



## FOURTH THEMATIC PLENARY SITTING

# Preparing the future of work we want: The digital economy and labour skills and competences

### — Objectives

- Enhance understanding of the scope of the digital revolution and its impact on production, enterprises, workers, employment and inequality, and of the digital divides typifying the region's countries.
- Enhance understanding of the opportunities afforded by the digital revolution and the steps that can and must be taken fully to harness them, including in particular with regard to the development of labour skills and competences aimed at improving employability lifelong.

### — Understanding the digital economy: concept and implications

The digital revolution of recent decades, with its increasingly exponential impact on human and economic activity, is one of the biggest drivers of transformation in all areas: the way in which humanity produces, works, learns, lives and interacts.

While the transition from subsistence agriculture to consolidation of the industrial economy took over a century, the new digital communication technologies are accelerating the pace of all manner of change in the world of work, including growth in the service sector.

The digital revolution encompasses various disruptive technologies, such as artificial intelligence, cloud computing, the Internet of Things, e-business, blockchains and big data. Its pervasiveness has led to sweeping social, economic and cultural change, including in personal relations, leisure, consumption habits, production systems, marketing, distribution and

labour. The exceptional scope of the change has led to the emergence of a new economy: the digital economy.<sup>1</sup>

Digital networks and communication infrastructure provide a platform on which persons and organizations create strategies, interact, collaborate, sell, work, seek information and communicate with each other. This interaction spawns new enterprises, occupations and forms of work that also require new skills – profound changes stemming from a new system for generating value in the production and distribution of goods and services that in turn gives rise to major opportunities for progress, but also presents huge challenges. In economic terms, this affects productivity, competitiveness, production growth and employment levels. In social terms, the impact can be felt on education, health, access to information, public services, transparency and participation.<sup>2</sup>

The trend has not bypassed Latin America and the Caribbean, where it has distinctive features. The growth of the digital economy is shaped by the size and availability of broadband infrastructure, an application development industry, ICT-related equipment, innovation and the incorporation of technology into

1 The concept of digital economy is usually attributed to Don Tapscott, who coined the term in 1995 and discussed it in depth in his book, *The Digital Economy: Promise and Peril in the Age of Networked Intelligence* (McGraw-Hill, 1996). There are numerous definitions of digital economy, but it is generally agreed that the term refers to all economic activities using the Internet as a platform and digital information and knowledge as key inputs for the process of producing, marketing and distributing goods and services. The concept is also defined as the economic processes made possible thanks to the existence of, and interaction with, the Internet, mobile networks and information technologies.

2 ECLAC: *The digital economy for structural change and equality* (Santiago, Chile, 2013).

productive processes, guaranteeing access to the end users (people, enterprises and governments), who ultimately shape the demand for infrastructure, technology, applications, goods and services. Other elements in the digital economy's development are the quality of the business environment, adequate infrastructure, consistent financial policies, legal security, effective incentives for investment and innovation, and good-quality education.

Between 2015 and 2020, an average 35 per cent of the core skills required of workers will change.<sup>3</sup> In addition, 65 per cent of children entering school today will have jobs or be engaged in activities that do not yet exist.<sup>4</sup> This is why much more rapid progress must be made in the reform of vocational training systems, which are characterized by gaping divides.<sup>5</sup>

From the point of view of this panel, an essential strategy for meeting present and future challenges is to move towards maximizing the benefits of modern vocational training systems, enabling stakeholders in the world of work to make the most of the opportunities for development afforded by robotics, automatization and technological innovation.

### — Leveraging the digital economy: The opportunities for development and growth

The digital economy amounted to an estimated US\$ 11.5 trillion (16% of global GDP) in 2015 and is forecast to total over US\$ 23 trillion (24% of global GDP) in 2025. Given that Internet access continues to grow rapidly in the region, opportunities for economic development and social inclusion are also flourishing.<sup>6</sup>

The digital economy is becoming increasingly relevant for growth in the region's countries. The United Nations Economic Commission for Latin America and the Caribbean (ECLAC) estimates that the digital economy contributed an average 3.2 per cent to GDP in Argentina, Brazil, Chile and Mexico combined. That figure, while significant, is low in comparison to Japan (6.8%), the United States of America (6.4%) and the European Union (5%).<sup>7</sup>

The emergence of the digital economy has also transformed the labour qualifications needed to meet demand. According to LinkedIn, for example, the skills needed for cloud computing, statistical analysis, data mining and presentation and the design of user interfaces were among the ten most sought-after competences in the corporate sector in 2017.<sup>8</sup>

According to recent studies, every dollar invested in the past 30 years in digital technology has generated an increase of US\$ 20 in GDP. This is almost seven times the average return on non-technological investments during the same period.<sup>9</sup> In the concrete case of Latin America and the Caribbean, a study by the Inter-American Development Bank (IDB) shows that a rise of 10 per cent in broadband penetration would lead to increases of 3.2 per cent in GDP, 2.6 per cent in productivity, and 0.5 per cent in employment.<sup>10</sup>

### — Addressing the digital economy: The principal challenges

Latin America lags far behind when it comes to developing labour capacities and competences, as demonstrated by the results of international literacy tests and certain indicators, such as the perception of capacities as a problem for filling vacancies.<sup>11</sup>

3 World Economic Forum: *We have the tools to reskill for the future. Where is the will to use them?* (<https://www.weforum.org/agenda/2018/01/tools-reskill-future-will-labour-disruption-automation>, 2018).

4 IDB: *Cómo competir por los trabajos en la era digital?* (blogpost, <https://blogs.iadb.org/trabajos/2018/06/20/como-competir-por-los-trabajos-de-la-era-digital>, 2018).

5 J.M. Salazar-Xirinachs and F. Vargas Zúñiga: *The future of vocational training in Latin America and the Caribbean: overview and strengthening guidelines* (ILO Regional Office for Latin America and the Caribbean/ Inter-American Centre for Knowledge Development in Vocational Training (CINTERFOR), Montevideo, Uruguay, 2017).

6 Gonzalo Rivas: *La Revolución Digital: el potencial de estar en las nubes* (IDB, [Blogs.iadb.org](https://blogs.iadb.org), 2018).

7 ECLAC: op. cit., note 2.

8 *Top skills that can get you hired in 2017* (LinkedIn, [www.blog.linkedin.com](http://www.blog.linkedin.com)).

9 *Digital Spillover - Measuring the true impact of the digital economy* (Huawei Technologies Co. Ltd/Oxford Economics, 2017).

10 Antonio García Zaballos and Rubén López-Rivas: *Socioeconomic Impact of Broadband in Latin American and Caribbean Countries* (IDB, Institutions for Development (IFD), technical note No. IDB-TN-471, 2012).

11 The challenges for education and training are set out in J.M. Salazar-Xirinachs and F. Vargas Zúñiga, op. cit., note 5.

Addressing the challenges arising from the advance of the digital economy involves enhancing understanding of what the digital economy truly represents and what its potential is. It is not merely a matter of modernizing equipment, technology and software, or expanding the use of computer equipment or smart phones. The disconnect between perceptions of the digital economy in the developed world and the world's remaining countries contributes to loss of competitiveness and limits the possibilities for companies to internationalize their businesses.

In this regard, the region has dual rates of progress. For example, the ratio between mobile broadband penetration in the three most advanced countries and those falling furthest behind is 1:15.<sup>12</sup> The fact that the region is obviously behind should be a government priority if the aim is to seize the many opportunities afforded by the digital revolution and to be able to create more opportunities for decent work in the future.

The McKinsey Global Institute estimates that the potential for job automation in Latin America and the Caribbean could reach 50 per cent; in other words, half the time that workers spend on the job could be automated.<sup>13</sup> According to an IDB study, a substantial share of the region's exports and employment is concentrated in activities that run the risk of being automated, such as labour-intensive manufacturing, natural resource extraction, and medium-skill activities such as accounting, legal or management services.<sup>14</sup>

The situation is even more dire when we consider the types of skills required by the digital economy: cognitive skills, creativity, critical thinking, complex decision-making and information processing, and so on. These skills are projected to have increased by 19 per cent in the United States of America and by 14 per cent in Europe by 2030.<sup>15</sup>

Forging a better labour future will require the formulation and implementation of effective policies for training the region's human capital and thus mitigating

the impact of technology on employment levels and inequality and promoting labour inclusion.<sup>16</sup>

The digital economy paves the way for more self-employed professionals to join the labour market, as it allows them to offer their services at home and abroad. In 1989, freelance workers accounted for 6 per cent of the labour force in the United States; in 2025 they will account for 43 per cent. At present, about 162 million workers in the United States and the European Union – between 20 and 30 per cent of the active population – are contractors or self-employed.<sup>17</sup> Other figures indicate that 70 per cent of the working population in Europe will be freelance in 2030,<sup>18</sup> causing changes to the management strategies and corporate business platforms having to address the rise in this type of labour supply.

Changing forms of employment are also exerting pressure on traditional systems of social security, which need to be sustainable, more inclusive and adaptable. They should be innovative systems that promote the transition from informality to formality.<sup>19</sup>

### — Working together for the benefit of all in the digital economy

The region's economies are facing a paradigm shift driven by the new digital economy in the fourth industrial revolution. If they do not take advantage of it, they may remain trapped in a sort of “industrial middle ages”. They need a framework of policies that address the determinants with a view to ensuring a smoother transition to the digital economy and to leveraging its benefits in many fields, such as corporate competitiveness, worker employability, education, occupational training, health and e-government.

In order to take advantage of and leverage the benefits of the digital economy, employers, workers and governments need to develop a framework and poli-

12 ECLAC: op. cit., note 2.

13 Jacques Bughin et al: *Skill shift: Automation and the future of the workforce* (McKinsey Global Institute, discussion paper, 2018).

14 “Robotlution. The future of work in Latin American integration 4.0”, IDB, *Integration & Trade Journal*, Vol. 21, No. 42, 2017.

15 Jacques Bughin et al., op. cit., note 13.

16 J.M. Salazar-Xirinachs and F. Vargas Zúñiga, op. cit., note 5.

17 James Manyika et al.: *Independent work: Choice, necessity, and the gig economy* (McKinsey Global Institute, 2016).

18 Marco Torregrosa: *Managing the workforce of the future*, available at <https://medium.com/euro-freelancers/managing-the-workforce-of-the-future-f88de0077c61>.

19 ILO: *Presente y futuro de la protección social en América Latina y el Caribe* (Lima, ILO/Regional Office for Latin America and the Caribbean, Thematic Labour Overview 4, 2018).

cies promoting digitalization and strengthening public and private investment to that end. They should also promote public employment and training policies that encompass topics such as access to ongoing skills development and modernization, promotion of entrepreneurship, and social protection, in order to mitigate the negative impact on those who will be at a disadvantage during the period of transition towards the digital economy.<sup>20</sup>

The region should adopt a shared vision and ensure that the minimum conditions are met so that investment in the digital economy has an impact on economic growth and is compatible with the objectives of social inclusion, promoting structural changes in production that will encourage each country to leverage opportunities.

Change is required in technical training and education institutions and systems, with a view to developing the skills workers will need in the digital economy (so that they can cope with changes in employment), and participation in society, which also increasingly incorporates new forms of the digital economy, such as e-government. In Chile, for example, a transversal skills matrix has been developed that is used for the purposes of certification, to facilitate access to new jobs.<sup>21</sup> The number of people participating in training programmes that use the Internet continues to grow in the region, with over 4.7 million participants obtaining training from more than 12 remote education portals.<sup>22</sup>

In the face of such rapid change, the mechanisms for anticipating and forecasting the demand for skills and competences must be fine-tuned and developed. A broader vision of the new socioemotional and cognitive skills may lead to a new model of skills development programmes, based more on abilities than on the training certificates themselves.

A regional vision of skills and competences development requires the ILO to continue strengthening cooperation and knowledge exchange at regional level, enabling all to leverage the advances in digital

educational technology and in new occupations for the digital economy.<sup>23</sup> This includes supporting innovation measures and new modes of training, and recognizing competences. Some countries have started using blockchain technology to handle the employment histories of apprentices or to recognize and certify competences.<sup>24</sup>

A technical education and vocational training system that raises the level of worker qualifications represents the supply side of the labour market equation. The demand side depends on the production structure, i.e. action must be taken for a denser matrix with competitive capacity, one that offers adequate conditions for nurturing and demanding more qualified workers, and that in turn leads to increased productivity and better quality of life for citizens.

Last but by no means least, social dialogue mechanisms and the active participation of employers and workers must prepare to take on board and drive these new demands and challenges, and structure innovative solutions that result in access to decent and productive work.

#### — Suggested discussion points:

- 1) **How can workers, enterprises and governments work together to continue tackling the digital divide in the region?**
- 2) **How can they approach the skills divide, including the development of study plans to prepare new generations and create decent work opportunities for all?**
- 3) **How can the competences of the region's current unemployed be improved and how can they be connected to qualified jobs?**
- 4) **How can the digital economy be leveraged in order to meet the challenge of the transition to formality, achieve sustainable social security systems and constantly modernize skills?**
- 5) **What are the main challenges and opportunities of automation in the region's principal industries?**

20 In Mexico, an application has been launched for social security contributions, AFORE mobile, that allows people to join the system for contributing and use their mobile phones to draw benefits (see <https://www.gob.mx/consar>).

21 See <https://www.chilevalora.cl/competencias-laborales/competencias-transversales/>.

22 J.M. Salazar-Xirinachs and F. Vargas Zúñiga, op. cit., note 5.

23 The ILO/CINTERFOR is working on one programme to anticipate demand and on another to modernize learning methodologies so as to develop transversal competencies.

24 Fernando Pavón et al.: *Blockchain: Cómo la tecnología puede mejorar el mercado laboral* (IDB, Blogs.iadb.org, 2018).