EuropeOn
ELECTRICAL CONTRACTORS ASSOCIATION

Improving Productivity

Key learnings guide

Online Value Chain working group (9 May 2025)

Context: Productivity is central to our sector's profitability, environmental performance, and competitiveness. As wages rise, workers age (the last baby boomers will turn 65 in 2030) workforce shortages grow, boosting productivity has become more important than ever. This roundtable gathered experiences from across Europe and the US to discuss concrete ways forward, both for companies and for national associations.

What companies can do

1. Improve (pre-)planning, early engagement and material kitting

- Get involved early in project design to secure a better scope and avoid late changes. Don't let manufacturers and retailers capture this market.
- Seek out jobs where early engagement is really possible.
- Invest time in thorough planning before starting work on-site (tools, materials, information).
  - Rule of thumb: 1 minute of planning saves 17 minutes in the field (ELECTRI research).
- In the US, workers' productivity is boosted by kitting: providing an electrician with everything they need to complete the task, i.e. materials, tools, plant and information. "An electrician can't be productive without the right setup, no matter how skilled they are."

2. Adopt smarter work schedules

- The more working hours the less productive. A longer working week becomes counter-productive.
- In the US, absenteeism is growing and has a negative impact.
- Consider 4x10-hour workdays instead of 5x8-hour—can boost output and reduce fatigue (ELECTRI research).

3. Standardise where possible

- Reduce custom "one-off" designs that consume excessive time. Design for manufacturing assembly rather than the other way round.
- Identify repeatable elements that can be standardised or prefabricated: e.g. distribution boards, valve sets, service brackets, conduit hockey sticks – the last one has a surprisingly strong effect on productivity (NG Bailey).

4. Use offsite prefabrication

- Assemble components offsite for faster, safer, greener installation with better quality control.
- Reduces on-site workforce needs—helpful given labour shortages.

5. Embrace digital tools, AI and BIM

- Invest in BIM to improve design coordination and reduce errors.
- Use digitalisation for communication, cooperation, and compliance (e.g. reporting obligations).
- Use AI chatbots to handle routine customer questions 24/7.
- Apply AI for planning, training, or interpreting complex standards.
- Consider robotics to remove repetitive or painful tasks—helps retain staff.

6. Learn from other companies, even small-scale

- Don't assume productivity improvements are only for big players. In smaller organisations, change and decision processes can happen more quickly.
- In Denmark, even small firms (8 employees) have gone paperless, set up online bookings, or introduced chatbots (TEKNIQ).

Table 1: Impact Factors affecting Productivity

	PERCENTAGE OF LOSS IF CONDITION:		
	Minor	Average	Severe
1. STACKING OF TRADES	10%	20%	30%
2. MORALE AND ATTITUDE	5%	10%	15%
3. REASSIGNMENT OF MANPOWER	5%	10%	15%
4. CREW SIZE INEFFICIENCY	10%	20%	30%
5. CONCURRENT OPERATIONS	5%	15%	25%
6. DILUTION OF SUPERVISION	10%	15%	25%
7. LEARNING CURVE	5%	15%	30%
8. ERRORS AND OMISSIONS	1%	3%	6%
9. BENEFICIAL OCCUPANCY	15%	25%	40%
10. JOINT OCCUPANCY	5%	12%	20%
11. SITE ACCESS	5%	12%	30%
12. LOGISTICS	10%	25%	50%
13. FATIGUE	8%	10%	12%
14. RIPPLE	10%	15%	20%
15. OVERTIME	10%	15%	20%
16. SEASON AND WEATHER CHANGE	10%	20%	30%
17. PANDEMICS*	17%	22%	27%

** Refer to the Electri International publication, PANDEMICS AND CONSTRUCTION PRODUCTIVITY: QUANTIFYING THE IMPACT, August 2020 by Brian Lightner, Dan Doyon, Mark Federle, and Michael McLin.*

Source: ELECTRI International

What national associations can do

1. Promote early engagement culture

- Advocate with clients, architects, and main contractors to involve electrical contractors early in project design.

2. Share good practices

- Collect and distribute practical examples of productivity gains from member companies.
  - E.g. Tekniq Denmark's catalogue of good practices (including examples from companies with less than 10 employees).
- Highlight small-company success stories to show feasibility for all sizes.

3. Organise training and education

- Support member companies with planning and offsite fabrication training.
- Provide AI and digitalisation workshops, including on selecting reliable data and planning "disconnect strategies" if tech fails.
- Train your own team with AI.

4. Encourage standardisation and prefabrication

- Work with suppliers and members to identify components that can be standardised.
- Promote industry-wide initiatives for offsite and modular approaches.

5. Support digital transformation and AI adoption

- Help members choose and implement BIM and other digital tools.
- Provide a guide on compliance with EU reporting obligations using digital solutions.
- Provide resources or partnerships for AI-powered customer service, training tools, and document analysis.

6. Facilitate industry reflection on future trends

- Help members prepare for 2030 by exploring core AI and robotics concepts.
- Track developments in robotics and share practical adoption roadmaps.

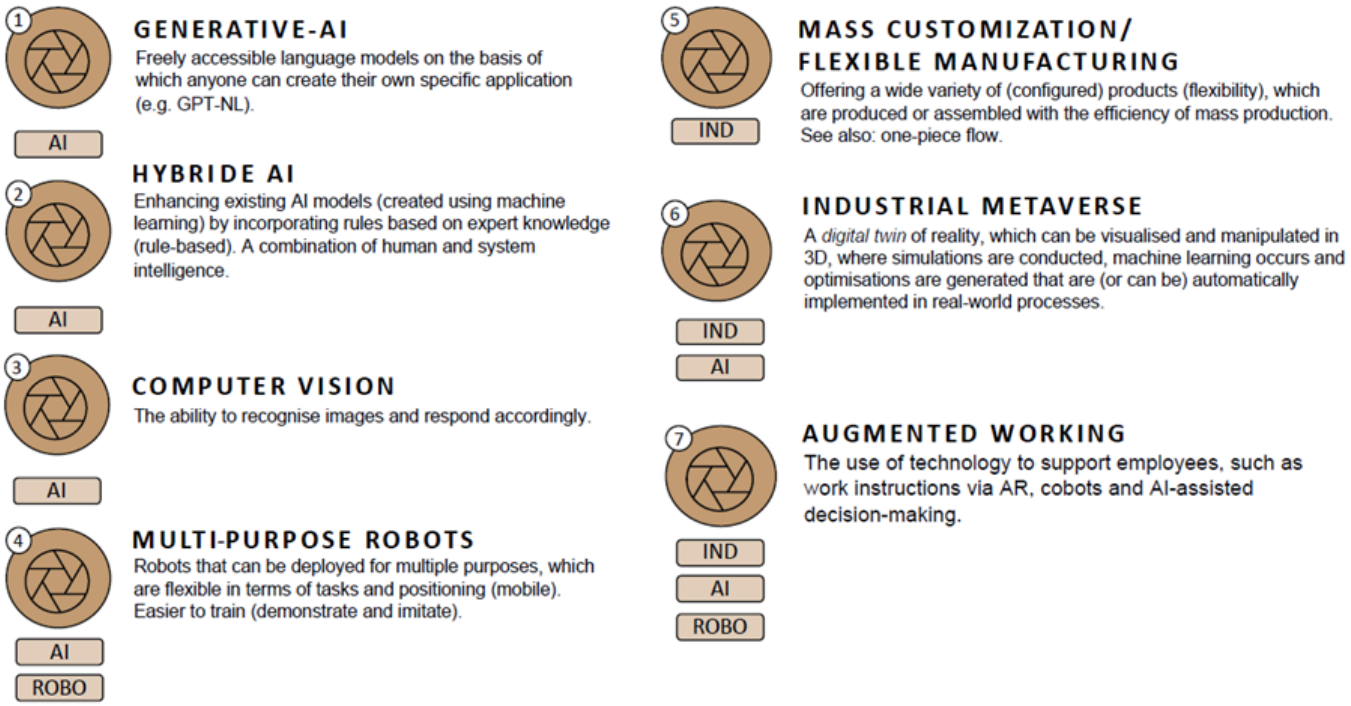

Figure 5.1 Overview of seven core impact concepts.

Source: Techniek Nederland, Artificial Intelligence, Robotisation and Industrialisation: the technical sector in 2030 (2025)

The 7 core concepts have been selected because the underlying technologies are likely to be sufficiently mature by 2030 (technological maturity). These concepts are expected to find large-scale application in both private and professional spheres (degree of adoption), and will be relevant and important to both the technical sector and its challenges in 2030 and the social context in which the sector operates (impact).

Annexes

1. Agenda of the 9 May 2025 roundtable

Welcome and Introduction

Martin Bailey, Chair of the working group, EuropeOn

Presentations by speakers

- US perspective: Planning for Productivity

Josh Bone, Executive Director at ELECTRI (Research foundation of the American Electrical Contractors' Association – NECA)

- Case study: off site manufacturing in NG Bailey (UK)

Mark Griffin, Head of Growth and Development for NG Bailey Off Site Manufacture (UK)

- AI, Robotisation and Industrialisation: new opportunities for profitability

Jacques van der Krogt, Chairman of the Innovation Policy Committee of Techniek Nederland (Dutch installers' association)

- Creating & using building data to increase the trades' productivity

Martin Collignon, CEO and Co-Founder at Lun Energy + Troels Blicher Danielsen, Administrative Director at TEKNIQ (Danish installers' association)

Q&A discussion between speakers and members EuropeOn & GCP Europe

Conclusion and next steps

Julie Beaufils, General Secretary, EuropeOn

2. Complementary resources

- Check our Google Drive for each speaker's presentation (Value Chain working group members)
- Check Techniek Nederland's report in English : https://www.technieknederland.nl/report-ai-robotisering-industrialization-english/
- Check ELECTRI International's chatbot: https://www.electri.org/
- Check the newest report by the European Commission on: Market potential of offsite construction for housing supply

Contact us for further questions: info@europe-on.org