

計畫起源 – 車載資通訊網路國際標準(1)

◆ 車載資通訊系統之需求

- 台灣車載設備與資訊通訊服務市場從2003年至2015年可累積產值將近6,000億台幣^[註1]。根據資策會MIC統計，2012年我國車載資通訊產值已達新台幣5,296億元
- 根據 BCC Research 預測，全球車載資通訊市場規模將從 2010 年的 129 億美元成長至 2016 年的 403 億美元，複合年成長率達 21%，為一高度成長之市場^[註2]
- IBM預測2020年全球每年1億輛的新車都將具備對外聯結(Connectivity)功能，Machina Research更預測 2020年connected cars市場規模將達6000億美金，顯示車載資通訊是一巨大的新興市場，未來5~10 年將具高度成長之特性

◆ 車載資通訊計畫之規劃

- 國家級計畫「交通資訊整合應用加值與車載資通訊發展策略」^[註3]
- 行政院優先推動計畫「下世代車載資通訊系統與創新應用服務計畫」(2008-2012)^[註4]

◆ 台灣資通訊產業之技術發展理念

- 提升國內技術自主性
- 著重於“創新”與“標準制定”

[註1] 資料來源: ITRI IEK

[註2] 資料來源: BCC Research, 2010/4

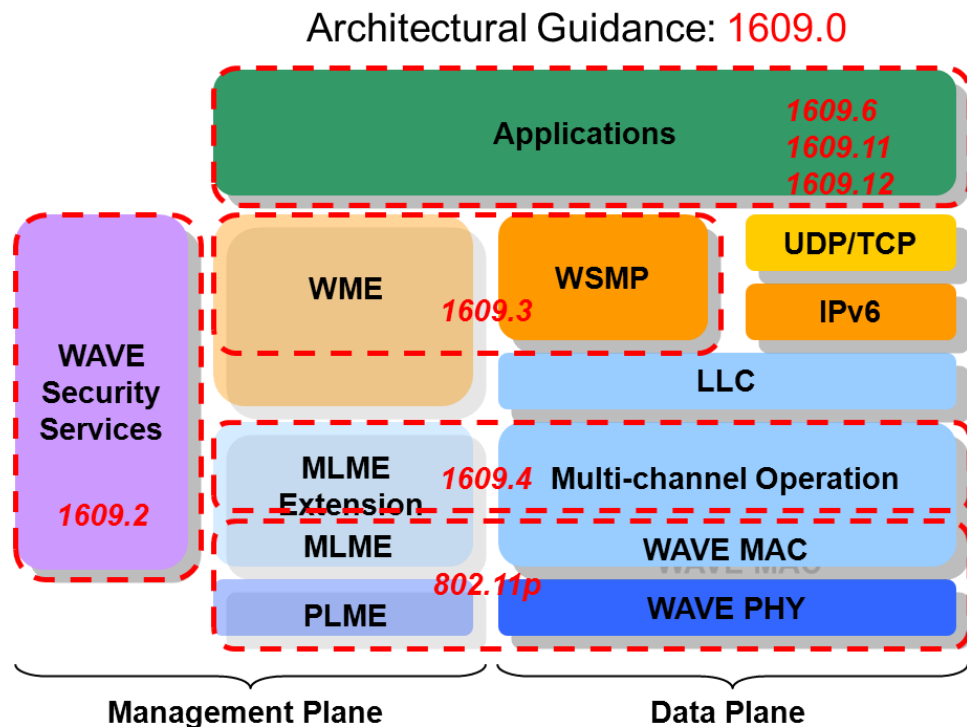
[註3] 資料來源: 行政院SRB會議

[註4] 行政院「愛台12項建設」總計畫

計畫起源 - 車載資通訊網路國際標準(2)

◆ IEEE 1609: Wireless Access in Vehicular Environments (WAVE)

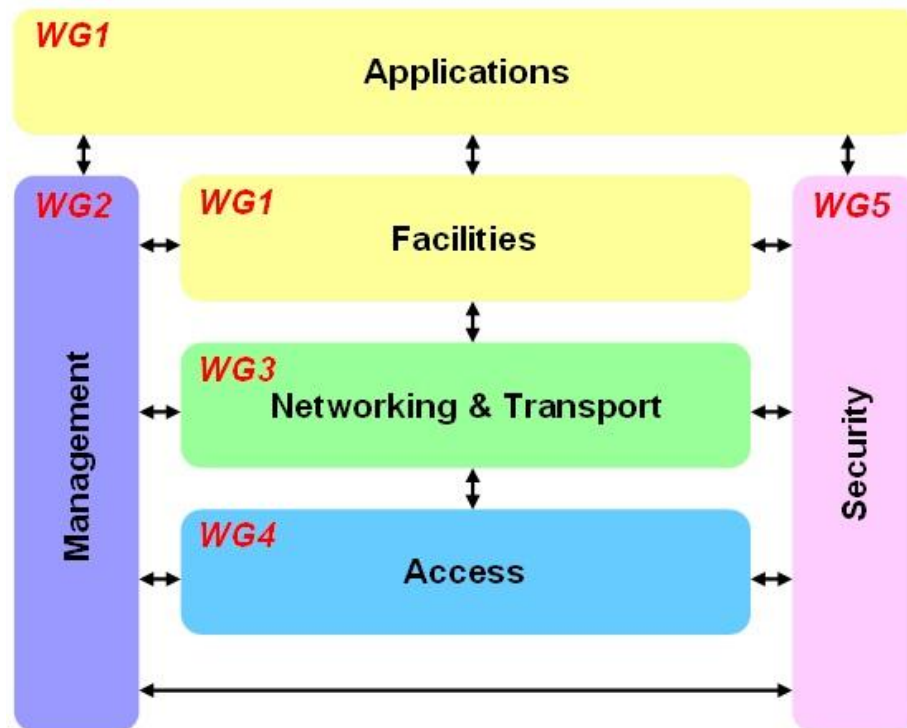
- 1609.0: architecture
- 1609.2: security services
- 1609.3: networking services
- 1609.4: multi-channel operation
- 1609.6: remote management services
- 1609.11: over-the-air data exchange protocol for intelligent transportation systems (ITS)
- 1609.12: provider service identifier (PSID) allocations



計畫起源 - 車載資通訊網路國際標準(3)

◆ ETSI TC-ITS

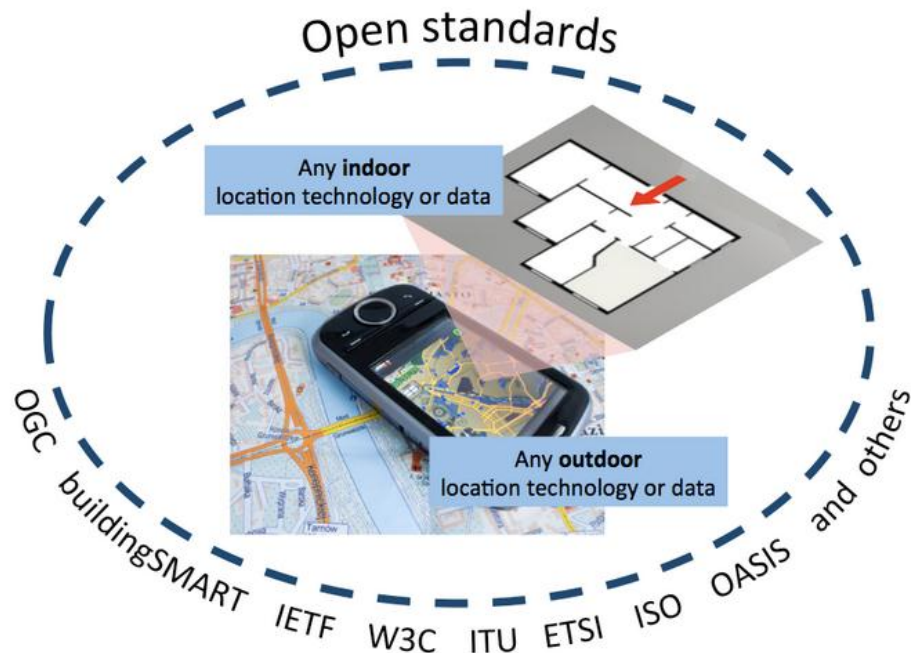
- WG1: Application requirements & services
- WG2: Architecture & cross layer
- WG3: Transport & networks
- WG4: Media & medium related
- WG5: Security



計畫起源 - 車載資通訊網路國際標準(4)

◆ OGC

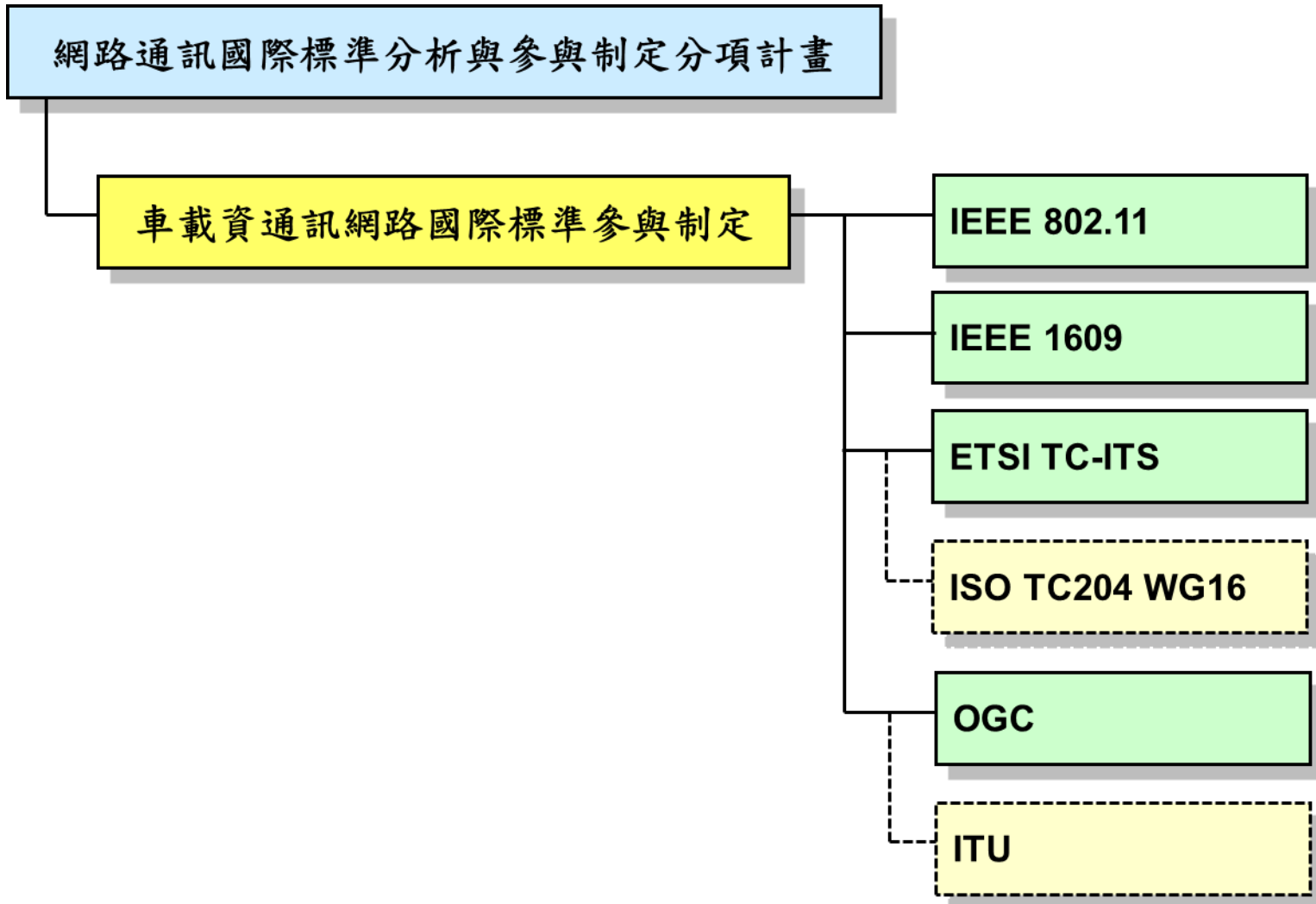
- Open GeoSMS
 - ◆ Provide developers with an extended SMS encoding and interface to facilitate communication of location content between different LBS devices or applications
- SWE IoT
 - ◆ Develop one or more standards based on existing WoT protocols while also leveraging the existing and proven OGC Sensor Web Enablement family of standards
- Moving Feature
 - ◆ Establish an encoding format for handling moving feature data



計畫目的

- ◆ 參與車載資通訊網路產業國際標準制定，形成關鍵智財權，為未來之車載資通訊網路產業建構以智財權支援的高價值產業型態，提高國內技術自主性，促成產業之轉型及發展。
- ◆ 加強我國在車載資通訊網路國際標準制定發展上之貢獻度，提升技術上之國際地位，並提升國內車載資通訊網路產業之國際競爭力。
- ◆ 培養具參與國際標準制定能力之車載資通訊網路技術標準專家。

計畫內容 - 98-102年度計畫架構



FY98-FY102 計畫執行成果 (1)

◆ 擔任標準會議重要職務

- 計畫成員莊國煜技術副組長擔任Open GeoSMS SWG chair、SWE IoT SWG co-chair、KML2.3 SWG charter member，以及Moving Feature SWG charter member
- 計畫成員徐仲賢博士與鄭安凱博士先後擔任ETSI TC-ITS TS 103 141 Communication Congestion Control標準文件之Rapporteur職務，負責該標準文件制定、協調與撰寫之工作

FY98-FY102 計畫執行成果 (2)

◆ 連續三年成功通過歐洲車載互通性活動mandatory測試項目

- 自2011年起，本團隊連續參與第一至第三屆歐洲車載互通性測試活動，並連續三年成功通過mandatory測試項目，充分向參與活動廠商展現工研院在歐規車載通訊規格上厚實軟硬體技術能力
- 第三屆ETSI Plugtests於德國Essen舉辦(2013/11/25-29)，本團隊積極輔導國內車載資通訊廠商亞動科技(Unex)參與歐規車載通訊技術活動，以加速國內廠商進入歐美車載市場版圖，為國內車載產業奠定穩固基石

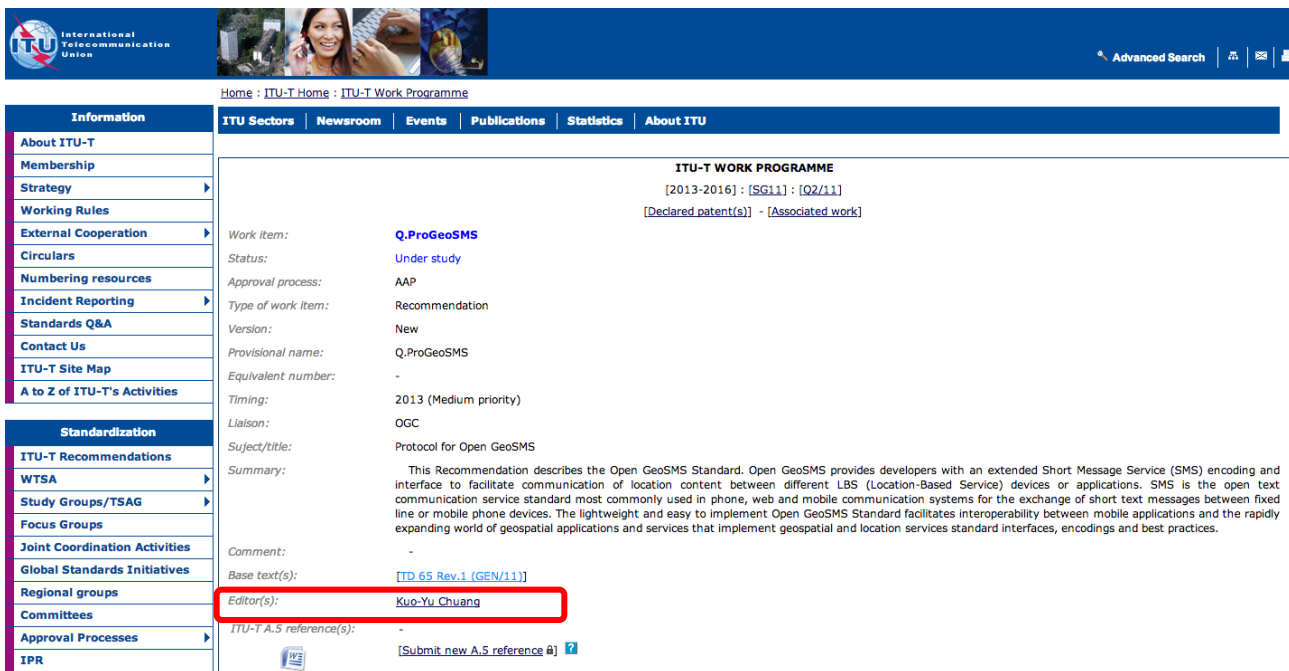
- ◆ ITRI與13家國際車載資通訊廠商成功互通
- ◆ ITRI通過所有GN, BTP, CAM, and DENM mandatory測試項目
 - 優於所有參加Plugtests廠商的平均值 (91.8%)
- ◆ ITRI通過所有Security測試項目
 - 優於所有參加Plugtests廠商的平均值 (85.6%)




FY98-FY102 計畫執行成果 (3)

◆ 成功推動 Open GeoSMS 成為 ITU-T Study Group 11 Working Item

- 莊國煜技術副組長於2013年2月ITU-T SG11會議成功推動由國內主導之 Open GeoSMS 規格成為 Working Item，同時受邀持續參與討論並受邀至 ITU Focus Group on Disaster Relief Systems 活動演講



The screenshot shows the ITU-T website interface. The main content area displays the details for the **Q.ProGeoSMS** Working Item. The item is under study and is a Recommendation. The editor is listed as **Kuo-Yu Chuang**, which is highlighted with a red box. The summary states that the recommendation describes the Open GeoSMS Standard, which provides an extended Short Message Service (SMS) encoding and interface for location-based services.

Information	ITU Sectors	Newsroom	Events	Publications	Statistics	About ITU
Information	ITU-T WORK PROGRAMME [2013-2016] : [SG11] : [Q2/11] [Declared patent(s)] - [Associated work]					
About ITU-T	Work item: Q.ProGeoSMS					
Membership	Status: Under study					
Strategy	Approval process: AAP					
Working Rules	Type of work item: Recommendation					
External Cooperation	Version: New					
Circulars	Provisional name: Q.ProGeoSMS					
Numbering resources	Equivalent number: -					
Incident Reporting	Timing: 2013 (Medium priority)					
Standards Q&A	Liaison: OGC					
Contact Us	Subject/title: Protocol for Open GeoSMS					
ITU-T Site Map	Summary: This Recommendation describes the Open GeoSMS Standard. Open GeoSMS provides developers with an extended Short Message Service (SMS) encoding and interface to facilitate communication of location content between different LBS (Location-Based Service) devices or applications. SMS is the open text communication service standard most commonly used in phone, web and mobile communication systems for the exchange of short text messages between fixed line or mobile phone devices. The lightweight and easy to implement Open GeoSMS Standard facilitates interoperability between mobile applications and the rapidly expanding world of geospatial applications and services that implement geospatial and location services standard interfaces, encodings and best practices.					
A to Z of ITU-T's Activities	Comment: -					
Standardization	Base text(s): [TD 65 Rev.1 (GEN/11)]					
ITU-T Recommendations	Editor(s): Kuo-Yu Chuang					
WTSA	ITU-T A.5 reference(s): -					
Study Groups/TSAG	[Submit new A.5 reference] 					
Focus Groups						
Joint Coordination Activities						
Global Standards Initiatives						
Regional groups						
Committees						
Approval Processes						
IPR						