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DEPARTEMENT
WERK & SOCIALE ECONOMIE

Roland
Berger



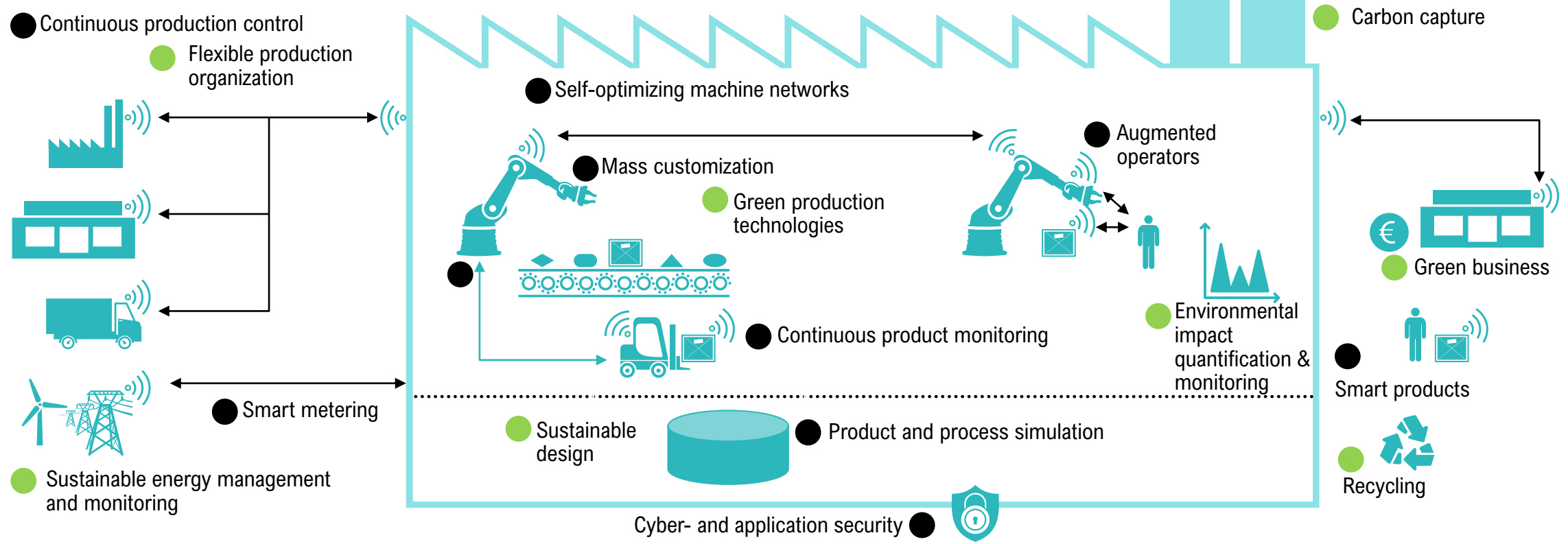
Up-skilling and re-skilling projects at regional level

Dr. Frederick Van Gysegem, Partner Roland Berger

ECRN conference – June 28th 2023

In the workplace of the future, the green and digital transition go hand in hand

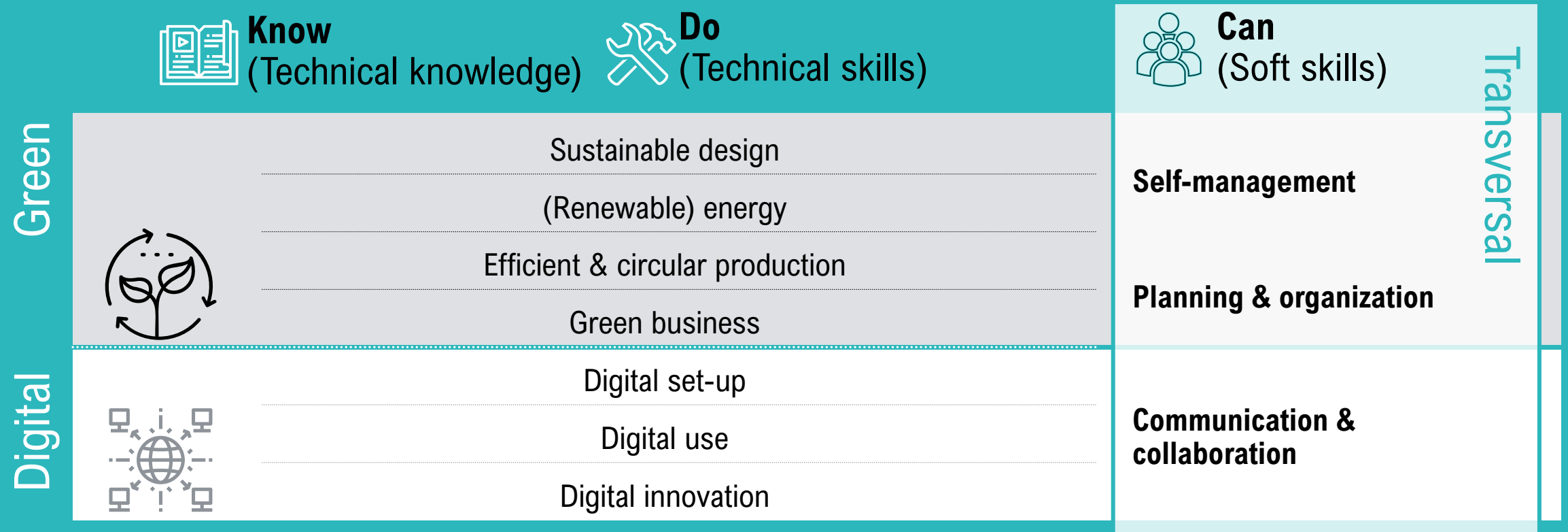
Skills roadmap for the Flemish climate transition [2020-2035]



Source Departement Werk & Sociale Economie, Roland Berger

A new competence framework for the energy-intensive industry

Skills roadmap for the Flemish climate transition [2020-2035]



A new competence framework for the energy-intensive industry

Know (Technical knowledge)

Do (Technical skills)



Can (Soft skills)

Transversal

Green	Sustainable design	<ul style="list-style-type: none"> > Materials Science > Applied Chemistry 	<ul style="list-style-type: none"> > Sustainable & customer-oriented product and material design > Life Cycle Assessment
	(Renewable) energy	<ul style="list-style-type: none"> > (Renewable) energy technologies (e.g. electricity, green hydrogen) > Applied thermodynamics, mechanics and aeronautics 	<ul style="list-style-type: none"> > Application of energy efficiency techniques (e.g. insulation) > Integration of (renewable) energy technologies (e.g. electrification) > Sustainable energy management (demand vs. supply) & monitoring
	Efficient & circular production	<ul style="list-style-type: none"> > Innovative chemical production technologies: Ethane steam cracking, propane dehydrogenation, hydrogen electrolysis and steelanol method > Innovative steel production technologies: IGAR technology > CCS/U¹⁾ technology > Safety procedures (e.g. hydrogen storage) > Applied biology, chemistry and electromechanics 	<ul style="list-style-type: none"> > Integration of new production technologies > Implementation of safety procedures > Flexible production organisation > Lean manufacturing > Recycling techniques and reduction of waste flows > Environmental impact quantification & monitoring
	Green business	<ul style="list-style-type: none"> > Ecological context and sustainability principles > Economic and regulatory aspects of innovative production technologies > Circular economy sales models > Economic and financial modelling 	<ul style="list-style-type: none"> > Creating awareness for green transition > Opportunity identification and management in the circular economy > Selling products/services in the circular economy > Social impact analysis
Digital	Digital set-up	<ul style="list-style-type: none"> > Industrial IoT technologies (e.g. connectivity, smart metering, predictive maintenance) > Robotic process automation technologies > Cyber- & application security technologies 	<ul style="list-style-type: none"> > Setting up, maintaining and securing IT infrastructure > Setting up, maintaining and securing Industrial IoT > Setting up, maintaining and securing RPA²⁾
	Digital use	<ul style="list-style-type: none"> > Functionalities of peripheral devices > Functionalities of support programs 	<ul style="list-style-type: none"> > Basic digital ability > Interaction with RPA bot > Use of predictive maintenance > Using smart metering > Using augmented reality
	Digital innovation	<ul style="list-style-type: none"> > Programming > Data science (e.g. AI) > Principles of process simulation / digital twins 	<ul style="list-style-type: none"> > Decision-making based on data analysis > Process reengineering and optimization based on process simulation / digital twins

Self-management

- > Responsibility
- > Critical & ethical thinking
- > Decision-making skills (based on data / supporting technologies)
- > Systems thinking / process thinking through the different steps of the production process
- > Creative and innovative thinking
- > Entrepreneurship
- > Willingness to learn

Planning & Organisation

- > Scenario thinking
- > Flexible planning & organisation
- > (Agile) project work

Communication & cooperation

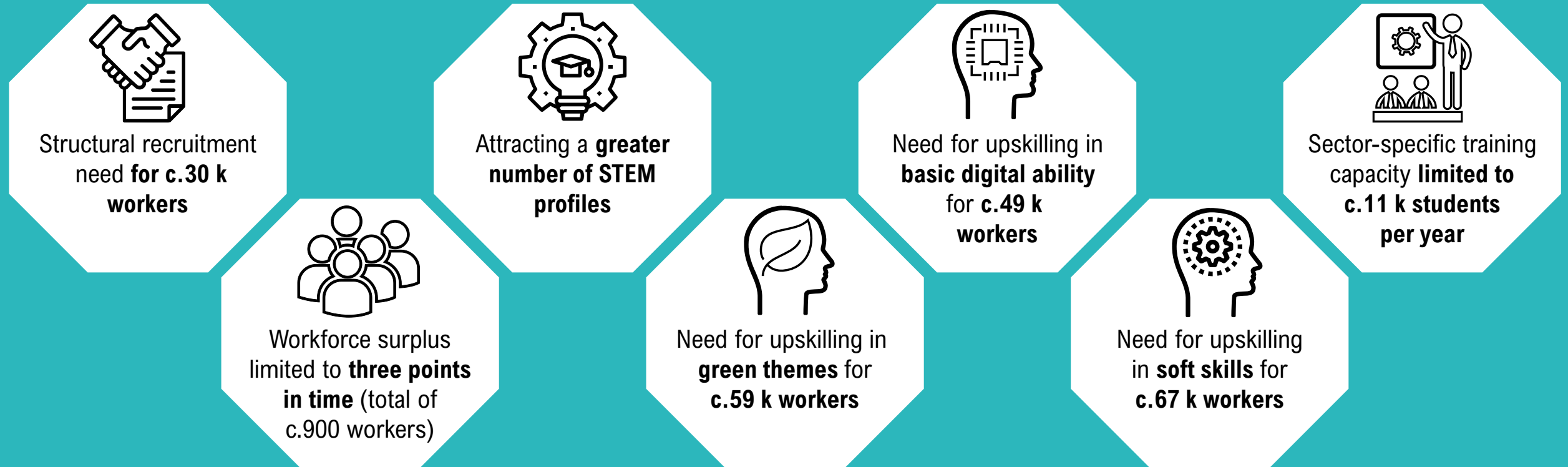
- > Leadership
- > Transformation Management
- > Stakeholder Management
- > Coaching & training
- > Participative techniques
- > Multidisciplinary cooperation
- > Intercultural skills
- > Language in the workplace

1) Carbon capture and storage / usage; 2) Robotic Process Automation



Seven policy challenges for the energy-intensive sectors in Flanders

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Q&A



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