



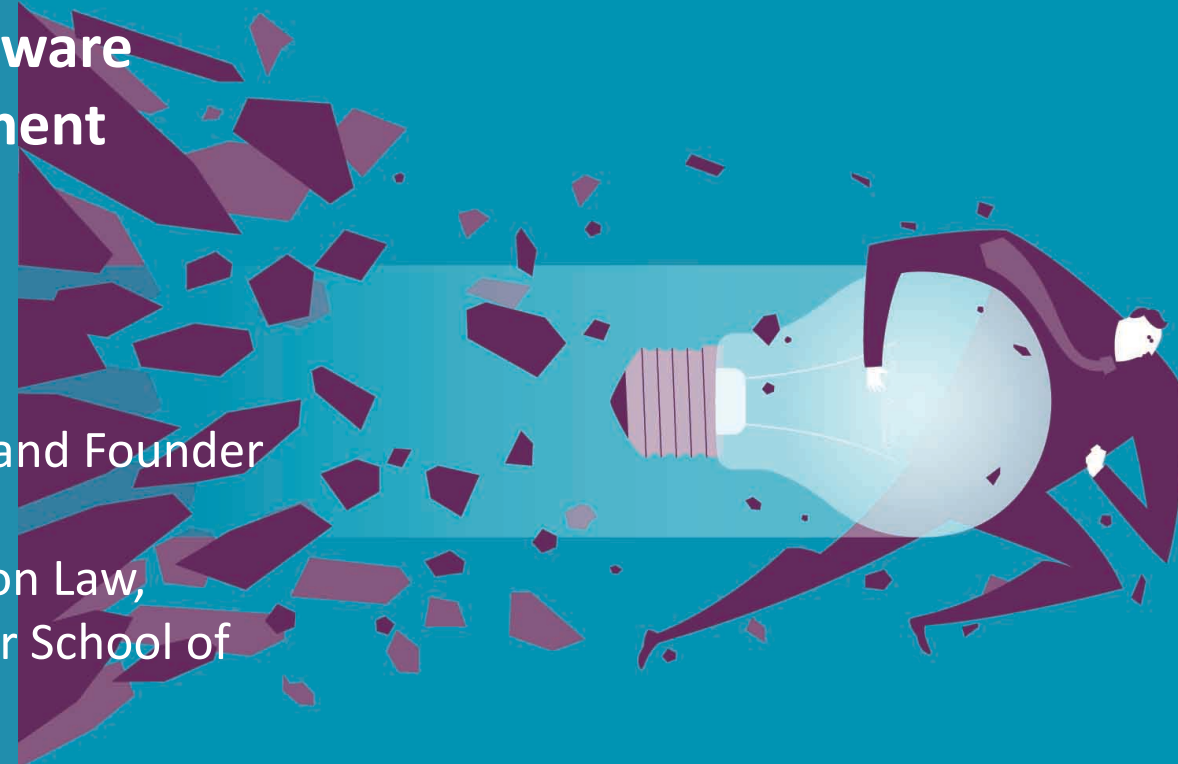
Rigorous empirical
research on
intellectual property

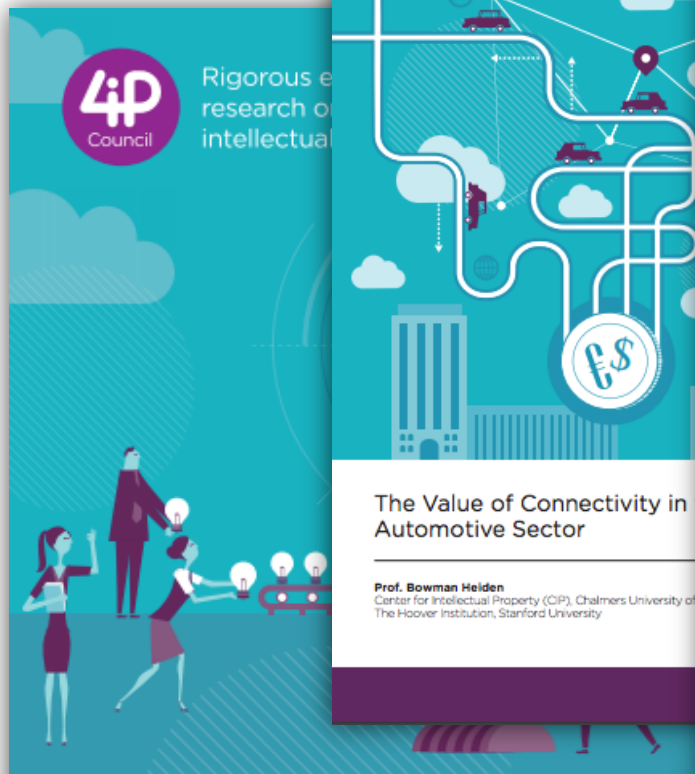
Downsides of Using Inadequate Open Source Software Processes and Licenses within Standard Development

Host: Axel Ferrazzini, Managing Director, 4iP Council

Presenters:

- **Michele Herman**, CEO of Early Stage Health-Tech Startup and Founder of JusTech Law
- **Justus A. Baron**, Senior Research Associate at the Center on Law, Business, and Economics, Northwestern University Pritzker School of Law





The Value of Connectivity in the Automotive Sector

Prof. Bowman Heiden
Co-Director, Center for Intellectual Property (CIP), Chalmers University of Technology
The Hoover Institution, Stanford University

FRAND licensing levels under EU law

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Summary

February 2020



The Value of Standard Essential Patents and the Level of Licensing

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Summary

January 2021

Case Law post CJEU ruling *Huawei v ZTE*

4iP Council Case law home CJEU Huawei v ZTE German court decisions Italian court decisions English court decisions English/Irish court decisions Romanian court decisions French court decisions Dutch court decisions National Courts Guidance

Authors & contributors

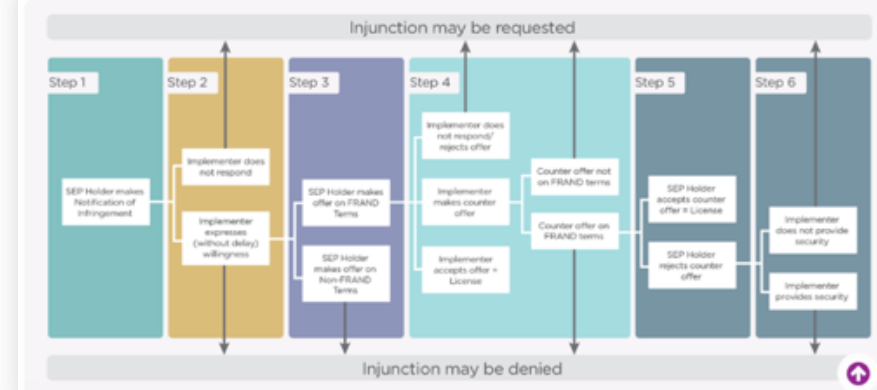
National Courts Guidance

Negotiating Licenses for Essential Patents in Europe


Increased clarity provided on the principles established by the Court of Justice of the European Union in *Huawei v ZTE*.

The Court of Justice of the European Union clarified, in *Huawei v ZTE* (Case No. C-170/13), European law relating to the availability of injunctive relief for infringements of FRAND-based standard essential patents. In doing so, the Court provided a legal framework focused on the good faith

Huawei v ZTE process



4iP
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Rigorous empirical research on intellectual property

Types of IP
Benefits of IP
IP for Business Growth
4 Reasons to Patent
4 Reasons 4 Copyright
4 Reasons 4 Trademarks
SME Features
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4 REASONS TO PATENT

- 1 - MARKET ACCESS
- 2 - NEGOTIATING
- 3 - FUNDING
- 4 - STRATEGIC VALUE

Explore how patents add value with our [interactive guide](#).

4 REASONS 4 COPYRIGHT

- 1 - COMPETITIVE EDGE
- 2 - REPUTATION
- 3 - COLLABORATION
- 4 - FUNDING

Explore the benefits of copyright with our [interactive guide](#).

4 REASONS 4 TRADEMARKS

- 1 - DIFFERENTIATION
- 2 - PROTECTION
- 3 - REPUTATION
- 4 - REVENUE

Explore the benefits of trademarks with our [interactive guide](#).

4 REASONS 4 DESIGN RIGHTS

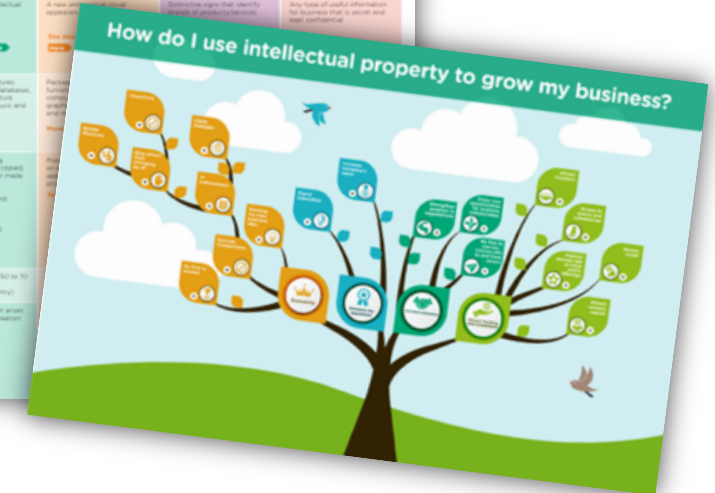
- 1 - EXCLUSIVITY
- 2 - COMMERCIALISATION
- 3 - REPUTATION
- 4 - VALUE

Explore the benefits of design rights with our [interactive guide](#).

Which types of intellectual property do you need?

Filter table columns

	PATENTS	COPYRIGHTS	DESIGNS	TRADEMARKS	TRADE SECRETS
What do they protect?	An invention, process and/or technical solution in all fields of technology. See also more .	A work, an original intellectual creation. See also more .	A new and original design. See also more .	A sign which distinguishes goods or services. See also more .	Any type of useful information for business that is secret and not confidential. See also more .
Examples of what is protected	Inventive products and processes in all fields of business. For examples of successful inventions see here .	Audio-visual works, literary, dramatic, artistic, scientific, technical, software, databases, websites, designs, logos, text, music, films, video, graphics, etc. See also more .	Product and/or packaging designs. See also more .	Words, letters, numbers, sounds, colours, shapes, etc. See also more .	Any type of useful information for business that is secret and not confidential. See also more .
How are my rights protected?	Prevents unauthorised making, using or selling of the patented invention.	Prevents the work being copied, reproduced or made available online.	Protects the integrity and attribution of the work.	Prevents the use of the sign for goods or services not belonging to the owner.	Prevents the disclosure of the information.
How long is my invention protected?	Up to 20 years.	Life of the author plus 70 years after their death (depending on the country).	Up to 15 years.	Indefinite.	Indefinite.
Do I have to register it?	Yes, filing an application to a patent office is required. More on patent applications in this guide .	No, copyright protection arises automatically with its creation. See also more .	Yes, filing an application to a design office is required. More on design applications in this guide .	Yes, filing an application to a trademark office is required. More on trademark applications in this guide .	No, trade secrets are protected by law.



Downsides of Using Inadequate Open Source Software Processes and Licenses within Standard Development



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Summary of Research

- Significant benefits of integrating OSS into standards development
 - Potential downsides of doing so using policies and processes not well-suited to formal SDOs
 - Some formal SDOs have used OSS models that require royalty-free (RF) patent licensing and “meritocratic” decision-making processes
- OSS reference implementations developed and endorsed by the SDO may dominate the market and/or influence standards development
- To preserve SDOs’ openness and balance, SDOs’ OSS projects should be consistent with the SDOs’ patent policies and consensus decision-making processes

“Open” Standards versus “Open” Source Software

- Standards are documents called **Specification** that specify requirements, i.e., for interop, interconnection, communication or performance
- “Open” standards are developed in an open process and may be implemented by anyone on a voluntary and fair reasonable and non-discriminatory (FRAND) basis
- Products that conform to the Specification are said to be **Implementations** of the Standard.
- Standards are considered vendor and business model neutral when there are multiple independent Implementations
- Software-based Implementations may be licensed under proprietary licenses or open source licenses
- “Open” for software refers to the **license** that governs its development, distribution and use.
- Until recently:
 - SDOs did not develop Implementations except reference implementations used for testing purposes
 - Other open source software OSS communities developed OSS Implementation

Formal SDOs and consortia

- Most SDOs are private organizations; and standards are generally voluntary
- Formal SDOs are subject to explicit procedural requirements
 - Global, Regional, and National Standards Bodies are often formally recognized by governments
 - Some SDOs are accredited by an accreditation body such as ANSI
 - SDOs may wield a significant influence over the industry
 - Heightened competition law scrutiny
- Many hundred standards consortia also exist, offering wide variety of different processes

Process requirements for formal SDOs in Europe



- Regulation 1025(2012)
 - European standardisation founded on TBT principles; namely coherence, transparency, openness, consensus, voluntary application, independence from special interests and efficiency
 - It is important that all relevant interested parties are appropriately involved
- General guidelines for cooperation between ESOs and European institutions
 - Institutional rules should ensure that standardisers take into account the broadest possible range of views in drawing up standards and other documents
 - For **all types of deliverables** the principles of transparency, access, openness, efficiency, coherence and voluntary work and application should be followed.

5.6 Stay in control



We promote open standards and specifications that are implemented and distributed in open source.

Interoperability is of utmost importance to the Commission and the Member States. The key to interoperability is the use of well-established standards and specifications. To ensure our digital sovereignty and guarantee a level playing-field, for all future IT developments the Commission will promote standards and specifications that are implemented and distributed through open source software, and include this in its corporate governance approach.

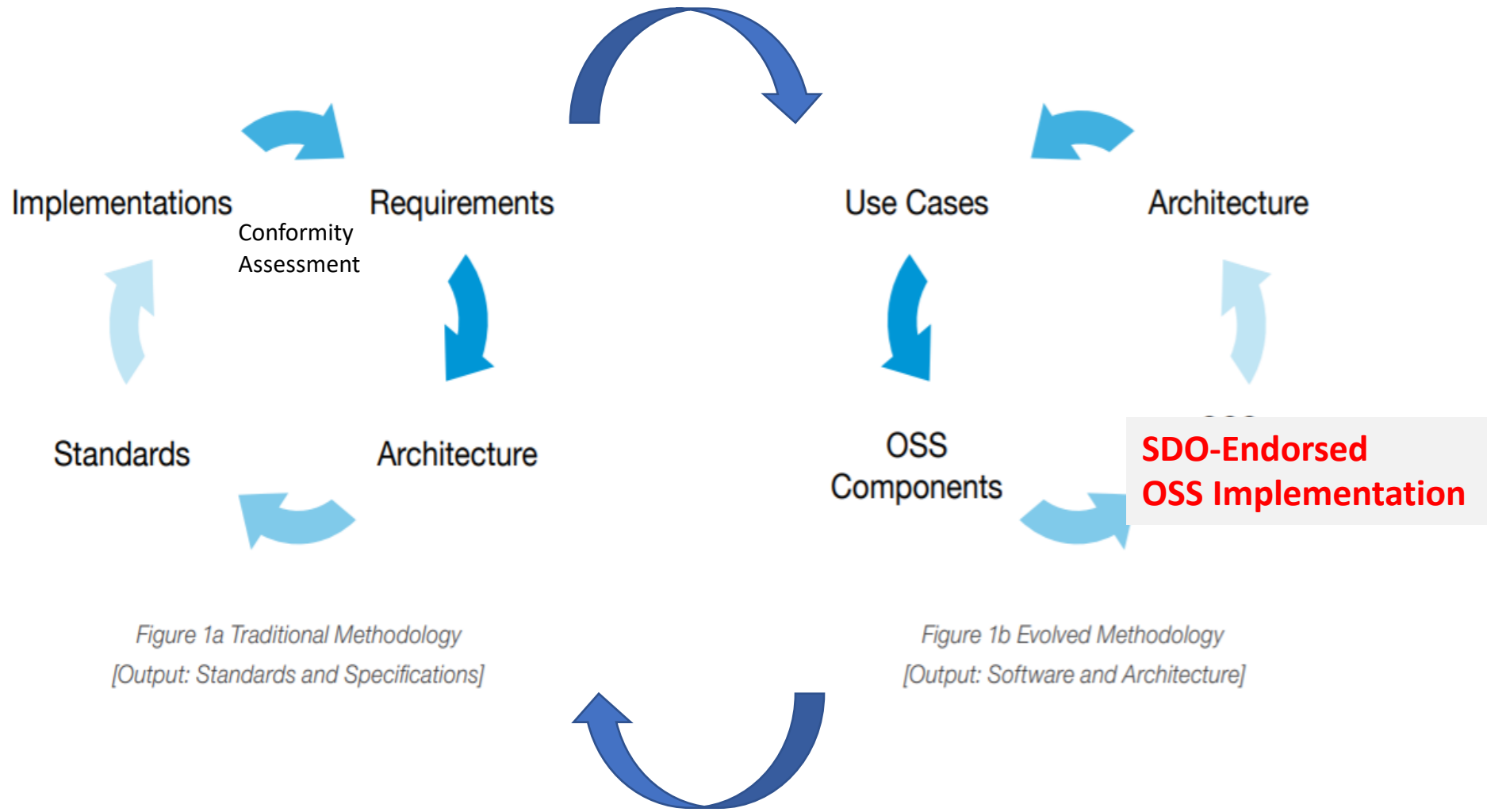
* European Commission, COMMUNICATION TO THE COMMISSION OPEN SOURCE SOFTWARE STRATEGY 2020 – 2023 Think Open, Brussels, 21.10.2020 C(2020) 7149 final

28 January 2021

Software is not new to SDOs

Software	Use case
Tools	Developing Conformant Products
Test Materials	Testing if Products Conform/Interoperate
Reference implementations	Testing Interoperability
Sample Applications	Promoting Use of Conformant Products

Integration of Standards and OSS Development



Source: Linux Foundation: https://www.linuxfoundation.org/wp-content/uploads/2018/03/lf_harmonization2_0_os_standards.pdf licensed under the [CCAL 3.0](#)

Resulting Problem

- IP policies and licensing practices used by SDOs for Specification development and by OSS communities for OSS development differ
- SDO and common OSS community governance processes differ
- SDO adoption of OSS IP policies/practices and governance processes may:
 - No longer keep standards development open and balanced;
 - Permit certain stakeholders to dominate development process; and
 - Lack due process safeguards such as consensus voting and opportunity to provide views and objections

SDO IPR Policies

- Copyright Policies Are Relatively Consistent Across SDOs
 - Submitted Contributions: RF copyright licenses **to SDO**
 - Incorporated Contributors: RF copyright license or assignment **to SDO**
 - Specification License: SDO grants access without rights to modify
- Patent Grants Depend on Policy
 - Patent Disclosure Policy
 - Licensing Commitments/Assurances – F/RAND provides access **to Implementers for conforming implementations**
 - Essential Patent Claims (EPCs) are patent claims that are necessarily infringed when implementing the Standard – Each SDO has its own definition
 - Standards Essential Patents (SEPs) are the patents that are disclosed to an SDO in accordance with its patent policy that are likely to contain EPCs

OSS is Software Licensed Under an OSS License



- Open Source Initiative (OSI) created the Open Source Definition (OSD)
 - OSI certifies licenses as meeting the OSD – BSD, MIT, Apache , MPL ,GPL and many more
 - OSI actively discourages developers from referring to their software as “open source” if OSI doesn’t agree with their license terms
 - OSI is not the arbiter of which software is OSS
 - OSI does not own a trademark on “open source”
- OSD has 10 criteria.
 - The license must be RF **to all parties**
 - The license must be self-executing
 - The license may not restrict fields of endeavor, i.e., may not be limited to conformance, may not restrict use by a competing community
- Developers are beginning to push back on the OSD as OSS becomes more commercial

Compatibility and Relationship of OSS Licenses and FRAND Patent Licenses

Open Source Licenses (All Definitions)	OSI-Approved (most problematic to least problematic)			OSI-Approved w/patent carve out	Tailored Copyright Only
	GPL LGPL	MPL EPL Apache	BSD MIT		
Conflict with Open Implementation	Liberty or Death (Patent Free)	Defensive Termination		No Conflict	
Conflict with Open Participation	Early GNU/most permissive OSS licenses: OSI views as implicit RF patent license Other OSS licenses include explicit RF license			No Conflict	
Conflict with Consistent Implementation	Authorizes Forking with the Standard and conflicts with FRAND licenses limited to conformant products				No Conflict

We need a definition of OSS that we all understand

Please check the original Dilbert strip:
<https://dilbert.com/strip/2013-08-11>

A Better Definition

Open source software (or free software) combines copyright and a licence to grant users the freedom to run the software, to study and modify it, and share the code and modifications with others. It facilitates collaboration, innovation, and agility.*

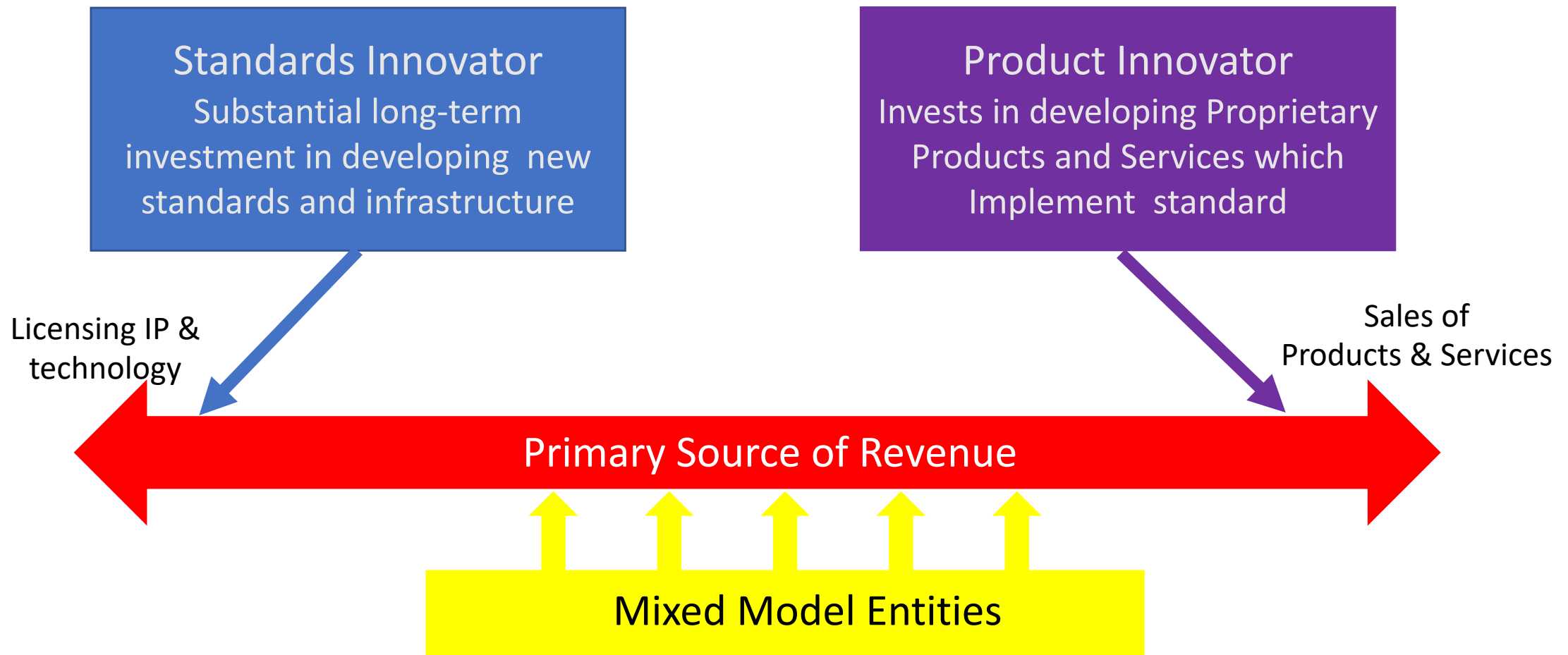
- Does not require adherence to OSD
- Does not require RF patent licenses

* European Commission, COMMUNICATION TO THE COMMISSION OPEN SOURCE SOFTWARE STRATEGY 2020 – 2023 Think Open, Brussels, 21.10.2020 C(2020) 7149 final

OSS/Standards Governance Compatibility

Common Formal SDO process	Common OSS Community Process
<ol style="list-style-type: none"> 1. Initial Stakeholders propose initial draft 2. Governance body approves and initiates 3. WG members iterate on draft and are bound by the SDO IP policies 4. Use consensus process to agree on draft 5. SDO Member Ballot on WG Draft 6. Resolve feedback by consensus and issue new WG Draft 7. Public Ballot on WG Draft 8. Resolve feedback by consensus and issue new WG Draft 9. Governance Body approves WG Draft and publishes it 	<ol style="list-style-type: none"> 1. Form community by selecting hosting platform and defining project roles <ol style="list-style-type: none"> a. Project Lead b. Maintainer c. Committers d. Contributors 2. All sign a Contribution and License Agreement (CLA) granting RF IP licenses to their contributions 3. Only those that sign the CLA can participate and contribute 4. Those Contributors that make the most contributions can become Committers 5. Only Maintainers and Committers decide which Contributions are accepted, rejected or modified

Common SDO Stakeholder Business Models



Potential Effects of OSS Integration Into Standards Development

- OSS process makes technical choices that standards development leaves to the implementer
- Feedback loop: Technical choices from the OSS project determine standardization decisions
- OSS reference implementation is first-to-market, may potentially influence other implementations or gain competitive advantage

Inconsistency between Policies of formal SDOs and some OSS models

	EU Requirements and ESO Policies	OSS
Open Process	Technical specifications are developed on the basis of open decision-making accessible to all interested parties affected by those technical specifications	Rules for participation public and uniform; but Standards Innovators can only participate with undue financial burdens
Open Implementation	Specifications are publicly available for implementation and use on reasonable terms; IPR essential to the implementation of specifications are licensed on FRAND basis	Royalty-free access, but potentially discriminatory patent retaliation clauses, and restrictive copyleft and liberty-or-death clauses
Balanced IPR Policy	Balance between the goal of offering wide access and allowing for reasonable returns to contributors' innovation investments	Wide access; but excludes royalty-bearing licenses, thus reducing opportunities for upstream innovators to earn a return
Consensus	Consideration of views and objections, decisions reflect broad consensus of all affected interests	Not ensured if "Benevolent Dictator" or "Meritocratic" Models are applied

Potential consequences of inconsistency between processes

- Breadth of participation in developing the reference implementation may be limited, reducing its relevance and success
- Success of the standard in producing interoperability may be limited, as technical choices are delegated to an OSS project covering only part of the market
- Potential challenge to the openness and balance of the standardization project
 - May discourage participation and reduce success of standard development
 - Potentially viable claims of anticompetitive effects

Overview of Views in Existing Literature

- Relative consensus that some OSS licenses may conflict with FRAND policies
 - Kesan (2011), Kappos (2016), Taffett and Zymler (2020) focus on *copyleft*
 - Herman and Montague (2011) and Husovec (2018) highlight *liberty or death* clauses
 - Survey by Boehm and Blind (2020): GPL ranked as least FRAND-compatible OSS license
- Different views on broader compatibility between FRAND and OSS
 - Several authors see no potential for conflict between FRAND and large number of OSS licenses
 - Husovec (2018), Maracke (2019): potential business incompatibility between FRAND and OSS licenses with RF patent licensing obligations, solvable through negotiations
 - Boehm and Blind (2020): SDOs should “review” their IPR policies to “accommodate” OSS
- Case studies of OSS processes for development of reference implementations
 - Feedback loop between OSS reference implementation and specification (Gamallielson et al., 2015)
 - Case studies identify tensions between IPR and governance models, particularly regarding ETSI’s OS-MANO (Li 2017, Muñoz Ferrandis and Tapia, 2018)

Possible Compatibility Solution For Integrating OSS into SDO Standards Development

- Same IP framework for both OSS development and Specification development
 - Copyright in contributions granted (or licensed) to SDO
 - SDO licenses the Specification or the OSS
 - Tailor to promote conformance and prohibit divergent community projects
 - (OS Definition rigidity may impede acceptance of licenses in OS community)
 - Commit to license EPCs in the OSS to Implementers in accordance with existing RAND patent policy
 - Independent proprietary implementations, independent OSS implementations, and the SDO's OSS implementation can *all* be introduced into the marketplace
- Same consensus-based governance and decision-making processes for both OSS development and Specification development
 - OSS development does not require a benevolent dictator or a Meritocracy
 - SDOs can follow its open, balanced, and consensus-oriented processes

Thank you

Q & A

Do not miss the next webinar that will complement today's webinar

25 March 2021, 16.00-17.00 CET	<u>Open Source Software and Standards Development: Competition Law Implications</u>	Richard Taffet and Michael Zymler, Morgan Lewis
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