Global Forum 2004
Malmo, 4-5 November

From Innovation to Market Deployment
Where (and how) standardization fits?

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Standards for **Business**

Why do companies participate in standardization ?

❏ **"We must clearly understand the fundamental law of standards development which is that standards are never neutral…**

They reflect the strengths and innovations of those who offer them to the committees…

Not participating in standards abdicates the decision-making to the competition, whether it be by company or nation".
William J. Hudson, President & CEO of Amp Inc. World Standards Day, 1995

❏ **"We live in a standardized world… without standardization there wouldn't be a modern economy.**

The process of standardization is always a political struggle, with winners and losers.

Standardization may be necessary and, on the whole, beneficial. But …, it is never innocent."
James Surowiecki, *Turn of he Century,* Wired Issue 10.01 (January 2002)

❏ **Standards are important competitive tools that can define, limit and even create markets. The shift from national to global markets has made global standards strategy an essential component of overall business strategy. .**
George T. Willingmyre, Standards, an Essential Component of Corporate Business Strategy, GTW Associates

Why work in standards?
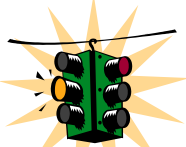
Understand risks associated with standards

Save money and avoid wasted R&D

Innovate

Build credibility with customers

Control evolution of market

Be seen as a leader

"Open the box"

In summary: Create a more favourable environment in which to do business

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Characteristics of Standardization
- The Bright Side -

Standards are market adoption accelerators and facilitators, by:

> **Increasing market size, thereby:**
>> – reducing cost
>> – reducing implementation risks
>> – encouraging development of an economic ecosystem around the standard
> **Reducing the market risks to equipment suppliers**
> **Facilitating a multi-supplier environment thereby providing for**
>> – competitive pricing of equipment
>> – more robust and assured supply channels
>> – innovation in order to differentiate product and retain customers
> **Facilitating a multi-service provider environment thereby providing for**
>> – competitive pricing of services
>> – fungible end user terminal equipment
> **Increasing the likelihood of interoperability in a multi-equipment provider and multi-service provider environment**

Characteristics of Standardization
- The Dark Side -

Standardization can have negative impact on market adoption of a technology, by:

- ➤ **Introducing excessive up-front delay in launching a project**
- ➤ **Introducing long delay in the development of consensus; possibly causing a technology to miss its market window**
- ➤ **Sub-optimization of technical solutions in order to gain consensus**
- ➤ **Causing failures in interoperability through introduction of options in order to gain consensus**
- ➤ **Increasing development risks to equipment suppliers due to last minute, untried and untested changes**
- ➤ **Acting as conservative force inhibiting discontinuous or disruptive innovation**
- ➤ **Stretching the life of obsolete technologies**
- ➤ **Creating and prolonging uncertainty by working on projects after they have "failed"**
- ➤ **Being abused to bar market access to new technologies when government compliance to standards is mandated**

Standards in Telecommunications

❑ **First there were regulated telecom monopolies**
- ➤ **Service providers assured interoperability**
- ➤ **Regulators assured that monopolistic profiteering would not occur**
- ➤ **New entrants on the service provider side were effectively locked out**
- ➤ **Innovation, its adoption and diffusion in networks was under control of the monopoly service providers**

❑ **Then came deregulation**
- ➤ **Services were opened to competition**
- ➤ **Regulators, in addition to rate and spectrum regulation, endorsed industry standards to maintain interoperability in a competitive environment**
- ➤ **Innovation in both services and technology was to be encouraged and accelerated in a competitive environment**
- ➤ **Standards organizations gained in importance by providing the industry standards used by regulators to allow access to spectrum**

❑ **Standards become the new monopolies**
- ➤ **Rapid innovation cycles outstrip the pace at which standards committee members are willing to adopt standards**
- ➤ **"Mandatory" reliance by regulators (and service providers) make standards an effective barrier to the introduction of new technology**

Disruptive and Discontinuous Innovation and Standardization

❑ *Sustaining Innovation* **is innovation that improves the performance of existing technology on a trajectory demanded by its customers**

❑ *Discontinuous Innovation* **is an innovation that requires changes in user behavior and the underlying support infrastructure of the industry.**

❑ *Disruptive Innovation* **is innovation that addresses the needs of a value-network not currently addressed and has the potential to move into an established value-network thereby disrupting that industry.**

Work item processes and committee structures established by SDOs are currently adapted to foster standardization that either address sustaining innovation or "green-field" value-networks. These processes and structures do not function well when they need to address discontinuous or perceived disruptive innovation. This should be no surprise, as these types of innovation are precisely those that also present corporate management with the greatest challenge.

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Disruptive and Sustaining Innovation

❑ **Disruptive technologies exhibit features that are undervalued by the mainstream customers of established enterprises.**

❑ **When such innovation occurs within such a value network it is, therefore, rejected as a business opportunity or starved for funding.**

❑ **Small and upstart companies can capitalize on this and from that beachhead move into the mainstream market.**

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Optimum Timing of Standardization and chasm crossing

The Chasm

Optimum
Standards Launch
Opportunity

Optimum
Forum Launch
Opportunity

Innovators

"Enthusiasts"

Early Adopters

"Visionaries"

Early Majority

"Pragmatists"

Late Majority

"Conservatives"

Laggards

"Skeptics"

Time of diffusion of disruptive/discontinuous innovations
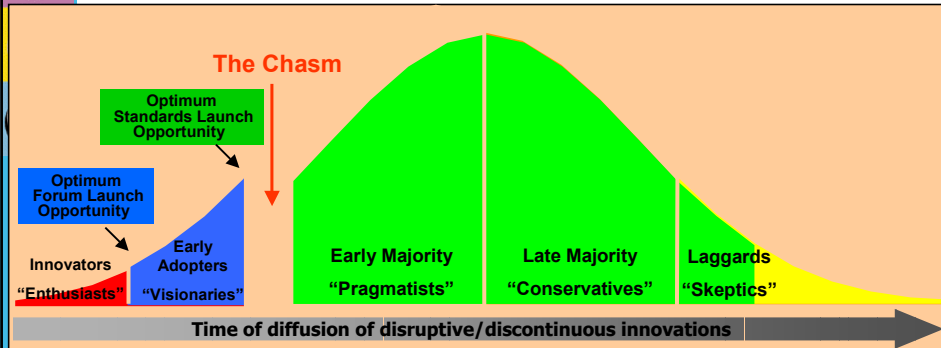
Based on and adapted from: Moore, Geoffrey A.: *Crossing the Chasm;* HarperCollins, 1991, 1999.

- ❑ **A standard can facilitate crossing the chasm. Optimum time to embark on standards development occurs just prior to chasm crossing; precisely the time when the competitors are adopting strategies to prevent the crossing.**
- ❑ **Role for forums (an issue for SDOs)**

Standards

Process Enhancements to Improve Responsiveness of Standardization

- ❑ **Changes to Project Initiation**

- ❑ **Changes to Specification Adoption and Approval Process**

- ❑ **Increased reliance on open market forces in the development of standards**

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Summary

❑ **Standards processes must adapt to accommodate disruptive and discontinuous innovation as well to the realities of the dynamics of the standards making process without negatively impacting the legitimate objectives and benefits of standardization.**

➢ **Take into account different value networks to be satisfied**

➢ **Allow the standards making process to proceed at a speed that matches innovation**

➢ **Provide for an effective fast-track process for adoption of publicly available specifications.**

➢ **Enfranchise all participants on an equal basis**

➢ **Keep the standards effort decoupled from mandatory government regulation (i.e. obviously compliance with regulation is required but the reverse need not be the case).**

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ETSI is

❑ **A not-for-profit association**
❑ **Independent**
❑ **Created in 1988**
❑ **Secretariat located at Sophia Antipolis, France**
❑ **Professional & efficient**

Orientation

❑ **Globalization**

❑ **International focus, roots in Europe**

❑ **Convergence - let the border lines blur**

❑ **Standards to fulfil market needs**

❑ **Partnerships**

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ETSI: A Standardization Success Story

❑ **ETSI since its establishment in 1988 has established itself in a relatively short time as a premier multinational SDO**

❑ **ETSI has flourished as deregulation took hold and as the European Community expanded, increasing the importance of telecommunications standards**

❑ **ETSI success is based on developing high quality standards and continuing to attract new members based on advocating the benefits of standards**
  – **enable interoperability**
  – **encourages innovation, fosters enterprise and opens up new markets**
  – **creates trust and confidence in products**
  – **expands the market, brings down costs and increases competition**
  – **helps prevent the duplication of effort**

Continued success will depend on adapting to an environment where technology evolves at a faster pace and where the nature of the change becomes discontinuous and disruptive

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ETSI today

❑ **Wireline, wireless, NGN, VoIP, QoS, Security, Broadcast, Testing & Interoperability, etc.**

❑ **26 Technical bodies (125+ working groups)**

❑ **Two Partnership Projects (22 working groups)**

❑ **22M€ budget**

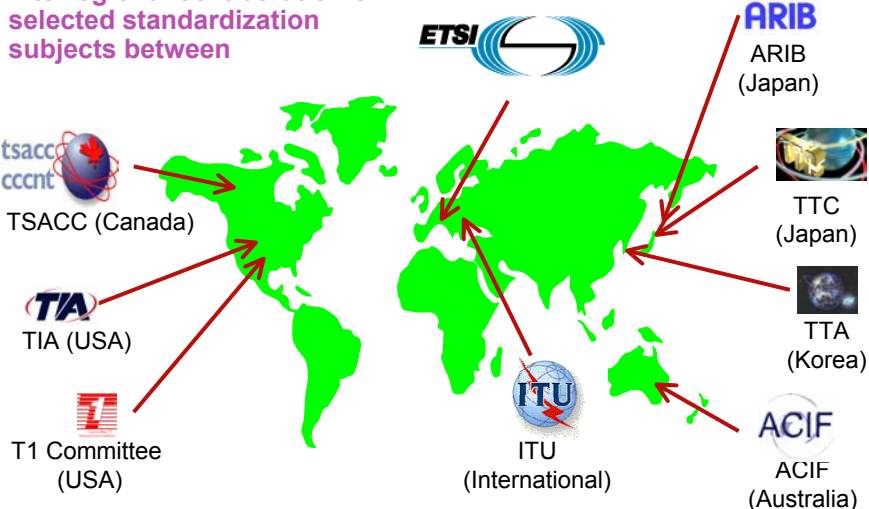❑ **More than 13.600 deliverables published**

Downloadable free of charge from the ETSI Web

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Global Standards Collaboration

Interregional collaboration on selected standardization subjects between

ETSI

ARIB
ARIB
(Japan)

tsacc cccnt
TSACC (Canada)

TTC
(Japan)

TIA
TIA (USA)

TTA
(Korea)

T1
T1 Committee
(USA)

ITU
ITU
(International)

ACIF
ACIF
(Australia)

ETSI fosters close collaboration with the research & education communities

Whereas:
❑ **Globalisation confronts development research and education with new challenges, reflected at a later stage in standardization initiatives**

ETSI recognizes:
❑ **The enthusiasm of the research and education looking towards the future and identifying new work**
❑ **The role of research in developing future ICT standards**
❑ **The need to strategically co-ordinate and integrate common areas of interest by means of joint projects**
❑ **The importance of expertise sharing**

COPRAS
Cooperation Platform for
Research & Standards

ETSI

❑ **An opportunity to coordinate ICT research and standardization efforts, also in the area of eSafety of road & air transport and ITS**
❑ **COPRAS will streamline the interface between standardisation & research**
❑ **Survey projects for standards related output**
❑ **Analyse feedback & select projects to define Standardisation Action Plans with**
❑ **Install mechanisms & tools for cooperation between research and standardisation, also across different areas**
❑ **Arrange input from research projects into standardisation processes and promote new work items resulting from research project's output**
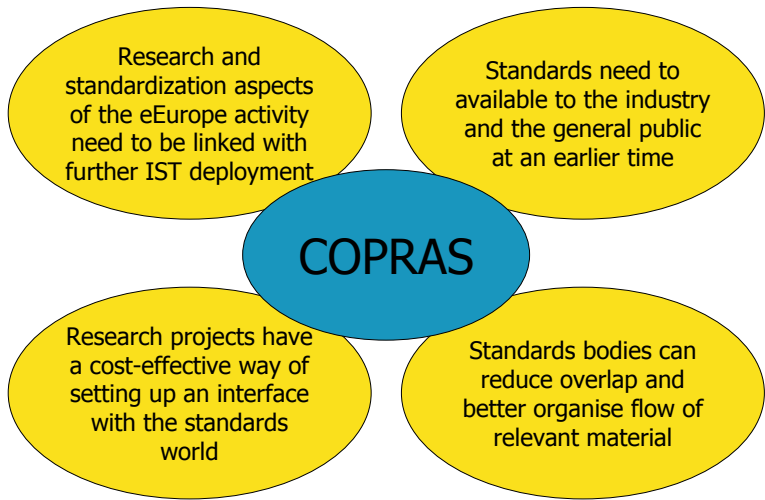❑ **Ensure relevant input from standards bodies to research projects**

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A variety of stakeholders need collaboration between research and standardization

Research and standardization aspects of the eEurope activity need to be linked with further IST deployment

Standards need to available to the industry and the general public at an earlier time

COPRAS

Research projects have a cost-effective way of setting up an interface with the standards world

Standards bodies can reduce overlap and better organise flow of relevant material

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For more information...

❑ **ETSI web site: http://www.etsi.org/**
- ➢ **general public information concerning ETSI**
- ➢ **free standards download**
- ➢ **promotional aspects**

❑ **ETSI portal: portal.etsi.org**
- ➢ **designed primarily for "standards practitioners"**
- ➢ **easy access to data for each technical body**
- ➢ **customized information retrieval for each technical body**
- ➢ **access to;**
  - • **Working documents**
  - • **ETSI applications and databases**

Thank you

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