

**Welcome
to the World
of Standards**



**Mobile Broadband
for Critical Communications
The ETSI perspective**

**Brian Murgatroyd
Chairman ETSI TC TETRA**

- **ETSI**
- **The standards process**
- **TC TETRA**
- **Standardizing mobile broadband**
- **Mission critical communications systems**

- Created by CEPT (Conférence Européenne des Postes et des Telecommunications) in 1986 as a non-profit standards organization
- Consists of members from the worldwide telecommunications industry and network operators - €22M budget
- Leading successes :
 - TETRA
 - GSM
 - DECT
 - 3GPP
- Over 30 Technical Committees; broadcasting , power line transmission, medical electronics, telecoms, reconfigurable radio systems,M2M, speech quality, satellite earth stations





14 Feb 2012 - 14:36:55 (GMT +1)
Sophia Antipolis - France

Username
 Password
 Remember me

- People
- Manage
- Events
- Approve
- Guide
- Help
- Search
- IPR
- WEBST

GA	BOARD	FC	IPR	OCG	NUG	3GPP
BRAN	BROADCAST	CLOUD	DECT	EE	eHEALTH	EMTEL
HF	INT	ITS	LI	M2M	MCD	MSG
RRS	RT	SAFETY	SAGE	SCP	SES	STQ
USER	ISG	NSO	STF	WORKSHOP	Closed	

TETRA	TETRA 01	TETRA 03	TETRA 04	TETRA 05	TETRA 06
-----------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Information - TETRA

Terrestrial Trunked Radio

[TETRA ToR](#)
[TETRA related agreements](#)
[TETRA Activity Report 2010](#)

[TB IPR Call](#)
[edit/Help!](#)
[Technical Body Support](#)

[TETRA Association \(ETSI Partner Organisation\)](#)

[TETRA DAWS work tra](#)
[MESA](#)
[TETRA in ETSI](#)

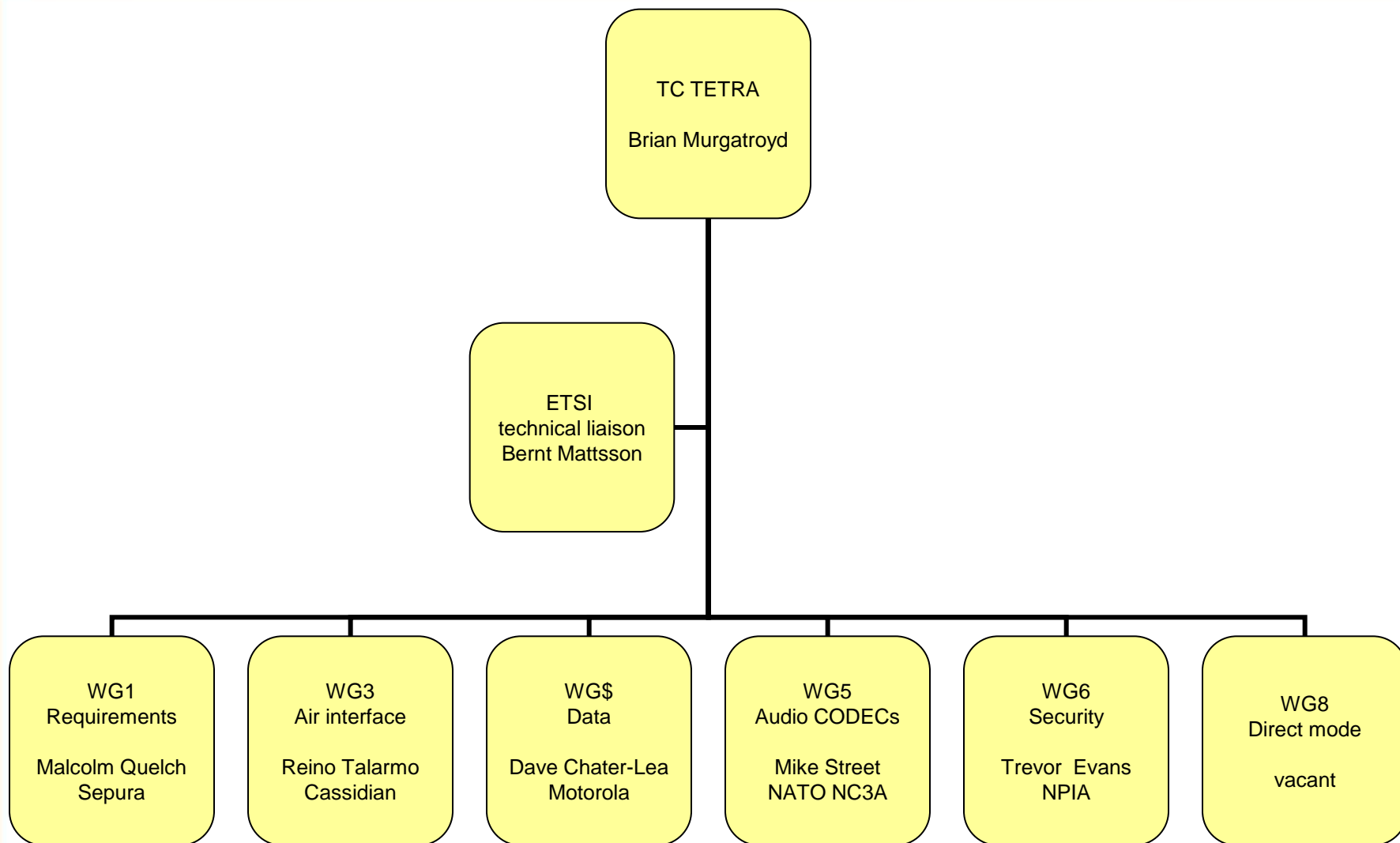
- **ETSI does not produce standards!**
- **Its role is to publish and facilitate**
- **ETSI members produce standards except where expertise is not available**
- **Specialist task force (STF) funding may be available but requires at least 50% voluntary funding for TETRA**

- **Leads to long term stability**
- **Creates a much larger market than proprietary solutions**
- **Competition drives down price**
- **Guarantees longevity to users and operators**
- **Prevents dilution of the market with different technologies**
- **ETSI insists on a fair and reasonable IPR licensing policy**

- Takes a very long time (7-10 years)
- Requires co-operation and consensus between suppliers and operators/users
- Suppliers need assurance that requirements are strong and firm before committing valuable resources to standards process
- Can prevent further innovation if over specified



TC TETRA ORGANIZATION



- Reports to Operational Co-ordination Group (OCG)
- Plenary session held twice per year
- Co-operation agreement with TCCA



Why did TETRA succeed?



- **Common, clear goals recognised by users, operators and suppliers**
- **Adherence to open standards**
- **Willingness of suppliers to expend sufficient design effort**
- **Promise of significant functionality and capability gains**
- **Large Potential markets, particularly PAMR and PSS**
- **Multi-vendor terminals market**
- **Strong TETRA association which provided the means for interoperability testing assuring compatibility between vendors equipment**

- Overall requirement is to develop a homogeneous speech plus broadband data solution
- **WG1**
 - To develop a consolidated URS taking into account views from the whole mission and business critical communities
- **WG 4**
 - Work on BB development ongoing for 18 months with agreed work item
 - Define and standardize technology solution(s) to implement mission critical BB networks
 - Integrated with TETRA/TETRAPOL/P25 voice networks
 - Ability to roam on to commercial networks
 - Eventual migration to a MC voice service
- **WG5-**
 - Develop new range of efficient speech CODECs
- **WG 6-**
 - Changes in security design
 - New encryption and authentication algorithms

Terms of Reference for TC TETRA is to produce ETSI deliverables in accordance with the following requirements:



- **The provision of user driven services, facilities and functionality as required** by traditional Professional Mobile Radio (PMR) user organizations such as the Emergency Services, Government, Military, Transportation, Utility and Industrial organizations as well as Public Access Mobile Radio (PAMR) Operators.
- **The evolution and enhancement of TETRA as required** by the market with the provision of new services, facilities and functionality made possible by new technology innovations and standards.
- **Further enhancements of the TETRA standard** in order to provide increased benefits and optimization in terms of spectrum efficiency, network capacity, system performance, quality of service, security and other relevant parameters.

High Resilience and availability levels

- Core network
- Radio Access network
- Backhaul network

Retain PMR characteristics

- True group calling with unlimited numbers of subscribers in group
- Very fast PTT access
- Direct mode transmission
- Dispatcher controlled channels

Multi-level Priority access

Security to required standards

- Supports Air interface and end to end encryption



A GLOBAL INITIATIVE

3rd Generation Partnership Project



Organization Partners	Region
Association of Radio Industries and Businesses (ARIB)	Japan
Alliance for Telecommunications Industry Solutions (ATIS)	USA
China Communications standards Association (CCSA)	China
European Telecommunications Standards Institute (ETSI)	Europe
Telecommunications Technology Association (TTA)	Korea
Telecommunications Technology Committee (TTC)	Japan

3GPP versus TETRA resources



- 3GPP have 4000 members
- Installed base of 5 Billion
- TETRA has a few hundred members and has installed base of 3 million terminals

- **ETSI takes too long to produce standards**
- **Resources for undertaking the standards process come from members alone**
- **This may also involve contributions towards funding research**
- **The more appropriate skills that can be offered along with a diversity of opinion, the quicker that work can be completed and the better the quality of outcome**
- **Come to the meetings to make your voice heard!**