



TIP Digital and Open Innovation project

ARE IMPACTS OF DIGITAL TRANSFORMATION ON INNOVATIONS SIMILAR ACROSS SECTORS?

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Workshop 'How to leverage the potential of the digital transformation
for innovation and research?'

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TIP project on Digital and Open Innovation

Digitalisation of innovation



New innovation dynamics across and within sectors

Innovation policies for inclusive and sustainable growth

Public research

Science-industry linkages

Businesses

Collaborative innovation



The rise of smart and connected products

Sensors, microprocessors, data storage & connectivity increasingly embedded in products → enhance **functionalities & capabilities**





Data is a key input for innovation

- Explore **new areas of product development** (e.g. smart farming, on-demand mobility services)
- Improve & **customise services**

e.g. **Retailers** collect & exploit huge amounts of **consumer and sales data** to:

- Predict consumer preferences
- Personalise services and advertisement



- Optimise **development, production & distribution processes** (e.g. predictive maintenance; smart stock management systems based on deep learning algorithms)



Digital innovations introduce **new & rapid innovation cycles**

- Changes in processes of **design, prototyping & testing** (3D printing, virtual simulations)
- Release of **pilot versions** to the market & regular upgrades (based on consumer's feedback)
- **Product marketplaces** (e.g. eBay, Amazon) facilitate commercialisation large scale



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Drivers differ across sectors

- Opportunities offered by **new digital technologies**
- Consumer needs & **demands**
- Degree of **market competition**
- Opportunities offered by new **platforms**





Barriers to the digital transformation also differ

- **Access to data** for innovation purposes (e.g. restrictions to access sensitive health data)
- **Capacities** & financial resources to adjust to the transformation
- Awareness of opportunities and **resistance to change**
- Technology **lock ins**





Preliminary conclusions

- **General trends affecting all sectors requiring cross-cutting innovation policy approaches:**
 - Proliferation of smart and connected products
 - Data as core inputs
 - Speed of change in innovation practices
- **Specificities affecting sectoral adoption rates:**
 1. Ease of digitalisation
 2. Consumer attitudes / demand
 3. Market competition
 4. Capacities & enabling platforms
 5. Data access conditions
- **Actors within sectors** are differently prepared to adjust to changes



More information

Digital and Open Innovation project:

www.innovationpolicyplatform.org/TIPdigital

OECD Working Party for Innovation and Technology Policy :

<http://oe.cd/tip>

www.innovationpolicyplatform.org/cstp/tip

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