ETSI

Master Tech Standardization
with ETSI

Module 1 - What are standards and why are they important?

What are standards?

- Standards support everyday life much more than people think

- Society recognized the importance of standardized measurements thousands of years ago: e.g. weight, distance or length

- Development of a common reference system agreed upon by people and institutions

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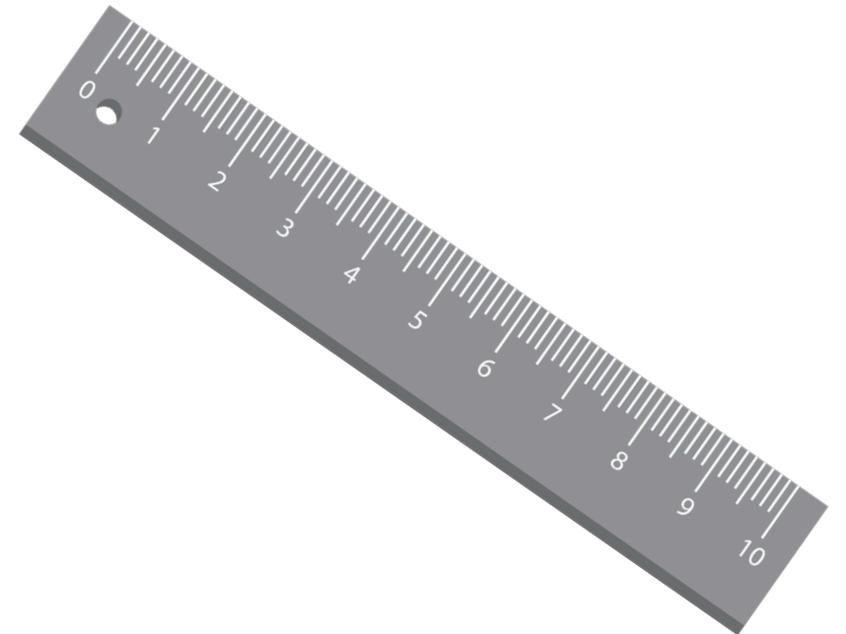
- Standards focus on safety and interoperability

- 1951 standard published International Commission on the Rules for the Approval of Electrical Equipment (IECEE) - this is a standards organization

- 2nd edition published in 1963 and last updated in March 1983. Now used with IEC 60884-1 – standards get updated

- CEE 7/7 plug has been adopted in several European countries and is compatible with both CEE 7/3 and CEE 7/5 sockets – standards reduce product cost

- Compatibility may still be an issue as these are national standards - French standard NF C 15-100 requires live to be on the right side, while Czech standard ČSN 33 2180 requires live to be on the left side

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We are so used to our phone just working

Other users of radio spectrum

But how – I can't plug my charger in on holiday

Standards

Different users
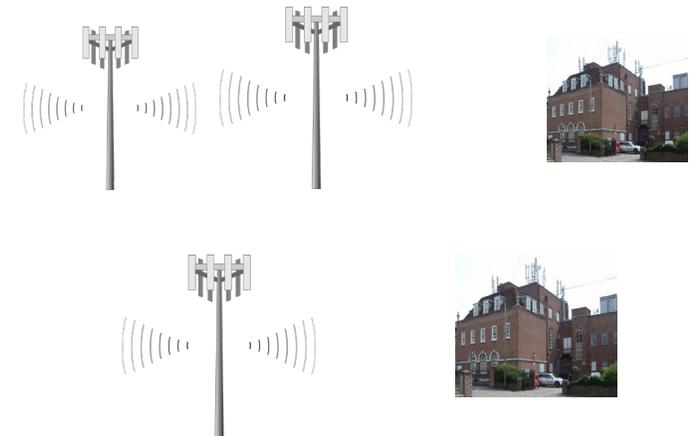**Different smartphone manufacturers**
Different operating systems
Different applications stores
Different applications

Different network operators
Different network equipment manufacturers

Range of approaches to standards
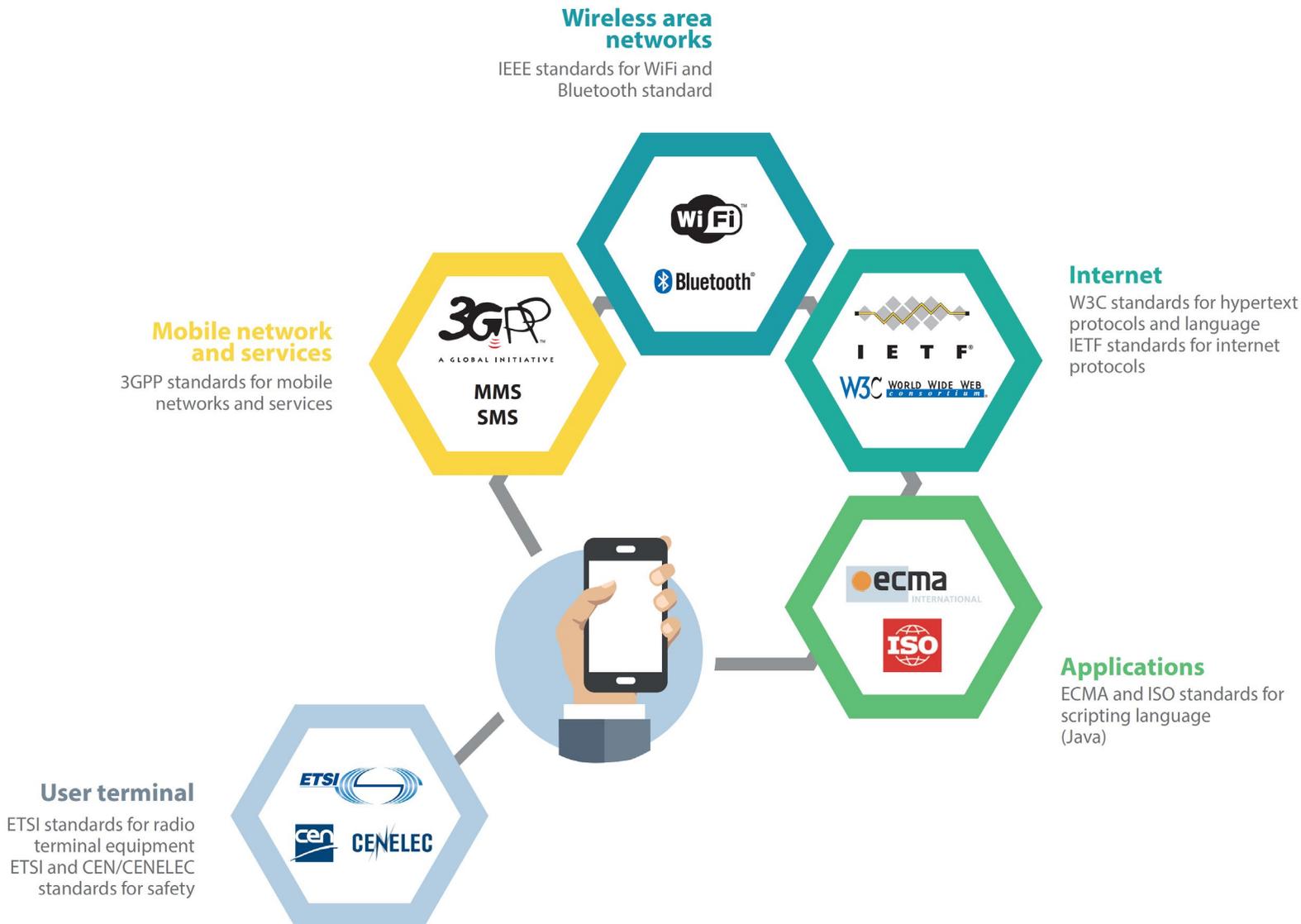
**Legally regulated** ⟺ **Formal standards bodies** ⟺ **Informal industry standards** ⟺ **Following an industry leader**

5

Wireless area networks

IEEE standards for WiFi and Bluetooth standard

Wi Fi

Bluetooth

Mobile network and services

3GPP standards for mobile networks and services

3GPP A GLOBAL INITIATIVE

MMS SMS

Internet

W3C standards for hypertext protocols and language IETF standards for internet protocols

IETF

W3C WORLD WIDE WEB consortium

Applications

ECMA and ISO standards for scripting language (Java)

ecma INTERNATIONAL

ISO

User terminal

ETSI standards for radio terminal equipment ETSI and CEN/CENELEC standards for safety

ETSI

cen CENELEC

- Sometimes, when we do something simple it involves a lot of standards
- Most are from formal 'Standards Development Organizations' (SDOs)
- We also have many de-facto standards, such as the Android API
- And apps that are not standardised
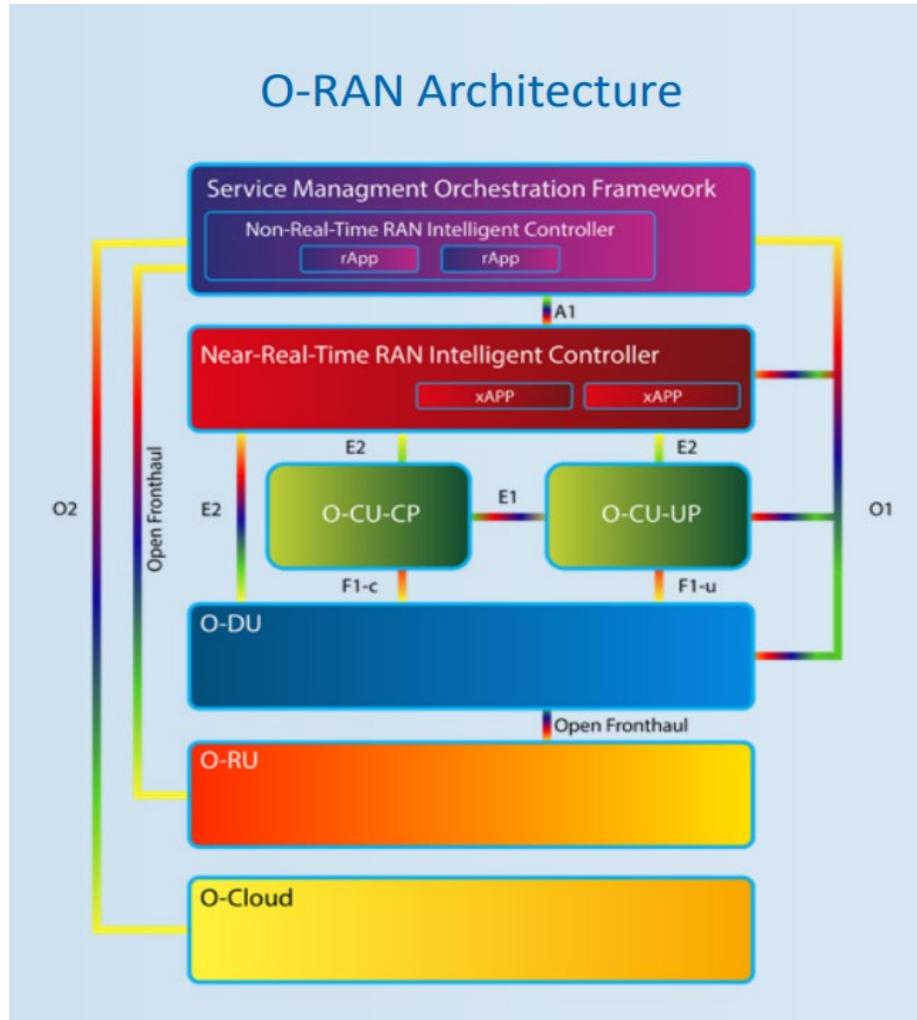
- Source: O-RAN Alliance
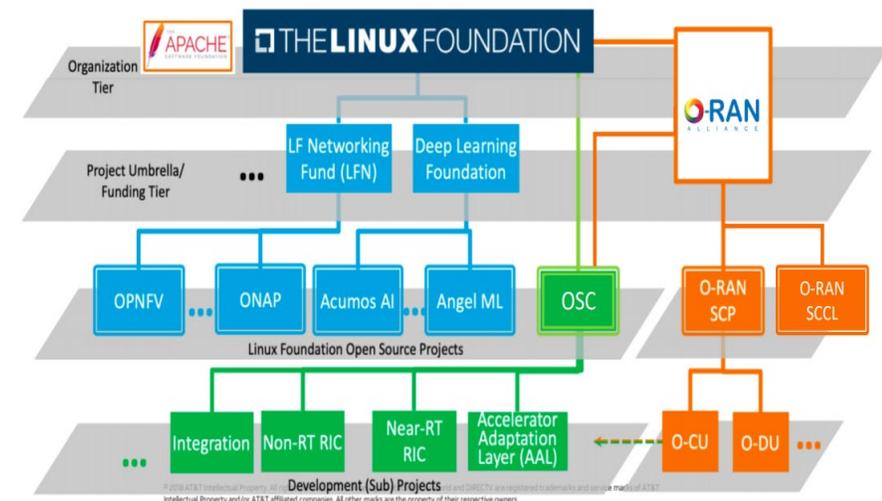
When you look inside you see more

What's in my laptop?

A 2010 paper (Biddle & al., 2010) identifies 251 technical interoperability standards implemented in a laptop computer, but the total number is estimated to be over 500

Out of the 251 identified standards, "202 (80%) were developed by SDOs and 49 (20%) by individual companies"

Sum-up

- Tech standards are everywhere
- Ask your lecturers, "Which standard uses that?"
- Search and read – ChatGPT is not always correct!
- Ask your favourite AI what standards they comply with to ensure their training data is correct
- Great topic to talk about in job interviews

Thank you for your attention
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