

Preface

On an almost daily basis, we hear of technological breakthroughs ranging from artificial intelligence and 3D printing, to self-driving vehicles. We are entering a world of “digital manufacturing” and “the fourth industrial revolution”. It is a pleasure, therefore, to present *The Next Production Revolution: Implications for Governments and Business*, an in-depth OECD assessment of the medium-term economic and policy implications of new and emerging production technologies.

How production might evolve has far-reaching consequences for productivity, employment, skills, income distribution, trade, well-being and the environment. And the policy implications of the next production revolution are far-reaching. Indeed, it is difficult to mention a major area of policy that will be unaffected. From research and education, to data security and infrastructure, the future of production is central to many aspects of the OECD’s work.

New production technologies are reshaping the availability and nature of work. It is therefore important that strategies for inclusion understand this process. In fact, new production technologies tie together the critically important themes of productivity and inclusiveness, one of the key concerns of the OECD. As challenges related to population ageing multiply, OECD countries will need the productivity gains that these technologies can deliver. Most importantly, workers also need to be equipped to use these technologies, and policies need to be designed so that economies and societies cope well with the adjustments that these technologies entail.

From this year onwards, the OECD is increasingly focusing upon the digital transformation of the economy and society. This report illustrates just how pervasive and important digital technology is to production and how much more impact digital technology could have if its diffusion was more widespread. This is true even in fields that we do not usually think of as digital, such as industrial biotechnology and new materials.

New production technologies will also affect how we deal with climate change and the natural environment. Positive environmental effects could take many exciting forms, from industrial printing of products using bio-friendly materials, to writing genetic code that allows micro-organisms to make fuels, to drastically reducing waste in zero-defect factories.

The next production revolution is also relevant to the issue of trust in government. Public resistance to new technologies is linked to diminished trust in scientific and regulatory authorities. When the economic or social implications of certain new technologies are disruptive, such trust is particularly important. In this regard, this report offers a sober reflection on some of the hyperbole associated with new production technologies.

A further highlight of this report is the extensive assessment of developments in China. The OECD has worked closely with China on the subject of the next production

revolution during China's G20 Presidency. While China has many challenges to overcome, its achievements will have global ramifications.

Lastly, in keeping with the OECD's work on New Approaches to Economic Challenges (NAEC), multidisciplinary remains essential in grasping today's real-world complexities. This report, therefore, lays out the emerging features of production across many technologies, from multiple policy standpoints and using different types of evidence and analysis. The more governments understand about how production is developing, the better positioned they will be to tackle emerging challenges and achieve economic, social and environmental goals.



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