.

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主办单位介绍

AUTOMOTIVE WORLD CHINA

中国汽车电子技术展览会由中国国际贸易促进委员会电子信息行业分会和励展博览集团主办，展会将汇聚业界具有影响力的展商，包括车身电子展区 , 自动驾驶展区 , 智能网联技术展区 , 新能源汽车技术展区等知名企业，为中国的汽车工程师们带来具有前瞻性与创新力的技术解决方案。与此同时，来自汽车主机厂、汽车一级供应商及 OEM 企业的优秀汽车工程师等也将汇聚一堂。展会同期将举办多场汽车电子技术研讨会，集结汽车行业专业人士及专家一起探讨行业关注的热点话题，审视行业发展新需求，开拓行业新机遇。

Organized by CCPIT and Reed Exhibitions, AUTOMOTIVE WORLD CHINA will bring together influential automotive industry exhibitors, including in Vehicle Zone, Autonomous Driving Zone, Intelligent Connected Vehicle Zone, New energy vehicle Technology Zone, providing foresighted and creative solutions for Chinese automotive engineers. Meanwhile, outstanding automotive engineers from OEMs and tier one suppliers will also join AUTOMOTIVE WORLD CHINA. Multiple automotive electronics technology forums will be concurrently at AUTOMOTIVE WORLD CHINA, gathering automotive industry experts and professionals to discuss industrial hot topics, identify urgent needs and explore new opportunities.

8 月 28 日 · August 28

9:15	**欢迎致辞** Welcome Speech
9:30	**自动驾驶安全技术进展及战略** Progress and Strategy of Automated Driving Safety
10:30	茶歇 Tea Break
10:45	**自动驾驶安全技术进展及战略** Progress and Strategy of Automated Driving Safety
12:15	午餐 Lunch
13:45	**汽车网络安全** Vehicle Cybersecurity
15:25	茶歇 Tea Break
15:40	**汽车网络安全** Vehicle Cybersecurity
16:55	**专家座谈 - 汽车智能网联与自动驾驶信息安全如何保护?** Panel - How to Protect Intelligent Connect Vehicle and Autonomous Driving Cyber Security?

8 月 29 日 · August 29

9:00	**自动驾驶功能安全与开发设计** The Design and Function Safety of Automated Driving
10:40	茶歇 Tea Break
10:55	**专家座谈 - 自动驾驶功能安全与开发设计** Panel - The Design and Function Safety of Automated Driving
12:10	午餐 Lunch
13:45	**ADAS 及 V2X** ADAS and V2X
15:15	茶歇 Tea Break
15:30	**全球自动驾驶安全法规的发展动态** Development Trends of Global Automated Driving Safety Regulations
16:00	**自动驾驶汽车安全测试、验证与评价** Safety Test, Verification and Evaluation of Automated Vehicles
16:30	**专家座谈：智能网联汽车的标准与安全** Panel - Standards and Safety of Intelligent and Connected Vehicle

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SAE 2018
自动驾驶汽车安全技术国际论坛
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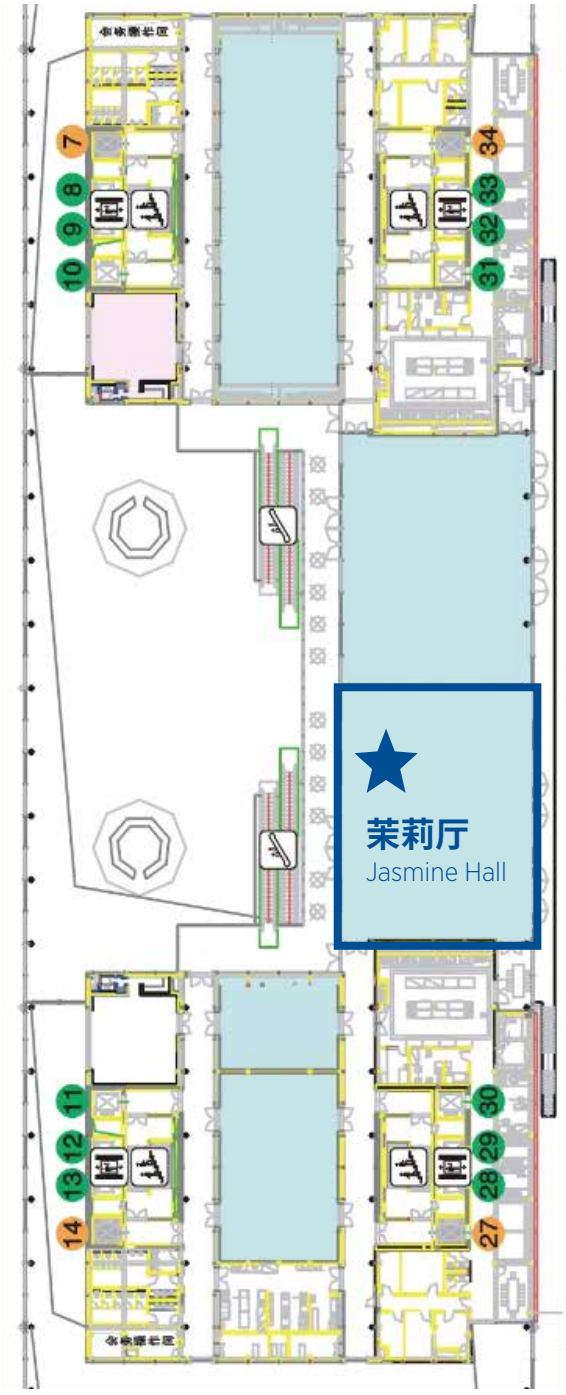


深圳会展中心 - 6 楼 茉莉厅
Jasmine Hall, 6F, Shenzhen Convention & Exhibition Center

展台
Exhibitors

深圳会展中心 -2 号馆
Hall 2, Shenzhen Convention & Exhibition Center

AUGUST 28	
9:15	**Welcome Speech** **Billy XU** General Manager, China - SAE International **Josephine Lee** COO - Reed Exhibitions Exhibitions Greater China Shenzhen Government Representative
PROGRESS AND STRATEGY OF AUTOMATED DRIVING SAFETY **Moderator: Jin SHANG** GAC R&D Center Silicon Valley	
9:30	**GAC Intelligent & Connected Technology Development & Practices** **Shaotang HUANG** GAC R&D Center
10:00	**DEKRA - Supercharging the Future of Autonomous Driving** **Stanislaw Zurkiewicz** DEKRA **ABSTRACT** The rapid advance of automated and connected driving technologies has made access to specialized testing facilities and extensive simulation capabilities more important than ever before. As well as the need for functional component testing, there is an urgent requirement for fully integrated technology testing. This includes the ways in which vehicles with automated and connected driving technologies interact with each other and with the infrastructure. DEKRA has developed a unique strategic response to the complex needs of OEMs and suppliers alike. Centered on the expertise of our test site in Germany and our specialist laboratory in Spain, our goal is to provide a fully integrated testing landscape that will meet the needs triggered by innovations that are reshaping the way we live and travel.
10:30	Tea Break
10:45	**Beyond the Prototype: EasyMile's Commercially Available Autonomous Shuttles** **Pejvan Beigui** EasyMile **ABSTRACT** With our autonomous shuttles sold and deployed since late 2014, we have a short, 3-year track record. Yet, this is probably the longest track record available for any commercial product in the "no infrastructure" MaaS space. Designing unique, bespoke prototype vehicles to conduct R&D and "technology demonstrations" is vastly different from actually commercialising autonomous vehicles and managing the expectations of real, business customers who happen to be operating public transportation with your vehicles — we face completely different challenges than most "AV" startups we meet. During this talk, Pejvan Beigui, EasyMile's CTO, will provide an overview of the technology used within EasyMile, and discuss the challenges facing the AV industry when it comes to managing bleeding edge technology alongside mature transports / vehicle manufacturing industries and their efficiency and safety requirements.

8 月 28 日	
9:15	**欢迎致辞** **徐秉良** SAE International 中国区总经理 **李雅仪** 励展博览集团 大中华区首席运营官 深圳市 政府领导
主旨演讲 - 自动驾驶安全技术进展及战略 **主持人：尚 进** 广汽研究院硅谷研发中心	
9:30	**广汽智能网联技术及实践** **黄少堂** 广州汽车集团股份有限公司汽车工程研究院
10:00	**DEKRA - 助推自动驾驶未来发展** **Stanislaw Zurkiewicz** DEKRA **摘要** 随着自动驾驶和车联网技术的快速发展，专业检测设施和多样性的模拟能力变得比以往更加重要。除了对功能性组件进行测试外，全面综合性的技术测试需求也越发迫切。这其中就包括自动驾驶和车联网应用中车辆彼此之间以及其与基础设施之间的交互方式的测试。 DEKRA 可根据 OEM 及其供应商的复杂需求制定独特的应对方略。我们率先定义协议并促进标准化进程，成为行业内 OEM 及其供应商的积极合作伙伴。凭借德国自动驾驶测试场地和西班牙互联互通测试场及实验室的专业知识，DEKRA 为未来汽车行业提供综合性完善的测试环境，满足创新带来的需求，重塑人类的生活和出行方式。
10:30	茶歇
10:45	**超越原型：EASYMILE 商用化自动驾驶小巴** **Pejvan Beigui** EasyMile **摘要** 自 2014 年下半年上市以后，我们的自动驾驶班车的销量连续三年节节攀升，虽然三年的时间不长，但就“零基础设施”的 MaaS 商业化产品而言，这已经是最长的增长记录了。 很多公司设计的是独特、定制化的原型车，这是为了研发和“技术示范”，而我们的客户是要在真实的公共交通中投运我们的车辆。我们要设计的是可以量产的车型，来满足真实运营的要求，所以我们面临的挑战和大多数自动驾驶初创公司截然不同。 在本次报告中，EasyMile 的首席技术官 Pejvan Beigui 将介绍 EasyMile 所使用的技术，并探讨在满足效率和安全要求的前提下，如何在成熟的交通行业和汽车制造行业融入最前沿的技术？在这个过程中，自动驾驶行业又面临着什么样的挑战？

11:15 **Geely's Automated Driving Development Strategy**

Weiguo LIU Geely Automobile Research Institute

ABSTRACT

In order to implement the concept of "building the safest car" and Geely stick on changing the mind of Low Price but Low Quality for domestic vehicle brands . In 2014, we had produced GPilot1.0 as pioneer in market of Driving Assistant System and quickly line-install in economic vehicles of Baorui, Baoyue and then England GL ,England GS with large number. After that, again we have introduced GPilot2.0 in beginning of 2018 which is first company among of local car-makers which achieved L2 Partly Automated Driving SOP with same top level as global players, however Our developing are based entirely on China`s traffic scenes and China`s driving behaviors with global development standard of NPDS in Geely world, always forward development process.

At present, the New Generation GPilot is being critical period of development. We do vehicle development with ISO26262 Function Safety from top to bottom and then import the Simulation Tools and Validation methods of SIL, MIL, HIL, VeHil with path of bottom upper at same time we had already gave up traditionally development strategy of pyramid which is Tier I , Tier II and then Tier III.....and by new flattening ECO system , through mastering system architecture we can drive the best combination of global supply chain and controls development cost at same time and done agile development .

In coming we will continue to address to more safety development methods of SOFIT,RSS and ISO20077

11:45 **Design Validation and Safety Analysis of Autonomous Vehicles**

Emmanuel Arbaretier Airbus APSYS

ABSTRACT

In the context of a methodological cooperation achieved through different Research project, which concerned design, safety assessment and validation of autonomous vehicles, some scientific and technical material has been produced and collected about how to provide some assurance about autonomous systems and how it has to change the way we conceptualize knowledge about such systems and we produce evidence about how they will behave and how far they will be exposed to critical situations able to cause human damages. We try to describe the corner stones of an incremental engineering framework, which has already begun in new technology application development, and where close interaction between operational deployment field analysis and front-end design optimization process is fostered, at the same time whilst multiple simulation technics are pushed forward to substitute with real experimentation of the system.

LUNCH

VEHICLE CYBERSECURITY

Moderator: Yiping LÜ Tencent Keen Security Lab

13:45 **Technology Development and Security Detection of IOV**

Jianhua LI Shanghai Jiaotong University

ABSTRACT

Internet of Vehicles (IoV) realizes the connections and management among vehicle-mounted devices, vehicle-to-vehicle, vehicle-to-road. Based on the standardized protocols, the interactions of vehicle-to-X can be implemented. IoV is the core component of smart transportation management. At the same time, there are a lot of threats and vulnerabilities in the vehicle-mounted devices, protocols, software, applications, complete vehicle of IoV. The trend of IoV and its security test technologies as well industries will be introduced in this talk.

11:15 **吉利自动驾驶开发策略**

刘卫国 吉利汽车研究院

摘要

吉利为了践行“造最安全汽车”的理念，立志改变中国本土品牌“低质低价”的产品形象。在 2014 年我们就已经量产了 GPilot1.0, 率先实现了辅助驾驶智能，并迅速且大批量把这样的主动安全系统装配到吉利新生代的经济型轿车群，从博瑞，博越到帝豪 GL 和帝豪 GS。之后在 2018 年初随着 GPilot2.0 的推出市场，完成了中国自主品牌第一个真正 L2 级别的部分自动驾驶系统的量产，达到了世界在自动驾驶领域量产系统的同级水平，但我们的开发是完全基于中国的驾驶场景，中国的驾驶习惯，通过吉利全球统一的 NPDS 的开发流程，正向开发完成的。

目前新一代的 GPilot 正处于开发的关键时期，我们导入整车级自上而下的 ISO26262 的功能安全开发，自下而上的 SIL , MIL ,HIL，VeHil 仿真开发与验证工具和手段，同时我们对整个系统的开发放弃从 Tier I 到 Tier II 再到 Tier III 的金子塔状的传统开发策略，实施扁平化的生态模式，通过掌握系统架构的主动权，实施全球供应链的最优配置 & 组合，控制开发成本，敏捷开发。后面我们还在积极导入 SOFIT（预期功能安全），RSS（责任敏感安全模型），车辆外延交互安全的 ISO20077 等更多的产品安全的组合开发手段。

11:45 **自动驾驶汽车的设计确认和安全分析**

Emmanuel Arbaretier 空客 APSYS 公司

摘要

通过关于自动驾驶汽车设计、安全评估和确认方法论的多个联合研究项目，我们取得相应的科学和技术成果，涉及以下几个方面：

- 如何给自主系统提供保障；
- 如何改进使自主系统相关知识概念化的方式；
- 我收集到了相关证据，证明自主系统是如何运转的；
- 自主系统有多大程度会暴露在可能造成人员危害的关键场景。

我们尝试去描述增量工程框架的基础要件，这些基础要件已经应用于新技术开发，促进了运行部署领域分析和前端设计优化流程 的交互。同时多种仿真技术的应用正在加速替代了系统的实际试验。

午 餐

汽车网络安全

主持人：吕一平 腾讯科恩实验室

13:45 **车联网技术发展与安全检测**

李建华 上海交通大学

摘要

车联网实现了车内、车间和车路之间的有效互联和管理，按照约定的通信协议和数据交互标准，有效达到了车 -X 之间的交互。车联网是智能化交通管理的核心基础。同时，车联网中的车部件、协议、软件、应用、整车等存在大量的风险和脆弱性。本讲座将对车联网及其安全检测的技术和产业趋势进行介绍。

14:10	**The Software Security of Autonomous Driving** **Jin SHANG** GAC R&D Center Silicon Valley **ABSTRACT** An AD system is, on its essence, a full stack system that is operated on a complex embedded system platform. Thus, the predominant software security concern to be addressed in such a system is the high security requirement of the components, especially the AD system components. In this presentation, we will first look at the application of software security in functional safety and SOTIF, which will cover software frameworks in complex real-time systems and the principles of reliability and redundant design. Then the presentation will address the necessity of building systematic infrastructures to facilitate information security protection function of software products. Detailed elaboration on this matter will be given, focusing on the design and requirements of information security protection in AD applications in the fields of vehicle border, vehicle terminals, communication and transmission, and security service systems. Bringing together different fields, software security will be the key to the high-volume development of AD systems!
14:35	**Cybersecurity and ADAS** **Sheriff XUE** APTIV **ABSTRACT** This is an introduction of cybersecurity solution from automotive tier-1 perspective. APTIV has a sophisticated framework of cybersecurity development to meet OEM and market demand, while automotive cybersecurity solutions are being deeply affected by evolution of ADAS and autonomous driving. Basing on APTIV smart architecture, a layered cybersecurity architecture is presented as an important aspect of the ADAS solution. The dilemma and challenges in integration of cybersecurity design are described as well as the management solutions in APTIV engineering team. Combining the technology aspect and people aspect, it is the cybersecurity design strategy that is directing APTIV's effort in enabling the implementation of more intelligent ADAS features.
15:00	**Vehicle Cybersecurity of Intelligent and Connected Vehicle** **Liang ZHANG** Audi China **ABSTRACT** As the development of ICV becomes one of the hot topics of 2018 and the trend of connectivity is gaining momentum, both traditional and new OEMs all regard connectivity as an important feature incorporated into a car. With continued efforts in improving customer experience and expanding service scope, cyber security is an issue all OEM stakeholders must face.
15:25	Tea Break
15:40	**Cybersecurity for OBD-II devices** **Joaquin Torrecilla** DEKRA Testing & Certification S.A.U **ABSTRACT** In the past few years, we are seeing a rise in the availability of aftermarket devices to access car data. Those devices often get connected to the car through the OBD-II port, which was originally designed for emissions testing. The OBD-II port allows access to the vehicle's internal bus to anyone connecting to it. The initial standards that defined this port were targeting the access to emissions' related information; although afterwards, new capabilities where added that allowed changing parameters or reprogramming the internal ECUs in the vehicle. Aftermarket OBD-II dongles provide consumers and enterprises with many useful features, but they also expose the vehicle to new risks that where not considered in the nineties, when the OBD standard was developed. In this presentation, we will review the risks associated to the connection of devices to the OBD-II port; and will discuss real-life examples of vulnerabilities affecting this type of devices.

14:10	**自动驾驶的软件安全** **尚 进** 广汽研究院硅谷研发中心 **摘要** 自动驾驶系统本质是运行在复杂嵌入式系统平台上的全栈软件系统，车载部件特别是自动驾驶对安全的极致要求首先是系统的软件安全考虑。软件安全在功能安全和 SOTIF 的应用将首先介绍，包括复杂实时系统的软件架构、可靠性及冗余设计的核心思想；软件产品带来的信息安全防护功能需要体系建设，包括车边界、车内终端、通信和传输、安全服务体系方面，自动驾驶应用的信息安全防护在这四方面的具体设计和要求将阐述。作为跨行业的应用和融合技术，软件安全将是自动驾驶系统量产开发的最关键技术！
14:35	**汽车网络安全与 ADAS** **Sheriff XUE** APTIV **摘要** 本次演讲将从一级供应商的角度介绍网络安全解决方案。当下，ADAS 与自动驾驶技术的演进极大影响了汽车行业的网络安全解决方案开发，APTIV 拥有一套成熟的网络安全开发框架，能够满足 OEM 以及市场的需求。APTIV 基于 APTIV 智能汽车架构开发出了多层级的网络安全架构，成为了其 ADAS 解决方案的重要组成部分。APTIV 工程团队在致力于网络安全管理方案开发的同时，同样也着眼于解决整合网络安全设计过程中的困境。APTIV 的网络安全设计策略立足科技、以人为本，为 APTIV 实现更为智能的 ADAS 特性指路引航。
15:00	**智能网联下的车辆网络安全** **张 良** 奥迪 (中国) 企业管理有限公司 **摘要** 在智能网联成为 2018 年最热门的话题之一 , 车厂拥抱互联网的步伐进一步加快的大环境下 . 不论是传统车厂还是造车新势力都将互联互通作为新车的一个重要配置进行开发 . 在不断的强化用户体验 , 扩展服务边界的情况下 , 网络安全成为所有车厂都需要直面的话题 .
15:25	茶歇
15:40	**OBD-II 设备的网络安全风险** **Joaquin Torrecilla** DEKRA Testing & Certification S.A.U **摘要** 在过去的几年中，获取汽车售后数据的设备供应需求显著增加。这些设备通常通过 OBD-II 接口连接到汽车上，该端口最初是为排放测试而设计的。 OBD-II 端口允许对连接到它的任何设备访问车辆的内部总线。定义这个港口的最初标准是针对排放的相关信息；尽管之后，添加了新的功能，并允许更改参数或重新编程车辆内部的 ECUs。 汽车售后市场为消费者和企业提供了许多有用的功能，但同时也暴露了汽车的新风险，而在 90 年代，当 OBD 标准被开发出来的时候，这些风险就没有被考虑过了。 在这次的演讲中，我们将回顾与 OBD-II 端口连接设备相关的风险，并将讨论影响这类设备的脆弱性的真实示例。

16:05	**Cybersecurity beyond the Intelligent** **Samuel LÜ** Tencent Keen Security Lab **ABSTRACT** Mr. LV will briefly share Tencent Keen Security Lab's understanding of the new information security challenges brought by the development of new ICV technologies and introduce Keen Security Lab's solutions to improving ICV cyber security and safety based on the Lab's deep research on ICV information security over the past few years.
16:30	**Intelligent Connected Vehicle Cybersecurity Solution & Practice** **Peng YUN** Baidu **ABSTRACT** Provide an analysis of generic issues concerning automotive information security from perspectives of attackers and defenders. Share research and solutions adopted within Baidu Apollo to address these issues.
PANEL - HOW TO PROTECT INTELLIGENT CONNECT VEHICLE AND AUTONOMOUS DRIVING CYBER SECURITY?	
16:55	Whether the current safety concept and latitude of automotive products can no longer be summarized by traditional primary and passive safety and functional safety. Does network information security become the cornerstone of intelligent connection and autonomous driving development? How does the automotive industry develop significant and effective cooperation in intelligent connection and autonomous driving cyber security? And how to accelerate the transformation of information security in the automotive industry? **MODERATOR** **Samuel LÜ** Tencent Keen Security Lab **PANELISTS** **Jianhua LI** Shanghai Jiaotong University **Jin SHANG** GAC R&D Center Silicon Valley **Sheriff XUE** APTIV **Liang ZHANG** Audi China **Peng YUN** Baidu **Joaquin Torrecilla** DEKRA Testing & Certification S.A.U

16:05	**智能网联时代，安全先行** **吕一平** 腾讯科恩实验室 **摘要** 基于腾讯科恩实验室过去几年针对智能网联汽车信息安全的深入研究，总结分享科恩实验室针对目前智能网联汽车新技术发展带来的全新信息安全挑战的理解和认识，以及介绍科恩面向智能网联安全能力和安全解决方案输出。
16:30	**智能网联汽车信息安全解决方案及实践** **云 朋** 百度 **摘要** 从攻击者和防御者两个视角，分析汽车信息安全的共性问题，描述百度 Apollo 基于这些问题的探索和解决方法。
	专家座谈： 汽车智能网联与自动驾驶信息安全如何保护?
16:55	目前汽车产品的安全概念和纬度是否已经不能用传统的主、被动安全和功能安全等概括，网联信息安全是否成为智能网联与自动驾驶发展的基石? 汽车行业如何在智能网联与自动驾驶信息安全上展开显著有效的合作？并如何加速信息安全在汽车行业变革发展的落地? **主持人** **吕一平** 腾讯科恩实验室 **嘉宾** **李建华** 上海交通大学 **尚 进** 广汽研究院硅谷研发中心 **Sheriff XUE** APTIV **张 良** 奥迪 (中国) 企业管理有限公司 **云 朋** 百度 **Joaquin Torrecilla** DEKRA Testing & Certification S.A.U

AUGUST 29

THE DESIGN AND FUNCTION SAFETY OF AUTOMATED DRIVING

Moderator: Eason DONG General Manager, UtCer

9:00	**Can Machine Learning in Highly Automated Driving Exist in a Functional Safety System?** **Mark A. Crawford, Jr.** Great Wall Motor **ABSTRACT** Machine learning (ML) is increasingly becoming a key enabling technology for highly automated driving (HAD) vehicles. With all the significant advances that ML has contributed in HAD, there are significant challenges in assessing the risks associated with this artificial intelligence technology. ML presents unique hazards and software challenges that require new approaches to ensure functional safety. This presentation will review the difficulties in incorporating ML into HAD to reduce safety risks and will discuss recommendations for solving these problems in a functional safety context.
9:25	**Functional Safety - Safe Autonomous Driving is Team Work** **Christoph Maier** DEKRA Digital GmbH **ABSTRACT** Autonomous driving is technology wise one of the biggest challenges ahead. Dozens of sensors need to be evaluated hundreds of times a second to create a valid environmental model. Based on this model, the driving strategy will be derived. To ensure proper and safe functionality, the development has to consider not only electronics, but also mechanics on product and vehicle level. A holistic and traceable approach for risk analysis, risk mitigation, test specification and validation is needed to orchestrate the behavior of single products in the function chain. In this presentation we will present an approach on how to ensure a holistic analysis of risks of a mechatronics product.
9:50	**Automated Driving - Challenges in the Interplay between Functional Safety and Safety of the Intended Functionality** **Mirko Conrad** Samoconsult GmbH **ABSTRACT** ISO 26262 "Road vehicles — Functional safety" provides guidance on how to avoid unreasonable risk due to hazards caused by malfunctioning behavior of automotive E/E systems. However, hazards can also been caused by these systems in the absence of any faults, i.e., resulting from technological shortcomings or shortcomings in their system definitions. Developers of ADAS are increasingly caught between addressing functional safety and the latter topic area, dubbed SOTIF (safety of the intended functionality). To date, there is only limited guidance on SOTIF, but ISO PAS 21448 "Road vehicles—Safety of the Intended Functionality", an upcoming Publicly Available Specification, might improve this situation.
10:15	**Address The Challenge Of Unexpected Behavior In Modern Vehicles** **Bodo Seifert** DURA Automotive Systems **ABSTRACT** This presentation addresses how to face unexpected behavior in modern automobiles. It shows the types of unexpected behavior and then discusses the design hierarchy from a process point of view. Then we will take a brief look at the foundation of the design from a process perspective (CMMI and Automotive SPICE), look at ISO26262, then at Cyber security (with a brief excurse to J3061) and finally a practical implementation of an ECU.
10:40	Tea Break

8 月 29 日

自动驾驶功能安全与开发设计

主持人：董 浩 优策科技 总经理

9:00	**机器学习对高度自动驾驶功能安全系统的挑战** **Mark A. Crawford, Jr.** 长城汽车 **摘要** 机器学习（ML）技术正日益成为推动高度自动驾驶（HAD）汽车发展的关键因素。不过，ML 技术在推动 HAD 汽车实现重大发展的同时，也带来了一些新的安全风险。具体来说，ML 技术的应用给汽车功能安全带来了新风险与新的软件挑战。本演讲将侧重介绍 ML 技术应用于 HAD 汽车所带来的安全风险，并就如何提高 HAD 汽车功能安全提出了几点建议。
9:25	**功能安全 - 安全自动驾驶是团队工作** **Christoph Maier** DEKRA Digital GmbH **摘要** 自动驾驶技术是未来最大的挑战之一。需要对数十个传感器进行每秒数百次的评估，以创建一个有效的环境模型，并在此基础上，推导出驱动策略。为了确保正确和安全的功能，研发不仅要考虑电子产品，还要考虑产品和整车水平的机制。为了在功能链中编排单个产品的行为，需要一个全面的、可追溯的风险分析、风险缓解、测试规范和验证方法。 在此次演讲中，我们将介绍一种方法，讨论如何确保对机电产品的风险进行整体分析。
9:50	**自动驾驶 - 功能安全与预期功能安全相互作用的挑战** **Mirko Conrad** Samoconsult GmbH **摘要** ISO 26262 《道路车辆—功能安全》就如何预防由汽车电子电气系统产生故障导致的意外风险提供了指导意见。但是，即使电子电气系统没出故障，因技术或系统定义缺陷也会造成安全隐患。 ADAS 开发人员一方面要解决车辆功能安全问题，一方面要考虑时下热议的“预期功能安全（SOTIF）”，处境越发地艰难。目前为止，关于 SOTIF 的指导文件并不多。不过，即将发行的 ISO PAS 21448《道路车辆—预期功能安全》文件或将填补这一空缺。
10:15	**关于现代车辆中不可预知行为的挑战** **Bodo Seifert** DURA Automotive Systems **摘要** 本次演讲描述了如何面对现代车辆中不可预知的行为。它展示了不可预知行为的种类，并从流程角度出发讨论了设计的分成。然后我们可以简要地从流程（CMMI 能力成熟度模型集成和汽车仿真电路）角度出发了解设计的寄出，了解 ISO26262 功能安全，了解网络安全（简要地介绍 J3061），最后实际地实现一个电子控制单元。
10:40	茶歇

PANEL - THE DESIGN AND FUNCTION SAFETY OF AUTOMATED DRIVING

10:55

In autonomous driving, esp. for L3 or higher, what's the safety structure for environment sensing, data fusion, decison unit and execution unit (EPS, ESP, VCU...)

How to combine ISO 26262 into new technology like: Ethernet, GPU, FPGA, AI? How to realize SOTIF in practice?

MODERATOR

Eason DONG General Manager, UtCer

PANELISTS

Mark A. Crawford, Jr. Great Wall Motor
Christoph Maier DEKRA Digital GmbH
Emmanuel Arbaretier Airbus APSYS
Mirko Conrad Samoconsult GmbH
Bodo Seifert DURA Automotive Systems

LUNCH

ADAS & V2X

Moderator: Yu WANG Director, Intelligent Vehicle Research Lab & Automotive Software Testing Center, CATARC

13:45

Cloud vs. Local Content Storage in Autonomous Driving

Sky MA MICRON

14:15

Vehicle FOTA Security with Next Generation Blockchain Technology

Jacky ZHANG CAROTA

ABSTRACT

Summarize the current security challenges from the practice of vehicle FOTA technology. Introduce the characteristics and limitations of the classic blockchain technology, why it is not suitable for large-scale application in the Internet of Things and the Internet of Vehicles. Discuss how the next generation of blockchain technology can be improved and how it can be applied to the vehicle FOTA security.

14:45

Digital Simulation & Verification System for Automated Driving

Zhongwei YING ANSYS

ABSTRACT

As traditional testing system becomes impossible to cover all test scenarios of automated vehicles and the application of AI technologies significantly increases the need for expansion of test scenarios, the digital simulation technologies seems to be the only way out. Therefore, achieving high fidelity simulation becomes top priority for developers. With ANSYS's digital multi-physics simulation technology, you can effectively build a high-fidelity simulation system for automated vehicles that sees the practical application of simulation technologies in automated vehicle testing & verification.

15:15 Tea Break

专家座谈 - 自动驾驶功能安全与开发设计

10:55

在自动驾驶领域，尤其是 L3 以上的系统，针对各个系统（包括环境感知，数据融合，决策，执行机构等）有什么特殊的安全架构设计方法?

在自动驾驶领域，针对新技术（比如以太网，GPU，FPGA，人工智能）如何融合 ISO26262？在实践设计中，如何实现 SOTIF 理念?

主持人

董 浩 优策科技 总经理

嘉宾

Mark A. Crawford, Jr. 长城汽车
Mirko Conrad Samoconsult GmbH
Christoph Maier DEKRA Digital GmbH
Bodo Seifert DURA Automotive Systems
Emmanuel Arbaretier 空客 APSYS 公司

午 餐

ADAS 及 V2X

主持人：王 羽 中国汽车技术研究中心 智能汽车研究室暨汽车软件测评中心 主任

13:45

自动驾驶中的云存储与本地存储

Sky MA 美光半导体

14:15

下一代区块链技术在车联网 FOTA 安全中的应用

章鑫杰 CAROTA

摘要

从整车 FOTA 技术的落地实践中总结当前面临的安全挑战。介绍经典区块链技术的特点和局限，为什么它不适合大规模应用于物联网或车联网。讨论下一代区块链技术是如何改进的，如何将其应用到车联网 FOTA 安全中。

14:45

ANSYS 面向自动驾驶的数字化仿真与验证体系

应中伟 ANSYS

摘要

传统的测试手段难以在有限的时间内覆盖自动驾驶汽车所有可能的运行场景，AI 的应用又急剧扩大了对测试场景规模的要求。数字化的仿真手段是目前解决这一难题有效手段，但是高保真的仿真又是这一技术是否能够应用于实际的关键。ANSYS 基于数字化的多物理仿真技术可以有效的构建一套高保真的自动驾驶仿真体系，从而将仿真技术真正应用到自动驾驶汽车的测试验证中。

15:15 茶歇

15:30	**Development Trends of Global Automated Driving Safety Regulations** **Shanshan HE** Anli Partners **ABSTRACT** MS HE will focus on 16 legal issues arising from the development of automated driving (including test, standard, market access, driver behavior, data application management, privacy protection, cyber security, car accident liability and product liability) to discuss the current priorities and challenges in the construction of legal system for ICVs in China. She will also provide a systematic review and analysis of the 6 major laws and regulations concerning automated driving and offer new solutions and recommendations for dealing with legal and regulatory obstacles as well as relevant bind standards barriers to development of automated driving. In addition, by analyzing automated vehicle policies and laws in foreign countries (mainly US and Germany, also some other outstanding example from other countries) and comparing these examples with those of China, MS HE will discuss lessons that China can learn from these countries in terms of automated vehicle policies, regulations and laws and provide possible regulatory solutions to automated vehicles that fit China's specific national conditions.
16:00	**Safety Test, Verification and Evaluation of Automated Vehicles** **Yuankui GUO** CATARC
	PANEL - STANDARDS AND SAFETY OF INTELLIGENT AND CONNECTED VEHICLE
16:30	**PANELISTS** **Mark QIU** COO, Robosense **Mark MA** CEO, Frontt-Dezhi **Jianyao HU** Quality and Safety Supervision Centre, CEPREI **Mike ZHU** CEO, Eyemore

15:30

自动驾驶监管路径和立法探索

何姗姗 安理律师事务所

摘要

以自动驾驶发展所涉及的十六个方面的法律问题（包括测试、标准、市场准入、驾驶员行为、数据应用管理、隐私权保护、网络安全、交通事故责任、产品责任等）为中心，结合当下我国智能网联汽车相关法律制度构建的重点和难点展开探讨。通过对自动驾驶所涉及的六大类法律法规及相关标准的系统性梳理和分析，对于真正给自动驾驶发展形成阻碍的法律法规以及对其造成禁止性约束的标准提出新的解决思路和可行建议。同时，通过对于国外（以美德的为主，兼采其他国家的突出成果）自动驾驶政策和法律的比较研究，提出对于中国在自动驾驶政策引导、监管思路和立法规制方面的借鉴，提出符合中国国情的自动驾驶监管、合规解决方案。

16:00

自动驾驶汽车安全测试、验证与评价

郭魁元 中国汽车技术研究中心

摘要

在 ADAS 领域介绍了国内标准法规、NCAP 方面的最新进展，自动驾驶测试技术领域介绍了国际最新发展现状，并分享中国汽车技术研究中心在驾驶模拟器、硬件在环、软件测试、实车测试方面的工具链搭建方面的相关工作。

专家座谈 - 智能网联汽车的标准与安全

16:30

嘉宾

邱纯潮 速腾聚创 首席运营官

马浩原 前沿德至 首席执行官

胡坚耀 赛宝实验室质量安全检测中心

朱继志 眼擎科技 首席执行官

黄少堂

广州汽车集团股份有限公司汽车工程研究院
首席技术官

主导广汽集团多款自主品牌乘用车的整车开发工作，包括整车电子电气架构的设计，包含了车载以太网、CANFD、LIN 等等不同网络总线的综合应用。建立电子电气架构正向 V 开发流程，编制各类整车级电气架构系统标准和技术规范。对整车开发的标准，流程，先进技术和方法有深刻的理解，拥有丰富的整车开发经验。负责广汽研究院智能驾驶汽车系统的研究与开发，包括传感感知、决策规划、控制执行等方面的算法架构搭建和硬件平台的整合及人工智能在智能驾驶中的研究应用、智能驾驶系统整车集成与测试标定、整车技术平台的搭建、把握公司战略方向和未来发展趋势。负责广汽车联网技术研究与开发，主要包括智能网联汽车的人机交互、智能语音控制、车辆远程控制系统、大数据挖掘与云平台建设，应用于智能汽车的边缘计算和云计算的协同、车联网通讯技术的应用，主要有 V2X、LET-V、5G 的示范运营。

主导开发了 T-box，智能网联移动终端系统、智驾电子控制系统，底盘等 20 多个控制器。拥有国家专利 110 项，制定企业标准300余份，打造出具有世界先进水平的智能网联电子电器实验室。承担国家工信部核高基重大专项开发，主管完成广东省科技厅粤港共性技术招标项目，主导多个省市重大项目的研发，皆取得丰硕成果。

曾荣获世界汽车工程年会论文评审专家、中国汽车工程学会专家理事、新能源汽车国家大数据联盟理事、中国汽车工业优秀归国人才奖、中国智能网联联盟专家理事、广州市荣誉市民、广州市优秀专家、广州市创新领军人才、2017 年度中国汽车工业科学技术奖一等奖、2016 年广州市创新领导人才奖、2016 年广州市产业高端人才项目、2017 年番禺区“产业高端人才”称号、2017 年被聘为北京航空航天大学仪器科学与光电工程学院客座教授和研究员、2018 年被聘为武汉理工大学兼职教授。

黄少堂先生拥有密歇根州州立大学高级工商管理硕士；韦恩州立大学计算机工程理科硕士。

Shaotang HUANG

CTO
GAC R&D Center

Huang oversees the whole vehicle development of multiple GAC self-owned passenger vehicle brands. His responsibilities include the design of whole vehicle electrical and electronic architecture, which encompasses the application of network buses like in-vehicle Ethernet, CANFD and LIN; the establishment of a positive V development process for the electrical and electronic architecture; and the development of various vehicle-level electrical architecture system or technological standards. He has extensive experience in whole-vehicle development and boasts considerable expertise in the standards, processes, advanced technologies and methods in whole-vehicle development. He now chairs the R&D of intelligent driving systems at GAC R&D Center, which covers the algorithm architecture construction and hardware platform integration in sensor perception, decision planning, control execution, as well as the research and application of AI in intelligent driving, the integration, test calibration of intelligent driving system at vehicle-level, and the construction of the vehicle technology platform. At his position, he also engages in analyzing development trends and deciding the company's strategic direction. He was also responsible for the research and development of ICV technologies. Human-computer interaction, voice control, vehicle remote control systems, big data mining and cloud platform construction are his areas of accountability. He also engages with the applications used to facilitate the coordination between cloud computing and ICV edge computing and V2X communication technology. These mainly include demonstration operations of V2X, LET-V and 5G.

In the past, Huang chaired the development of over 20 types of controllers including T-Boxes, mobile systems for ICV, electronic AD control systems and chassis. He holds 110 Chinese patents and developed over 300 business standards. A cutting-edge ICV electronic and electrical laboratory was built following his lead. He undertook major special projects in the development program of core electronic devices, high-end general-purpose chips, and basic software products led by the Ministry of Industry and Information Technology. He was put in charge of a number of successful local research and development programs, among which were the Guangdong and Hong Kong common technology bidding project of the Guangdong Provincial Science and Technology Department.

Huang Shaotang once served on the paper reviewing panel of the Automobile Engineering Conference, and an expert director of SAE-China, a director of the Chinese National Big Data Alliance of New Energy Vehicle and an expert director of CAICV. He received several honorary titles, including Honorary Citizen of Guangzhou, Guangzhou Excellent Experts, and Guangzhou Innovation Leader. He was honored with a multitude of awards, including the Excellent Returned Talent Award of China Automotive Industry, and the first prize of 2017 China Automotive Industry Science and Technology Award, 2016 Guangzhou Innovation Leadership Award. He was recruited in the 2016 Guangzhou High-end Talent Project, and in 2017, he received the title of Guangzhou Panyu District High-end Talent. In 2017, he was retained as a visiting professor and researcher at the School of Instrument Science and Optoelectronic Engineering of Beihang University. In 2018, he was appointed as an adjunct professor at Wuhan University of Technology.

He receives an EMBA from Michigan State University and an MS in Computer Engineering.

Stanislaw Zurkiewicz

DEKRA 东亚 & 南亚区总裁
DEKRA 集团 执行副总裁

Stanislaw Zurkiewicz（曾牧）先生现任 DEKRA 集团东亚 & 南亚区总裁、DEKRA 集团执行副总裁。

曾牧先生自 2002 年开始在亚洲工作，于 2009 年加入 DEKRA（德国机动车监督协会），全球领先的专业服务机构及全球最大的机动车检测机构。曾牧先生在 2015 年被任命为 DEKRA 集团东亚区总裁，并于 2018 年被任命为 DEKRA 集团执行副总裁。

曾牧先生在 DEKRA 建立东亚区的过程中发挥了举足轻重的作用。为了大力推动中德合作，曾牧先生积极在中国和其它亚洲国家和地区发展战略新兴领域，如物联网、电动汽车、车联网、自动驾驶等。在他的领导下，DEKRA 东亚区通过有机增长和并购相结合的方式，已经在一系列战略目标市场领域成为最强大和专业的检测认证机构之一。

曾牧先生在英国著名大学圣安德鲁斯大学取得管理学硕士学位，并在中国顶尖的商学院中欧国际工商学院以优秀毕业生身份获得 EMBA 工商管理硕士学位。

Stanislaw Zurkiewicz

Chief Regional Officer, DEKRA East & South Asia
Executive Vice President, DEKRA Group

Mr. Stan Zurkiewicz is the Chief Regional Officer of DEKRA East & South Asia and Executive Vice President of DEKRA Group.

Mr. Zurkiewicz has been based in Asia since 2002. Mr. Zurkiewicz joined DEKRA, one of the leading global expert organizations and the world's largest automotive testing, inspection and certification group in 2009. He was appointed as Chief Regional Officer of DEKRA East Asia in 2015, and assumed the role of Executive Vice President of DEKRA Group in 2018.

Mr. Zurkiewicz has played a key role in establishing DEKRA's presence across East Asia. In the context of championing Sino-German collaboration, Mr. Zurkiewicz actively pursued key strategic initiatives including Internet of Things, Electric Mobility, Connected Car and Autonomous Drive in China and other Asian countries and territories. Under his leadership, DEKRA rapidly expanded through organic and in-organic approach and emerged as one of the most powerful and professional testing, inspection and certification organizations in the clearly defined strategic market segments.

Mr. Zurkiewicz holds Master's Degree in Management from University of St. Andrews, Scotland and was recognized as Outstanding Graduate of Global Executive Master of Business Administration at China's top business school - CEIBS.

Pejvan Beigui

EasyMile
首席技术官

曾就职于苹果公司，担任全球开发者关系小组的传播者一职。后从巴黎移居至伦敦，成为一家名为 NewFinance Capital 的初创公司的首席技术官，该公司后来成为全球最大的对冲基金之一，并被施罗德资本收购。随后担任过摩根大通、摩根斯坦利、巴克莱资本等顶级投行的金融市场部门的技术副总。

在伦敦和新加坡旅居 10 年后重返巴黎。2014 年加入自动驾驶初创公司 EasyMile，担任首席技术官一职。EasyMile 目前拥有 120 多名员工，在 5 个国家设有办公室，其推出的 EZ-10 自动驾驶班车已被全球最大的交通运营商采用，产品进入了 20 多个国家的 100 多个地区，包括澳大利亚、日本、加利福尼亚等等。EasyMile 已经成为了 MaaS（出行即服务）变革的中坚力量。

Pejvan Beigui

CTO
EasyMile

Prior to moving from Paris to London and joining a young company which became one of the largest hedge funds (NewFinance Capital, sold to Schroders) as their CTO, Pejvan worked for Apple as an evangelist in the Worldwide Developer Relations team. He went on to become VP of Technology in the financial markets divisions of several top-tier investment banks (JPMorgan, Morgan Stanley, Barclays Capital).

After 10 years spent between London and Singapore, Pejvan returned to Paris. He then joined the newly founded autonomous vehicle start-up EasyMile in 2014 as their CTO. With more than 120+ employees and office in 5 different countries, EasyMile is now a major actor of the Mobility as a Service revolution with their EZ-10 autonomous shuttle, sold to the largest transport operators in the world, and their vehicles have been deployed in more than 100 locations in 20+ countries, from Australia and Japan all the way to California.

刘卫国

吉利汽车研究院
资深总工程师

2004 年 3 月毕业于东北大学车辆工程专业，获硕士学位，现任职于浙江吉利汽车研究院有限公司，职务资深总工程师。中国青年报“2013 年十大杰出青年工程师”;CSAE 标准技术委员会智能网联汽车分技术委员；中国汽车先进驾驶辅助系统（ADAS）标准工作组成员 ..2013-2015 年期间主持开发的吉利“博瑞”、“博越”、帝豪“GS/GL”等车型智能驾驶系统项目，引领自主品牌汽车的智能驾驶技术趋势。工作期间共获得省部级以上奖项 12 项，市区级奖项 10 项，企业内部奖项 28 项，申报科技成果鉴定 12 项，发表论文三十余篇，专利百余项。

Weiguo LIU

Senior Chief Engineer
Geely Automotive Research Institute

Weiguo Liu is now working in Zhejiang Geely Automobile Research Institute as a Senior Chief Engineer after he graduated from Northeastern University with a Master degree in automotive engineering. He was selected by China Youth Daily as 2013 Top 10 Young Engineers. He is a member of ICV Sub-Committee of CSAE Standard Technical Committee and working group of China ADAS Standard. Liu led the development of intelligent driving systems for Borui, Boyue and Emgrand GS/GL during 2013 and 2015, as a trailblazer among local Chinese brands. Among the awards he has received, 12 were granted by provincial and central authorities, 10 by municipal governments, 28 by Geely. 12 of his research results have been approved. He is the author of over 30 papers and holds 100+ patents.

Emmanuel Arbaretier

空客 APSYS 公司
新技术与创新负责人

Emmanuel ARBARETIER 毕业于巴黎中央理工学院（Ecole Centrale de Paris），后进入泰雷兹（THALES，前 THOMSON）工作，负责将可靠性、可用性、可维护性及安全性（RAMS）和综合后勤保障（ILS）美军标准转换为法国标准。随后，他参与了 SOFRETEN 公司的创立，并在 1997-2003 年担任公司 CTO。在 SOFRETEN 他开发了两个用于可靠性和后勤保障分析的基于模型的工具。

2004 年起受聘于 EADS APSYS（现 Airbus APSYS），并创立了仿真平台部门，基于 Altarica 语言重新开发 SIMFIA 性能仿真平台、SIMLOG 维护优化、全生命周期成本仿真和管理软件以及用于支持实时 / 嵌入式基于模型的故障诊断和检修过程软件 DIAGSYS。随后，他开始掌管创新和软件部门，主要负责基于模型的系统工程和安全分析以及用于运营效能跟进和提升的集成信息系统。

目前他担任新业务部门负责人，包括创新咨询和服务、决策制定平台以及它们在轨道交通、汽车和能源方面的应用。作为 APSYS 公司技术创新主管，他负责了法国研究机构（IRT-SYSTEMX）在自动驾驶车辆（SVA=Système Véhicule Autonome）领域的研究项目中的安全工作包。他同时也负责管理一个工程研究项目 VEDECOM 的多个工作任务，包括初步安全分析 PSA、案例生成和使用 SIMFIA 进行行为建模。

Emmanuel Arbaretier

R&T Manager
Airbus APSYS

Graduated from Ecole Centrale de Paris, Emmanuel ARBARETIER began his carrer in THALES (formerly THOMSON) where he was in charge of the adaptation of RAMS and ILS US Military Standard to the french group; then he participated in the creation of SOFRETEN where he developed two Model Based Workbenches in the field of Dependability and Logistic Support Analysis; he has been CTO of SOFRETEN for 5 years between 1997 and 2003.

Hired in EADS APSYS in 2004, he developed a Simulation Workbench Department, where he redeveloped SIMFIA performance simulation workbench based on Altarica language, SIMLOG workbench for maintenance optimization, and Life Cycle Cost simulation and management, and DIAGSYS supporting real time / embedded model based troubleshooting and diagnosis process. He was then responsible for Innovation and Software Department and especially works on Model Based System Engineering and Safety Analysis, as well as Integrated Information System for Operational Performance follow up and enhancement.

Currently he is in charge of New Business Unit including Innovative Consultancy and Services, Decision Making workbenches and their application to Railway, Automotive, and Energy issues.

As an innovation manager, he has been responsible for Safety work package of a Research Program developed by French Research Institute (IRT-SYSTEMX) about Autonomous Vehicles (SVA=Système Véhicule Autonome); he has also been managing for two years one research engineering project in VEDECOM in different tasks involved in Preliminary Risk Analysis, Case Generation and Behavioural Modeling with SIMFIA.

李建华

上海交通大学
网络空间安全学院 院长、教授

现任上海交通大学网络空间安全学院（信息安全工程学院）院长，信息内容分析技术国家工程实验室主任，教育部网络安全管理监控与服务工程技术研究中心主任，主要研究领域包括：信息内容安全管理、网络攻防与信息系统检测评估、网络安全管理、密码学及应用。

现任中国网络空间安全协会副理事长，中国网络空间安全协会人才教育培养工作委员会主任委员，上海市网络安全管理协会会长，教育部信息安全教学指导委员会副主任委员，中国能源研究会网络安全技术研究中心主任，上海市信息化专家委员会专家，曾担任国家 863 计划首席专家 / 管理专家，科技部国家电子政务重大工程总体组组长 / 专家，国家保密局顾问专家，上海世博会安保顾问专家，中央网信办第一，二届全球互联网大会安保专家，上海世博会安保顾问专家，入选首批国家百千万人才计划，获国务院有突出贡献特殊津贴，上海市优秀学科带头人，上海市十大科技精英，上海市科技领军人才，曾入选 2007 年度美国 ISC2 亚洲有影响力的信息安全专业领导人。获 2017 年度中央网信办、教育部“全国优秀教师”荣誉，获国家科技二等奖 1 项，省部级一等奖 4 项，省部级二等奖 4 项，省部级三等奖 3 项，发表 EI/SCI 收录论文 267 篇，出版教材专著 16 部 , 并担任国际 Communication security ,Internet security , 及国内信息安全学报，网络安全学报等期刊编委及审稿人，担任多个国家重点实验室和国家工程实验室学术委员会委员等。

Jianhua LI

Dean/Professor, School of Cyber Security
Shanghai Jiaotong University

Jianhua Li serves as Dean of School of Cyber Security (formerly School of Information Security Engineering), Director of National Engineering Lab for Information Content Analysis and Director of Ministry of Education funded Engineering Research Center for Cybersecurity Management, Monitoring and Services, Shanghai Jiao Tong University. His main research interests include: information content security management, cyberspace defense and information system testing and evaluation, cybersecurity management, and cryptography and its applications.

He is now Vice President of Cybersecurity Association of China, and Chairman of the Association's Talent Development Committee, President of Shanghai Network Security Administration Association, and Vice Chairman of Information Security Education Committee of Ministry of Education, Director of China Energy Research Society Center for Cybersecurity Technologies, and an expert at Shanghai Municipal Commission of Informatization. He once served as the chief expert/managing expert of China's "863" project, the head/expert of the general work group of the National E-governance Project led by the Ministry of Science and Technology. He provided consultant services to the National Administration for the Protection of State Secrets, the Shanghai World Expo security services. He was also a security expert at the 1st and 2nd World Internet Conference organized by the Cyberspace Administration of China. He was among the first to be enrolled in the Million Leading Engineering Talents program and received a special bonus from the State Council for his distinguished contributions. He was named Outstanding Subject Leader and one of the Top 10 Science and Technology Elites, and Leading Science and Technology Talent in Shanghai. He was nominated as the ISC2 Most Influential Subject Leader in Information Security in 2007. In 2017, he was honored National Excellent Teacher by Cyberspace Administration of China and Ministry of Education of China. He received one second class Chinese National Science and Technology Award and 4 first prizes, 4 second prizes, 3 third prizes at the provincial level of the same awards. He published 267 articles on EI/SCI journals and 16 books and textbooks. He is Editor and Reviewer of Communication Security, Internet Security, the Chinese Journal of Cybersecurity, and Chinese Journal of Network and Information Security. He is also Member of academic committees of multiple national laboratories and national engineering laboratories.

尚 进

广汽研究院硅谷研发中心
首席执行官

尚进博士现任广汽硅谷研发中心 CEO，清华大学汽车系客座研究员，及北美清华汽车行业校友会副会长。尚博士是网络、信息安全、嵌入式系统、大数据分析及部分汽车专业方向的技术专家，自 2001 年至今在多家硅谷网络安全行业和车辆技术领域工作。目前领导广汽集团硅谷研发中心，制定和推动大数据分析及人工智能、自动驾驶、车网信息安全、新能源核心技术等领域的技术研究和产品开发。目前拥有 10 多项美国网络安全和车辆技术领域专利，发表近 20 篇车辆技术和网络安全学术论文，黑帽亚洲大会论文宣讲（2017），2015 中国计算机安全学术年会优秀论文；轮胎力学领域的博士论文是迄今为止车辆工程专业唯一的全国优秀博士论文。清华大学汽车工程系本硕博，计算机双学位，南加州大学计算机硕士。

Jin SHANG

CEO
GAC R&D Center Silicon Valley

Dr. Jin Shang is CEO of GAC R&D Center Silicon Valley, Guest Research Fellow at Department of Automotive Engineering, Tsinghua University and Vice President of North American Branch of Tsinghua Alumni Association for Automotive Industry. Dr. Shang has worked in cybersecurity and automotive engineering in Silicon Valley since 2001. His expertise includes the internet, information security, embedded system, big data analysis as well as a range of specialization fields in automotive engineering. He is in charge of the development and facilitation of big data analysis at the GAC R&D Center and oversees technical researches and product development in the fields of AI, AD, V2X information security, and core technologies in new energy sector. He holds over 10 US patents in cybersecurity and automotive technologies and has published 20 journal articles on the same topics. He presented his paper on Black Hat Asia 2017. In 2015, he received an Excellent Paper Award during China Computer Security Annual Conference. He is the only doctor of automotive engineering in China to receive National Excellent Doctoral Dissertation Award for his thesis on tire mechanics. Dr. Shang received his BEng, MEng and DEng from Tsinghua University Department of Automotive Engineering as well as a degree minor in computer science. He also holds a MS degree in Computer Science from University of Southern California.

Sheriff XUE

APTIV
首席工程师

Sheriff Xue 现任安波福亚太区售后用户体验部关键零部件首席工程师，安波福技术委员会和创新策略负责人。Sheriff 曾任信息娱乐及驾驶员信息首席工程师，在汽车电子产品研发领域已有 20 年经验。

Sheriff XUE

Chief Engineer
APTIV

Sheriff Xue is the core component chief engineer in AS&UX of APTIV Asia-Pacific. Sheriff Xue is responsible of AP Technical Council and innovation strategy. Previously, he worked as chief engineer of Infotainment & Driver Information. He has 20 years' experience of product development in automotive electronics industry.

张 良

奥迪（中国）企业管理有限公司
电子电气科高级经理

在奥迪中国电子电气科述职超过 10 年时间，负责中 (含台湾香港澳门) 日韩信息娱乐系统的功能测试，功能开发，系统工程，项目管理，数字化，车联网研发。参与从 MMI2G 到 MIB2+ 的所有 6 个信息娱乐系统的研发工作。于 2017 年开始负责网络安全。

Liang ZHANG

Senior Manager, Department of Electrical and Electronic Engineering
Audi China

Liang Zhang has worked for the Department of Electrical and Electronic Engineering at Audi China for over a decade. He has been trusted with responsibilities related to Infotainment System in the Greater China area, Japan and South Korea, including functional testing, function development, system engineering, project management, digitalization and V2X development. He engaged in the development of all 6 Infotainment Systems in Audi vehicles from MMI2G to MIB2+. He now chairs the company's internet security business starting from 2017.

Joaquin Torrecilla

DEKRA Testing & Certification S.A.U
首席技术官

作为 DEKRA Testing & Certification S.A.U 首席技术官，Joaquin Torrecilla 将公司战略引入了新的技术领域，包括网络安全和网联汽车。

此前，Joaquin Torrecilla 曾在 Keysight Technologies 公司工作，在那里他领导了 E7515A UXM 的开发和市场推广；同时，作为无线设备和运营商部门的首席架构师，他领导了 5 G 解决方案的技术设计和市场策略。

在加入 Keysight Technologies 之前，Joaquin Torrecilla 是 AT4 Wireless 的首席技术官，在公司定位从服务于本土的测试实验室到跨国测试实验室和测试设备供应商的转变中发挥了重要作用。

Joaquin Torrecilla 有着 26 年的测试仪器、测试服务和无线市场经验，他曾在不同的无线技术领域工作过，包括 GSM/GPRS/EDGE, W-CDMA/HSPA, Bluetooth, WiMAX, LTE/LTE-A 和 5G，经验贯穿研发、标准化和业务发展。自 1998 年以来，Joaquin Torrecilla 一直从事标准化工作，参与过不同的标准组织，包括 3GPP、Bluetooth SIG 和 WiMAX 论坛。他目前是 DEKRA 在 3GPP TSG-RAN 和 5GAA 的代表。

Joaquin Torrecilla 曾在西班牙马拉加大学担任电信和无线技术方面的教职长达 15 年。目前，他是马拉加大学的 Honorary Fellow。

Joaquin Torrecilla

CTO
DEKRA Testing & Certification S.A.U

Joaquin Torrecilla, as CTO of DEKRA Testing and Certification S.A.U, leads the company strategy into new technology fields, including cybersecurity and connected car.

Previously, Joaquin worked for Keysight Technologies, where he led the development and market introduction of the E7515A UXM; and, as Chief Architect for the Wireless Devices and Operators division, led the technical design and go-to-market strategy for 5G solutions.

Before joining Keysight, Joaquin was CTO at AT4 wireless, leading the technology strategy for the company; and being instrumental in the transition from a local test laboratory to a multinational testing laboratory and test equipment vendor.

With 26 years of experience in the test instrumentation, testing and wireless markets; he has worked in different wireless technologies, including GSM/GPRS/EDGE, W-CDMA/HSPA, Bluetooth, WiMAX, LTE/LTE-A and 5G; covering R&D, standardization and business development.Joaquin has been engaged in standardization activities since 1998, participating in different standards groups including 3GPP, Bluetooth SIG and WiMAX Forum. He currently represents DEKRA at the 3GPP TSG-RAN and 5GAA.

He has also been teaching in the University of Malaga for 15 years, on Telecommunication and Wireless Technologies. Currently, he is Honorary Fellow in the University of Malaga.

吕一平

腾讯科恩实验室
总监

17 年信息安全行业经验，主要负责腾讯科恩实验室国际和国内行业安全研究和技术合作，以及。在加入腾讯前，曾就职于微软。

Samuel LÜ

Director
Tencent Keen Security Lab

Mr. Lü has 17 years of experience in information security, and is mainly responsible for security research and technical cooperation of Tencent Keen Security Lab. Before joining Tencent, Mr. LV worked at Microsoft.

云 朋

百度
智能驾驶事业群首席安全架构师
Apollo 汽车信息安全实验室主任

历任百度云安全部首席架构师，自动驾驶首席安全架构师，Apollo 信息安全实验室主任，18 年信息安全经验，专注于信息安全和数据分析领域，对企业安全、车联网及人工智能领域的安全防护有深入研究及实践，著有 30 多篇涵盖云计算、数据分析及人工智能领域信息安全的文章及多个相关专利。

Peng YUN

Chief Cybersecurity Architect of Baidu Intelligent Driving Group
Director of Apollo Vehicle Cybersecurity Lab
Baidu

Peng Yun has been the Chief Architect at Department of Cloud Security, Chief Security Architect of Autonomous Vehicle, and Director of Apollo Information Security Laboratory at Baidu. With 18 years' experience, he is an expert in information security and data analysis, with profound know-how and practice in security protection in company security, telematics, and AI. He has published over 30 articles on cloud computing, data analysis, and AI security, and holds many related patents.

Mark A. Crawford, Jr.

长城汽车
自动驾驶系统总工程师

Mark Crawford 是一位自动驾驶汽车技术专家，在汽车、机器人、人工智能的研究应用领域积累了逾二十五年的经验，并率领其技术团队不断攻坚克难。他热衷研究自动驾驶汽车，深信自动驾驶汽车将是社会的福音。

Mark 现任美国哈弗汽车技术有限责任公司总工程师，他领导的国际团队致力于研发高级自动驾驶系统和功能故障车辆平台，目标是为全球市场生产出高性价比自动驾驶车型。他发表过多篇论文，拥有多项机器人和人工智能领域的专利。

Mark 拥有密苏里科技大学的机械工程硕士学位。目前在攻读密歇根大学迪尔本分校的信息系统工程博士学位。

Mark A. Crawford, Jr.

Chief Engineer, Automated System
Great Wall Motor

Mark Crawford is an industry expert in autonomous vehicle technology with over 25 years of experience in automotive, robotics and artificial intelligence research and applications who leads technical teams to solve hard problems. He has a passion for self-driving cars and believes in their promise to positively change society.

Mark is currently the Chief Engineer for Autonomous Driving Systems at American Haval Motor Technology. He leads a global team to research and develop advanced automated driving systems and fail functional vehicle platforms to produce cost effective autonomous vehicles for global markets. He has several published papers and holds patents in the field of robotics and artificial intelligence.

Mark holds a BS and MS in mechanical engineering from the Missouri University of Science and Technology and is a Ph.D. candidate in information systems engineering at the University of Michigan-Dearborn.

Christoph Maier

DEKRA Digital GmbH
技术总监

Christoph Maier 博士目前担任 DEKRA Digital GmbH 技术总监。

Christoph Maier 博士在斯图加特学习技术管理，并在 Fraunhofer Association（欧洲最大的研究协会）获得功能安全领域博士学位。

其后，Christoph Maier 博士加入了大陆集团，参与总部的工作。 3 年后，他被委派到罗马尼亚工作了 2 年。期间，作为工厂经理，他主要负责 ADAS 产品的研发和生产，如 cameras 和 ECUs 等。

此后，Christoph Maier 博士加入了 DEKRA Digital GmbH，致力于促进技术研发，开发创新型数字服务和产品。

Christoph Maier

Head of Technology
DEKRA Digital GmbH

Dr. Christoph Maier is Head of Technology within DEKRA Digital GmbH.

He studied Technology-Management in Stuttgart and made his PhD in the field of functional safety at the Fraunhofer Association (European biggest research associates).

After finishing it, he joined the technology company Continental (Automotive Systems and Rubber products) on a corporate level. After 3 years he was delegate for 2 years to Romania. In the role of a Focus Factory Manager, he was responsible for the production of "Advanced Driver Assistance System"-products (ADAS), such as cameras and ECUs.

After this delegation he left Continental and joined the DEKRA Digital GmbH to foster the technological development, creation of digital services and products.

Mirko Conrad

Samoconsult GmbH
总经理

Mirko Conrad 博士现任德国 Samoconsult 工程咨询有限责任公司的总经理。Samoconsult 深耕功能安全，业务范围全面，在汽车行业广受好评。

Mirko Conrad 博士毕业于德国柏林工业大学，获工程学博士、计算机学硕士学位，曾任教于德累斯顿工业大学、慕尼黑工业大学，分别教授汽车软件工程和功能安全课程。他还参与了 ISO 26262、 ISO/ PAS 21448 (SOTIF)、 DO-178C 等行业标准以及汽车产业软件可靠性协会指导手册的制定。

Mirko 博士的职业生涯始于戴姆勒 - 奔驰 / 戴姆勒 - 克莱斯勒。任职期间，他开发并引进了一系列方法和工具，用于基于模型的开发和 ECU 软件测试。此后他领导了美国迈斯沃克软件公司在全球范围内的功能安全开发工作，还负责了多个行业的工具审核套件的开发和维护。此后，他加入 Samoconsult，担任首席技术官，负责管理该公司的咨询、工程、培训服务，并为汽车行业内领先 OEM 及他们的供应商、软件工具商提供咨询服务，帮助这些企业将功能安全标准和行业惯例与公司业务进行整合。

Mirko 博士是德国计算机科学学会汽车软件工程兴趣小组理事会成员，并自愿为 SAE 提供技术文件审阅服务。

Mirko Conrad

Managing Director
Samoconsult GmbH

Dr. Mirko Conrad serves as Managing Director of samoconsult GmbH, a consulting engineering company recognized in the automotive industry for their comprehensive services in the area of functional safety.

Mirko Conrad holds a PhD in engineering and a MSc in computer studies from Technical University Berlin, Germany. He lectures automotive software engineering at TU Dresden and functional safety at TU Munich. He actively participated in the standardization of ISO 26262, ISO/ PAS 21448 (SOTIF), DO-178C, and various MISRA guidelines.

Mirko started his professional career at Daimler-Benz / DaimlerChrysler, where he developed and introduced methods and tools for model-based development and testing of ECU software. After that, he had led MathWorks worldwide development activities in the area of functional safety. He also was responsible for creating and maintaining tool qualification kits for multiple industries. As CTO of samoconsult he manages the company's consulting, engineering, and training services and advises leading automotive OEMs, their suppliers, and software tool vendors on how to integrate functional safety standards and industry common practices into their corporate processes.

Dr. Conrad serves as a board member of the SIG on Automotive Software Engineering of the German Computer Science Society (GI-ASE) and volunteers as a technical paper reviewer with SAE.

Bodo Seifert

DURA Automotive Systems
主动安全与自动驾驶工程总监

Bodo Seifert 在 1994 年获得了 GH Siegen 大学的电子工程科学硕士。从 1999 年起，他就从事于汽车工业，在诸如通用汽车、奥迪和菲亚特克莱斯勒支持电子控制单元的开发和测试流程。在奥迪工作期间，他负责管理庞大的全球测试团队，来收集车辆性能数据。他的团队为数据采集开发了软件和基础设施并在几年前测试了软件更新推送。在密歇根州奥本山的麦格纳电子，他领导前瞻工程部门，并负责在汽车领域未来几年里会出现的功能和技术。

Bodo Seifert

Engineering Director, Active Safety & Advanced Mobility
DURA Automotive Systems

Bodo Seifert received his Masters of Sciences in Electrical Engineering from the University GH Siegen in 1994. He has been working in the automotive industry since 1999 for companies like GM, Audi and FCA supporting electronic control unit development and testing processes. At Audi he was responsible to run large global test fleets to collect vehicle performance data. His team developed the software and infrastructure for the data collection and tested over the air software updates several years ago. At Magna Electronics in Auburn Hills, MI, he is leading the Advanced Engineering department and is responsible to develop functions and technologies that will emerge in the automotive field in several years.

Sky MA

美光半导体
业务开发经理

Sky Ma 现任美光亚太科技有限公司业务开发经理。Sky 2002 年毕业于华东理工大学，在半导体营销、制造等领域积累了 10 多年的经验。他十分熟悉中国的汽车电子市场，特别是半导体细分市场。

Sky MA

Business Development Manager
MICRON

Sky Ma is the Business Development Manager of Micron Technology APAC, Automotive Division, He received a bachelor degree from ECUST in 2002 ; He is now more than10 years in the semiconductor industry including sales/marketing/manufacture. He is very familiar with China automotive electronic market, especially the semiconductors.

章鑫杰

CAROTA
首席技术官

Jacky 自 2011 以来一直担任 CAROTA 科络达首席技术官。Jacky 具备丰富的整车 OTA 升级实战经验和前沿的 OTA 升级技术。

Jacky 曾担任 Barefoot 软件公司首席架构师，Barefoot 位于摩纳哥，提供移动出版及浏览器解决方案。

在加入 Barefoot 软件公司之前，Jacky 任职于巴黎著名移动方案供应商 Rayonnance，负责 Smart Mobile Data Sync Framework，用于同步移动客户端和企业内部 IT 系统，这套方案获得许多奖项，更赢得许多客户青睐。

Jacky 毕业于中国浙江大学，于法国国立高等电子学院获得硕士学位。

Jacky ZHANG

CTO
CAROTA

Since 2011, Jacky took the office of CTO at CAROTA. Jacky possesses great OTA upgrade practical experiences through working with prominent car manufacturers and Jacky has been committed to frontier OTA upgrade technology.

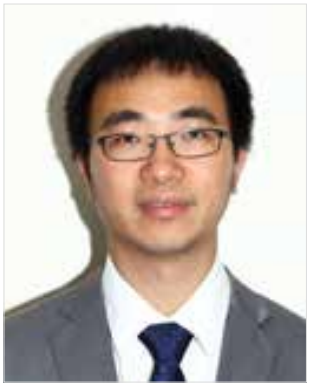
Before Join CAROTA, Jacky worked as a chief architect for Barefoot Software Ltd. A company based in Monaco providing mobile publishing and browser solutions.

Before Barefoot, Jacky is an architect for Rayonnance, based in Paris, a mobile enterprise solution provider. Jacky developed a Smart Mobile Data Sync Framework, which is a core component to synchronize mobile devices with enterprise existing IT infrastructure. It was an award winning solution and served many customers.

Jacky received his master degree in telecommunication from L'ENSEA in France and a bachelor's degree from Zhejiang University in China.

应中伟

ANSYS
系统事业部业务开发经理



应中伟作为 ANSYS 系统事业部（SBU）的高级咨询专家和汽车行业业务开发经理，在基于模型的高安全性嵌入式软件研发领域为多家航空、轨道、汽车等行业用户提供包含工具应用、软件研发流程建设、实施应用、认证流程咨询等多方面的技术咨询服务。目前重点参与 C919 CDS 项目以及汽车行业的基于模型技术、安全软件开发流程的应用咨询。

Zhongwei YING

SBU Business Development manager
ANSYS

As Senior Consultant and Business Development Manager at ANSYS SBU, Mr. YING provides technical consulting services related to tool application, software R&D process development, implementation & application and certification process, etc of highly secure embedded software for clients in aviation, rail and automotive industries. Mr. LV now specializes in C919 CDS Project and consulting services related to the application of model technologies and security software development process.

何姗姗

安理律师事务所汽车行业和人工智能法律业务组负责人
智联出行研究院自动驾驶法律中心主任

何姗姗女士，现任北京市安理律师事务所汽车行业和人工智能法律业务组负责人、智联出行研究院自动驾驶法律中心主任。

何律师先后取得清华大学法学学士、法学硕士，美国哥伦比亚大学法学硕士，和香港大学国际法学硕士学位，并同时具备中国和美国纽约州律师资格。曾先后供职于全球顶尖律师事务所和著名跨国汽车公司，且自 2012 年起全程参与了自动驾驶项目相关的法律工作，并深入开展自动驾驶的法律研究，持续跟踪自动驾驶车在全球的立法进展。

何律师具备十余年的法律和汽车行业从业经验，目前主要从事汽车行业的相关法律工作，并对自动驾驶、共享出行、新能源汽车等涉及的前沿法律问题有深度研究。曾分别主导并参与了多个自动驾驶的法律研究项目。何律师曾发表数篇有关自动驾驶的立法、伦理以及测试规范的文章，并在众多国际论坛上发表有关自动驾驶法律和政策问题的专题演讲。

Shanshan HE

Head of Automotive and AI Legal Group of Anli Partners
Head of Autonomous Driving Law Centre of Intelligent & Connected Mobility Academy

Ms. HE Shanshan is now Head of Automotive and AI Legal Group of Anli Partners and Head of Autonomous Driving Law Centre of Intelligent & Connected Mobility Academy.

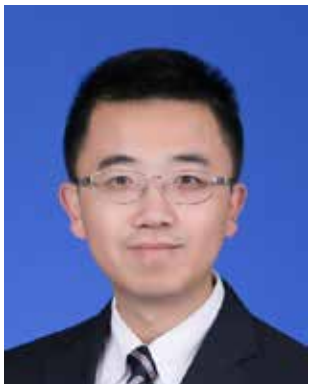
Shanshan obtained her degrees of Bachelor of Laws and Master of Laws from Tsinghua University and later obtained her Master of Laws degree from Columbia University, US and Master of International Law from University of Hong Kong. She is both legally qualified in China and State of New York, USA.

Shanshan used to work for world's top law firms and famous international automobile companies. Since 2012, she has been fully involved in legal services related to automated driving projects and deep research into laws for automated driving. She also keeps track of the development of automated vehicle legislation around the world.

Shanshan has over 10 years experience and is mainly engaged in automotive legal service. She has gained deep insights into some cutting-edge legal issues related to automated driving, ride sharing, and NEV, etc.

Shanshan took the lead on many research projects on legal issues arising from automated driving and has published a number of articles on automated driving-related legislation, ethics and test regulations. She has delivered many keynote speeches on automated vehicle legislation and policies during many international forums.

郭魁元



中国汽车技术研究中心
智能汽车室主任

2004-2011 年　本硕 北京航空航天大学 车辆工程系。
2011 年至今　中国汽车技术研究中心 汽车试验研究所工作。
2015 年　于美国 Kettering University IEP 管理培训。

智能网联汽车国家标准分委会 自动驾驶工作组 /ADAS 工作组 / 信息安全工作组成员。

参与 AEB,LKA,BSD 等超过 10 项国家标准的研究制定，具备超过百款车型主动安全系统的实车测试经验，获发明专利三项，获中国汽车工业科学技术奖一项（三等奖)。

C-NCAP 评价部主动安全项目负责人，承担了 2012、2015、2018 版 C-NCAP 主动安全评价规程研究任务，测试及预研项目包含 AEB,AEB-VRU,ESC 等。

承担《智能网联汽车标准体系及关键功能系统测试评价技术》、《自动驾驶汽车测试评价及管理体系研究》等研究项目，参与《国家车联网产业标准体系建设指南（智能网联汽车）》、《智能网联汽车使用公共道路测试管理规范》等编写。

Yuankui GUO

Director of ICV Dept
CATARC

2004-2011　BEng, MEng Department of Vehicle Engineering Beihang University, Beijing
2011-present　Institute of Automotive Testing, China Automotive Technology and Research Center
2015　Received management training at a US Kettering University IEP

Member of Working Group on AD/ADAS/Information Security, Sub-committee on National ICV Standards

Engaged in the research and development of over 10 Chinese national standards, including AEB, LKA, and BSD. Tested the active safety systems on over 100 models. Holds 3 patents for automotive inventions. Received a China Automotive Industry Science and Technology Award (third-tier honor).

Director of Active Safety Program at C-NCAP Evaluation Department. Completed research tasks for C-NCAP Active Safety Evaluation Procedures (2012, 2015, and 2018 editions). Responsible for the testing and preliminary research programs, including AEB, AEB-VRU, ESC.

Heads the research projects, including “ICV Standards and the Testing and Evaluation of Their Key Functional Systems” and “Testing, Evaluation and Management of AD Vehicles”. Co-drafted the National Guidelines on V2X Industry Standard System Development (ICVs) and the Management Standards of ICV Public Road Testing.

AUTOMOTIVE WORLD CHINA 2018

第二届中国汽车电子技术展览会

8.28-30, 2018

深圳会展中心

Shenzhen Convention & Exhibition Center

展品范围 Scope of Exhibits

- 车身电子 Vehicle electronics
- 自动驾驶 Automated driving
- 智能网联技术 Intelligent connected technology
- 新能源汽车技术 New energy vehicle technology
- 测试技术 Testing technology
- 汽车材料 Automotive materials

观众群体 Audience Groups

- 汽车主机厂 Automotive OEMs
- 汽车电子企业 Automotive electronics enterprises
- ADAS 及智能网联相关企业 ADAS and intelligent connected enterprises
- 新能源相关企业 New energy-related enterprises

领先参展企业 Leading exhibitors

ROHM, TAIYO YUDEN, KEIHIN, Micron, Henkel, Panasonic, UNITED ONE, MICHIP, Denka, MEDIAZEN, Qt The Qt Company, abatek, UNION, ZUKEN, DEKRA, Valens, FORUM 8, SUNNET, carota, 森村商事株式会社, CODACA科达嘉, ACTT

*以上排名不分先后，更多展商请至现场参观

* The following exhibitors are listed in random order.To learn about more exhibitors onsite.

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A

ANSYS 中国

www.ansys.com

ANSYS 公司创立于1970 年，已经发展成为世界最大的仿真技术公司。 40多年来，一直致力于开发新的仿真技术，产品覆盖率了结构、流体动力学、电子、电路和系统、高安全性嵌入式代码设计、芯片设计与仿真等多个学科和物理域，解决实际的工程问题。ANSYS 将仿真技术与物联网技术相结合，构建包含了数字探索、数字原型和数字双胞胎完整的全数字化工程流程，将仿真技术的应用扩展至产品的整个生命周期，涵盖工程所有阶段，从概念、设计、制造、运维直至产品生命终止构建了仿真驱动工程的基础，帮助企业部署企业级仿真平台，实现更快、更好、更有效的工程，推进企业创新和发展。

ANSYS China

www.ansys.com

Founded in 1970, ANSYS employs nearly 3,000 professionals, many of whom are expert M.S. and Ph.D.-level engineers in finite element analysis, computational fluid dynamics, electronics, semiconductors, embedded software and design optimization. Our exceptional staff is passionate about pushing the limits of world-class simulation technology, so our customers can turn their design concepts into successful, innovative products faster and at lower cost. As a measure of our success in attaining these goals, ANSYS has been recognized as one of the world's most innovative companies by prestigious publications such as Bloomberg Businessweek and FORTUNE magazines.

C

上海科络达云软件技术有限公司

www.carota.ai

CAROTA科络达云软件技术有限公司成立于2011年。CAROTA科络达具备经验丰富的空中升级技术（OTA）、多重产业领域的技术导入经验、从云到端，完整且可灵活布署的解决方案，可帮助车厂无缝接轨，快速导入OTA技术至自身之车联网系统规划，使系统安全无虑的持续保持在最新状态，迎战自动／辅助驾驶之产业趋势。

OTA技术作为车联网之基础建设，CAROTA科络达除了提供一站式的整车OTA解决方案，也提供完善的联网安全服务，一直以来OTA为CAROTA科络达最根本的核心业务，技术积累与实质经验可以保证CAROTA科络达 OTA 服务品质，主要优势包含独立开发的升级架构、差分升级的压缩效率、适应不同升级环境的保护机制，另外在安全的部分也提供基本的加解密签名、加密通道、安全引导等，串连第三方的PKI 等相关解决方案。

CAROTA科络达由联发科（MEDIATEK）、趋势科技（TREND MICRO，全球领先安全解决方案商）和新加坡电信（SINGTEL，亚洲最大跨国运营商）共同合资，为跨国性的智能软件公司，拥有国际化的经营团队，OTA服务超过三亿台智能装置，已经涵盖全球20几个国家与区域，包括美国、印度、俄罗斯、中国、中国台湾与东南亚均设有据点。

Carota Cloud Software Technology Co., Ltd.

www.carota.ai

Carota was founded in 2011. Carota has rich experiences in providing over the air (OTA) upgrade technologies, introducing multi-industry technologies, as well as deploying comprehensive and flexible solutions for the cloud and end users. We can help auto factories achieve a rapid and seamless integration with OTA technologies when designing their IoV systems,which will allow the systems to effortlessly remain up-to-date as we welcome the latest industry trends of automatic/assisted driving.

OTA technologies are the foundation of IoV. Aside from offering one-stop automotive OTA solutions, Carota also provides comprehensive network security services. Since the very beginning, OTA has been Carota's most fundamental core services. Our OTA service quality is guaranteed through the accumulation of technologies and professional experiences. Our main competitive advantages include independently developed upgrading architectures, superior compression efficiency for differential upgrades, and protection mechanisms suitable for different work environments. In terms of data security, we also provide basic cryptographic digital signatures, encrypted channels, and secure boot. Additional solutions such as connecting with a third-party PKI are also available.

Carota was formed through a joint venture between MediaTek, Trend Micro (the world's leading security solutions provider), and Singtel (the largest transnational network operator in Asia). As a multinational smart software development company, we have a globalized management team. We have provided OTA services to more than 300 million smart equipment operating in over 20 countries and regions, with service locations in the United States, India, Russia, China, Taiwan, and Southeast Asia.

D

DEKRA 德凯集团

www.dekra.com

DEKRA德凯集团（德国机动车监督协会）于1925年在德国柏林成立。目前我们在50多个国家/地区拥有约44,000名员工，是独立机动车测试领域公认的世界领先者。DEKRA每年在全球完成2600万辆次的机动车检测，同时拥有欧洲最大的互联互通及自动驾驶独立测试场。作为电动汽车、车辆网、无人驾驶等未来交通领域全球领先的安全合作伙伴，DEKRA致力于全面保障未来出行安全。

DEKRA

www.dekra.com

DEKRA was founded in 1925 in Berlin as Deutscher Kraftfahrzeug-Uberwachungs- Verein e.V., the company currently engages more than 44,000 people in more than 50 countries on all five continents. Today, we are the world's leading testing, inspection, and certification organization in automotive industry.

As the global market leader in vehicle inspection, DEKRA conducts around 26 million vehicle inspections per year. Drawing on our safety expertise, we have built the largest independent automotive test area for connected and autonomous driving in Europe. With international expertise in automotive testing and our extensive test and research facilities for electric vehicles, connectivity technologies, and autonomous driving, DEKRA is the world's leading safety partner in future transportation technologies.

F

富朗巴软件科技（上海）有限公司

www.forum8.co.jp/chinese/

FORUM8公司创业以来以软件包开发技术为基础，以结构物设计为首，提供支援土木、建筑设计的软件、技术服务。近年来随着虚拟现实的开发，应用范围延伸到包括交通、汽车研发等更广泛的项目领域。

本公司的成长基础在于独创性通用软件的开发。UC-WIN/ROAD作为一款实时虚拟现实软件开发于2000年，从初版发布以来，不断开发完善丰富的三维场景建模、驾驶模拟和演示等功能。

这些新产品、新技术的开发获得了外界的高度评价，先后获得日本经济产业省的委托研究、NEDO的助成项目。以软件相关的技术服务、软件本身为核心的集成业务也以驾驶模拟器系统等为首不断成长，先后成功拿下中国交通部公路科学院的大型模拟器的国际投标，丰田公司、九州大学、京都大学的高端研究用驾驶模拟器等业务。

FORUM8 Technology Development (Shanghai) Co., Ltd.

www.forum8.com

Since the company's foundation, FORUM8 have been providing software and technical services that support civil engineering and chitectural/structural design.Our recent developments in Virtual Reality software have lead to any new applications especially those in traffic and automobile research. In fact, FORUM8's VR technology is being utilized in those researches and indeed just about any type of project.

Since year 2000, we have been continuously enhancing our premier 3D VR software UC-win/Road and three dimensional analysis program UC-win/FRAME(3D).

Since the evaluation on the our development for these new products and new technologies is notably high from outside of the company, we even received an aid fund from Ministry of Economy for consigned development and NEDO.Moreover, technical service for our software and integration work with our software as a core such as driving simulator, are making further growth and improvements. Our recent success include being picked by the Chinese Traffic and Transport Department through international tender as the only successful candidate capable of delivering a large driving simulator that meets their criteria, and receiving an order of driving simulator designed for high level research from Kyushu University and Kyoto University not to mention the huge order of a very large driving simulator from the aforementioned department.

美光科技有限公司

www.micron.com

美光科技是创新存储解决方案的全球领导者，其解决方案变革着世界使用信息的方式。通过旗下全球性品牌 MICRON®（美光）、CRUCIAL®（英睿达）和BALLISTIX®（铂胜），美光提供极其丰富的产品组合，并且是唯一一家制造DRAM， NAND， NOR， 及3D XPOINT™——当今主要内存和存储科技的公司。

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www.micron.com

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offer the industry's broadest portfolio, and are the only company that manufactures today's major memory and storage technologies: DRAM, NAND, NOR, and 3D XPoint™ memory.

深圳市中聚泰光电科技有限公司

www.sunet-sz.com

深圳市中聚泰光电科技有限公司把握军工技术民用化为契机，依托专业军工技术转移,聚集一批专业的FAKRA、射频同轴连接器及控制模块组装技术人才；结合台湾、深圳的优势，联合一批具有国际市场背景的市场推广、应用及销售专业人才，有力地保证了公司在新产品的开发取向、新技术的发展方向；公司将从事技术研发的工程人员与市场推广的销售人员有机的聚集，实现了以市场为取向的发展模式。

公司立足于FAKRA、射频同轴、控制模块市场，以专业销售的服务模式，为客户提供全系列产品的同时，致力于为用户解决整体方案的应用瓶颈，缩短产品研发周期。

公司自成立以来，一直坚持全面客户导向的原则，实践“品质即生命”的全员品质制造观念，依据国际质量管理和质量保证的标准要求建设品质与管理体系，已经通过ISO9001、ITS16949认证，并不断地加以改进与提升，并且我们致力于健全环境保护体系，减少资源浪费，合理使用资源。

SUNNET

www.sunet-sz.com

Sunnet seized the window of opportunity created by the military technology repurposing policy, and created a team of professionals in FAKRA, RF coaxial connectors and control module assembly through the military technology transfer schemes.Sunnet combines the advantages from both Taiwan and Shenzhen markets and brought together a team of talents with marketing, application and sales experience from international backgrounds, who help ensure proper product and technology development orientations. At Sunnet, engineering and sales talents work alongside with each other, which creates a market-oriented development mode.

Sunnet focuses on the FAKRA, RF coaxial, and control module markets and endeavors to help our clients break through the bottlenecks of application and consequently reduce the development cycles of products while providing them with a full range of products complemented by professional sales service. Companies like Nokia, Moto, BMW, VW, GE, Benz, Nissan all put their trusts in us.

From the start, Sunnet has revolved around our clients. Everyone at Sunnet treats quality as their top priority. Sunnet established, and continues to improve, QA and QM systems according to international standards. The systems have been ISO9001 and ITS16949 certified. As an enterprise, Sunnet also puts much emphasis on building and completing an environment protection system to cut down waste and promote reasonable use of resources.

X

信大捷安

郑州信大捷安信息技术股份有限公司

www.xdja.com

郑州信大捷安信息技术股份有限公司成立于2004年，总部设在郑州，另有上海、西安、北京、深圳、成都、长春六家分公司，是一家专业从事安全芯片创新设计、云安全服务平台研发，提供移动·物联安全服务保障的高新技术企业。

信大捷安参与制定了公安部、国家保密局、国家电网等多个行业移动信息安全标准与规范，是公安部拥有移动警务安全保障体系建设资质的三家单位之一。以自主研发的系列国产国密安全芯片为基础，建设公共安全服务平台，并依托“芯”与“云”，形成了“安全芯片研发+云安全平台支撑+信息安全服务”的全产业链条。

Zhengzhou XindaJiean Information Technology Co. Ltd

www.xdja.com

Founded in 2004, Zhenzhou XindaJiean Information Technology is headquartered in Zhenzhou, with 6 branches in Shanghai, Xi'an, Beijing, Shenzhen, Chengdu and Changchun. It is a high-tech company that specializes in the innovative design of security chips and the R&D of cloud security service platforms, and providing mobile network and IoT security safeguarding services.

XindaJiean also engaged in the development of information security standards in various industries for the Ministry of Public Security, State Secrecy Bureau, and the State Grid. Xinda Jie'an is one of the three organizations mandated with the qualification to build a security system of mobile policing. The company endeavors to build a public security service platform based on independently-developed and domestically made security chips. By merging two areas of focuses, namely chips and clouds, Xinda Jie'an has established an industrial chain consisting of security chip R&D, cloud security platform and information security services.

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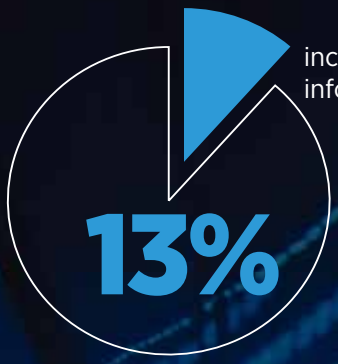

increase in engineer's time spent searching for information in 2013 than in 2002[1]

15 HOURS a week spent by the average engineer searching for information online[2]

13 unique data sources are used to address each engineering challenge[3]

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1 Jones, Jeanette. "Various Survey Statistics: Workers Spend Too Much Time Searching for Information." Cottrill Research RSS 092. 8 Nov. 2013. Web. 10 Mar. 2016.
2. An empirical analysis of engineers' information behaviors, Mark A. Robinson, Journal of the American Society for Information Science and Technology Volume 61, Issue 4, pages 640–658, April 2010
3. Aberdeen: www.sla.org/guest-post-13-really-scary-number-youre-knowledge-worker/