China ITS Standardization

Part 1: Main Organizations

Jan 2015
Executive Summary

This report is the general review on China Intelligent Transportation System (ITS) Standardization in Jan 2015. It is the primary observation of the SESEC expert in late 2014.

The report includes the introduction of existing organizations in China that may involve in the standards drafting of ITS. As the SESEC project was launched in China in Dec 2014, this report is only focusing on the introductions and general reviews for this organizations. SESEC expert intends to set up the cooperation connection with the key organizations in the next 6 month and collect more detailed information. The detailed analyses of the ITS standards and their comparison with relevant European standards will be shown in the report no.2. After it will be the recommendations and action plan for the cooperation between Europe and China in ITS R&D and standards drafting.

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1. China Standardization System and its influence on ITS standardization

When the People’s Republic of China was founded in 1949, the country started to implement the system of a planned economy. That is, the government formulated overall plans and managed the nationwide standardization.

Under the system of a planned economy, there are many ministries and each of the industrial ministries (e.g. the Ministry of Machinery Industry, or Ministry of Transportation) under the State Council was something like a large state-owned enterprise, so ministerial standards, or national standards drafted by the ministries and approved by SAC (China Standardization Administration), play very important roles in the specific industries. It also means sometimes it is quite difficult to make different ministries cooperate together and make some horizontal or cross-edge standards.

SAC (China Standardization Administration) is the State Council authorized government organization to coordinate the national standards drafting process. However, it is the technical committees and their secretariat-organizations that are in charge with the standards drafting.

Therefore when we talk about ITS standards, we have to consider different organizations from different ministries. The reason is that, ITS is a newly emerged technology combined with several industries that belong to different ministries in China.
2. Organizations involved in ITS in China

Basically speaking there are 4 ministries/ministry level organizations that are in relevant to ITS standardization in China. Besides this official or governmental organizations, there are also some industry associations or local organizations that are also working in this area.

2.1 SAC (China Standardization Administration)

In any official or governmental context, SAC is the charging department in China for standards development activities. SAC is also, in the text at least, the leader for the ITS standards drafting. All the standards drafted by different organizations or associations, need to get the approval of SAC to become China national standards (GB standards).

2.2 Ministry of Transport

Under Ministry of Transport, there are two organizations relevant to ITS.

Research Institute of Highway, Ministry of Transport

Research Institute of Highway was founded in 1956 and it is funded and led by Ministry of Transport. It mainly deals with the research, design and development of Road Engineering, Bridge Engineering, Transporting System, Intelligent Transport, Automotive Operation Projects, Road Logistics and Transportation, Road Echo-Environmental Protection Research, Road Construction Materials and Facilities.

There are several standards drafting technical committees located in this Institute like

- Road Technical Committee of China Engineering Construction Standardization Association
- National Transportation Construction Standardization Technical Committee
- China Road Vehicle Maintenance Standardization Technical Committee
- China National Intelligent Transportation System Standardization Technical Committee (SAC TC 268, mirror of ISO/TC 204)

As Research Institute of Highway is the secretariat of ISO/TC 204, it is the most official technical committee that deals with ITS in China.

There are 3 Sub-committees in China National Intelligent Transportation System Standardization Technical Committee

- E-toll networking
- Transportation information
- Advanced transportation management

On 15th Dec 2014, the annual meeting of China National Intelligent Transportation System Standardization Technical Committee was held in Beijing. 100 experts from Ministry of
Transport, SAC and other stakeholders attended this meeting. In this meeting the main areas of the future standardization work were agreed as

- Standards drafting in intelligent transportation and logistic
- Standards drafting in driving through E-toll system in the highways and city roads
- Standards drafting in transportation Information security
- Standards drafting in cooperative intelligent transportation
- Standards drafting in vehicle safety auxiliary driving system

**China ITS Industry Alliance**

China integration Intelligent Transportation Industry and Service Alliance (China ITS Industry Alliance) is an unofficial, non-profit industry platform and collaborative organization, composed of units and organizations involved in the field of intelligent transportation system who are focusing on the R&D, production, management, sales of relevant technology, product and services.

The goal of the Alliance is to establish a new development mode in ITS in China, start with a national comprehensive transportation development planning, break down barriers of the transport, electronics, communications, finance, logistics, and information industry etc., explore advantages of integrated intelligent transport industry that is cross domains and multi-industry.

The mission of the Alliance is to form an integrated advantage, share domestic and international market resources, promote standardization of integrated intelligent transportation industry and services, enhance integrated intelligent transportation applications in national economic construction and social development in information technology by strengthening the integration of memberships.

China ITS Industry Alliance is organized by Ministry of Transport, and its secretariat is located in Research Institute of Highway. It is one of the effort of ministry of transport on coordinating with other industries involved in ITS, like IT manufactures, telecommunications and vehicle manufactures.

It still focus more in the highway managements in China. There are several working groups that are mirrors ISO/TC 204. Their tasks is to offer R&D and technical support for China SAC/TC 268.

**2.3 Ministry of Information Technology and Industry (MIIT)**

**Telematics Industry Application Alliance ("TIAA" for short )**

Under the guidance of the relevant departments of MIIT (Ministry of Industry and Information Technology), MOT (Ministry of Transport), MOH (Ministry of Health) and SAC (Standardization Administration of PRC), Telematics Industry Application Alliance ("TIAA" for short ) was established formally on February 4, 2010, in Beijing, which was
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launched by Chinese Electronics Standardization Association, and dozens of backbone units in manufacturing, academy, research and application participate in. TIAA is set up to promote the technical innovation and service applications in Telematics and Car to Car.

TIAA covers four technical fields manufacturing,
- automotive electronics,
- automotive software,
- communication operation
- service integration.

There are more than 200 members including more than 50 core members in the world. TIAA headquartered in Beijing, has offices and technical innovation base in Shanghai and Kunshan.

TIAA focus more in IT technology in automotive. It is under the management of MIIT and is located in Electronics Science Intelligence Institute of MIIT.

China National Automotive Standardization Technical Committee

National Automotive Standardization Technical Committee (SAC TC 114) was found in 1988 and is currently located in Tianjin Automotive Research Institute. This organization is currently under the management of Industry Facility Department of MIIT.

There are 27 sub-committees under SAC TC114, and automotive electronics and EMC are also the key areas of this organization. There are not many intelligent transportation standards activities in this organization yet but some Car2Car, automotive electronics, and telecom standards relevant to vehicles also need to involve car manufactures.

CESI and CCSA

Chinese Electronics Standardization Institute (CESI) is led by MIIT. There are some standards working groups in CESI dealing with Internet of Thing, M2M and Car2Car. Currently no activities in Intelligent Transportation in CESI.

China Communications Standards Association (CCSA) is somewhat mirror organization of ETSI in China. Currently CCSA did not set up the official working group in ITS. However, we need to observe the coordination between CCSA, CESI and Ministry of transportation.

2.4 Ministry of Science

China Intelligent Transportation System Association
In order to better coordinate and carry out national intelligent transportation technology development and planning construction work, in 2000, the Ministry of Science and Technology took the lead in conjunction with other more than ten relevant departments, including former State Planning Commission, former State Economic and Trade Commission, former Ministry of Communications, Ministry of Railways to jointly establish China ITS Coordination and Steering Group.

In March 2006, Working Group on Preparation for China Intelligent Transportation System Association was set up, and the leaders of the Association were senior officials from the Ministry of Science and Technology, Ministry of Public Security, the former Ministry of Construction, the former Ministry of Communications, Ministry of Railways, Civil Aviation Administration of China and other transport sectors.

In March 2007, Ministry of Science and Technology formally applied to the Ministry of Civil Affairs for setting up “China Intelligent Transportation System Association” (ITS China). In November 2007, Ministry of Civil Affairs officially approved of Ministry of Science and Technology carrying out preparatory work for the Association. On May 14, 2008, the founding conference of China Intelligent Transportation System Association and the first plenary session of the Council were held in Beijing. China Intelligent Transportation System Association (ITS China) was established.

2.5 Other Technical committees relevant to ITS

SAC TC 83 Electronics Business (E-Business) Standardization Technical Committee

SAC TC 83 Electronics Business Standardization Technical committee is in charge of standardization on EDI, Open EDI, data element and code, data structuring technology, electronic document format (exchange structure), processes, data maintenance and management, message service and key supporting technologies in the fields of EDI, open EDI, paper-based document format, administrative, commercial, transportation and industry, responsible for work related to ISO/TC154, UN/CEFACT, ISO/IEC JTC1/SC32/WG1

The secretariat of SAC TC 83 is China National Standardization Institute (CNIS). CNIS is under the leadership of SAC.

SAC TC 223 Traffic Engineering Facilities (Highway) Standardization Technical Committee

SAC TC 223 is in charge of national highway engineering facilities standardization work. The secretariat of SAC TC 223 is China Research Institute of Highway, which is under Ministry of Transport.
SAC/TC 230 National Geographic Information Standardization Technical Committee

SAC/TC 230 National Geographic Information Standardization Technical Committee is in charge of geographic information national standards plan, coordination and management. Its mission is to accelerate China geographic information standardizations, promote geographic information resources construction and application, and encourage/coordinate the geographic information sharing. The secretariat of SAC TC 230 is National Administration of Surveying, Mapping, and Geo-information of China.

The famous BeiDou Navigation Satellite System and standardization work was done by this organization.

In Nov 2014, The Maritime Security Committee of the International Maritime Organization endorsed BeiDou system. BeiDou Navigation Satellite System will become the third global satellite navigation system, following GPS and GLONASS, serving navigation customers from all over the world.

China will strongly encourage BeiDou navigation system and had put it into the national strategic promotion list.

After receiving recognition from the International Maritime Organization, China will continue to promote the standards in other international standardization organizations like IEC, the International Association of Lighthouse Authorities, the International Radio-Maritime Committee and the International Telecommunication Union.

3. Existing standards list

Please check the Europe-China standardization platform for the standards list http://www.eu-china-standards.cn/zobzen/

In summary, there are 148 GB standards in ITS area. The numbers and website for the list are

- **SAC TC 268 China National Intelligent Transportation System Standardization Technical Committee (49 standards)**
  
  http://www.eu-china-standards.cn/SACSearch/search?channelid=105388&searchword=tcid%3D6853&template=zo_tc_icsenlist.jsp

  http://www.eu-china-standards.cn/SACSearch/search?channelid=168372&template=zo_tc_standardsenlist.jsp&searchword=TECHNICALCOMMITTEEID=6853

- **SAC TC 83 Electronics Business (E-Business) Standardization Technical Committee (73 standards)**
• SAC TC 223 Traffic Engineering Facilities (Highway) Standardization Technical Committee (2 standards)
http://www.eu-china-standards.cn/SACSearch/search?channelid=105388&searchword=tcid%3D6480&templet=zo_tc_icsenlist.jsp

• SAC/TC 230 National Geographic Information Standardization Technical Committee (24 standards)
http://www.eu-china-standards.cn/SACSearch/search?channelid=105388&templet=zo_tc_icsenlist.jsp&searchword=tcid=6812

4. 2014/2015 Plans in ITS

The standards drafting plans will be available in March 2015 by SAC and other relevant organizations.