



## *EU-China Trade Project (II)*

中国-欧盟世贸项目(二期)

# EU-China Cooperation in Internet of Things





## **Shared perspectives on EU-China cooperation on the IoT will be discussed from 31 August until 02 September 2015**

Look inside for further information on the cooperation and expert profiles, who can assist you?

### **EU-China Cooperation in Internet of Things**

Europe and China have been very early adopters of the Internet of Things (IoT), although knowing that a complex endeavour like the IoT will probably take a decade for a wide scale adoption and market penetration. Besides valorising the economic potential of the IoT, the conviction for IoT stems also from the interest to address societal challenges, such as aging societies, environmental pollution and questions of sustainable resource management. In light of recent evolutions the focus has also been adopted to consider topics like Smart Cities and 5G.

Since February 2011, under the coordination of DG CONNECT and MIIT-CAICT IoT experts from both regions met biannually for political and technical conversations, and improved coordination. The recent meetings have seen acceleration in implementing actions, resulting in detailed exchange of information in research programmes but also in the publication of two common white papers on Architecture Reference Models and Identifiers. In addition, additional common position papers e.g. on standardisation are now in preparation.

In the past years it became evident to involve more industry, SMEs and market stake-holders in order to get feedback and support on IoT development and in particular in view of large scale deployments. During the past EU-China ICT Dialogues with MIIT, DG CONNECT and the Chinese cooperation partners MIIT and CAICT it was agreed to foster cooperation among innovation and industry stakeholders on the Internet of Things including 5G. In January 2014 the EU-China Trade Project II (EUCTPII) started to support the Internet of Things as an horizontal activity, to be carried out in three steps through conferences and expert meetings in China and Europe respectively and a final roundtable in Beijing in which will be held on 02 September. This strategic initiative should also feed the Dialogue and related policy meetings for better decision making.

The current focus of the cooperation is to concentrate on dedicated Large Scale projects (LSP) on IoT application areas, such as Smart Agriculture and Food Safety, Smart Cities, e-Health, Autonomous Vehicles in connected environments, and water management. Furthermore, common standardisation interests and the participation in Chinese and European innovation support programs are under consideration to be reinforced.

The Internet of Things (IoT) is defined as a dynamic global network infrastructure with self-configuring capabilities based on standard and interoperable communication protocols where physical and virtual “things” have identities, physical attributes and virtual personalities, use intelligent interfaces and are seamlessly integrated into the information network. IoT has moved from being a futuristic vision to an increasing market reality both in China and Europe. In this context, the EUCTP II supports conference modules to analyse and compare both European and Chinese approaches in developing overarching strategic plans for IoT. This activity will have the support of market stakeholders to sketch recommendations for the joint action plan. Following the first event organised in October 2014, the exchanges will provide important input for the EU-China Information Technologies, Telecommunications and Informatisation Dialogue. Main topics will be IoT global challenges as identified in the context of eHealth, energy, Intelligent Transport Systems and smart cities.

### **Objectives of the cooperation:**

Objective 1: Strengthening cooperation in view of reciprocity of actions and benefits

Objective 2: Defining important common statements on global IoT issues

Objective 3: Developing confidence and mutual understanding by cross participation to projects and operational activities

In particular, twinning activities related to Large Scale Projects (LSPs) will be welcomed on:

- Smart living environment for ageing well
- Smart farming and food security
- Wearables for smart environments
- IoT Reference zones in smart cities
- Autonomous vehicles in a connected environment
- Water management for resilient cities



**Mrs Xueli ZHANG** is Senior Engineer, Director of Department of Internet of Things (IoT) and Service & Resources of the Institute of Communication Standard Research, China Academy of Telecommunication Research (CATR), MIIT. As member of the EU-China Internet of Things (IoT) advisory group, she organizes the advisory group meetings from the Chinese side. She is also involved in the EU-China ICT dialogue, EU-China smart city cooperation, PDSF events, the EU IoT Week and IoT Forum events.

In addition, she is the CATR team leader of FP7 PROBE-IT and FP7 CHOICE project. She is also the Head of Emergency Communication Special Task Group, Secretary of Emergency Communication Advisory Expert Group of the Science and Technology Committee of Telecommunication, MIIT, and member of the China Institute of Communications. Graduated from Beijing University of Post and Telecommunication (BUPT), she has more than 20 years working experience on ICT. Her focus is on research and standardization concerning IoT, smart city, telecommunication services and applications, emergency communication and network security. She is involved in high-level consultations with the MIIT on IoT, telecoms services and applications, and related standardization strategies and policies in China.

**Mr. Wei HUANG** is Project Manager of the China Academy of Information and Communications Technology (CAICT). He graduated from Beijing Jiaotong University and obtained a master's degree in communication engineering from Henan Normal University. His research areas include mobile internet applications, chip research, intelligent traffic management, as well as mobile communication core network planning. Wei HUANG also focuses on network architecture, applications and services.



**Professor Lan CHEN** is Assistant Director of the Institute of Microelectronics, Chinese Academy of Sciences (CAS). Her further positions include Director of EDA Center of CAS, Director of EPCT Department of IME CAS, and Deputy Director of China R&D Center for the Internet of Things. She is also working as Professor of the University of the Chinese Academy of Sciences, as invite professor of the University of Science and Technology of China, and is guest professor of the Université Pierre et Marie CURIE. She is a

member of the expert committee "New generation broadband wireless mobile communication network", National Science and Technology Major Projects, and fellow of the National Consultative Committee on IoT. As project director, Lan CHEN has held responsibilities for more than ten major research projects in China. She holds a Ph.D. from CAS in Microelectronics, has published over 60 research papers and applied for more than 110 invention patents.



**Dr. Yuming GE** is Researcher at the China Academy of Information and Communication Technology (CAICT). He received his Ph.D. degree in Computer Networks from the Institute of Computing Technology, Chinese Academy of Science (ICT/CAS) and his BSc degree in Communication Engineering from Beijing University of Posts and Telecommunications (BUPT). During 2009 and 2010, he visited Fraunhofer-Institut für Offene Kommunikationssysteme (FOKUS) as a visiting scholar on the area of Cognitive Radio Networks (CRNs). Now, he focuses on standardization, innovation research and international cooperation in the area of Internet of Things (IoT), especially Intelligent Transportation System (ITS), Vehicular Networks, Personal Information Protection and Smart Cities.

**Ms Haihua LI** is Vice Chief Engineer of the China Academy of Information and Communications Technology (CAICT). With more than 14 years working experience in the field of ICT, she participates in government support actions, technology research, project application and execution, standard development, and equipment tests. Her main work areas involve legacy network, next generation networks/IMS, Internet of Things (IoT) and smart cities. She accumulated particular expertise in network architecture, applications and services, and is currently involved in supporting the industrial internet, e.g. concerning ITS, e-health, and smart grids. Haihua LI graduated from Beijing Jiaotong University and received a master's degree in communication and information systems from the Telecom Technology Research Institute.



**Dr. Jun-Yu WANG** is Professor at Fudan University in Shanghai where he focuses on Auto-ID and Internet of Things (IoT) technologies, including radio frequency identification (RFID) air interface, RFID security, and IoT coding schemes. As the only member from China mainland of the international NGO "GS1 architecture Group", he works on GTIN barcodes and international standardization for identification, capture and data sharing. He is also Associate Director of the Auto-ID Lab China and was Executive Manager of the national project "Agriculture Internet of Things and Food Quality and Safety in China" funded by the Ministry of Science and Technology (MOST). He was involved in more than 20 domestic and international projects, including a sensor tag project under EU FP6 "BRIDGE". Dr. WANG holds a master's degree in mechanical engineering from the Beijing Institute of Technology, a D.Sc. from the University of Science and Technology in Beijing, and a Post Doctor from Fudan University specializing in RFID systems and applications.





**Philippe Cousin** is currently chairing the WG Market Confidence within the IoT Forum. He is involved in the IoT European Research Cluster (IERC) as coordinator of the Interoperability Activity Chain (AC4) as well as on dissemination and international cooperation, also with support of the EU IoT project Smart Action. Involved in China with projects since 1998, when he set up an office, designed and built two top ten worldwide large radio testing laboratories in China for the State Radio Monitoring Centre and China Academy on Telecommunication & Research. Since 2011,

Philippe is rapporteur of the EU-China IoT expert group. He is currently project manager of the EU-China Fire project, named ECIAO ([www.euchina-fire.eu](http://www.euchina-fire.eu)).

Philippe Cousin has 30 years of experience in ICT and has worked since 2001 in more than 20 EU funded research projects. He gained his expertise in ICT standardization, validation and interoperability issues in working for over 20 years with Orange/France Telecom R&D and as Project Officer at the European Commission on Standardisation, Quality and CE Marking. After 4 years as test house General Manager he joined in 2001 the European Telecommunications Standards Institute (ETSI), where he worked on ICT testing and validation issues as Interoperability Service Director and launched the Plugtests Service. He has founded Easy Global Market in 2010 which is successfully involved in numerous FP7 and recent H2020 projects (currently 7 projects, including with Chinese partners).



**Mirko Presser** is Head of Research and Innovation for the Smart City Lab at the Alexandra Institute, working on Open Data and the Internet of Things in the context of Smart Cities for Citizens. He is also the president of the IoT International Forum. He has been studying and working on IoT and Smart City research since 2002, has published over 20 scientific peer-reviewed papers on these topics and has served on numerous scientific committees and steering boards. He has a master's degree in physics

with astrophysics and a master's degree in telecommunications and systems engineering both from the University of Bristol and received his Ph.D. on the Mobile IoT from the University of Surrey. He has also been strongly involved in the European FP6, FP7 and now H2020 ICT programmes and has been the Technical Manager of the FP6 IST e-SENSE and FP7 ICT SENSEI projects, both addressing the Internet of Things. He is currently the coordinator of the FP7 EeB PPP project called URB-Grade.

**Pierre Provenzano** is President of PMI Consultants group which specializes in international development strategy and finance. He is highly active on the administrative committees of various organizations such as BIOTEAM, CCEF (French trade conseiller), telecommunication and smart cities with INT (Institut National des Telecommunications) and IMT (Institut Mines Telecom). He is also a guest lecturer at the Université d'Evry, IOS (Institut d'optique Graduate School) and INT. In addition, he set up a branch in Shanghai serving French and European companies on market access aspects in China in the fields of telecommunication, smart cities, IoT, optics, photonics and oil and gas. He holds a Ph.D. in International Business Management from Penn State University (USA).



**Dr. Serrano** is the Head and Research Director of the Internet of Things and Stream Processing Unit (UIoT) within the Insight Centre for Data Analytics Galway (former DERI) at the National University of Ireland. Dr. Serrano is an ICT expert with more than 12 years experience in industry and applied research within a wide range of successful European collaborative projects (IST-Context, IST-AutoI, ICT-OpenIoT, ICT-Gambas, ICT-Vital, ICT-CityPulse), National (HEA PRTLI, SFI) and also Enterprise Ireland industry and innovation projects. He also leads experiments in European FIRE Platforms SSC-Fed4FIRE and the FIRE FIESTA-IoT project. Dr. Serrano is a recognized ICT expert with a strong background on semantic interoperability, services and network management technologies. He has a leading role in the European Research Cluster for the IoT and he is board member at the Connected Smart Cities Network. Dr. Serrano is Adjunct Lecturer at the National University of Ireland Galway (NUIG) and Guest Lecturer at Santa Clara University in Silicon Valley Area, California, USA and California State University San Luis Obispo (CalPoly) California, USA. Dr. Serrano is a continuous contributor to the Scientific, Research and Innovation Agenda for Europe. He is also actively investigating, Semantic-based Cloud Infrastructures and Big Data Management. Data Bases Stream processing, Cyber-Physical Systems (CPS) Control, Privacy and Security aspects for IoT, Sensor Networks for the IoT and their deployment in cloud computing environments. Dr. Serrano is an active member of IEEE (Computer and Communication Societies) and ACM.



**Dr. Christoph Thümmeler** is Professor for E-health at Edinburgh Napier University, Edinburgh UK and Technical University Munich in Germany. He studied Medicine, Political Science and Education at Heidelberg University and State University of New York at Stony Brook and completed his PhD in Neurology at Heidelberg University with Distinction. After specialist training in General Internal Medicine, Emergency Medicine and Care of the Elderly, he worked as a clinician in Germany and the United Kingdom for 20 years. He became Reader in 2008 and held his Inaugural Professorial Lecture in Edinburgh in 2010 on "Future Networked Care". Since 2013 Dr. Thümmeler also works at Klinikum rechts der Isar, the teaching hospital of Technical University Munich. His current research focus is on social technological alignment of the Internet of Things in healthcare, m-health and the serviceability of 4G LTE and 5G networks in a medical context.



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Three days of discussion and events to provide future visions of EU-China cooperation in IoT and Large Scale Projects (LSP)

31 August: Presentation of global vertical and horizontal issues

Vision of LSPs in the EU and China

- LSP in Smart Cities
- LSP with Connected Cars
- LSP in eHealth

Presenting important horizontal topics

- Standardisation
- Semantic interoperability
- Industrial IoT

1<sup>st</sup> September: Discussions with market stakeholders

Morning: Market stakeholder consultation (organisations, associations, SMEs, etc.)

Objective will be to assess existing market forces to support EU-China cooperation on IoT-LSPs.

Afternoon: Closed-door meeting of the 10th EU-China IoT Advisory Board

2<sup>nd</sup> September: Round-table to consolidate high-level, global vision on EU-China cooperation

High-level representatives will share their visions for EU-China cooperation. A global discussion and round-table will support to define overall conclusions for a short-term cooperation programme.