



An Introduction to Standards- ETSI perspective

The views expressed are personal to the speaker and do not necessarily represent those of ETSI

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For: **IP Law summer school, Cambridge**

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Agenda

- ✓ Why Standardization?
- ✓ Standardization Organizations
- ✓ European policy and regulation
- ✓ IPR policies
- ✓ FRAND licensing





Why Standardization?

Why Standardization?

For-profit organizations prefer monopoly over standard

Economies of scale, More brain power

Customer pressure for competition

Government pressure against lock-in

Ensure interoperability

Influence technology

Access to leading-edge ICT knowledge

Contribute the views of your constituency

But – Not an end in itself



Contribution of Standardization to GDP

Country	Publisher	Time frame	Growth rate of GDP	Contribution of standards
Germany	DIN (2000)	1960–1996	3,30%	0,90%
France	AFNOR (2009)	1950–2007	3,40%	0,80%
United Kingdom	DTI (2005)	1948–2002	2,50%	0,30%
Canada	Standards Council of Canada (2007)	1981–2004	2,70%	0,20%
Australia	Standards Australia (2006)	1962–2003	3,60%	0,80%

Source: [The Economic Benefits of Standardization](#), DIN, 2011

[What's the bottom line?](#), ISO, 2012

Mobile Communication



Mobile connections, including licensed cellular IoT Aug 2018

Unique mobile subscribers Aug 2018

Revenue/year FY 2017

ARPU/month FY 2017



8,770,136,535

▲ 6.20%

5,094,213,658

▲ 3.72%

\$1.05T

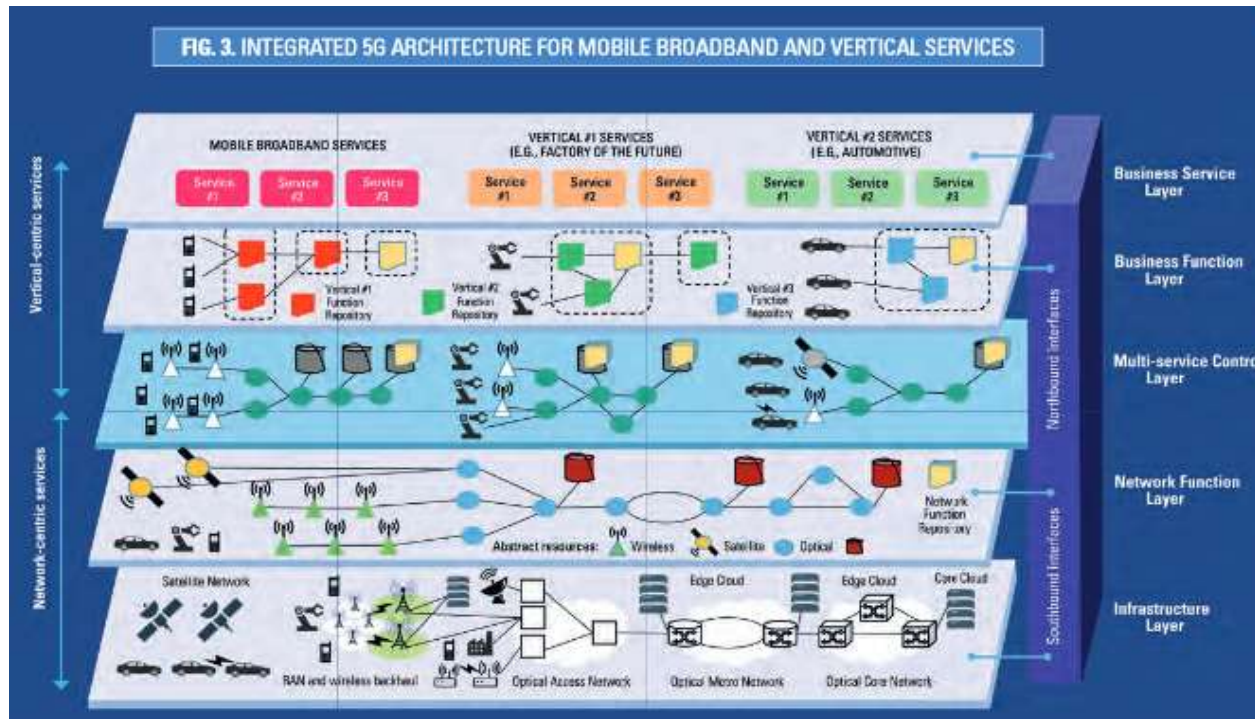
▲ 1.64%

\$9.49

▼ -3.05%

Source: GSMA Intelligence 2018, current year-end data except interpolated subscribers and connections

<https://www.gsmaintelligence.com/>





Standardization Organizations (SSO, SDO)

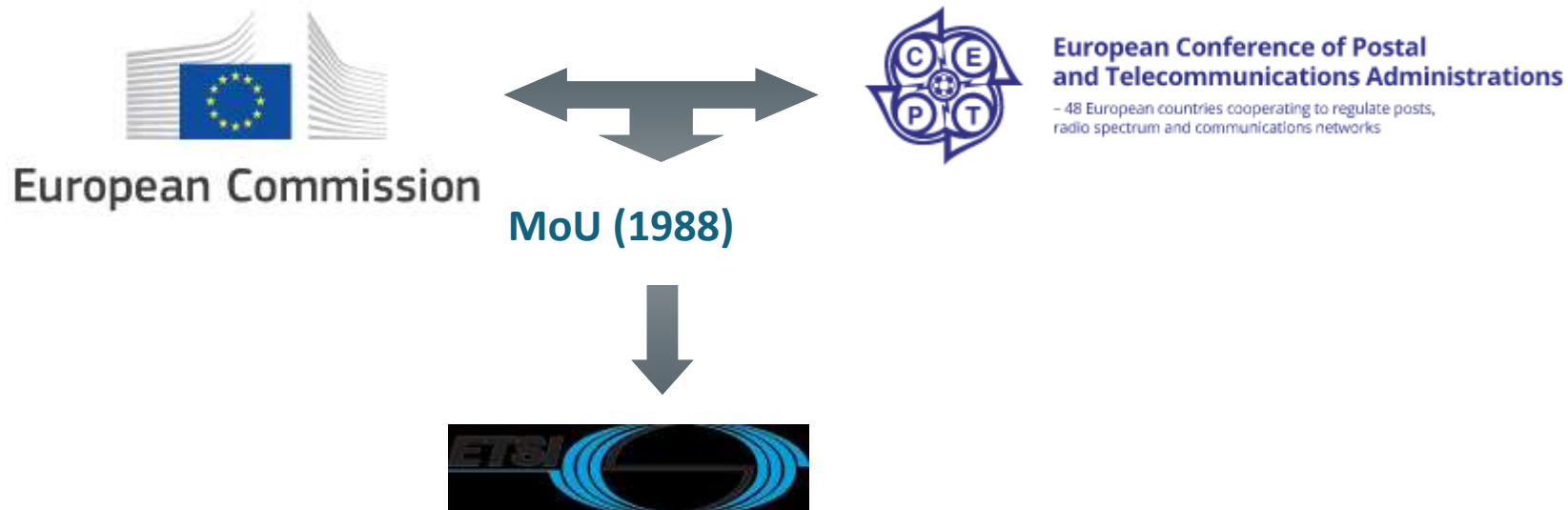
ETSI's creation

Mid 1980's

Emergence of mobile communications (the GSM success story)

Political and industrial will to work on a common set of standards for Europe

Industry in the driving seat



ETSI: European roots, global outreach

ETSI is a world-leading standards developing organization for Information and Communication Technologies (ICT)

ETSI is a not-for-profit organization under French law

ETSI is recognized by the European Union as one of 3 European Standardization Organizations

ETSI has become highly-respected as a producer of technical standards for worldwide use

ETSI is esteemed for our world-leading Intellectual Property Rights (IPR) Policy

ETSI's products & services

Technical specifications and standards with global application 40000+,
all available for free download

Support to industry and European regulation

Specification & testing methodologies

Interoperability testing

ETSI's membership

Over 800 organizations, from microenterprises to companies with a trillion \$ market cap, from 68 countries on 5 continents

Direct participation in our work

Manufacturers, network operators, service and content providers, national administrations, ministries, universities, research bodies, consultancies, user organizations

A powerful and dynamic mix
of **skills, resources and
ambitions**

ETSI's work includes

Radio technologies

Mobile technologies

✓ GSM, UMTS, LTE, 5G, Railway communications...

✓ private/professional land mobile radio systems

Cordless (DECT)

TETRA & other public safety systems

Spectrum matters & electromagnetic compatibility

Wireless Local Area Networks

Broadcast systems

Satellite communications

Short range devices

SDR and CR (Reconfigurable radios)

Aeronautical and marine radio

eHealth and Wireless medical devices

Body Area Networks

Millimetre wave

Telecoms network technologies

DSL, Broadband, Next Generation Networks

Cable distribution systems

Power line telecommunications

Edge Computing

Network Functions Virtualization

Next Generation Protocols

Safety

QoS, Speech quality and speech recognition

Testing

Intelligent Transport Systems

Cyber Security

Security algorithms, Quantum Key Distribution

Electronic signatures, lawful interception, smart cards

Emergency Telecommunications

IoT & M2M Communications

ETSI is not...

a REGULATORY body, but...

we provide technical specifications to support regulation

CERTIFICATION body, but...

we provide specifications and other tools to assist certification

a FREQUENCY ALLOCATION body, but...

we collect, co-ordinate and contribute frequency requirements

part of the European Commission, nor part of CEPT, but...

we work closely with these and many other organizations

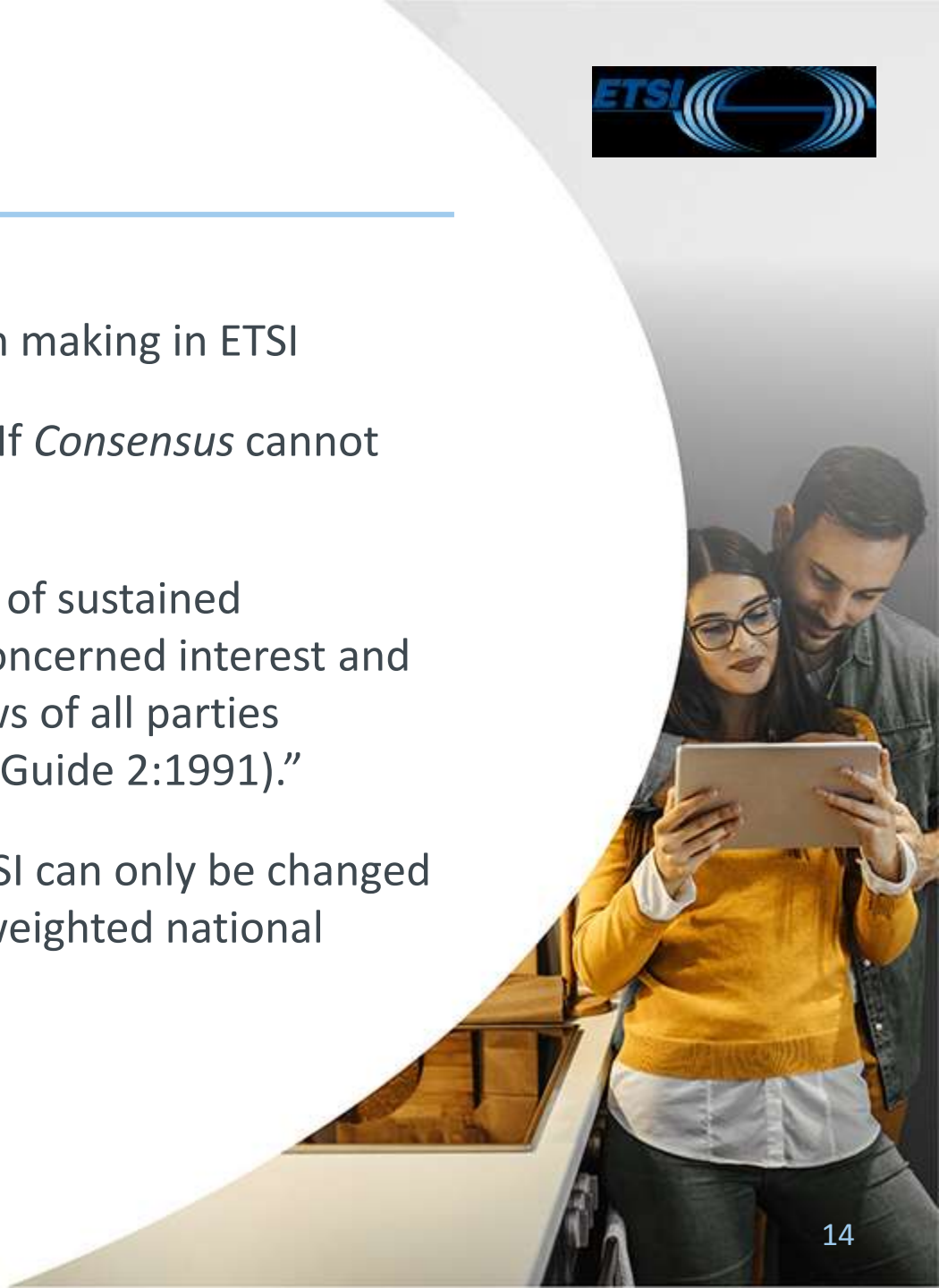
Decision making in ETSI

Consensus is the fundamental principle for any type of decision making in ETSI

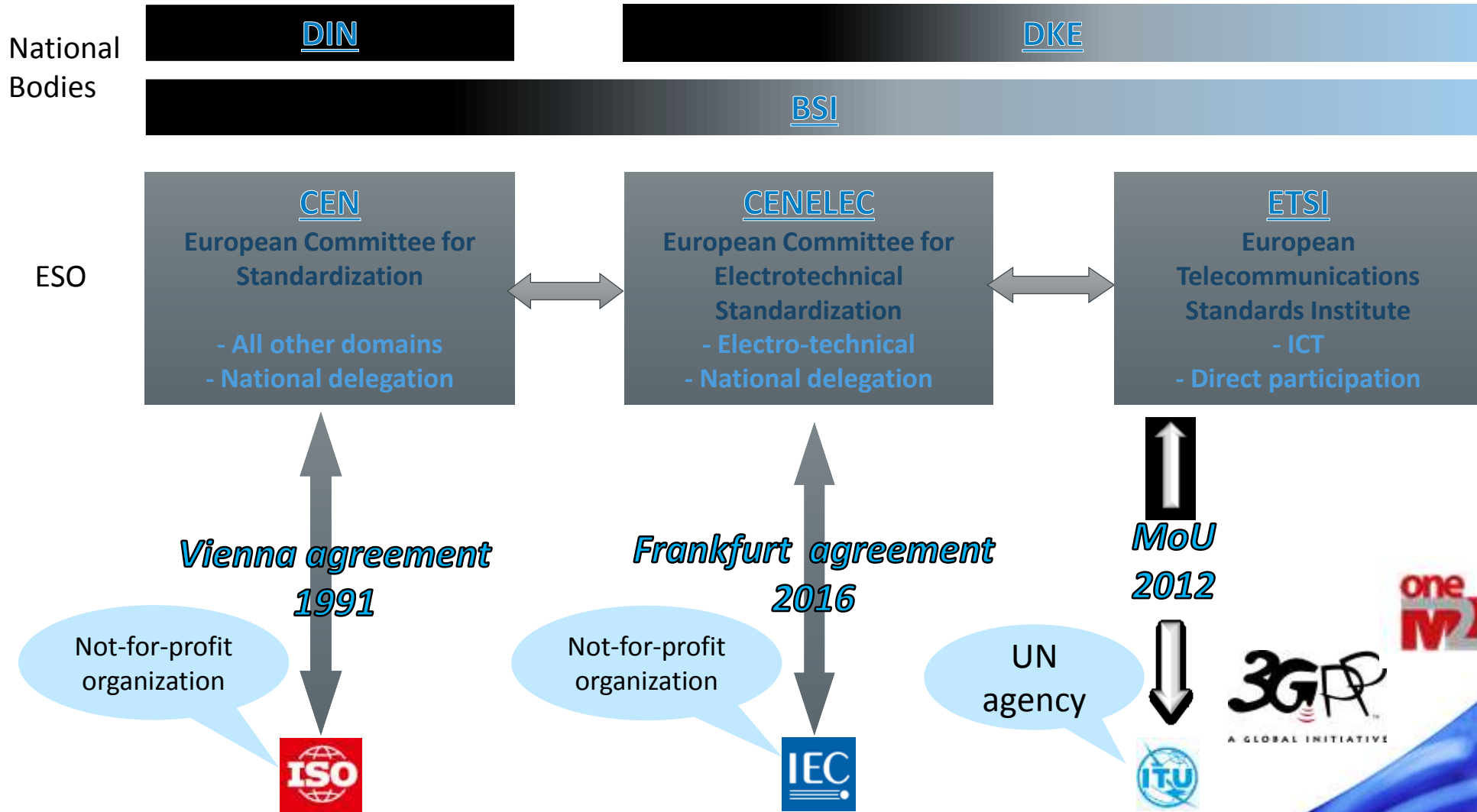
“In all decisions, members shall endeavor to reach Consensus. If *Consensus* cannot be achieved, the Chairman can decide to take a vote.”

“**Consensus:** General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interest and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments (see ISO Guide 2:1991).”

Statutes and Rules of Procedures including the IPR policy of ETSI can only be changed by the membership in the General Assembly by consensus or weighted national voting.



European Standardization Organisations (ESO) (EU Regulation 1025/2012)



Standards for Mobile Communication



7 Organizational Partners (OPs):



- 586 Individual Members (IM) of 3GPP are bound by the IPR policy of the organizational partner through which they participate
- IPR policies of the seven OPs are compatible

18 Market representation Partners (OPs):



Complex landscape



European policy and regulation

European Union and Standardization

- Standardisation Policy
- Standardisation Regulation 1025/2012
- ICT standardization
- European Multi Stakeholder Platform on ICT Standardisation
- Standardisation Priorities for the DSM
- EC Communication on Standard Essential Patents

European antitrust policy

- First, [Article 101 of the Treaty](#) prohibits agreements between two or more independent market operators which restrict competition. This provision covers both horizontal agreements (between actual or potential competitors operating at the same level of the supply chain) and vertical agreements (between firms operating at different levels, i.e. agreement between a manufacturer and its distributor). Only limited exceptions are provided for in the general prohibition.
- Second, [Article 102 of the Treaty](#) prohibits firms that hold a dominant position on a given market to abuse that position, for example by charging unfair prices, by limiting production, or by refusing to innovate to the prejudice of consumers.
- Examples: Commission decisions based on article 102 TFEU [Samsung](#), [Motorola](#)
- [CJEU Judgement Huawei/ZTE](#)



SDO IPR policies

Diversity of IPR policies

Diverse organizations – diverse IPR policies

- No policy: Mainly marketing or policy oriented organizations
- [F]RAND ([fair], reasonable and non-discriminatory terms and conditions):
The policy of choice of all formal SDO's (including ISO, IEC, ITU, CEN, CENELEC, ETSI, national bodies like DIN, BSI, ANSI)
- RF (royalty free terms): certain fora and consortia, e.g. W3C
- Non-assertion terms
- Choice of the above modes per project: e.g. OASIS, ECMA, TMForum



Great varieties in the details, even for the same mode, but in general -

SDOs stay away from any licensing issues (commercial terms between the parties)

Collection of SDO's IPR policies :

www.gtwassociates.com/answers/IPRpolicies.htm



ETSI's IPR policy objectives since 20+ years



Source: [ETSI IPR policy](#) (emphasis added)

3.1 It is ETSI's objective to create STANDARDS and TECHNICAL SPECIFICATIONS that are based on solutions which best meet the technical objectives of the European telecommunications sector, as defined by the General Assembly. In order to further this objective the ETSI IPR POLICY seeks to reduce the risk to ETSI, MEMBERS, and others applying ETSI STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable. In achieving this objective, the ETSI IPR POLICY seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.

3.2 IPR holders whether members of ETSI and their AFFILIATES or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of STANDARDS and TECHNICAL SPECIFICATIONS.

3.3 ETSI shall take reasonable measures to ensure, as far as possible, that its activities which relate to the preparation, adoption and application of STANDARDS and TECHNICAL SPECIFICATIONS, enable STANDARDS and TECHNICAL SPECIFICATIONS to be available to potential users in accordance with the general principles of standardization.

Main Characteristics of ETSI IPR Policy

ETSI's IPR policy offers the choice for a patent holder to declare its willingness to be prepared to grant licenses on FRAND terms or not prepared to license.

Extract from the policy:

4.1 Subject to Clause 4.2 below, each MEMBER shall use its reasonable endeavours, in particular during the development of a STANDARD or TECHNICAL SPECIFICATION where it participates, to inform ETSI of ESSENTIAL IPRs in a timely fashion. In particular, a MEMBER submitting a technical proposal for a STANDARD or TECHNICAL SPECIFICATION shall, on a bona fide basis, draw the attention of ETSI to any of that MEMBER's IPR which might be ESSENTIAL if that proposal is adopted.

Main Characteristics of ETSI IPR Policy

6.1 When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory (“FRAND”) terms and conditions under such IPR to at least the following extent:

- MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE;
- sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED;
- repair, use, or operate EQUIPMENT; and
- use METHODS.

ETSI IPR INFORMATION STATEMENT AND LICENSING DECLARATION (CASE: PREPARED TO GRANT LICENSE)



IPR INFORMATION STATEMENT: In accordance with Clause 4.1 of the ETSI IPR Policy the Declarant and/or its AFFILIATES hereby informs ETSI that it is the Declarant's and/or its AFFILIATES' present belief that the IPR(s) disclosed in the attached IPR Information Statement Annex may be or may become ESSENTIAL in relation to at least the ETSI Work Item(s), STANDARD(S) and/or TECHNICAL SPECIFICATION(S) identified in the attached IPR Information Statement Annex.

IPR LICENSING DECLARATION: In accordance with Clause 6.1 of the ETSI IPR Policy the Declarant and/or its AFFILIATES hereby irrevocably declares the following:

To the extent that the IPR(s) disclosed in the attached IPR Information Statement Annex are or become, and remain ESSENTIAL in respect of the ETSI Work Item, STANDARD and/or TECHNICAL SPECIFICATION identified in the attached IPR Information Statement Annex, the Declarant and/or its AFFILIATES are (1) prepared to grant irrevocable licences under this/these IPR(s) on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy; and (2) will comply with Clause 6.1bis of the ETSI IPR Policy.



Standard Essential Patents (ESSENTIAL IPR)

ETSI definition



6 "ESSENTIAL" as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR...

7 "IPR" shall mean any intellectual property right conferred by statute law including applications therefor other than trademarks...



FRAND licensing

Interests of standard contributors and standard users



Standard contributors

Develop the most suitable standard

Fair and reasonable access to the standard for all interested users

Reward for the investments into developing the standard

Optimum reward

Standard users

Have the most suitable standard available

Fair and reasonable access to the standard for all interested users

Minimum constraints for using the standard

Minimum costs

FRAND licensing challenges (1)

Most IPR policies do not define/codify FRAND (IEEE an exception)

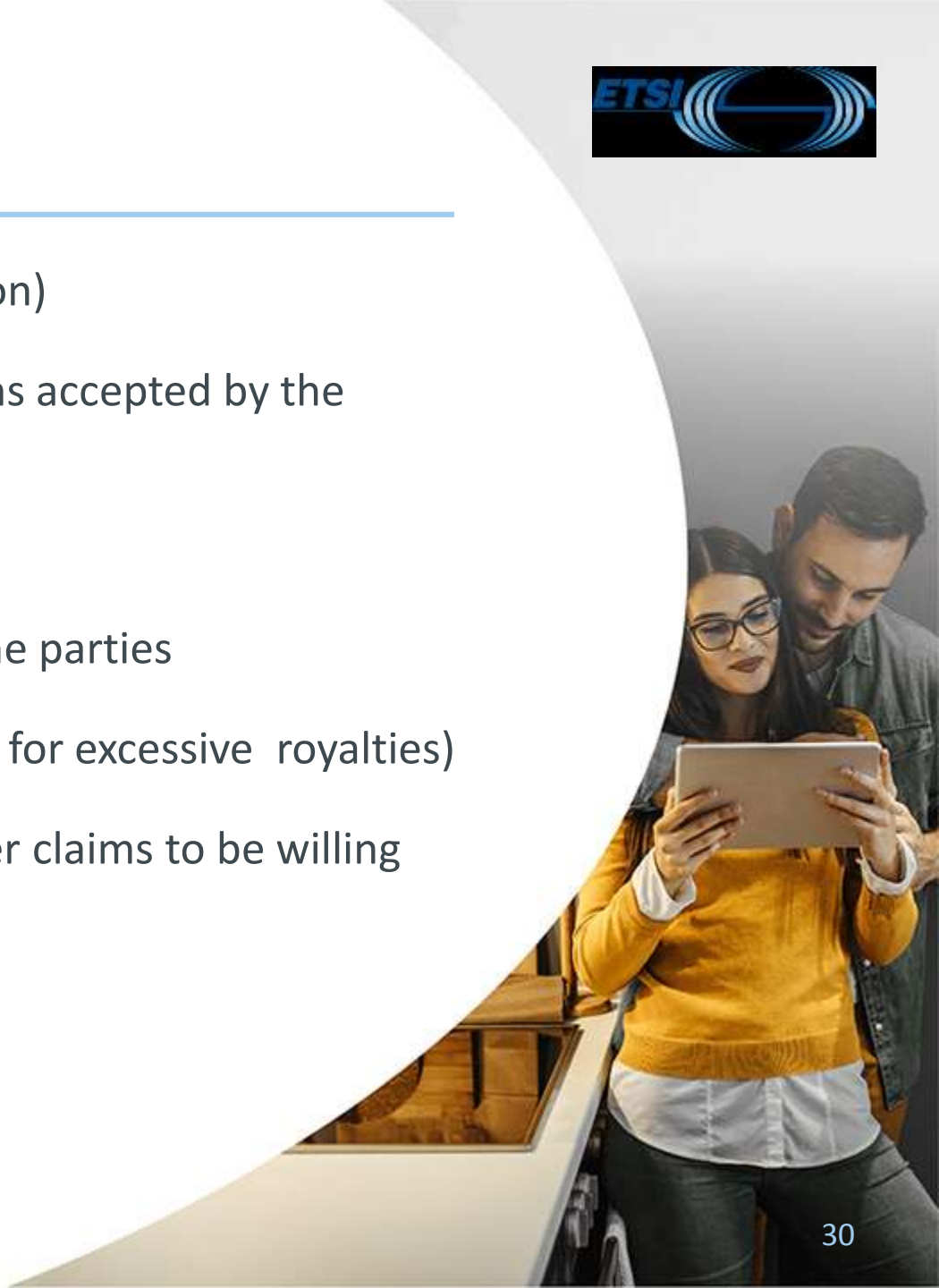
Patent holders for many years have designed licensing programs accepted by the industry: Negotiated portfolio licenses on a global basis

In case of disagreements courts have to decide

Still today most licenses are negotiated and agreed between the parties

Some companies complain about patent hold-up (licensor asks for excessive royalties)

Some companies complain about patent hold-out (implementer claims to be willing licensee but never agrees on license conditions)



FRAND licensing challenges (2)

SEPs are patents, with the same rights as any other patents. Only difference:

SEP holder has agreed to offer licenses on FRAND terms.

Therefore SEP licensing faces many aspects similar to licensing of other patents.

What are the specific tropics:

Tue, 14th August, 15:40 - 17:20 TMT: A SEP & FRAND Masterclass

Contact

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ETSI: info@etsi.org

ETSI IPR: <http://www.etsi.org/about/how-we-work/intellectual-property-rights-iprs>

Questions?