Promoting Integration & Diversity In The Digital Labour Market in France

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- The French economy faces severe challenges in recruiting sufficient numbers of adequately trained ICT specialists. The current vacancy backlog amounts to roughly 40,000 ICT specialists.

- This is much more than the 12,600 ICT graduates produced each year by the country's education system. Our forecasting model predicts that the shortage of ICT specialists will grow substantially and at all skills levels between now and the year 2025.

- In no other country in Europe has the topic of inclusive ICT training been as high on the policy agenda as in France.

- Yet, large numbers of people, in particular among the young, are unemployed or not participating in the labour force at all. Moreover, France faces severe difficulties in getting non-natives into employment, as they also make up a large share of the NEET population. At the same time, French legislation puts strong limitations in place to hire foreign (non-EU) workers.

- In France, like in most other European countries, a career in ICT continues to lack sufficient appeal for most young women which is an unacceptable situation given the growing demand for digital talent.

- The higher share of women in STEM education fields, in comparison to ICT related subjects (40% in STEM as opposed to 18% in ICT), does not translate into a higher share of women in ICT jobs.

- A major government activity to make pathways into the ICT sector more inclusive is the flagship initiative Grand École du Numérique with its more than 750 training programmes and initiatives.

- The 2017 Sector Plan for Diversity in the Digital Profession has also addressed gender equality in the digital workforce. Focussing particularly on young people in the vocational stream measures implemented aim to make the digital sector more appealing to young women and make employers to increase the diversity of their workforce.

Current developments in the ICT labour market in France

The country's ICT workforce accounts for about 900,000 workers, or 3.4% of the total workforce. In absolute terms, this is the third largest headcount of ICT workers in Europe after Germany and UK. Between 2013 and 2015, the number of ICT workers has grown at a rate of 48,500 per year, with most of the growth coming from graphics and multimedia designers as well as applications programmers.

The average annual need for new ICT specialists according to our model is about 80,000, the sum of expansion (48,500) and replacement demand (31,000). This is much more than the 12,600 ICT graduates produced each year by the country's education system. Our model therefore predicts that the shortage of ICT specialists will grow substantially between now and the year 2025, to up to 520,000.

France faces considerable challenges in tackling youth unemployment. Large numbers of young people are neither in education nor in employment and training (NEET). More than 98,000 young

people leave school without a diploma or qualification each year. Socio-economic background is one of the main determinants of the likelihood of finding quality employment.

France faces severe difficulties in getting non-natives into employment, as they also make up a large share of the NEET population. At the same time, French legislation put strong limitations in place to hire foreign (non-EU) workers: employers must pay a specific tax if the length of the employment contract is longer than three months.

Given the shortage of ICT specialists in France, it provides an opportunity for NEETs, school leavers and youth from disadvantaged socio-economic backgrounds to enter the job market through training programmes.

Only 16.6% of ICT specialists in France are women. Looking at the entire labour force, France can boast of one of the smallest employment gender gaps in Europe outside of the Nordic countries. Unfortunately, this is not reflected in high shares of women working in digital occupations. Little progress has been made in recent years in growing women's share of the ICT workforce.

Similar to other European countries, Women have a low representation in ICT and STEM education and the workforce for manifold reasons.

The share of women in the French ICT workforce is at 18%, which is slightly above the 16% in Germany and the UK and above the EU28 average of 17.2%. The share is still comparatively low. The share of female graduates in science, mathematics and computing (STEM) is 40% in France. This compares to 38% in Germany and around 40% in the United Kingdom. However, this higher share of women in STEM fields, in comparison to ICT related subjects, does not translate into a higher share of women in ICT jobs. Reasons for this are manifold and reach from stereotypical views of women in ICT jobs to a loss of interest in typical STEM careers. According to a Microsoft study, "women generally lose interest in STEM careers before they reach adulthood, with nearly 60% losing interest in the field by the time they enter college."[1]

The government response

In no other country in Europe has the topic of inclusive ICT training been as high on the policy agenda as in France. This has mainly two reasons: Firstly, the French government's keen interest in reducing youth unemployment, one of the country's major policy challenges since the onset of the latest recession; and secondly, the mounting evidence about a substantial shortage of ICT specialists on the national labour market. Across a range of policy areas, the French government has committed itself to take effective action to tackle both challenges.

The flagship initiative is the Grande École du Numérique, founded by the government and situated within the Ministère de l'Economie et des Finances, is a network of more than 750 training courses in digital professions. It promotes inclusion and meets the needs of recruiters in terms of digital skills. It has published calls for the development of inclusive ICT training programmes that meet a number of criteria: trainings need to target school dropouts, women who are not in training or employment, and/or residents of deprived urban neighbourhoods. Qualifying programmes are issued with a 'Grande École du Numérique label' and are eligible for funding by École du Numérique to cover development costs. By mid-2018, 410 ICT training programmes have received the label, and about 11,400 people from disadvantaged backgrounds participated in trainings.

The 2017 Sector Plan for Diversity in the Digital Professions has addressed gender equality in the digital workforce. It focuses particularly on young people in the vocational stream after lower secondary education (collège). Measures are planned to make the digital sector more appealing to young women. The plan also seeks to make a case for employers to increase the diversity of their workforce and encourage them to train and recruit more women.

Other policy strategies of relevance for inclusive ICT training include the reform of vocational training and education (VET). The French VET system has attracted a lot of criticism in recent years due to its limited effectiveness (in terms of access and labour market outcomes) and efficiency (in terms of financing and governance). The reform gives employers more control over the definition of qualifications and the design of training measures including apprenticeships. This should benefit the quality of VET programmes preparing for jobs in ICT.

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[1] EAB: 60% of women opt out of STEM careers by the time they attend college (2nd April 2018)

The inclusive ICT training landscape

Traditional academic education in the form of university degrees is by far the most common for ICT specialists in France. In France, 79% of ICT specialists have an academic degree, the fourth highest figure in the EU behind Ireland, Lithuania and Spain.

Employers prefer academic degrees even for entry-level ICT positions. This limits the practical value of alternative training pathways.

The shortage of ICT specialists on the French labour market is, however, slowly changing such attitudes. Strong demand for ICT specialists has resulted in a move towards a higher acceptance of ICT training certifications obtained via non-academic programmes, especially if these have been designed with strong input from industry. Inclusive training programmes benefit from this increase in interest.

Apprenticeships suffer from being perceived as merely a second-class route for those students who failed to succeed in the mainstream French education system. In May 2018, the government has started a further initiative reforming initial vocational education and training /VET). This includes the revision of the range of training programmes offered to lower the number of students enrolling in saturated career fields and to offer more places in VET programmes preparing for jobs in demand. In spite of general acknowledgment, evidence exists that apprenticeships are already doing a much better job getting young people into employment, including the digital domain.

Second Chance Schools and Production Schools are examples of France's system of training for young persons from at-risk groups. Launched originally as a European project, second chance schools help those who have left the school system without any qualifications to become more employable by providing them with a pathway to employment, combining professional and social support. The young participants study and complete various traineeships. Throughout the training programme, coaches individually guide each student.[2]

These programmes use an approach that is, by intention, in marked contrast to traditional schools,

as a means to overcome deeply engrained aversions against the kind of education context in which participants have a history of failure. These schools have started to engage in training for ICT specialist jobs in recent years.

The programmes operating under the Grande École du Numérique act as a large-scale experiment in how to design inclusive ICT training measures for labour market insertion. While it is too early to draw conclusions about the campaigns' ultimate success, the diversity of approaches offers much insight into the potential ICT training offers for groups currently underrepresented in the ICT workforce.

Grande École du Numérique programmes make extensive use of industry experts who provide classroom and one-to-one training. These include our Good Practice Showcases Simplon.co and WebForce 3. Both programmes take only a few months because of their use of experts as instructors, which may be more suitable for young persons from at-risk groups who require a fast-stream pathway into employment.

Employers demand soft skills ranging from effective communication and coordination to problem solving, negotiation, teamwork and collaboration. Graduates and trainees with no prior work experience tend to lack such skills, which points towards the potential of novel types of ICT training programmes to significantly increase the number of suitable candidates available. The programmes under the Grande École du Numérique initiative all offer some work placement as part of their pedagogical approach.

The mentorship model is particularly well suited to encourage girls and women to consider ICT careers. Female role models have been found to play a key role in young women's attitude to working in the digital sectors. Recruiting volunteer mentors among women working in the digital sectors is comparatively easy because they are often keen to help remove gender specific barriers for future generations of women working in ICT.

France has a very strong community of engaged citizens who are working, in particular, to promote equality of chances for women in ICT education and the digital workforce. They are carrying out a large range of activities, many of which by women working in ICT and keen to reach out to girls and young women at a time when they make career choices. Successful examples include Orange

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[2] https://ec.europa.eu/budget/euprojects/second-chance-school_en

Foundation's Maisons Digitales initiative, which makes innovative use of the interest of Orange employees to engage in volunteer work for the common good.

Key Recommendations

Promote ICT careers to women
- The question of reconciling family life and working life remains a barrier to employment of women in the digital domain. ICT training programmes should therefore provide for as much flexibility as possible, making extensive use of ICT (e.g. eLearning) for this purpose.
- Leverage the power and creativity of existing communities of engaged citizens. Their experience is of great value for giving groups currently underrepresented in the ICT workforce a stronger voice, and for experimenting with novel ways to boost diversity and inclusiveness.

Adopt strategies to promote the participation of women in STEM fields
- Develop tailored approaches to increase the participation of women in STEM fields. Strategies for engagement of women into STEM education and careers should be developed for early schooling. Government initiatives for the integration of women into STEM fields remain broad and unaccompanied by strategies aimed at raising awareness at early schooling. This is a potential area for development.
- Part of the task is to encourage greater partnership for joint activities to advance women in ICT fields. One example is the United Nations' 'International Girls in ICT Day' celebrated each year to promote equal access for women and girls in ICT fields. Important stakeholders can assist in adapting such campaigns to the national and local level. In this light, STEM and Gender Advancement (SAGA), is an ongoing global UNESCO project to reduce gender gap in STEM at all levels by exploring the dynamics that affect women's STEM careers and framing suitable policies at national, regional, and global levels. Successful implementation of these policies worldwide will expedite women participation in STEM.

Offer better support to SMEs and training providers to engage them in inclusive ICT training
- A comprehensive support system is required to address the main barriers that keep SMEs from stronger engagement in inclusive training which mainly include organisational constraints such as lack of time or limited financial resources.
- For arranging such a system, multi-stakeholder partnerships at local and regional level have been shown to be most effective.
- Possibilities should be explored to use the high-tech business incubators set up in recent years by major cities for this purpose, for example, Simplon.co's programme #Digit'ESS (digitalisation de l'économie sociale et solidaire)[3].

Improve the appeal of apprenticeships in the digital sectors
- Apprenticeship-based training suffers from a severe image problem in France, which has a negative effect also on the appeal of modern-type apprenticeships such as those in digital occupations. The latter so far hardly exists. But the government reform of the VET with its vocational baccalaureate (Bac-pro) and vocational aptitude certificate (CAP) which started in May 2018 is supposed to offer more places in VET programmes preparing for jobs in demand (including ICT jobs) and an additional attractive pathway into the labour market. There has already been some positive impact, however, as many employers in the ICT sector are welcoming the attention policy is giving to involving industry in the design, management and provision of vocational training.
- Even if the government's current reform measures in the apprenticeship area turn out to achieve their direct objectives, experience from other countries suggests that considerable efforts will be required to promote apprenticeships to young learners.

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[3] https://prod.simplon.co/digitess/

- This will need to include convincing key influencers such as parents, teachers, as well as the wider public and employers that apprenticeships in the digital domain present a high-quality option towards a career in ICT.[4] Some employers have already demonstrated the ability to employ without a formal university degree and therefore positively influenced the ICT sector.

Improve the system of career guidance

- The OECD described the situation in France as "a complex training landscape requiring streamlining and better guidance services" … "This system should be streamlined to reduce transactions costs and make it easier for employees, jobseekers and small firms, in particular, to find the right advisor to help them plan and finance their training. In addition, better information about available training and its quality will be necessary, along with strong individual guidance services."[5]
- Traditionally there has been lack of awareness of available non-academic education pathways in France together with the negative perception of apprenticeships. In addition, parents but also young girls and women have a limited knowledge about ICT careers. Consequentially, the current guidance counselling at schools needs reform and improvement to better address these issues.
- Actions must target all actors in the career guidance and counselling networks: Pôle Emploi, les Missions locales, Consulting actors in Professional Evolution, Fongecif, as well as guidance counsellors, teachers, and the other main stakeholders.
- Stakeholders concerned about inclusive ICT training should strive to ensure that their priorities are reflected in the new career guidance structures and processes currently being established.

Further information

For further details about our survey results and methodology, you can request access to our full report, forthcoming in 2018. For questions and queries, please contact:

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Disclaimer

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[4] In France, the vocational educational sector is under reform. The STI2D (technical high school diploma) has been introduced in 2011. Additionally, BEP Systèmes numériques, and various CFA numériques exist.
[5] Brandt, N. (2015)