Meta-products: a shift from traditional Products manufacturing paradigm towards products-based Services

Claudio Cenedese – Electrolux Global Technology Center
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Quick Electrolux Group presentation
2016

JAN 2016

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Net sales SEK
124
bn

Sales in
>150
countries

People
58,000
in **60** countries

Products
+60
million

Innovations, acquisitions and strong brands

Axel Wenner-Gren

1912: Lux 1 – first vac

1925: World's first absorption fridge

1959: Round jar bench dishwasher

2004: World's most silent vac

2001: World's first robotic vac

2004: First Ergorapido

GRAND CUISINE
BY ELECTROLUX PROFESSIONAL

2012: Grand Cuisine, first professional kitchen for consumers

2013: Sous-vide oven

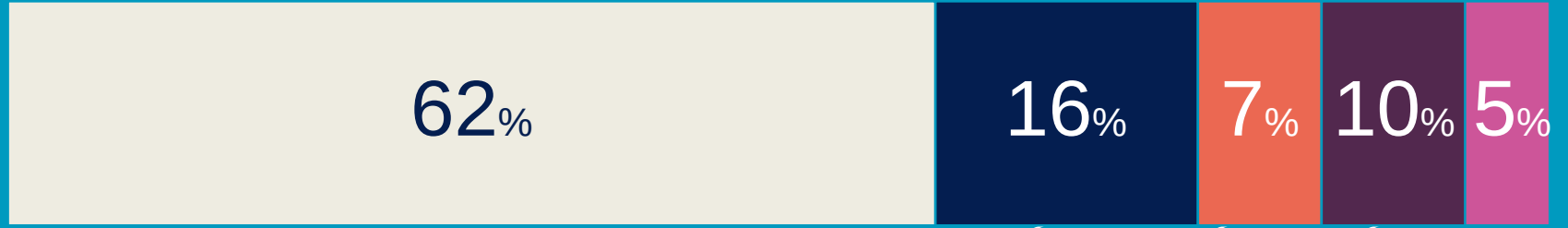
2013: Masterpiece tilted blender

2016: World's first connected oven with camera

1919	1962	1974	1984	1986	1991	1994	1997	2000	2011	2011	2015
AB Elektrolux founded	Elektro Helios Sweden	Eureka USA	Zanussi Italy	Frigidaire USA	Lehel Hungary	AEG Germany	Refripar Brazil	Email – Westinghouse Australia	Olympic Group Egypt	CTI Chile	Veetsan China

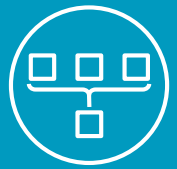
Main acquisitions 1962 - 2015

Electrolux offering



Share of group sales 2014

Four trends will impact the appliance industry in the coming years



Industry Consolidation

- Few global players
- Local relevance
- Global scale: strength

Consumer Power

- Power shift
- Consumer experience

Digital Transformation

- Digital commerce
- Connected home
- Consumer journey

New Landscape

- New middle class
- Adjacent products
- New global competiton

Geo-political: macro-economic uncertainty / turbulence


GRAND CUISINE
BY ELECTROLUX PROFESSIONAL
MOLTENI
France, depuis 1923
FRIGIDAIRE
Electrolux
Eight strategic brands
Westinghouse
AEG
eureka
ZANUSSI

Electrolux competitive advantages

Glocal presence

Consumer insight

Design

Professional legacy

Scandinavian heritage

Wide product range

People & culture

Sustainability leadership

Our sustainability commitment

We want to make a change for the better by being the best appliance company in the world, making a positive everyday difference in people's lives and for our planet.

We know there are challenges. But by working together to find sustainable solutions that benefit everyone, we will continue to make a positive difference – every day

Let’s go now to the core of the topic

The concepts herein expressed are under development within the European FP7 Research Project **PROSECO**

Reference: EU Research Project PROSECO

https://www.proseco-project.eu/

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But let’s read again the title of this presentation:

Meta-products: a shift from traditional Products manufacturing paradigm towards products-based Services

Traditional concept of Product

Since ever, our concept of **Product** is about something that is aimed at performing a **given Function** capable to satisfy our specific **Needs**.

Very old farming tools **to work land** (and have **food**)

Old gramophone for **playing music** (and have **fun**)

Modern dishwasher **to wash** (and have **clean dishes**)

Traditional concept of Product

This vision of things:

Need ↔ Product

has also led to the paradigm of **ownership**.

I own a car because I need to move

I own a washing machine because I need to have clean clothes

But a change is on its way

In the latest 10 years this vision has started to change

We always have **Needs** *(by the way more and more than in the past)*

but it is different the way we solve them

- ❑ We are moving from the culture of Product towards the culture of **Meta-Produc**t
- ❑ We are moving from the culture of ownership towards the culture of **Service**

Meta-Product: a definition attempt

- The transition we are living now is bringing **information-fuelled products and services** that are around us as a network whenever we need them.
- These new ways to use information is what we call **Meta-Products**.
- With Meta-Products we are making a **shift to a Society that is no longer determined by the material multiplication of Products but by the information generated by our actions** (where a Product – in the industrialization sense – may not necessarily be involved)

Meta-Product: a definition attempt

- In Greek, **Meta** means *higher* or *beyond*.
- Meta-Products are not products that are better or that have more features added to them. Meta-Products are dedicated networks of services, products, people and environments fed by the information fows made possible by the WEB and other ubiquitous technologies.
- In other words, Meta-Products are:

web-enabled product-service networks

In recent Literature Meta-Product is also called **PES**: **Produc Extended Service**

Meta-Product: a definition attempt

- The Apple iPod was one of the first Meta-Products
- The iPod itself serves as an interface, enabling the user to play and browse his or her music library
- iTunes Store is the portal to unlimited music from the WEB
- **The iPod as Meta-Product, consists of a physical product and iTunes with integrated web store, offering you the music of your choice.**
- The added web layer shifted the value to the content part of the product, rather then the object itself

Basic architecture of iPod

iTunes

WEB

Service

Physical Product

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Other examples of Meta-Products

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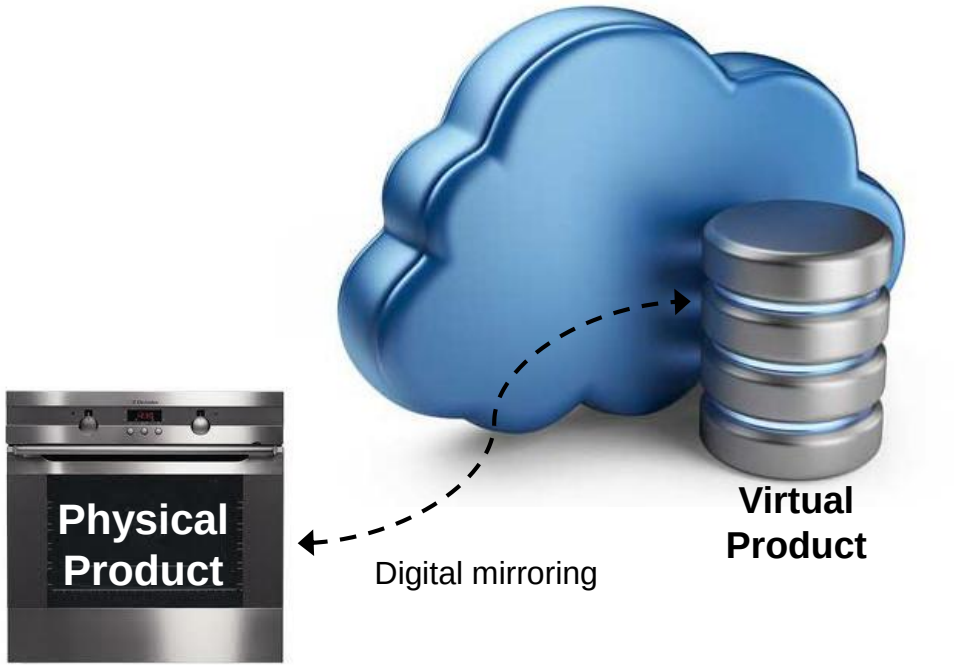
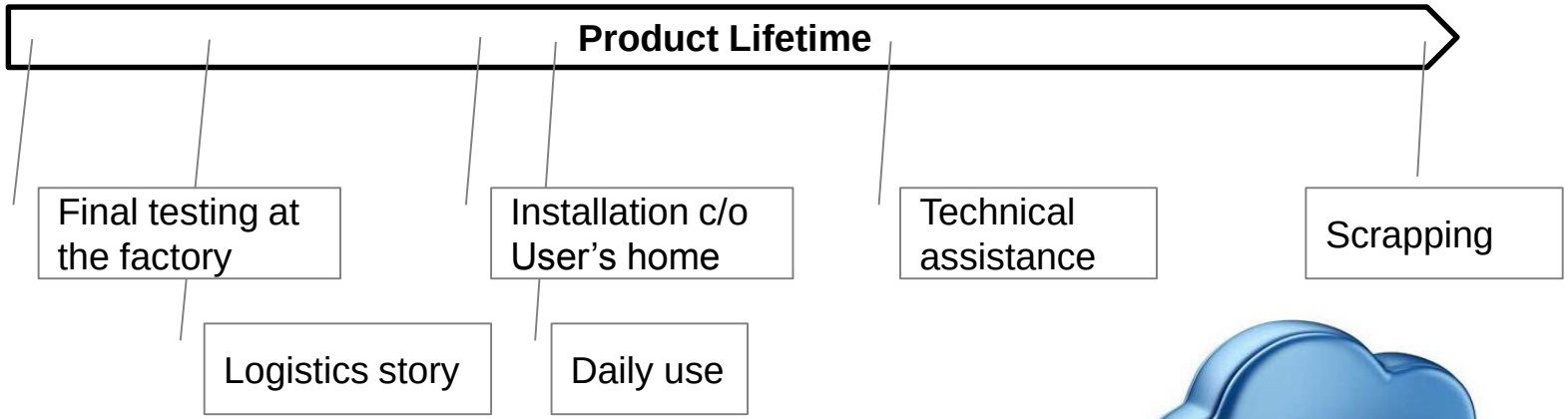
Meta-Products basic concepts



From birth to scrapping



Virtual Product

- **Each event during lifetime increases the virtual product database size**
- **The virtual product can store the whole story of the physical product**

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Meta-Products few basic concepts

Virtual Product

"Big Data" source of huge valuable information

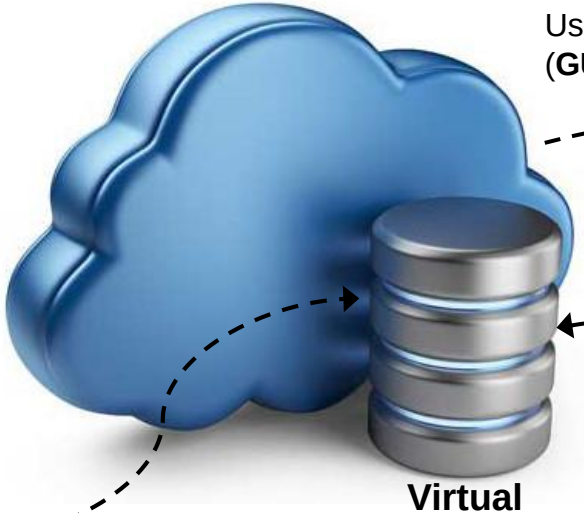
Browsing the «Virtual Product» it becomes possible retrieving all Information connected with the associated «Physical Product»:

- *Product type, model, S/N, list of critical parts*
- *Outcome of factory tests*
- *Retailer where the Product has been sold*
- *User's references (name, address …)*
- ***Digital image during working time***
- *Report from after sales service operations*
- *Scrapping the product (end of life)*

Meta-Products basic concepts

Users can download a graphic user-interface (**GUI**) from the availbale ones

Interaction through a User selected GUI



Such a flexibility would not be possible with physical interfaces

Digital mirroring

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Two examples of advanced GUIs

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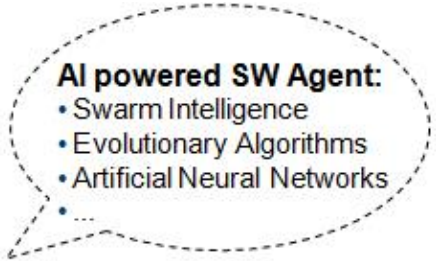
Other examples of advanced functions

- **Preventive Maintenance** (Through Big Data analysis it becomes possible to predict possible failures due to *«wear and tear»* of components, drift of paramenters and other to define a proper Maintenance Plan)
- **Adaptive Control** (based on personal needs or User's behaviour)

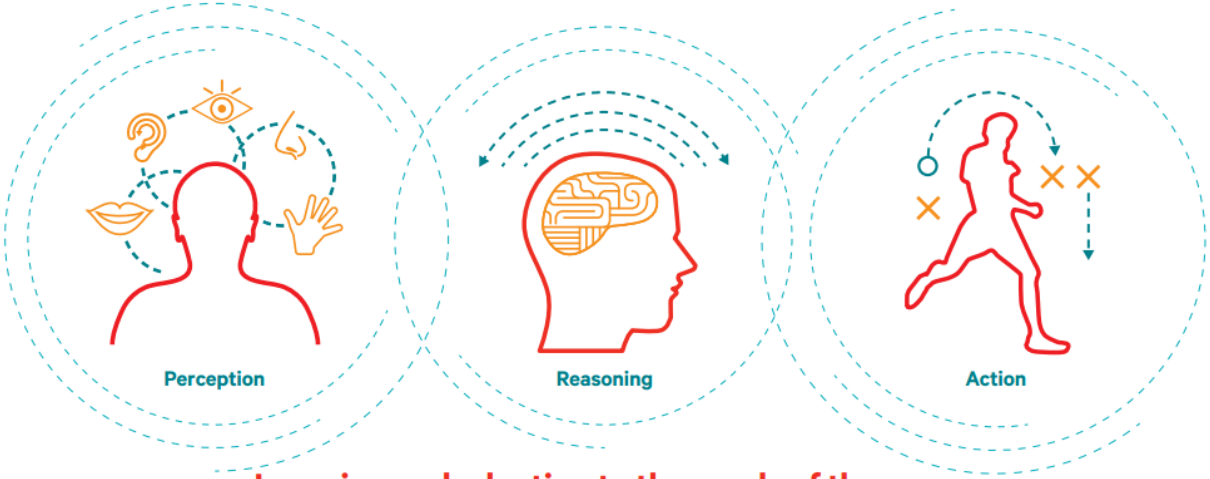
Other examples of advanced functions

- **«Adaptive Control» deserves a special highlight**
- **Through Big Data Analysis and Artificial Intelligence** (machine learning, context awareness ..)
- **New functions, customized around individual User's needs are coming**



Other examples of advanced functions

Cognitive Computing: the new paradigm



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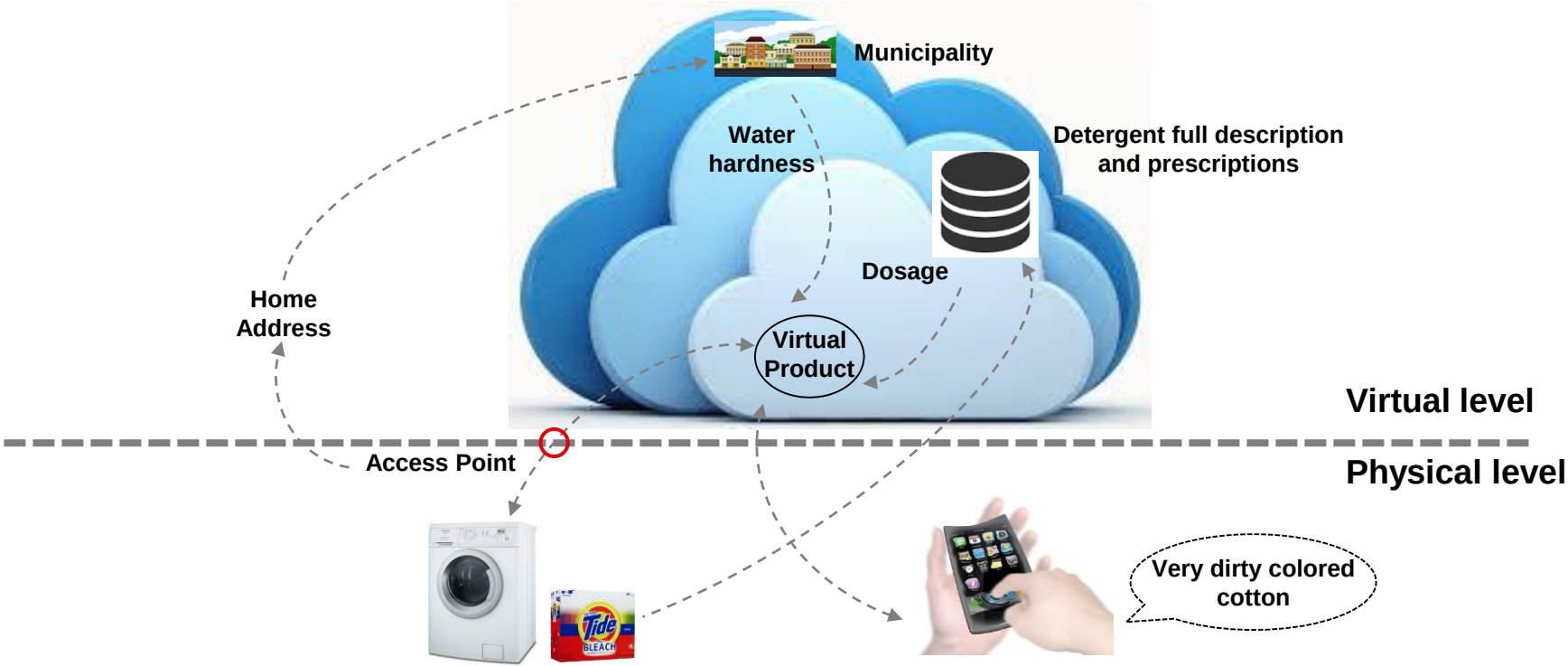
Other examples of advanced functions

- **Interaction with AmI systems** (*AmI: Ambient Intelligence* - e.g. Ambient Temperature, People Presence)
- **Classification of «User's behaviour»**
- **Interaction with other Meta-Products** (e.g. Food Meta-Product, Detergent Meta-Product)
- **Hints and support for a green and virtuous use of Appliances** (e.g. Minimization of carbon footprint)

Example of complex interaction



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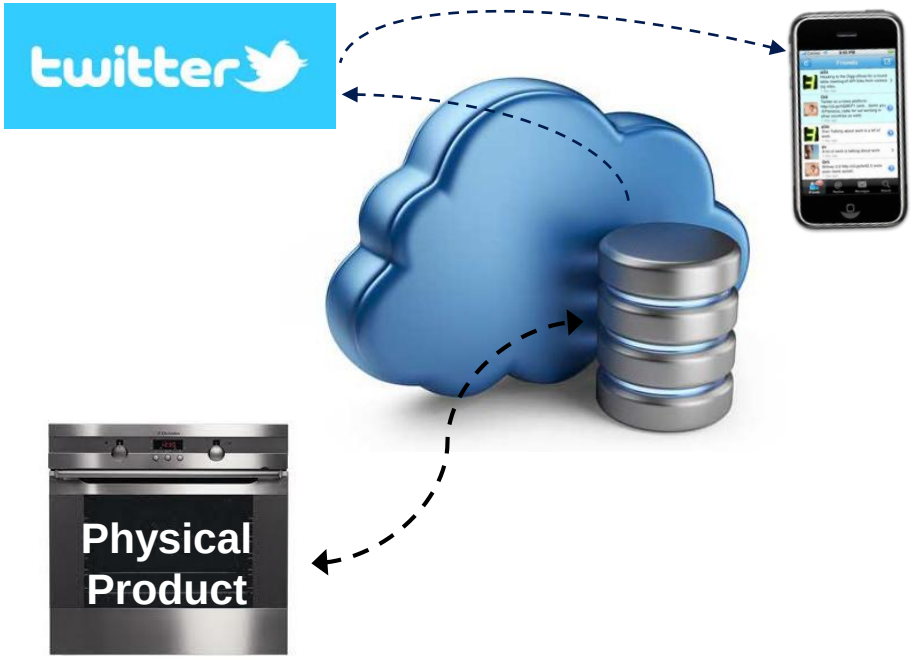
Example of complex interaction

- Twitter or other existent social platforms can be easily used for spreading information or warning the User
- Advantages:
  - No investments but use of others' huge «stable» investments
  - Use of well established and diffused popular practices
- Possibility to use available Listening/Analytics tools (e.g. Twitter Hashtags analysis) that can provide new advanced features and services

Example of complex interaction



Tweet

Michael Schwirtz @mschwirtz 4m
Camels and heroin smugglers now roam where Gagarin once blasted into space. A sad look at Baikonur. nyti.ms/19gzN41
Ritwittato da The New York Times
Visualizza il riepilogo

28m
Oven: Cooking successfully completed. Cooling phase in progress.
Visualizza il riepilogo

The New York Times @nytimes 43m
Photos: The slow decline of the Russian cosmodrome at Baikonur
nyti.ms/19QRgTn
Visualizza il riepilogo

The New York Times @nytimes 46m
Breaking News: Afghanistan rejects talks with Taliban and the U.S.
nyti.ms/1aslr0S
Visualizza il riepilogo

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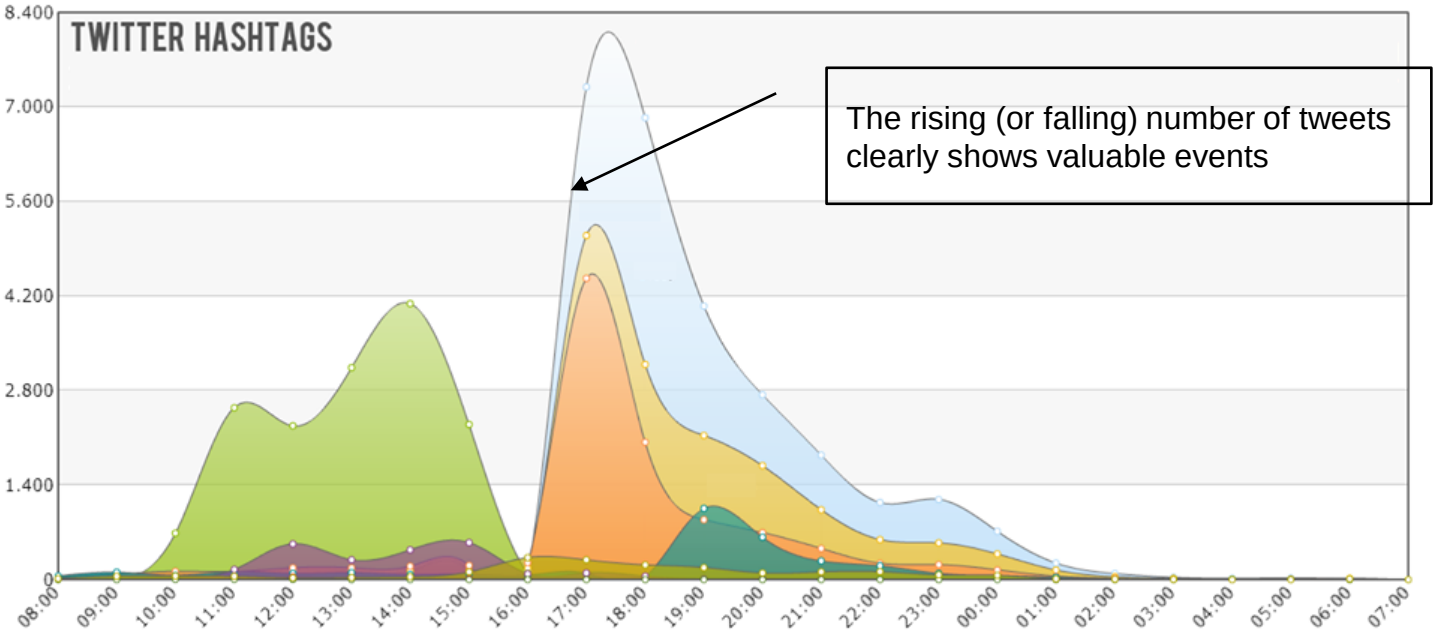
Example of complex interaction

Example of «Twitter Hashtag Analysis» for the early detection of statistically relevant phenomena



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About product development and consumer understanding

- In the 50s-70s the Market was hungry of solutions. Whatever was manufactured was sold
- In the 80s-90s the Market was more selective and more Consumer understanding was necessary (Market research based on interviews)
- At the turn of the 2000s it was the time of Consumer Insight (CI)
  - CI is a heavy and expensive process aimed at getting the *"effective insights"* (what is inside the Consumer and that even he/she does not know)
  - CI requires to enter Consumers' homes, analyzing what people do, how they behave
  - CI is limited in size (Nr. of representative samples per Country/Region)

About product development and consumer understanding

- The era of Meta-Products allows to get **huge amount of valuable data** from cloud-based databases
- Such data can be classified to get different kind of information (geographic, ethnographic …)
- Such data allow to get a lot of other different information like product misuse (e.g. limited use of existent functions)

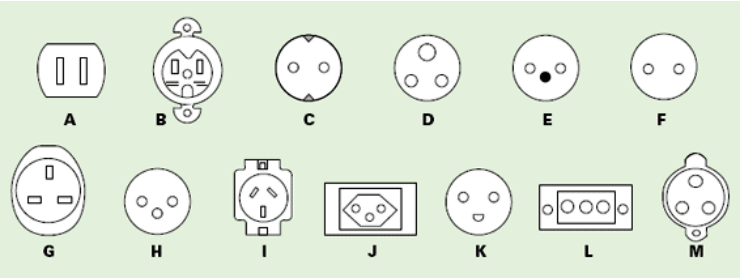
Question: What are the mandatory conditions for an effective, global, massive realization of what we have seen till now?

Answer:

- ❑ Standardization
- ❑ Standardization
- ❑ Standardization

Without **standardization** we will have plenty of proprietary solutions, with limited volumes, that will slow down the “Internt of Things” paradigm

- But standardization is a difficult process
- Not because of technical challenge but because of “human challenge”
- In more that one century we have not been able to standardize the electrical plug



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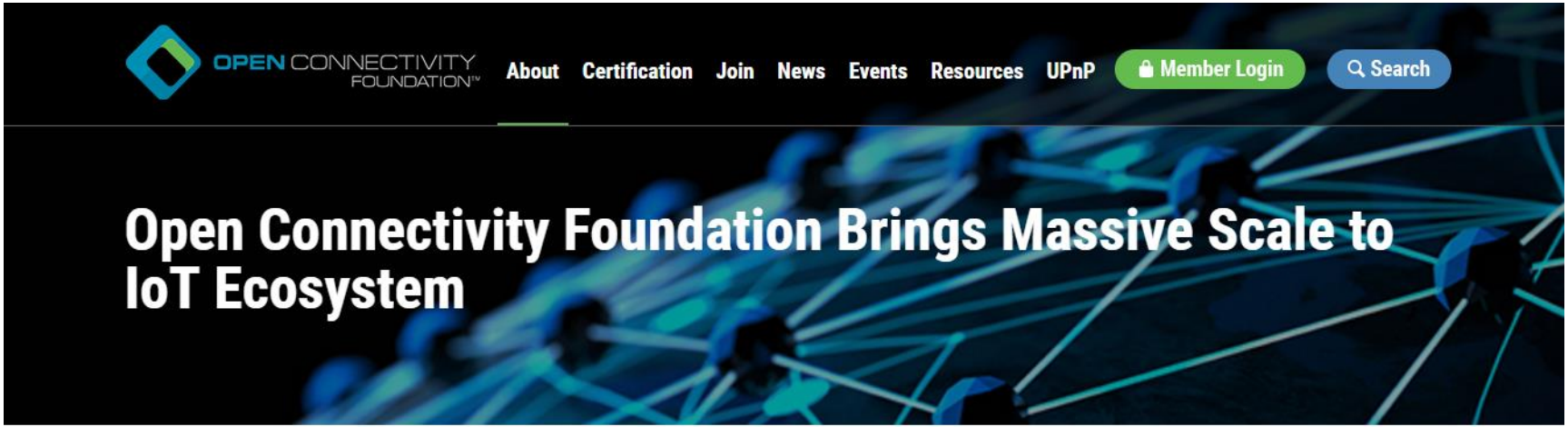
The Open Connectivity Foundation



Efforts led by ARRIS, CableLabs, Cisco, Electrolux, GE Digital, Intel, Microsoft, Qualcomm, and Samsung – Ensures IoT Solutions and Devices of the Future Work Together Seamlessly

Beaverton, Oregon – Feb. 19, 2016 – Today, major industry leaders who are invested in the future of the Internet of

CATEGORIES

» Events

» OCF in the News

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Critical issues

Before to end just a mention to a couple of critical issues when dealing with Connectivity-enabled solutions:

- ❑**Cybersecurity**
- ❑**Privacy**

Final Message

“The real benefits to businesses of Industry 4.0 are not cost reductions but **new business models around product personalization**, **choice and service innovation**. Customers are prepared to pay more for customized products and the internet of services opens the door to new revenue models by providing direct customer benefit – this is where the real opportunity lies.”