Panel 1.2

Stimulating Digital Innovation Across the Economy
Objectives

The adoption and use of information and communication technologies (ICTs), including data analytics, across the economy can stimulate digital innovation and help foster productivity, green and inclusive growth, social prosperity, and development. Today, a slowdown in the diffusion of technology and knowledge from high productivity firms to other firms may be an important source of the current productivity slowdown. The diffusion of ICTs and its effective use in particular remains short of its potential.

Drawing on country case studies, the panel will discuss ways to promote the diffusion of digital innovation successfully. It will focus on bridging digital divides, particularly with respect to small and medium sized enterprises (SMEs) and disadvantaged social groups (e.g. poor, rural or ageing populations); on developing digital lead markets; and on facilitating digital innovation, even when disruptive.

Key issues

Although digital technologies drive innovation, some firms, particularly SMEs, governments and certain social groups, lag behind in reaping the benefits.

Many governments have policies to address barriers to ICT adoption and use. They have initiatives to raise awareness, promote open standards and best practices in the use of ICTs, stimulate co-ordinated skills development and access to finance, and leverage public-sector use of ICTs. Yet more efforts are needed.

For example, while the use of advanced ICTs, including analytic software and cloud computing, opens up opportunities to improve productivity and transform business models, adoption of ICTs (beyond broadband) by organisations, especially SMEs, and governments remains low (Figure 1). Concerns about vendor lock-in, digital security and privacy risks, and insufficient investments in knowledge-based capital, including firm-specific skills and organisational change, may partly explain this situation.

**Figure 1. Firms using cloud computing (CC) by size, compared to broadband, 2014**

*Percentage of firms with ten or more employees*

Source: Based on OECD, ICT Database; Eurostat, Information Society Statistics Database and national sources, July 2015.
Governments also lag behind in the implementation of e-government services and release of open data. In 2014 only 33% of citizens in OECD countries had access to e-government services able to upload information. Certain social groups lag even further behind. In the OECD area, 50% of those aged 65-74 are less likely to use the Internet than 16-24 year-olds. They tend to use ICTs for a few basic activities, as do those with little or no formal education.

Q1: What policy approaches can stimulate ICT adoption and use more effectively? How can complementary investments in skills and organisational change be encouraged?

Q2: How can digital innovation policies better take into account the heterogeneity of sectors, organisations, governments and individuals?

Establishing digital lead markets is gaining in importance, but requires promoting awareness and public-private sector co-ordination.

The promotion of digital lead markets is receiving increased attention as part of a new policy approach by governments seeking to promote the development, adoption and use of ICTs for green growth (e.g. smart cities), inclusive growth (e.g. smart ageing), and the next production revolution (e.g. smart manufacturing). The development of lead markets can help innovation clusters achieve critical mass and competitiveness, and encourage further cross-sectoral and regional diffusion of digital innovation. As cluster-type approaches typically work best when driven by the private sector, governments must take care not to create “white elephants” and should implement sound governance procedures to monitor and evaluate their policies.

Q3: How can initiatives between the public and private sectors to foster lead markets be co-ordinated to ensure that innovation clusters leverage their comparative strengths while benefiting the public sector?

Digital innovation can induce a process of “creative destruction” and disrupt existing markets as well as challenge associated regulatory and policy frameworks.

With the global recovery still sluggish, digital innovation can help pave the way to a more resilient and sustainable economic future through the development of new goods and services and new business models. While digital innovation can benefit all of society, individuals, businesses and governments may find its disruptive effects threatening. Established businesses may consider that changing organisational structures and business processes to enable digital innovation is too hard or too costly. This may reflect short-term thinking or fears of disrupting profitable business units. The resistance to change (the “innovator's dilemma”) may be the reason why digital innovation is often introduced by start-ups that put a premium on competition, business dynamism and entrepreneurship policies. Framework conditions that inhibit the effective reallocation of resources from lagging to growing firms or that strongly penalise
failure can inhibit market entry, discourage experimentation with disruptive innovations, and prevent the scaling-up of successful innovations. This may ultimately slow down productivity and employment growth.

**Q4:** What can be done to facilitate the transformation of traditional sectors through digital innovation?

**Q5:** How can policy makers assess the need for and adequacy of existing regulatory and policy frameworks to support the scaling-up of digital innovations?