The Digital Age: Innovation, well being and sustainable growth

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Innovation, digital technologies and sustainable growth

- **Innovation** is a fundamental asset **of the competitiveness** of companies and nations in the global economy. Adequate, accessible and affordable financing is the key to achieving the Sustainable Development Goals (SDGs).
- *First question*: ***Sustainability***. The 21st century is characterized by the need of Governments to promote technological innovation as a fundamental source to increase competitiveness. And yet, **innovation processes are disruptive** and can generate both opportunities and critical issues. Sometimes referred to as "major challenges", these challenges include the need to respond to the main social, environmental and economic challenges linked to the technological change.
- *Second question*: ***Productivity and growth***. Can digital technologies deliver to increase the total factor productivity of industrial systems, responding to the competitive pressures of the most efficient countries?
- *Third question: **The Time Horizon***. How Governments choose and promote innovation investments in line with their *political time horizon, so to insure their achievement?* The time horizon of the processes of innovation is an essential feature to be considered.

Digitization, Finance and sustainable goals

Digital technologies and innovation: The importance of the time horizon and wellbeing

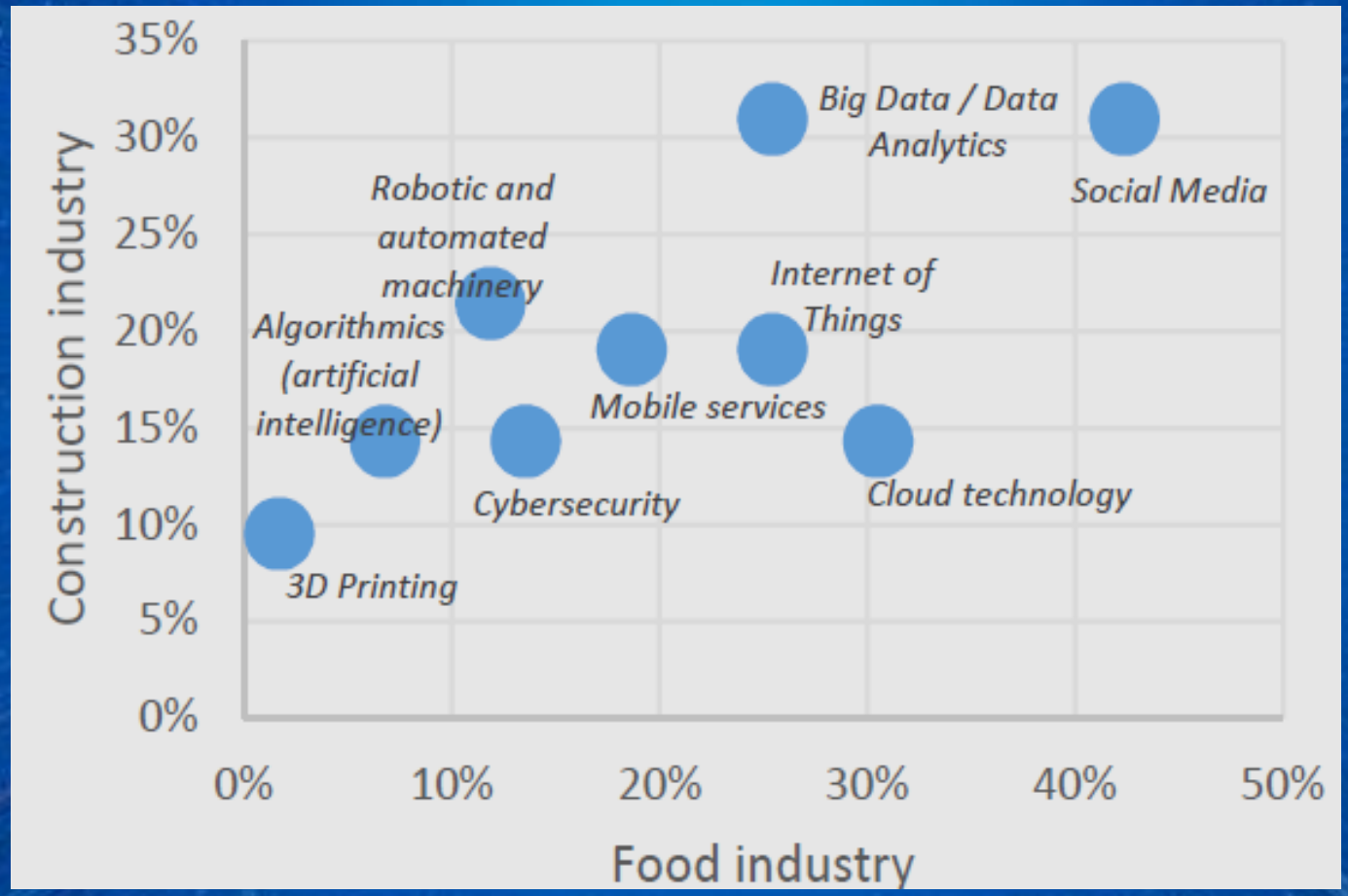
- Governments therefore need to favor digital technology investments which can generate competitiveness increasingly looking to investments in energy efficiency, climate policies and renewables, international cooperation and in general investments leading to the fulfillment of the 2030 agenda tasks on sustainable development.
- The main issue for Governments is finding a balance between the trickle down effects of innovation policies and well-being protection.
- Of no less importance, Governments also have to choose and promote innovation investments which are in line with political time horizon, so to insure their achievement.

The time horizon of the innovation policies

- Digital technologies as in robotic automated machinery, data analytics, 3D printing, internet of things, cybersecurity are adopted at a pace that differs significantly across industries.
- Policies oriented to support energy innovation and the adoption of renewables have to face different time horizons. Energy policies regarding efficiency in industry, in building and transport could be referred to a short time. Carbon capture and biofuels innovations are expected in a longer time.
- The time horizon and the pace of adoption of innovations influence the decisions supporting innovation policies.
- The trade-off between Sdg Goals and competitiveness is essential.

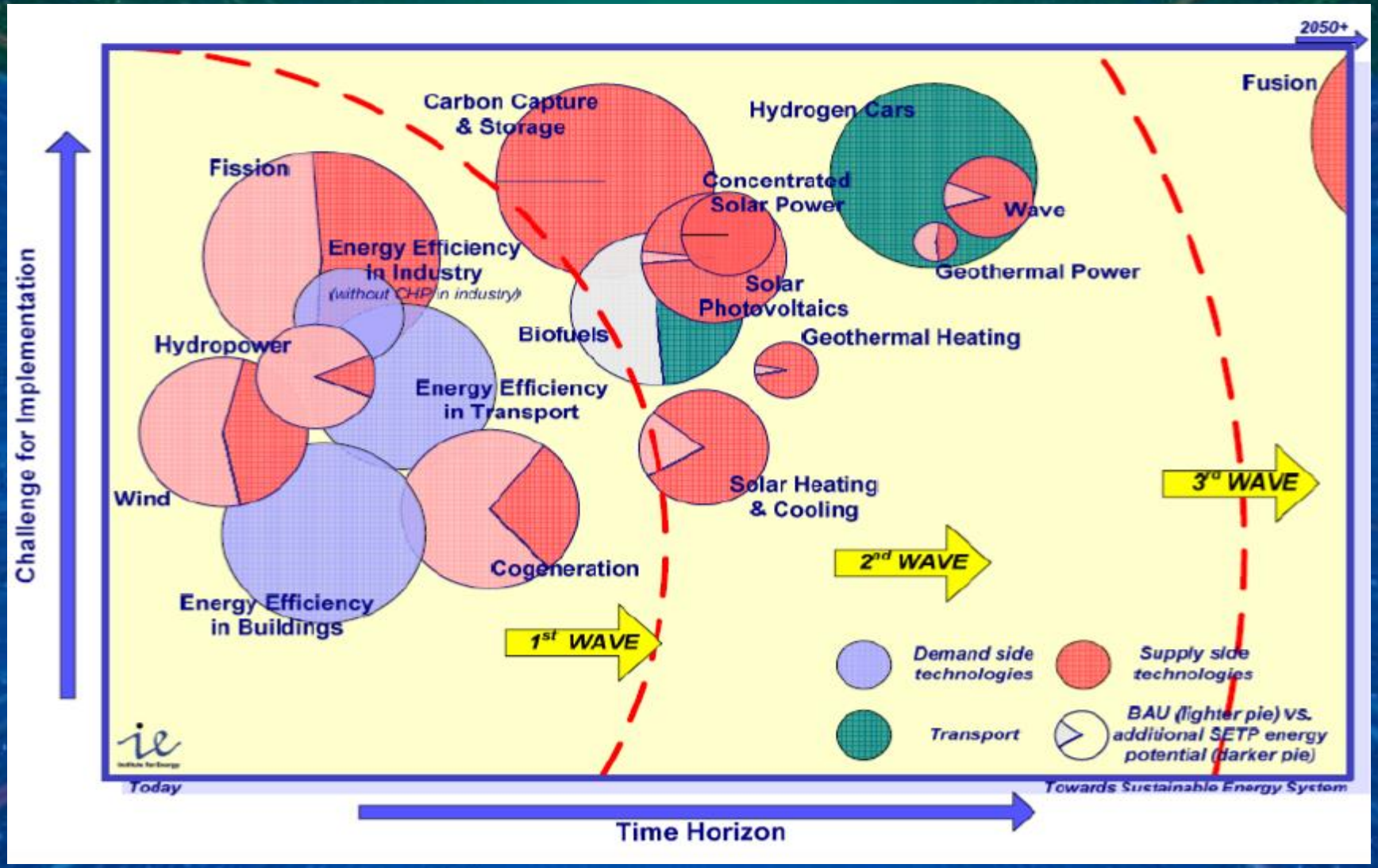
Pace of digital processes adoption in two industries

Differences in the use of digital technologies by industry (N = 101)



Source: Digital Transformation Scoreboard 2018

Innovation and time horizon



Patient Finance and innovation

- The role of public finance is so important in nurturing parts of the innovation chain subject to long lead times and high uncertainty because of the short-term nature of private financing. While in some countries this occurred through public agencies, in others, patient finance was provided through publicly-owned development banks, otherwise known as state-owned investment banks.
- In Europe, these issues of innovation and competitiveness see the state-entrepreneur, both through participated companies and through National Promotional Institutions, as in Europe KfW in Germany, the Caisse de Dépôts in France and Cassa depositi e prestiti in Italy, with a leading role.

Digitalization and sustainable development

- To conclude, following the UN Progress Report (Oct 2019) on Digitalization of Finance and SDGs, digitalization can contribute to sustainable development, but its net impact will depend on societal choices as to its application and governance:
  - On the one hand, it can deliver new livelihood opportunities, provide better access to public services, lessen the carbon footprint, and enhance accountability and good governance.
  - On the other hand, it can reinforce existing patterns of exclusion and discrimination driving new forms of inequality.

The Digital Age: The Italian Approach

Technology: the "Italian Approach"

Following the Leonardo Da Vinci Archetype

Italian engineering has always been appreciated for its capability to solve technical problems taking into account

- Creativity
- Fantasy
- Quality of life
- Art and Design
- People as centre of business

This approach comes from the historical background that allows to mix science with beauty and technology