



European Chemical  
Employers Group



# Our Future workplace: Digital Transformation in the Chemical Industry

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Brief report on preliminary findings

With financial support of the  
European Union



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Photo: BASF SE

# Project steering group

The impact of innovation and digital transformation in the chemical industry



# Introduction: Background and Motivation

Innovation and digital transformation extend across all sectors and affect competitiveness, growth and the labour market in Europe. This social partner project, entitled “The impact of innovation and digital transformation in the workplace: a sector-specific study of the European chemical, pharmaceutical, rubber and plastics industry”, analyses sectoral challenges in the face of digital transformation and its expected impact on companies and workforce of the European chemical, pharmaceutical, rubber and plastics industries. It sets the framework for the European Chemical Employers Group’s and industriAll European Trade Union’s affiliates to formulate a joint action plan.

In order to implement the project objectives cooperation was established with the research institute, Prognos AG. The institute conducted an EU-wide research study – including desk research, a survey, and interviews – to showcase the current level of digital awareness in the sectors we represent, as well as to assess the impact of innovation and digital transformation on workers’ competences/skills, working conditions, and on health and safety.

Based on these findings, the social partners will formulate a joint action plan on how to anticipate, prepare and manage change in the workplace as a result of innovation and digital transformation. The action plan will cover the state of play in our sector across the EU, including a strategy on raising awareness and exchanging good practices, in addition to presenting concrete measures and recommendations.

# Chapter 1

## Digital transformation of work: skills, working patterns, health and safety

### ■ Technical Skills

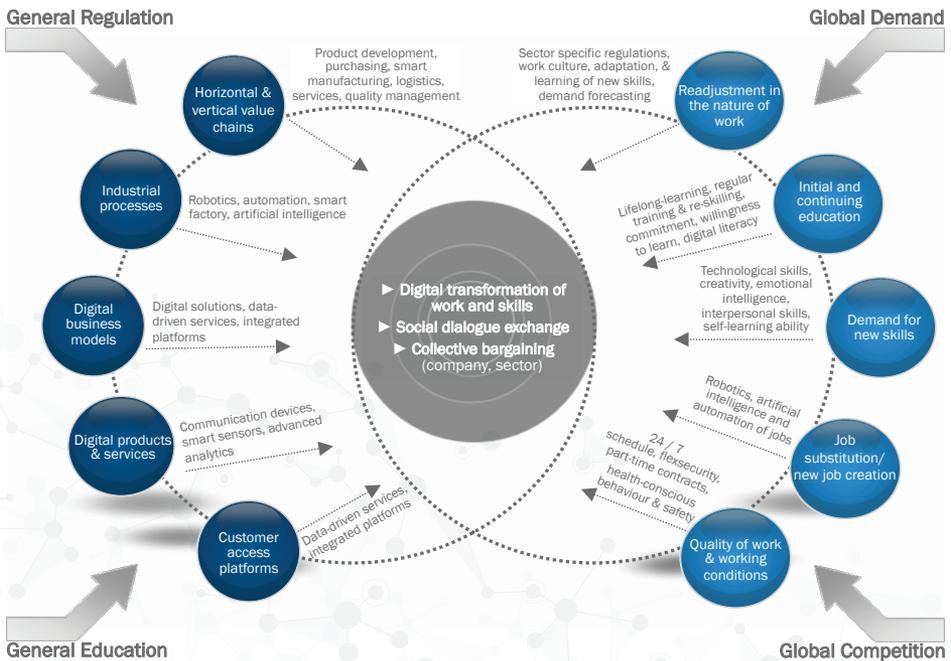
82% of respondents emphasised that the use of IT tools in the coming five years will be crucial for employability, whereas 80% expected a similar picture with skills to analyse large amounts of different types of data (Big Data analysis).

### ■ Working Patterns

Repetitive tasks performed by employees will decrease while, above all, mobile working, collaboration in heterogeneous and interdisciplinary teams as well as autonomy over working tasks will greatly increase.

### ■ Health and Safety

The number of hazardous tasks in the chemical sector (including pharmaceuticals, rubber and plastics) will substantially decrease, while the level of psychological stress will increase significantly.



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# Chapter 2

## Technological transformation through digitalisation in the European chemical, pharmaceutical, rubber and plastics sectors

The research study looked at three different trends in technologies:

- those currently used, i.e. digitisation of analog data and integration of cloud solutions with no significant differences across the different sectors we represent
- technologies that are being tested now, i.e. Industrial Internet of Things, process simulation and/or virtual reality for production, augmented reality systems for maintenance activities
- technologies planned to be used in the near future, such as augmented reality systems in logistics, virtual and/or augmented reality applications for training and safety exercises, additive manufacturing, etc.

Our study has also identified a visible implementation gap for new technologies between very large enterprises and small to medium-sized companies (<1000 employees), where large undertakings are more advanced than small and medium-sized ones.

Which of the following digital technologies and approaches do you already use in your company/industry or do you plan to implement in future?

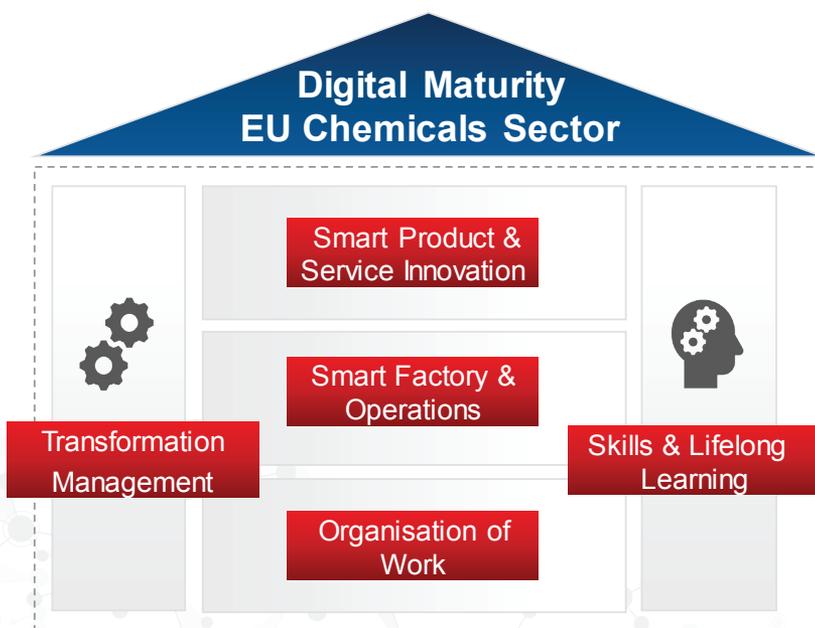


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# Chapter 3

## Level of digital maturity and awareness regarding digitalisation in the European chemical sector

- More respondents see that their management and workforce are familiar with or open to the use of digital technologies and would describe digital expertise, skills and knowledge as a strategic priority for their company.
- Preliminary results show that more consideration needs to be given to the experience and concerns of employees in the process of digital transformation.
- Survey participants see that consultations between management and employees help to improve the acceptance of new working patterns and technologies, as well as the overall competitiveness of the their companies.



# Conclusion and outlook

- First wave of digital transformation (i.e. digitising analogue data) and integrating cloud solutions is successfully accomplished.
- Second wave of digital transformation will be driven by artificial intelligence, automation and augmented reality –and it will come into effect shortly.
- Though job losses are the major concern for employees, changing working patterns rather than workforce reduction is expected in companies.
- Skills shift is clearly visible – basic digital skills broadly exist, more advanced digital skills and transversal skills require attention by all stakeholders.
- Working environment predominantly changed through mobile working with greater employee autonomy while increasing the demand for multi-tasking.
- Change management, employee involvement and support in the process of digital transformation for all sectors is a widespread challenge.
- Collective agreements need to intensively address not only the issue of mobile working, working-time flexibility and employee qualifications, but also other sensitive issues such as data protection, performance monitoring, etc.



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