



ecma

INTERNATIONAL

Presenting Ecma

*Patrick Luthi, Secretary General
Tokyo, December 2019*



- *Access systems and information exchange between systems*
- *Acoustics*
- *Close proximity electric induction data transfer*
- *Electromagnetic Compatibility and Electromagnetic Fields (EMC and EMF)*
- *Information (optical) storage*
- *ECMAScript*
- *Multimedia coding and communications*
- *Near Field Communications (NFC)*
- *Office Open XML Formats (OOXML)*
- *Open XML Paper Specification (OpenXPS)*
- *Product-related environmental attributes*
- *Programming languages*
- *ECMAScript modules for embedded systems*

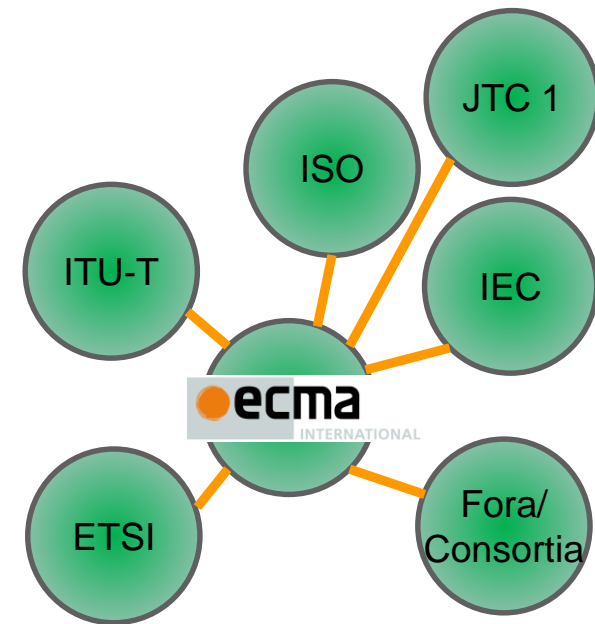
Ecma's "business model"



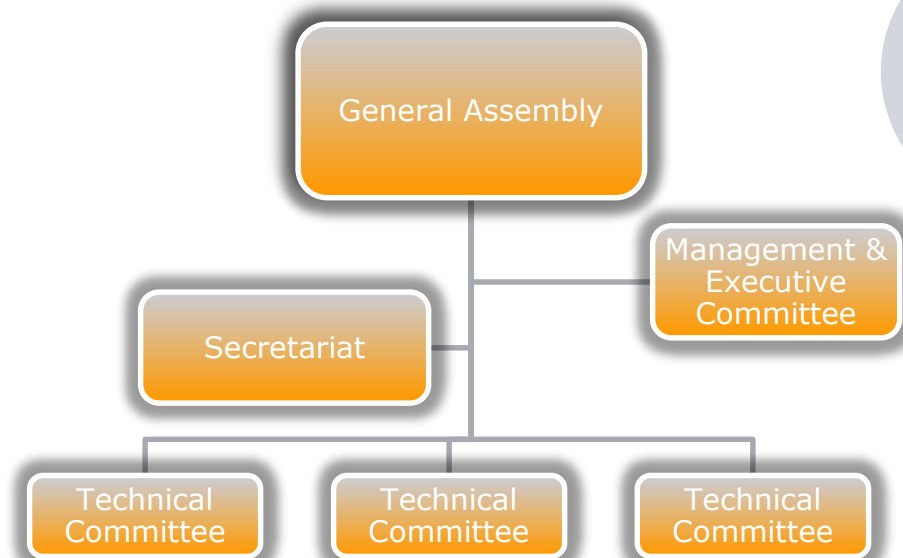
Try to fill in the "holes" in standardization:

- *With small teams*
- *Process is trusted, flexible and reactive*
- *Cooperation with Open source*
- *Effective liaisons*
- *Starting a new project is fast and easy*

Two staged efficient process



Effective liaisons



Five membership categories, to reflect the diversity of stakeholders in the ICT industry:

- **Ordinary (OM), Associate (AM), Small and Medium-sized Enterprise (SME), Small Private Company (SPC), Not-for-Profit (NFP)**

Track record: 524 publications (standards/TRs), 239 also published by ISO/IEC

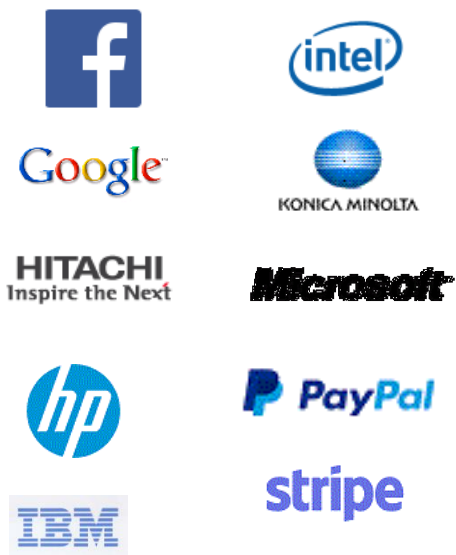
Ecma International has effective collaboration with other formal SDOs such as ISO, IEC, JTC1, ITU-T and IETF

- **A-liaison with ISO/IEC JTC 1 accelerates Ecma technical input into JTC1**
- **Fast-track procedure (5-month international ballot)**

Ecma IPR Policy

- **Solid and proven patent policy similar to the patent policies of other SDOs (ITU-T/ISO/IEC/ETSI,..)**
- **Minimum RAND conditions along with a Royalty Free (RF) Patent Policy (this is important to some Open Source Project communities such as related to basic web standards)**
- **Software Copyright policy with Royalty Free BSD like license**

Ordinary (Full)



Associate



SME Members



SPC Members



Archive Disc
Test Center



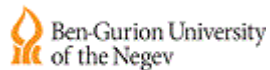
General Incorporated
Association
Small Fan Workshop



Indian Institute of Technoloav Delhi



Kahu Research



UC Santa Cruz



Dr. G.R. Damodaran
College of Science



ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE



IT University
of Copenhagen



Japan Broadcasting Corporation



TC26 - Acoustics

- *Determining the noise outputs and levels of different categories of individual items of information technology equipment intended for use in defined working environments*
- *Methods of measurement and preferred methods of predicting total levels of known noise*

TC31 - Information Storage



- *Data interchange and storage by means of digitally recorded systems, e.g. optical, magnetic and holographic systems (such as disks, cartridges,...)*
- *Development of volume and file structure standards*
- *Collaboration with OITDA and ISO/IEC JTC1/SC23*



TC38 - Product-related Environmental Attributes

- *Environmental attributes related to ICT and consumer electronics products, during their entire life cycle, from conception to end-of-life treatment.*



TC47 - Near Field Communications (now TC51-TG1)

- *Develop standards for Near Field Communication Systems, for the realization of simple wireless communication between close coupled devices for network products and consumer equipment.*
- *NFC Security protocol and services and cryptography using ECDH and AES*



TC51 - Access Systems

- *Common language, modular architecture, interfaces and protocols for the interoperability between (distributed) modules and sub-systems for access to assets.*
- *Such assets may be physical such as buildings, transport means, care centres, computers or digitised assets and services e.g. health care.*
- *Architecture for a distributed real-time access system*
 - *specifies layer concept of the system, functionalities of each layer, and interfaces*
- *Strong membership and contributions from Japan*



ECMAScript™ is the scripting language that is used to create web pages with dynamic behaviour

- *More commonly known by the name JavaScript™*
- *An essential component of every web browser*
- *Published as ECMA-262, identical until Edition 5.1 to ISO/IEC 16262, now separate*

History: Development at Netscape began in 1994

- *ECMA-262 1st Edition June 1997 (ISO/IEC 16262, April 1998)*
- *ECMA-414 ECMAScript® Specification Suite 3rd Ed. (ISO/IEC 22275, May 2018)*
- *Contains: ECMA-262, ECMA-402 (Internationalization API) and ECMA-404 (JSON Data Interchange Format)*
- *Several billion of implementations! One of the most used standard worldwide.*

IoT and wearable technologies

- *ECMAScript-based modules for embedded systems*
- *Sensors and small intelligent devices. Wearables remains part of the TC's work.*
- *TC53 is bringing the benefits of standard software APIs to embedded systems.*
- *Use of the ECMAScript programming language is now expanding beyond the web into embedded systems powered by resource-constrained devices including microcontrollers and single-board computers.*
- *TC53 is also studying ways to evolve the ECMAScript language to benefit embedded systems, for example with increased security and runtime efficiency.*
- *Sensors can be used in many products and applications*



IoT and wearable technologies are developing rapidly

- *Developments are not always based on standards*
- *Ecma was ready to provide its ICT and CE expertise and friendly IPR policies to this new area*
- *Initiation of new work at Ecma is fairly simple*
- *The ECMAScript language and its worldwide implementation and acceptance was seen as an excellent option*
- *Standards are essential to provide interoperability*
 - **but still leave room for product variation**
- *Standards stimulate market growth*
 - **Standardization = bigger market size (vs. market share)**
 - **Customer confidence (interoperability, reliability, etc.)**

Languages

ECMA-262 10th edition - ECMAScript® 2019 Language Specification

ECMA-402 6th edition - ECMAScript® 2019 Internationalization API Specification

Access System (Cloud system)

ECMA-412 3rd edition - Framework for distributed real-time Access systems
(ISO/IEC 20933)

ECMA-417 2nd edition - Architecture for a distributed real-time access system
(ISO/IEC DIS 24643)

Optical Disk

ECMA-119 4th edition – Volume and File Structure of CDROM for Information Interchange
(ISO 9660)

Acoustics

ECMA-74 17th edition – Measurement of Airborne Noise emitted by Information Technology and Telecommunications Equipment (ISO 7779)

ECMA-109 9th edition – Declared Noise Emission Values of Information Technology and Telecommunications Equipment (ISO 9296)

Environmental

ECMA-370 Corrigendum to ECMA-370 6th edition - THE ECO DECLARATION -TED

Thank you!



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