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# OECD CITY NETWORK ON JOBS AND SKILLS

## DIGITAL SKILLS AND DIGITAL INCLUSION

### SUMMARY





## Setting the scene

**The COVID-19 pandemic has highlighted the need to invest in digital infrastructure and skills development and resulted in quantum leaps in developing digital services in many areas.** As shown in the OECD's [Regional Outlook](#), digital access has increased especially in cities, thanks to several actions that are aimed at improving internet speed and providing people with digital devices. For example, in London, the [Digital access for all](#) strategy – launched in 2022 – aims to both improve connectivity and develop digital skills for all. Elements of the strategy include improving connectivity in social housing and more deprived areas, device donations and free SIM data for more disadvantaged people. In Boston, the city's public libraries provide digital access for all, while in Madrid a [network of digital training centres](#) has been created to facilitate access and present different types of training to residents.

**Reducing the digital divide is among the top priorities in many OECD countries on the national, regional and local levels.** In recent years, many cities have developed a digital strategy such as [Cork](#), [Glasgow](#) and [Milan](#), while others have included ICT skills in broader city-level strategies. As highlighted by [Eurocities](#), successful programmes to reduce access and skills divides among people and places build on strong collaboration with local stakeholders, including associations and grassroots organisations. This approach helps reach out to more vulnerable communities and develop initiatives that respond to their needs (e.g. through workshops that involve local residents in co-designing the initiatives).

**Cities have also taken action to digitalise their services and help staff develop digital skills.** Digitalisation offers the public sector the opportunity to make service provision more efficient and faster. In Stockholm, the [quality strategy](#) puts digitalisation, as well as innovation, at the core of the city's objectives in relation to efficiency and well-being. In other cities, efforts have been made to support cities' employees in developing digital skills. For example, in [Berlin](#), public administration employees can use a self-assessment tool to evaluate their digital skills in everyday or work situations and choose the most relevant training at the Berlin Administrative Academy (VAK).

## Basic digital skills training

**Basic digital skills are needed in many daily activities and are sought in virtually any job.** Together with transversal skills (i.e. teamwork, communication and problem-solving), basic digital skills represent the minimum requirements for entering into employment. As literacy is a prerequisite for navigating digital information, basic digital skills training is part of the literacy strategy in a number of cities. In Berlin, as part of the Literacy and Basic Education Strategy several initiatives aim at supporting low-skilled adults [developing basic skills](#), including in the digital field. London has developed a [Skills Roadmap](#), which has a strong digital component, and Dublin which has invested EUR 1.4 million in digital devices as part of the national literacy strategy.

**Target groups for basic digital programmes vary within and across cities.** A number of factors, including socioeconomic background, age and education level influence the opportunities people have to develop basic digital skills. Based on specific characteristics of neighbourhoods, cities have developed several digital literacy trainings that target low-skilled adults, young people, migrants and refugees, people from minorities, the elderly and people with disabilities. Cities such as Berlin, Milan, and Dublin mentioned the importance of basic training for prisoners to enhance their opportunities to enter the labour market when released.

**People from disadvantaged communities often need individualised support in addition to digital training.** People who lack basic digital skills and other basic skills (i.e. numeracy and literacy), often experience other challenges (e.g. health issues, housing, language barriers) that prevent them from



entering the labour market. The [Centre Picoulet](#), a community centre based in Paris, provides basic digital training, access to computers, and support for job search, in parallel with language courses. [Konexio](#), a not-for-profit training provider, combines digital training with additional activities such as language training, coaching, and soft skills workshops. This comprehensive approach is considered key for reducing the drop-out rate among students. An important element is that training provided by the Centre Picoulet and Konexio enables participant to validate their skills via the [PIX](#) digital skills certificate, which is recognised by French companies and is aiming to become a European standard.

## Making ICT occupations and the tech industry more inclusive

**Connecting people with low labour market attachment to employers is among the objectives of many local initiatives.** Enhancing the digital skills of people from disadvantaged communities can improve their employability. However, companies operating in the tech sector might not be willing to hire staff with diverse education pathways. To address this issue [San Diego](#) has developed work experience programmes, such as [TechHire](#), to facilitate the entrance of disadvantaged people into tech jobs. In France, [Acces Inclusive Tech](#), a digital social enterprise, helps more disadvantaged groups enter into employment thanks to a strong collaboration with companies and public services (i.e. the local public employment service and the offices that support youth and disabled people). As part of the activities of Acces Inclusive Tech, extensive guidance is given to job seekers who are hired in tech firms based on their “potential” (e.g. on motivation more than on their skills or previous experience).

**Women are underrepresented in tech occupations.** Another Paris-based initiative, [Social Builder](#), helps female jobseekers discover digital professions and offers upskilling and reskilling training courses of different lengths. Removing barriers and overcoming stereotypes in the tech world, by supporting firms in the implementation of inclusive practices, are also among the objectives of Social Builder. Recent OECD work highlights that inclusive [innovation policies](#) can also contribute to making the ICT sector more diverse by focusing on both building capacities and addressing discrimination and stereotypes among employers.

**Vacancies in the ICT sector often remain unfilled because of a lack of people with suitable skills.** In tight labour markets, unfilled vacancies represent an obstacle to businesses’ growth. In Europe, on average the share of hard-to-fill vacancies for jobs requiring ICT specialist skills has doubled in the last decade. To respond to the skills needs of companies operating in the tech sectors, the [ParisCode](#) programme aims to foster inclusion through digital training (See Box 1).



## Box 1. ParisCode: training for digital professions

**Despite the dynamism of the tech sector in France, skills shortages might hinder its growth.** The tech sector has created more than 700 000 jobs in the last 15 years and represents 5% of the national GDP. In the last decade, the lack of candidates with suitable digital skills has represented a challenge for many employers. To respond to the needs of the more than 10 000 companies operating in the Paris region – the Île de France – the city administration launched the ParisCode programme in 2016.

**ParisCode aims to provide digital training to people from disadvantaged communities regardless of their diplomas.** Thanks to several partnerships with private sector companies, the City of Paris has supported the establishment of tech schools, particularly in more disadvantaged neighbourhoods. The programme also promoted introductory workshops in coding that enabled people to discover technology and gradually develop their skills. Every year more than 1 000 people take part in a free training provided by the partner schools. Among them, around a third is aged below 26 and half of the students are women.

**The courses provided as part of ParisCode adopt an innovative approach that mixes online, classroom and practical training.** For people who have experienced difficulties during their schooling, traditional face-to-face training might not be suitable. For this reason, training centres provide different types of courses, including soft skills, as well as work placements, and flipped classrooms (i.e a learner-centred approach, in which students are introduced to new topics at home and work on problem-solving during class time).

Source: [Workshop presentation](#) and <https://www.paris.fr/pages/se-former-aux-metiers-du-numerique-avec-pariscode-5831>

## Preparing youth for the labour market

**More disadvantaged youth leave education without having adequate digital skills.** While many young people have mastery in using their smartphones, their capacity to use computers to search for information or perform basic tasks might remain limited. To give all young people the opportunity to fully reap the benefits of digitalisation, many cities, including [Glasgow](#), Cork, Dublin and [Milan](#) have increased digital access (e.g. by providing digital devices and developing programmes to strengthen the development of ICT skills in schools). In addition, guidance and mentoring at a young age can contribute to orienting students towards further education or employment in tech-related fields.

**Training to teachers can increase students' opportunities to develop digital skills and develop an interest towards STEM fields.** Recent findings from the OECD [PISA](#) programme highlight that across OECD countries, nearly every student aged 15 years old has access to a computer at school. However, without adequate training for teachers, the availability of devices does not necessarily increase students' digital skills and education outcomes. In [Glasgow](#), as part of the city's digital strategy, teachers receive support from tech professionals to align teaching with industry needs and to encourage more young people to join the tech sector.

**Digital training programmes may offer a “second chance” for early school leavers.** Young people who leave education without a formal qualification have often limited ambitions and clarity about their opportunities in the labour market. In addition to Konexio and Centre Picoulet, other tech training centres that are part of ParisCode such as [Simplon](#) and the [Grande Ecole du Numérique](#), have programmes that explicitly target vulnerable youth, and do not require any previous diploma to allow participants to start a career in tech.



## About the OECD Centre for Entrepreneurship, SMEs, Regions and Cities

The Centre helps local, regional and national governments unleash the potential of entrepreneurs and small and medium-sized enterprises, promote inclusive and sustainable regions and cities, boost local job creation, and support sound tourism policies.

The mission of the Local Employment and Economic Development programme (LEED) is to build vibrant communities with more and better quality jobs for all. Since 1982, the Programme has been supporting national and local governments through tailored reviews and capacity building activities, as well as research and good practice reports on innovative approaches to local development.

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