



# Digitalization in Production Environments

December 2024

# Skills Shortage in Heavy Industries – Key Driver for a New Wave of Digitalization Transformation



## Skills Shortage

**2-4 Million**

Shortage of skills by 3030<sup>1</sup>

**+19%**

Growth of vacancies in heavy industries 2024 к 2023<sup>2</sup>

**+16%**

Estimated salary inflation 2024<sup>4</sup>

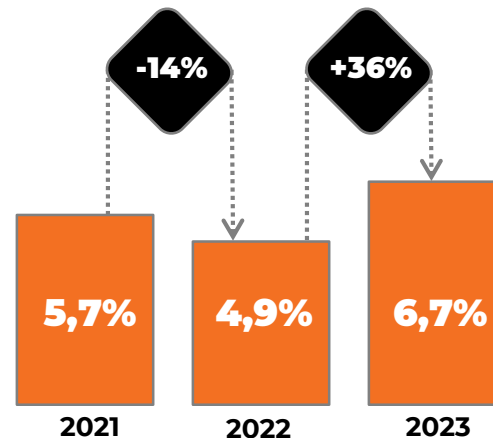
**2,4%**

Unemployment 2024<sup>5</sup>

Almost all industries are competing with each other for

key skills

## Percentage of vacancies with «off-site» components



## Successful businesses

know how to work off-site



## On-going Transfer to more «comfortable» positions/jobs

Industries with hard working conditions are losing their advantages to retain employees

Heavy industries compete for human resources with



retailers



transport



e-commerce



More attractive conditions in the urban environments



Growth in popularity of IT and e-commerce spheres encouraging re-skilling

# For Heavy Industries **Complex** Digital Transformation is the **Opportunity** but also a **Major Challenge**



To reduce employee requirements a mix of Industry 4.0/Digital technologies is required



«open space» digital platforms to mix and match solutions and technologies transparently

Reduce costs of maintenance

Reduce time-to-market

Reduce costs of each digital service

## Digital Challenges and Paradoxes

- **Employees are using GenAI to be more efficient but corporations are not reaping the benefits** – culture change is needed
- **AI-advisors in production** reduce de costs and increase productivity, but **operators** are not using them enough – IT & business not aligned
- Digitalization of routine operations **freed up critical employees**, but increases the need for **higher skilled engineers** – Focus on ROCs needed
- Continued expansion of **low cost PoCs** increase IT costs but deployment to production is still **very low and very niche** – Business programmes to drive digitalization not niche solutions & IT
- Corporations recognize the **importance of digital transformations** but **cannot unlock the value**, focus on the here and now hides the combined potential of Industry 4.0 technologies - Lack of a “north star”, to be “google” or a “lights out” industrial company