

IP challenges of IoT and Industry 4.0 in the field of Consumer Goods

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The world goes (even more) Digital

Traditional education



Traditional hospital



Traditional civil court



Online education



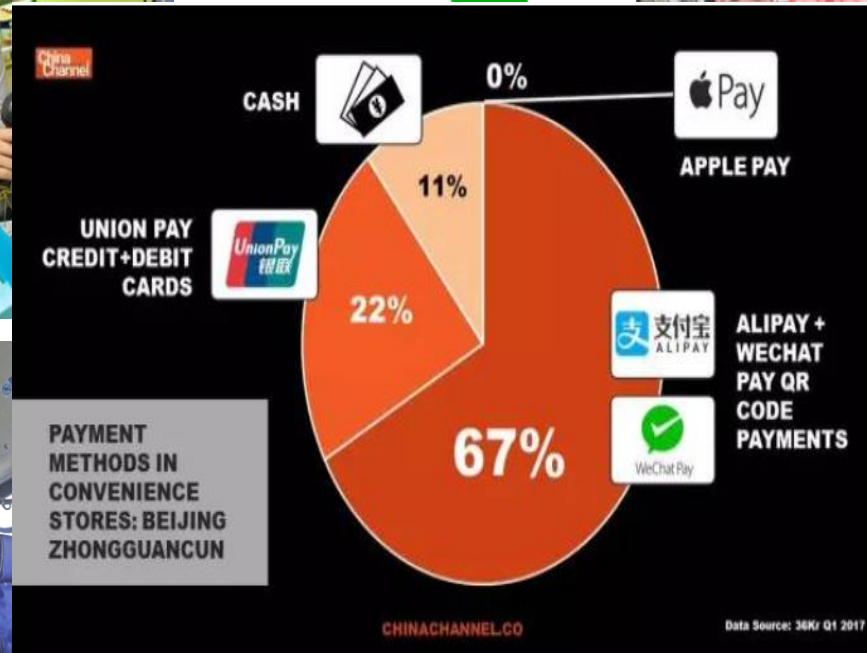
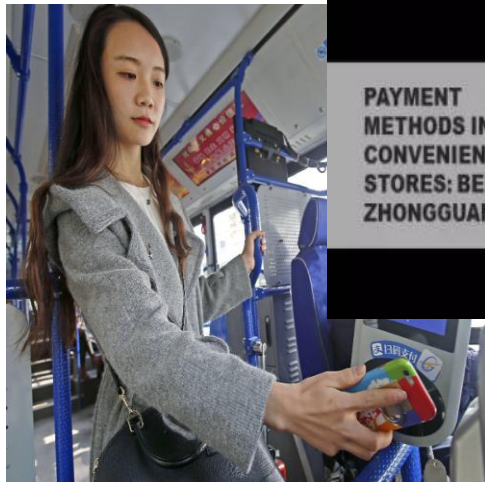
Online hospital



Online civil court



Digital payment systems



Digital Transition in home appliance industry

Remote control



Online support



Home management



Change in competitor landscape

Example: China

Traditional Players



Midea



BS
H



Hisense

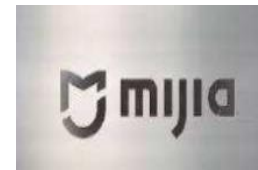


LG



SAMSUN
G

New Players



XIAO MI



HUAWEI



Alibaba



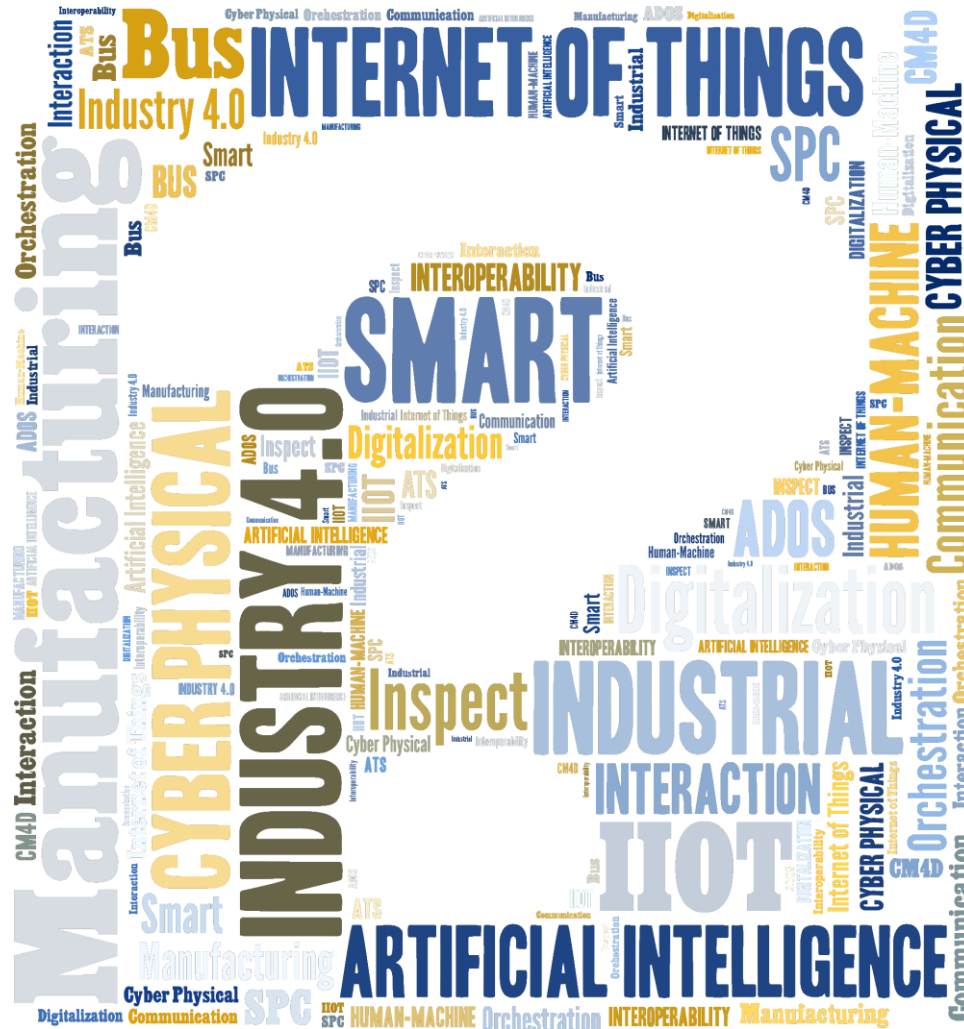
JD



Baidu

V S

What does the Buzzword Industry 4.0 mean ??



(source:

ATS Applied Tech Systems LLC.)

http://www.ats-global.com/smart-manufacturing-and-industry-4-0-newsletter-ats-ados-software-q2-2017_3527_usae

What does the Buzzword Industry 4.0 mean ??

Let us distinguish between

1) Digital Transition and Connectivity in Products

and

2) Digitalization in Factories and in Production

The effect of Industry 4.0 on the IP World

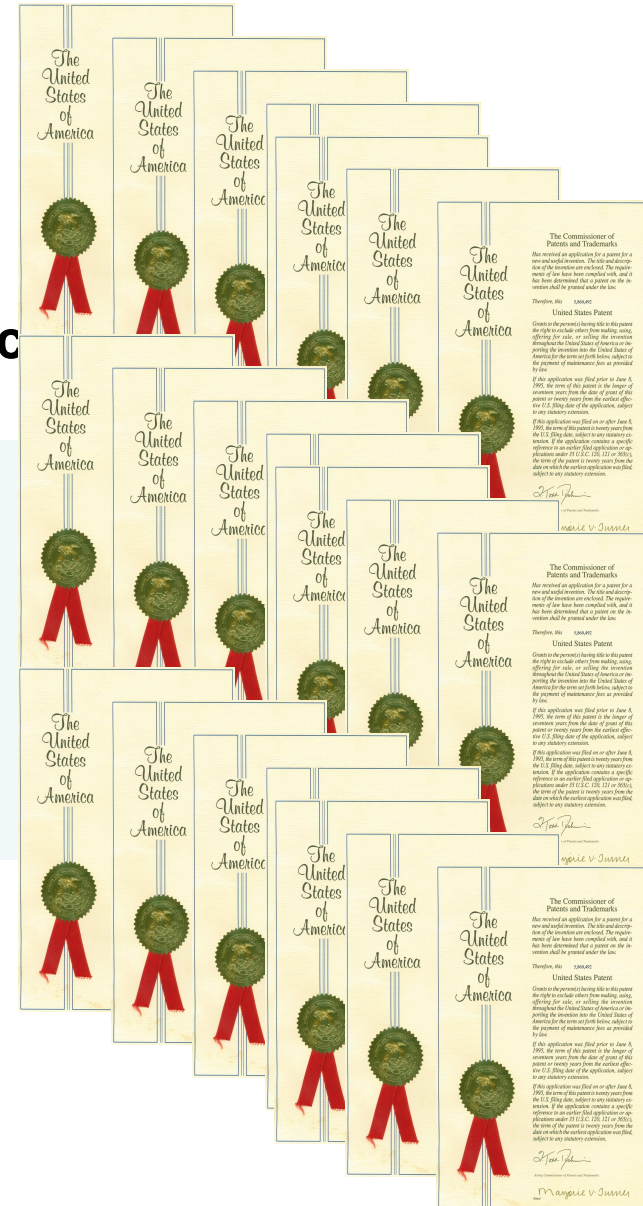
For

1) Digital Transition and Connectivity in Product

⇒ Huge effect !

Reason:

Patents of multiple technologies become relevant



Why does that happen?

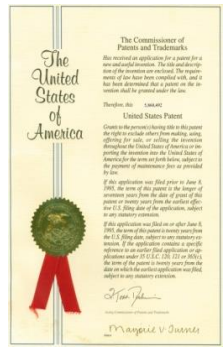
Today:



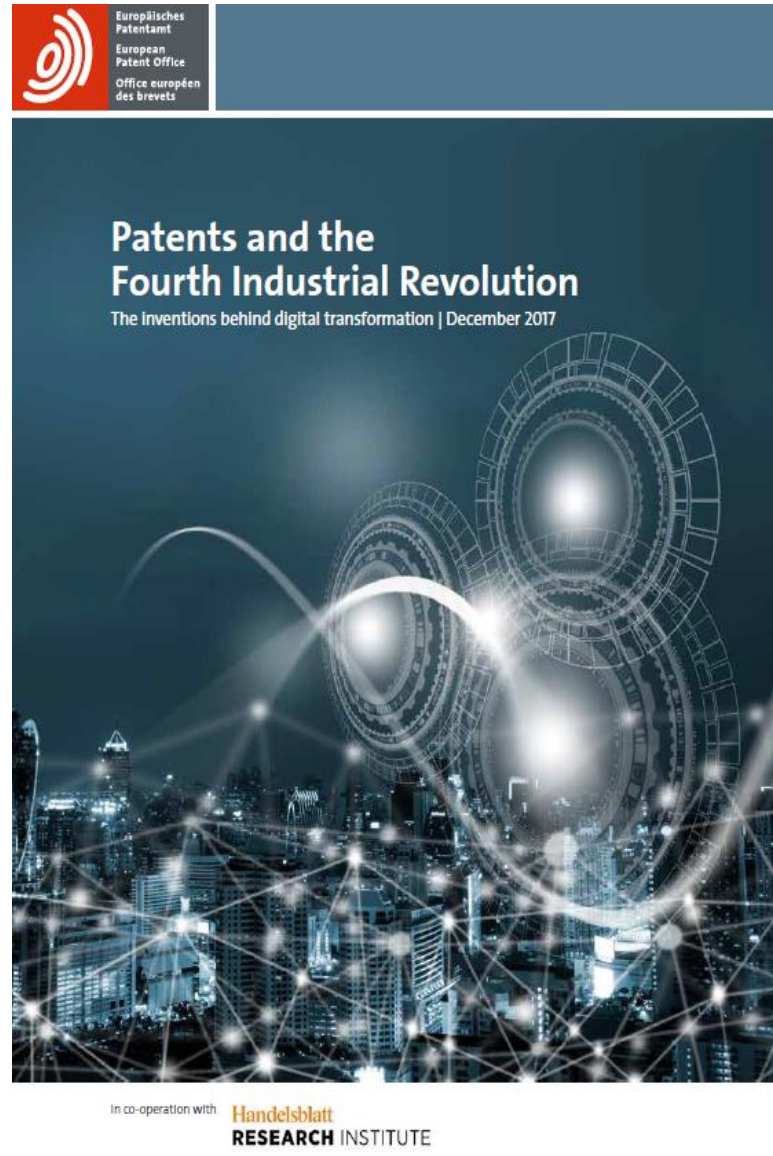
1960ies



Technology Development vs. IP-Development



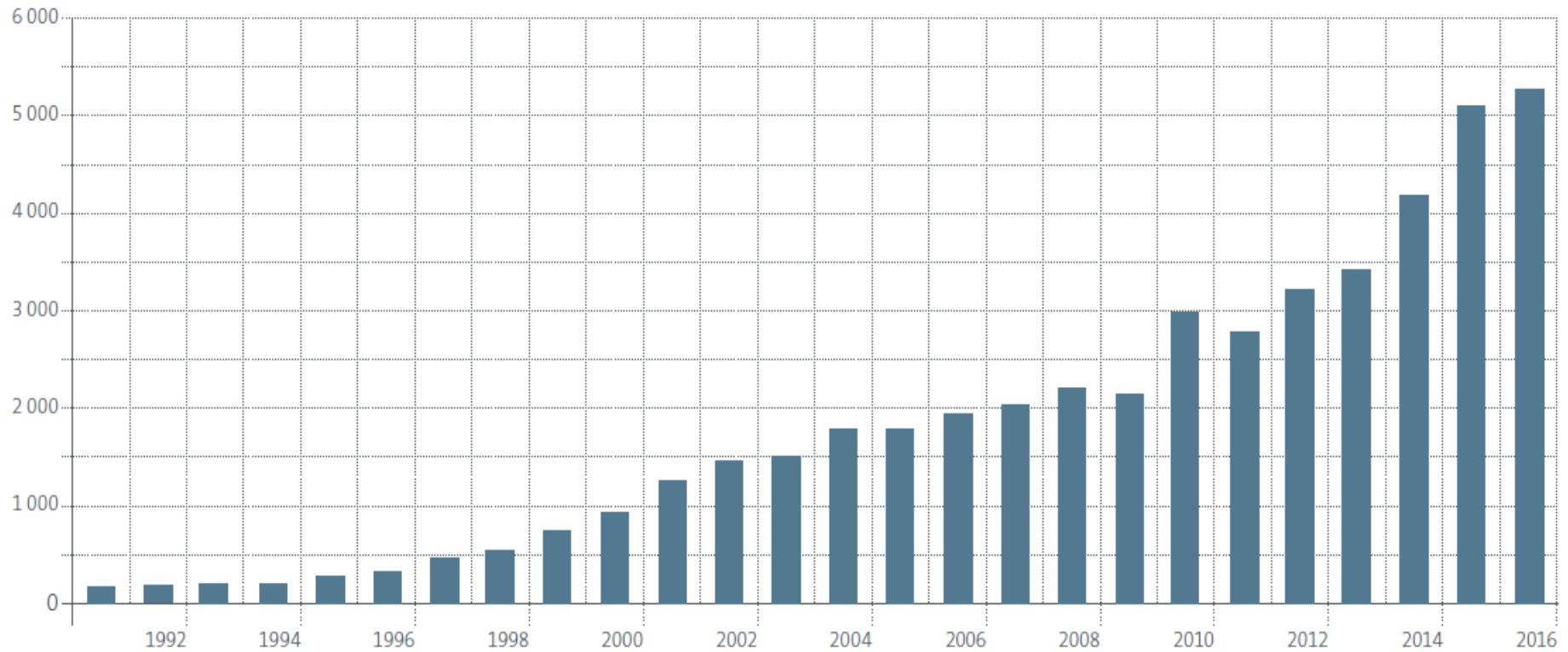
EPO study results on 4th Industrial Revolution:



(source:
EPO Study
Patents and the
Fourth Industrial
Revolution, The
inventions behind
digital
transformation |
December 2017

EPO study results on 4th Industrial Revolution:

4IR patent applications at the EPO 1991-2016



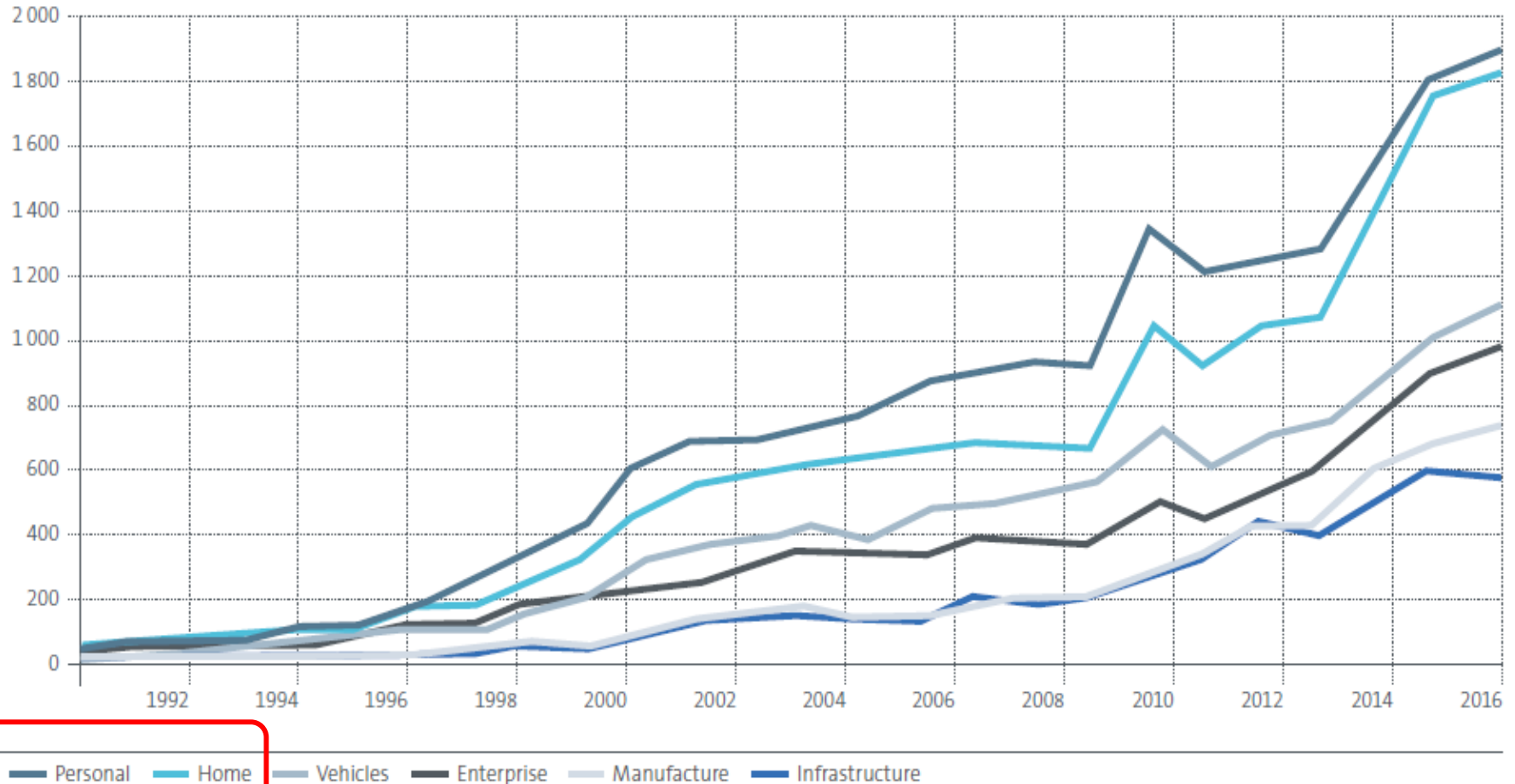
Source: European Patent Office

(source: EPO Study Patents and the Fourth Industrial Revolution, The inventions behind digital transformation | December 2017

EPO study results on 4th Industrial Revolution:

Figure 3.6

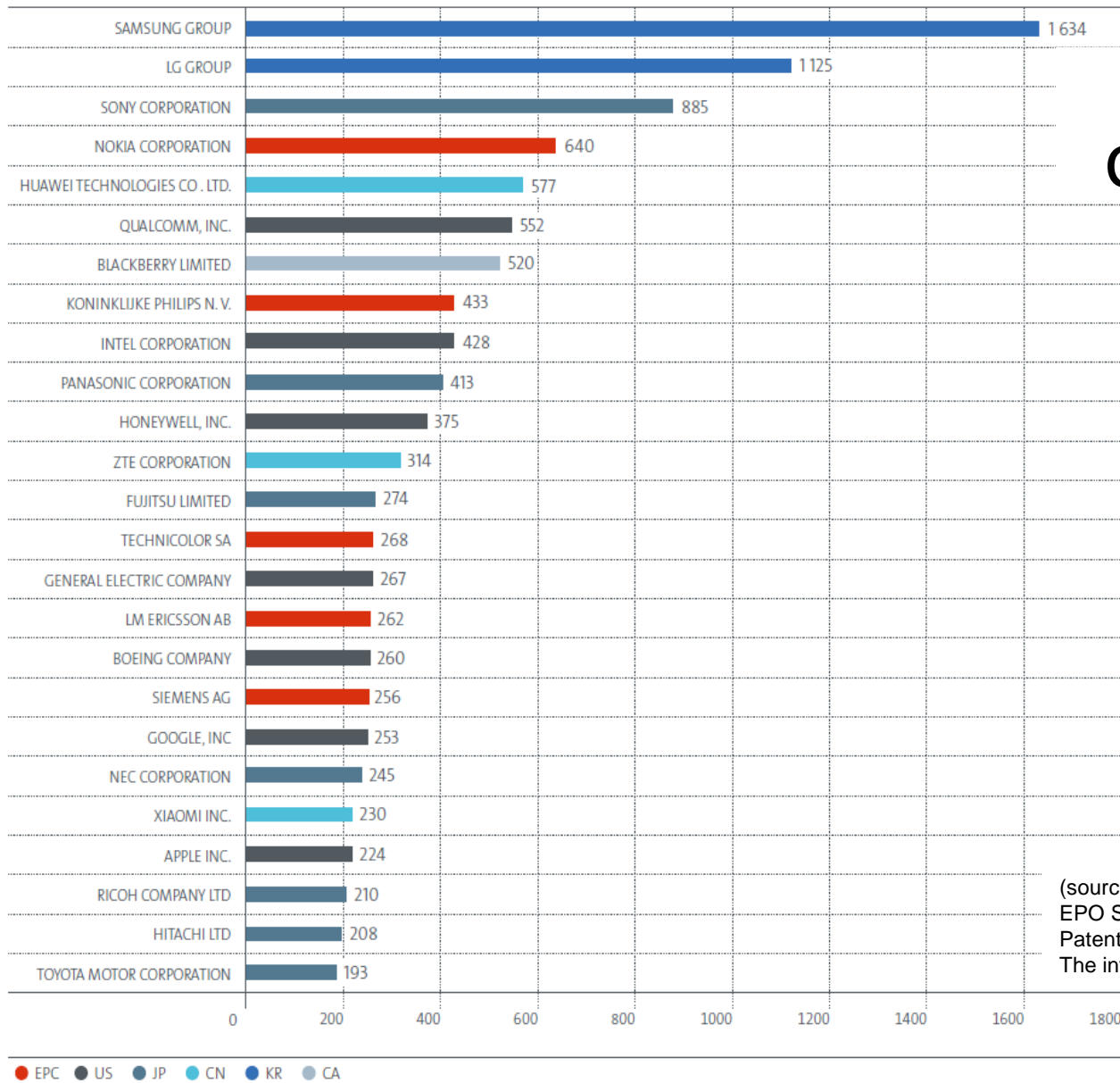
Patent applications in 4IR applications 1990-2016



(source: EPO Study Patents and the Fourth Industrial Revolution, The inventions behind digital transformation | December 2017

Source: European Patent Office

Top 25 4IR applicants at the EPO 2011-2016

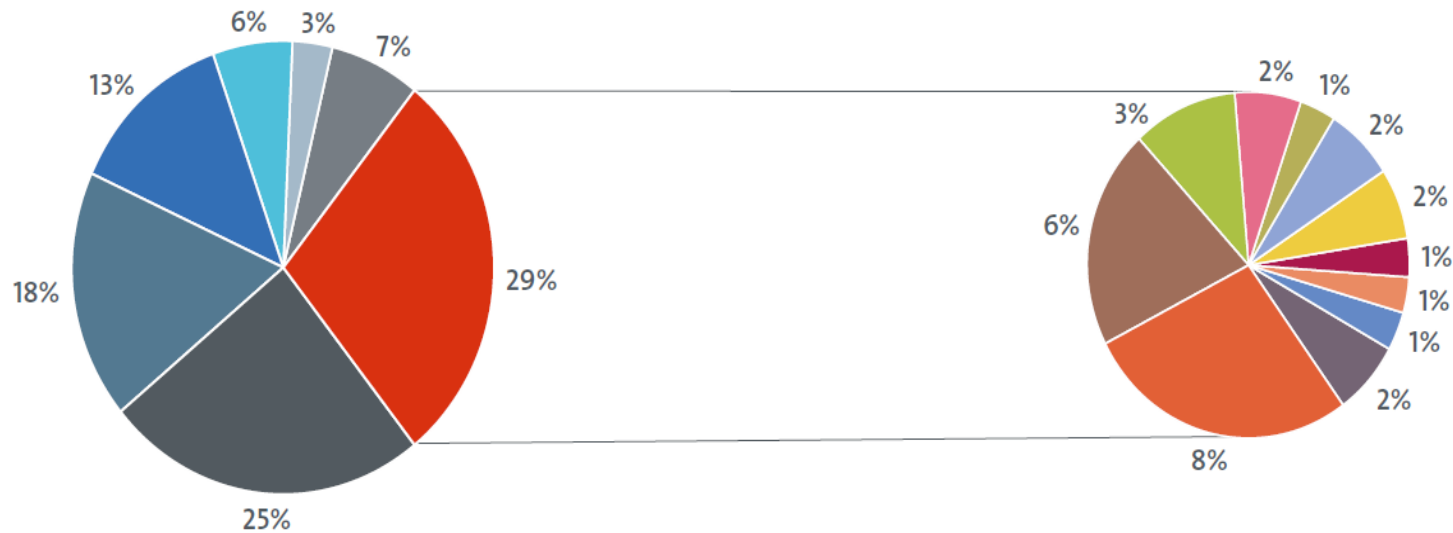


EPO study results on 4th Industrial Revolution

(source: EPO Study Patents and the Fourth Industrial Revolution, The inventions behind digital transformation | December 2017)

EPO study results on 4th Industrial Revolution:

Geographic origins of 4IR inventions 2011-2016



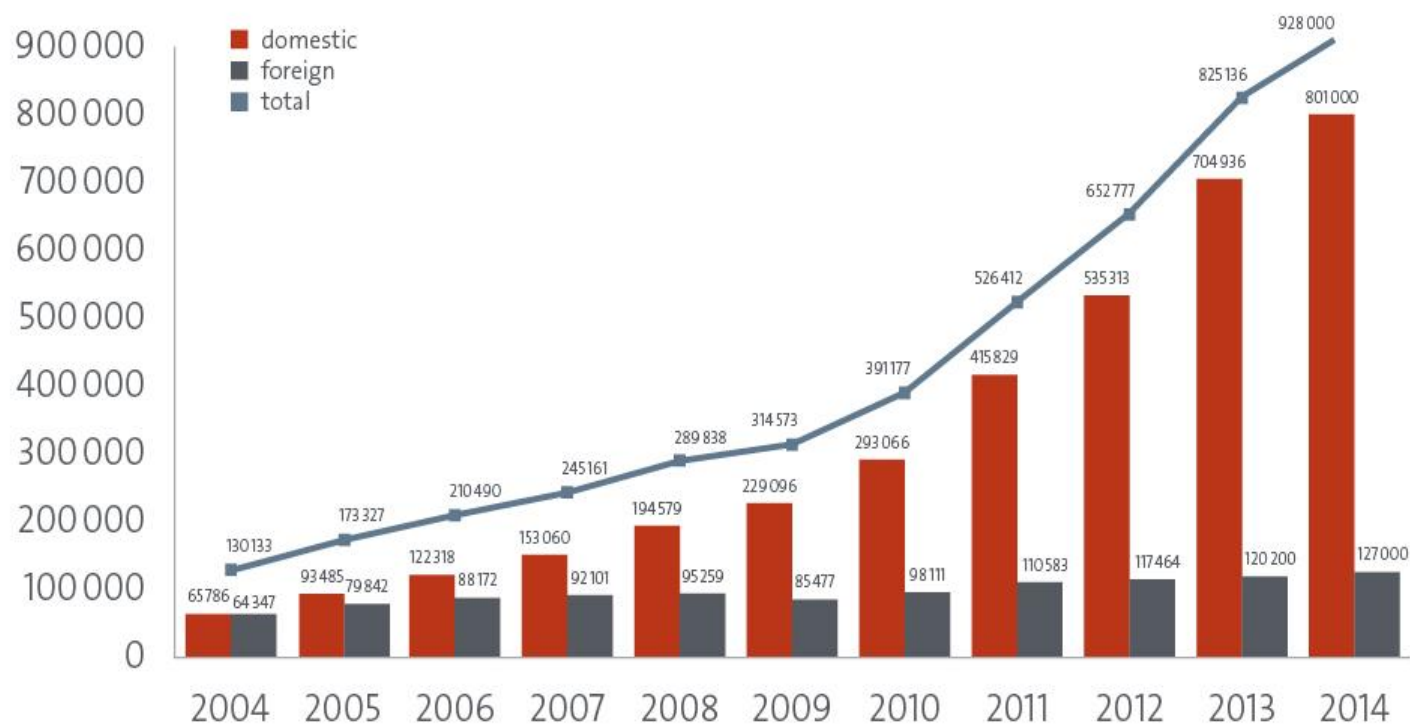
- EPC
- US
- JP
- KR
- CN
- CA
- Other
- DE
- FR
- GB
- SE
- CH
- FI
- NL
- IT
- ES
- BE
- Other EPC

Source: European Patent Office

(source: EPO Study Patents and the Fourth Industrial Revolution, The inventions behind digital transformation | December 2017)

Development of patent applications at SIPO (domestic and foreign)

Watch out for China !!



(source:

EPO website: Press release | 9.10.2015

30 years of EPO-SIPO co-operation: anniversary highlights Europe's contribution to building up China's patent system

source: SIPO annual reports)

The effect of Industry 4.0 on the IP World

For

2) Digitalization in Factories and in Production

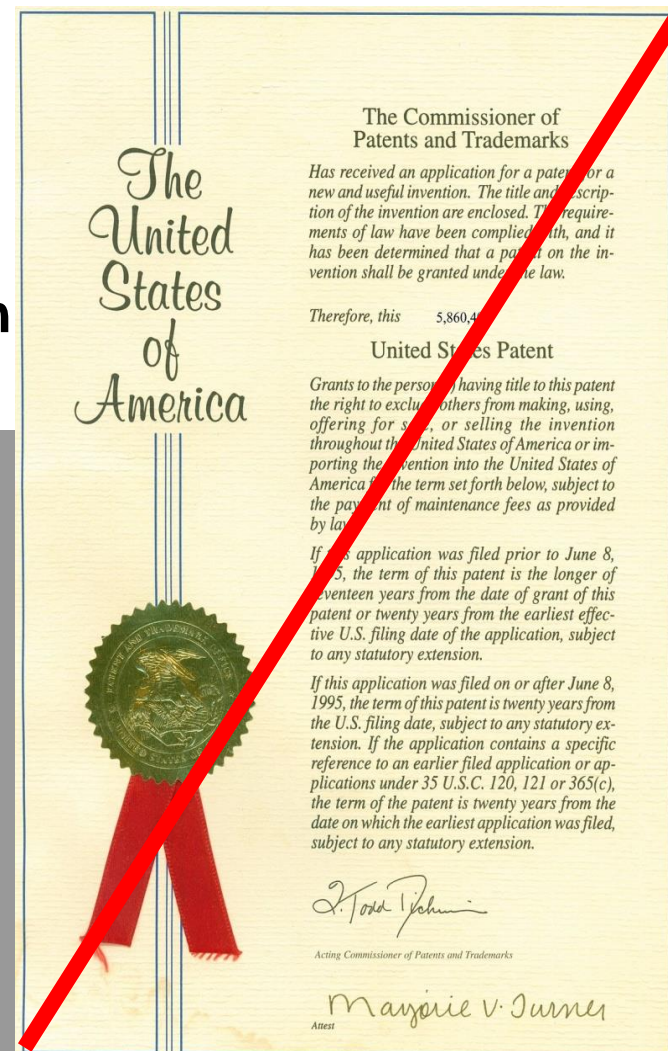
⇒ We see no big patenting effect !

Reason:

internal production processes
are usually not patented

⇒ Confidential processes

⇒ Internal know-how



The effect of Industry 4.0 on the IP World

For

2) Digitalization in Factories and in Production

⇒ **BUT: increasing challenges on data ownership !**

⇒ **Data as main driver of Production processes**

⇒ **Insufficient legal regulations on data ownership**

The effect of Industry 4.0 on the IP World

Industry 4.0 – technical possibilities and legal challenges

Status quo: the current legal situation

- ▶ Currently, there are **no specific legal provisions** on **machine data** and the **rights to this data**. (Existing law does not provide for any comprehensive, absolute rights to a certain piece of data per se.)
- ▶ Depending on its kind and nature, data is, however already protected by a **complex network** of different forms of national and international legislation
 - copyright law, patent law, database law, commercial and business secrets, data protection law, criminal law etc.

The effect of Industry 4.0 on the IP World

Industry 4.0 – technical possibilities and legal challenges

Data as crucial “raw material” in connected industry

- ▶ Data about the machine itself (e.g. data from its parameterization) can be just as useful as data that is **accumulated while the machine is being used**.
- ▶ **Data sets** have been **correlated** with one another will provide an **added value**.
- ▶ Systematic analysis of this data allows companies to gain **new insights** into e.g. how to improve manufacturing (→ subject-matter of **new patent**), thus enabling them to increase their competitive edge.
- ➔ In future, many **new business models** will center on the **analysis and evaluation** on raw machine data.

The effect of Industry 4.0 on the IP World

Industry 4.0 – technical possibilities and legal challenges

Is there a need for a new legislation for data ?

- ▶ Collected and accumulated data can be very valuable in economic terms, which raises the **question of ownership and legal protection** for this data.
 - Does the current law adequately protect machine data used in value chain networks from third parties ?
 - Or are there any gaps in legal protection for machine data that need to be closed ?
- ▶ Data security: when it comes to application in which **personal data** is used, companies must ensure that they comply with **data protection**.
 - How can personal data be protected but still be used in a meaningful way ?
 - possible technical solution: anonymisation and pseudonymisation of data ?
- ➔ Would it make sense to enact **new legislation** that would **assign** particular machine data to **specific market participants**, similar to granting them **ownership rights** to this data (“data stakeholder”)?

Thank you for your attention!

İlginiz için teşekkür ederiz!
