

世界首例 V2X “三跨” 互联互通应用展示成功举办

The world's first V2X "three-span" interconnection application was successfully held



2018年11月4日-8日中国汽车工程学会年会暨展览会（SAECCE）期间，中国智能网联汽车创新联盟、IMT-2020（5G）推进组C-V2X工作组、上海国际汽车城（集团）有限公司在上海汽车博览公园共同举办了V2X“三跨”互联互通应用展示活动（‘Three Layers’ Interoperability V2X Application Demonstration，以下简称“V2X“三跨”展示”）实现了世界首例跨通信模组、跨终端、跨整车的互联互通。

During the China Automotive Engineering Society Annual Conference and Exhibition (SAECCE) from November 4th to 8th, 2018, China Intelligent Network Alliance Automotive Innovation Alliance, IMT-2020 (5G) Promotion Group C-V2X Working Group, Shanghai International Automobile City (Group) Co., Ltd. jointly held the V2X "Three-Span" Interconnection Application Showcase at Shanghai Auto Expo Park (Three Layers Interoperability V2X Application Demonstration, Hereinafter referred to as "V2X "three-span" display) It has realized the world's first cross-communication module, cross-terminal and cross-vehicle interconnection.



参与此次活动的单位包括大唐、华为、高通共 3 家通信模组厂家，大唐、华为、星云互联、东软睿驰、金溢、SAVARI、华砺智行、千方科技共 8 家 LTE-V2X 终端提供商，北汽、长安、上汽、通用、福特、宝马、吉利、奥迪、长城、东风、北汽新能源共 11 家中外整车企业，中国信息通信研究院提供了实验室的端到端互操作和协议一致性测试验证。

The units involved in the event include Datang, Huawei, and Qualcomm's three communication module manufacturers, Datang, Huawei, Xingyun Internet, Neusoft Ruichi, Jinyi, SAVARI, Huasheng Zhixing, Qianfang Technology, and a total of 8 LTE-V2X terminal providers, Beiqi, Changan, SAIC, GM, Ford, BMW, Geely, Audi, Great Wall, Dongfeng, Beiqi New Energy, a total of 11 Chinese and foreign vehicle companies, China Institute of Information and Communications provided end-to-end mutual laboratory Operation and protocol conformance test verification.



V2X “三跨” 展示底层采用 3GPP R14 LTE-V2X PC5 直连通信技术，使用工信部《车联网（智能网联汽车）直连通信使用 5905-5925MHz 频段的管理规定（暂行）》的工作频段；采用《合作式智能运输系统 专用短程通信 第 3 部分：网络层和应用层规范》《合作式智能运输系统 车用通信系统 应用层及应用数据交互标准》等 LTE-V2X 网络层和应用层中国标准；从 LTE-V2X 技术的不可替代性出发，选取了 7 个典型的车与车、车与路应用场景：包括车速引导、车辆变道/盲区提醒、紧急制动预警、前向碰撞预警、紧急特殊车辆预警、交叉路口碰撞预警和道路湿滑提醒。

V2X "three-span" shows the underlying 3GPP R14 LTE-V2X PC5 direct-connect communication technology, using the working frequency band of the management regulations (provisional) of the 5905-5925MHz frequency band for the direct connection communication of the Ministry of Industry and Information Technology (Intelligent Networked Vehicles); "Communication-based intelligent transportation system dedicated short-range communication Part 3: Network layer and application layer specification" "cooperative intelligent transportation system vehicle communication system application layer and application data interaction standard" and other LTE-V2X network layer and application layer Chinese standard; Starting from the irreplaceability of LTE-V2X technology, seven typical vehicle and vehicle, vehicle and road application scenarios were selected: including speed guidance, vehicle lane change/blind area reminder, emergency brake warning, forward collision warning, emergency special Vehicle warning, intersection collision warning and road slippery reminder.



本次活动首次实现了来自不同产业环节、不同国家、不同品牌之间的互联互通，充分展现了我国在全球 LTE-V2X 产业的引领地位；有助于验证我国 LTE-V2X 全协议栈标准的有效性，促进我国 LTE-V2X 产业各环节协同研发，将是推动我国 LTE-V2X 大规模应用部署和产业生态体系构建的重要一步。

For the first time, the event achieved interoperability from different industry sectors, different countries and different brands, fully demonstrating China's leading position in the global LTE-V2X industry; helping to verify the effectiveness of China's LTE-V2X full protocol stack standard. To promote the collaborative research and development of all aspects of China's LTE-V2X industry will be an important step to promote the large-scale application deployment and industrial ecosystem construction of China's LTE-V2X.

中国工程院院士、中国汽车工程学会理事长、中国智能网联汽车产业创新联盟理事长李骏对本次活动的成功举办表示祝贺。李骏院士指出，V2X 技术是汽车走向智能化的重要技术支撑，能大幅度降低道路交通事故、提高交通效率、实现节能减排，在全球呈现出加速发展趋势。我国具有信息通信产业基

础强、道路交通基础设施统筹规划部署等优势，希望全汽车行业关注到这一领域，把基于 LTE-V2X 技术的汽车网联化作为目前和下阶段实现智能网联汽车的突破口。中国智能网联汽车产业创新联盟牵头组织的 LTE-V2X “三跨”展示，正是验证技术和应用成熟度、促进跨行业合作的重大实践。

Li Jun, academician of the Chinese Academy of Engineering, chairman of the China Automotive Engineering Society, and chairman of the China Intelligent Network Alliance Automotive Industry Innovation Alliance, congratulated on the success of the event. Academician Li Jun pointed out that V2X technology is an important technical support for the car to become intelligent, which can greatly reduce road traffic accidents, improve traffic efficiency, and achieve energy saving and emission reduction, showing an accelerating development trend in the world. China has the advantages of strong information and communication industry foundation and overall planning and deployment of road transportation infrastructure. It is hoped that the entire automotive industry will pay attention to this field and use the LTE-V2X technology-based vehicle network as the current and next stage to realize intelligent networked vehicles. Breakthrough. The LTE-V2X “three-span” demonstration led by China Intelligent Networked Automotive Industry Innovation Alliance is a major practice to verify technology and application maturity and promote cross-industry cooperation.



活动现场首日，V2X“三跨”展示共接待活动嘉宾、汽车爱好者和媒体朋友近 200 人，其中包括来自国际汽车工程师学会联合会（FISITA）10 余个国家的 100 位嘉宾。FISITA 作为世界汽车工程师学会联合组织，拥有超过 38 个国家的组织成员，代表全球 16 万汽车工程师，旨在通过各种先进汽车技术交流提高汽车的研究水平和发展速度。此次 FISITA 到访 V2X“三跨”展示现场，与在场的工程师、公司企业、学术机构、V2X 工作组充分交流互动，见证了中国 V2X 规模化应用的重要实践。

On the first day of the event, the V2X “Three-Span” show hosted nearly 200 guests, car enthusiasts and media friends, including 100 guests from more than 10 countries in the Federation of International Society of Automotive Engineers (FISITA). As a joint organization of the Society of Automotive Engineers, FISITA has more than 38 countries and representatives representing 160,000 automotive engineers worldwide. It aims to improve the research and development speed of automobiles through various advanced automotive technology exchanges. The FISITA visited the V2X “three-span” exhibition site and fully interacted with the engineers, companies, academic institutions and V2X working groups present, and witnessed the important practice of large-scale application of V2X in China.