

# Chapter 3

## Digital Transformation and Work 4.0: Preparation of Youngsters for the Job Market

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### ABSTRACT

*Changes brought by the 4th Industrial Revolution and digitalization impact directly in the way we live, shape the organizations, and change the way we work. These changes imply some challenges in the preparation of youngsters to work in such an environment due to their characteristics. All over Europe, and in order to anticipate the scope and depth of the impacts that current and emerging technologies are imposing, some projects and initiatives are being carried out. The aim of this chapter is to subsidize a reflection about this complex environment by discussing the possible changes brought by the technologies and present some of these initiatives aiming to prepare students to thrive in this world of work.*

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## INTRODUCTION

Literature highlights, in a very clear way, the impact that the 4th industrial revolution is having on people's and organizations' lives. In the last decades of the 20th Century, people and institutions saw their lives transformed, due to the emergence of a digitally-immersed society, which confirms an early prediction made by Alvin Toffler at the beginning of the 80s.

Today, the Fourth Industrial Revolution and the digital transformation are an undeniable reality, with a huge impact on the way we live, socialize and work (Braña, 2019). Of course, these changes will not be the same all over the world and in all industries, but the trend is set globally. There will be depth and acceleration of change in the labour market (Guerra & de Gómez, 2019), and many of the tasks performed today by workers will not be essential in the future. Moreover, in some of the tasks, the changes will be evident sooner and faster (Guerra & de Gómez, 2019).

The most significant features of the changes concern its transforming role in general and the place of people in the production, economy, and life, having both positive and negative impacts. On the positive side, economies will potentially grow and businesses might rise profitability as the access to the global market is increasingly easier; on the negative side, many people might become unemployed if they don't update their skills and abilities. This will require additional effort from governments, on one hand, to ensure decent living conditions to those who lose their jobs and to provide conditions to those who want to keep up with the transformations and, on the other hand, from companies and educational institutions to reduce the imbalance between supply and demand on labour sources (Chala & Poplavska, 2017).

With the emergence of so many technologies and trends, such as the Internet of Things (IoT), automation, robotics, virtual reality (VR), artificial intelligence (AI), 3D printing, it is necessary to understand which tasks may be carried out by the available applications/software/robots and those that can (still) only be performed by humans. In this context, organizations and humans need to prepare to thrive in a new environment, where the motto is set by digital transformation. In other words, they need to develop (new) competencies, namely those related to communication, teamwork, problem-solving, and higher-order critical and digital skills, just to name a few. This context was advanced by Alvin Toffler when he stated that in the 21st century, the illiterate are not those who cannot read or write but those who cannot learn, unlearn and relearn (Toffler, 1980).

To contribute to the mitigation of this problem, some initiatives and projects are being carried out by different consortia in Europe. As such, the purpose of this paper is to contribute with a reflection about the Work 4.0 (which can be described as having a high degree of integration and cooperation, using a wide range of digital technologies and demanding flexible work arrangements), the preparation of youngsters for the labour market, and to present some projects that might help youngsters to be better prepared to face the challenges presented by the above-mentioned context. These projects provide answers to the needs of young people and organizations, such as: answers to the IT sector's upskilling/reskilling needs; development of an integrated curriculum for the digital age; cooperation between organizations and higher education institutions. For that purpose, the authors, first present a literature review concerning the digital transformation by addressing the technologies which enable the core changes, and its impacts at the social, organizational and individual levels. Then, a set of projects and initiatives that are being already carried out to address these problems are presented. The body of strategies to address the current challenges underlying these projects consists of a corpus with relevance for researchers, professional organizations, human resources professionals and educators/educational providers.

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