

## "Making policy great again"

5/22/18 Brussels Dr. Raúl Tabarés #EMW2018 @openmaker











#### Regulating the internet giants

# The world's most valuable resource is no longer oil, but data

The data economy demands a new approach to antitrust rules





#### Industry 4.0 as a challenging transition

• High social importance of manufacturing in the UE

30 Million people, 16% of GDP, 80% of total exports (EC, 2013)

• Great systemic implications at the core of the industry

2 Million SME's counts for 59% of total employment (EC, 2013)

• Increasing competition overseas

Southeast of Asia, India, China

• Technological revolution on the way

3D printing, IoT, AI, robotics, cyber-physical systems

• Dominant position of non-EU digital platforms in Internet industries

The top five, The three kings

**Industry 4.0** as a strategy for promoting a competitive and digitized manufacturing industry in Europe.





Andrus Ansip, Vice-President of the European Commission for the Digital Single Market said "I congratulate the Member States which have already started their national political initiatives, committing significant financial and organisational resources to digitising European industry. I warmly welcome the newcomers and encourage other countries to join. The European platform of national initiatives is an example of a collaborative and cohesive European Union. This is a strong effort at European level, but it will produce results only if Member States do their part and support industry and innovation communities in their regions which drive digital transformation."







#### **Challenges of Industry 4.0**

• Barriers for SME'S

Access to funding, human resources, technology maintenance

• Asymmetries between regions

Disparate processes of digitization

• Need of skilled human resources

44% of Europeans between 16 and 74 years lack of basic digital skills (EC, 2017)

• Conflicts at the factory

Automatization, surveillance, privacy, new kinds of alienation

• The role of industry in the economy itself

Welfare system, employment

## New dynamics at work, new challenges ahead, **new cultures of innovation** to be developed



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#### The rising of the maker movement

 Passionate people about open source technologies that are keen on creating new objects or developing cutting-edge projects.

(Dougherty, 2012)

• Influenced by other philosophies like DIY and the hacker ethos.

Pirate Radio, MIT Tech Model Railroad Club

- Enabled by the expiration of several patents in 3d printing & microelectronics.
  RepRap, Arduino
- Widespread diffusion of makerspaces across the globe.

Hackerspaces, makerspaces, fab labs

Informal and non-formal learning for tinkering, experimenting & prototyping

Workshops, seminars, hands-on projects

New possibilities for **engaging citizens** with technology & manufacturing

again, but also for **developing alternative innovations**.







#### THE MAKER MAP





#### **Open manufacturing as a new culture**

• Popularization of open design due to the maker movement

Availability of product & systems designs throughout public or shared resources

• OM as an application of open source principles to production processes

Key concepts such as open design, open data, open software, open hardware, distributed networking, collaboration, sharing & transparency

• New technologies, new values, new networks and new methods

Open software & hardware, commons based peer production, Makerspaces

A **new manufacturing culture** is emerging and it's a great opportunity for boosting digitization, cultivating innovation and promoting development in European SME's









Industry 4.0	Open Manufacturing
Technocentric approach	Skills approach
Centralized structure	Decentralized structure
Propietary technologies	Open Source technologies
Private/Venture capital	Crowdfunding
Restricted access to information	Free access to information
Opaque processes	Open processes
Profit maximization	Community business models





#### **Benefits of open manufacturing**

- "Friendly" enabler of digitization for SME's
- Availability of shared resources
- Access to a external source of talent
- Facilitator of cultural change
- Network resilience
- Faster/Open innovation
- Low-cost/Frugal innovation

Open manufacturing can create a **radical change towards innovation in digital ecosystems** due to the values embedded on it.









### **1HEVERGE**



# Apple says it's now powered by 100 percent renewable energy worldwide

But there's a big catch

By Nick Statt | @nickstatt | Apr 9, 2018, 4:00pm EDT

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 Thanks a lot and keep in touch! <sup>(C)</sup>
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