

TTI needs Broadcast Delivery



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TISA Origins, Vision, Membership, Liaisons

■ Origins

- Derived from the former TMC Forum & former TPEG Forum, together with all their archives and that of the German national “mobile.info” Project

■ Current Membership:

- 103 Full Members

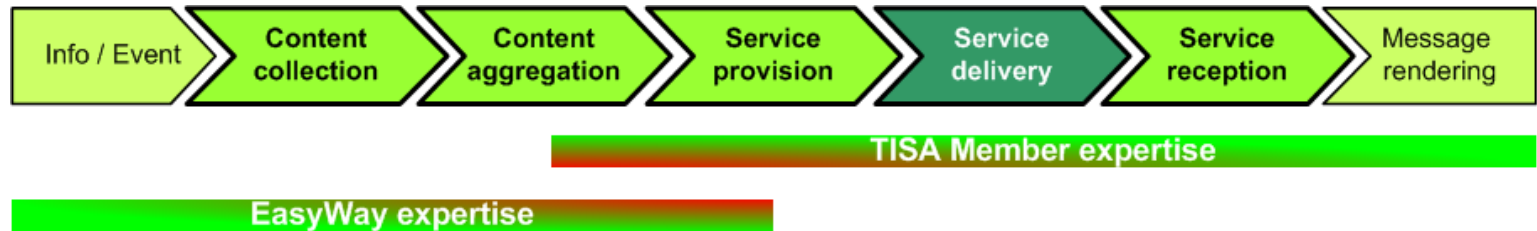
■ Liaisons:

- RDS Forum
- WorldDMB
- ISO - TC204 WG 10 level active
- TPEG Forum Korea - WG level active
- EasyWay ESG5 / DATEX II

TISA Vision is to coordinate the concerns and contributions of its global membership with the aim to foster business, customer and society value through TISA standards-based TTI services and products

Value Chain and delivery channel possibilities

- TISA uses this Traffic and Travel Information value chain:



- TTI currently uses a *small* family of standards to deliver **RDS-TMC** services, via VHF/FM Radio
 - **RDS-TMC** - a *single* data application for road events, only
- TTI now needs a *big* enhanced family of standards to deliver **TPEG** based services, via Digital Radio
 - Many applications for the multi-modal traveller
 - Where Digital Radio: **DAB** ≡ **DAB+** ≡ **DMB** ≡ **HD Radio** (USA)

ISO RDS-TMC Standards

- International Standards specify RDS-TMC
 - ISO 14819-1: “Coding protocol using ALERT-C”
 - ISO 14819-2: “Event and Information Codes”
 - ISO 14819-3: “Location referencing for ALERT-C”
 - ISO 14819-6: “Encryption and Conditional Access”
- TISA has been working on a comprehensive Review Package for ISO 14819-1/3 - during the last year
- TISA Specifications detail additions and/or amendments between the 6/7 yearly ISO reviews - *TISA Members need upgrades*
- TISA Specifications are vital for parties in the value chain to keep TMC **up-to-date** and viable for changing market/business needs
- The Review is complete and will be delivered to ISO shortly

ISO RDS-TMC Standard - upgraded Parts

ISO 14819-1:2003 Corrigendum into Section 7.5 TF work-completed	ISO 14819-1:2003 Explicit coding of LTCC SP09008 issued TF work-completed	ISO 14819-1:2003 IVR telephone number: method SP10005 issued TF work-completed	ISO 14819-1:2003 Precise Loc Ref: label TMCFS-2003-02 TF work-completed	ISO 14819-2:2003 USA: DEWS events SP09001 issued TF work-completed
ISO 14819-2:2003 GB: English % quantifiers SP10001 issued TF work-completed	ISO 14819-2:2003 DE: Safety events SP10003 issued TF work-completed	ISO 14819-2:2003 IVR telephone number: events SP10005 issued TF work-completed	ISO 14819-2:2003 DK: Safety events SP10003 issued TF work-completed	ISO 14819-2:2003 Unconfirmed report SP10004 issued TF work-completed
ISO 14819-2:2003 Queue tendencies events TMCFS-2004-01 TF work-completed	ISO 14819-3:2004 Location Table Exchange format SP08001 issued TF work-completed	ISO 14819-3:2004 Explicit coding LTCC: Annex 3 CCs SP09008 issued TF work-completed	ISO 14819-3:2004 Coding of Link Roads TMCFS-2003-01 TF work-completed	ISO 14819-3:2004 Precise Loc Ref: method TMCFS-2003-02 TF work-completed
ISO 14819-3:2004 Location Table Version Id TMCFS-2003-03 TF work-completed	ISO 14819-3:2004 Parking POI coding TMCFS-2006-01 TF work-completed	ISO 14819-3:2004 Interrupted roads coding TMCFS-2007-01 TF work-completed	ISO 14819-3:2004 Isolated POIs coding TMCFS-2007-02 TF work-completed	ISO 14819-3:2004 Parallel roads coding TMCFS-CPR TF work-completed
TMC Maintenance and Development: TISA Specifications/Standards Parts (2010-Nov)			ISO 14819-1:2003 Additional Tuning Variant	Draft TMCFS-2007-03 TF work-in-progress

What is TPEG ..

■ TPEG is:

- Stands for Transport Protocol Experts Group - formed by European Broadcasting Union
- Provides a complete toolkit and applications for TTI
- Bearer channel agnostic - streamed via broadcast channels and delivered as files via internet
- Hierarchically structured messages through a “Word” Tables construct - allowing easy translation - extensible
- On-the-fly Location Referencing methods - avoiding need for every terminal to have same location database as Service Provider
- Allows considerable client device differentiation: PNDs, phones, Navi systems, kitchen radios, computers, etc.

ISO TPEG Standards - Generation 1

■ International Standards specify TPEG

- ISO/TS 18234-series: “Parts 1-6” - published in 2006
- provided a toolkit and applications for **RTM** = Road Traffic Message & **PTI** = Public Transport Information ~ multimodal

■ TISA has been working on completion of TPEG Generation 1- during the last three years:

- adding applications for **PKI** = Parking Information;
- **TEC** = Traffic Event Compact; **CAI** = Conditional Access Info and **LRC** = Location Referencing Container

■ The work is completed, allows TPEG2 compatibility and was delivered to ISO in 2010-November

■ Additionally TISA has completed Specifications for **Adaptation Layers** and **Profiles** - to complete Value Chain implementation

ISO TPEG Standards - Generation 2

- TISA Specifications for TPEG2 (Work Item: ISO/TS 21219-series) under development
- Backwards compatibility: TPEG2 is designed to work with TPEG1 which has been upgraded
- TPEG2 uses UML Application modelling for reliable Specification development and physical format generation (Binary and XML)
 - Key parts submitted to ISO for Standardisation - *see next slide*
 - More parts under development - *see next slide*
 - Even more new parts possible, quickly - with all the “tools” in place

TPEG Generation 2 - Standards Road Map



Multiple delivery channels for many years..

■ FM Radio

- Will continue to be a TTI delivery channel for RDS-TMC, for many years (TISA thinks 10+ years)

■ Digital Radio

- Is equipped to be the TTI data delivery channel for TPEG based services, providing increased information
- **Needed extensively and now in Europe.. to make progress & add TTI services that match expectations!**
- TPEG services only require a very small part of any Digital Radio multiplex: say 12CU per service = 1.4% only!
- **TPEG based TTI services must be delivered via Digital Radio to meet the objectives of the ITS Action Plan & ITS Directive!**

Thank you for your attention

**The TISA team is happy to answer questions
at any time!**

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