



# Skills and jobs for smart and green cities

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Cedefop looks into labour markets' changing skill needs and the development of vocational education and training policies across the EU Member States

With its research and policy analyses, it supports the European Commission in designing and promoting EU VET policy



# Using skills intelligence to build up Cedefop Green Observatory ([Cedefop GO](#))



# Drivers of change for smart and green cities



**REGULATION & POLITICAL WILL**  
to adopt 'smart and green' practices & technologies



**DIGITALISATION, TECHNOLOGY & INNOVATION**



**CITY STAFF KNOWLEDGE & CAPACITY**



**PRIVATE-PUBLIC PARTNERSHIPS**  
(powered by open access data policies)



**SERVE AGEING POPULATION NEEDS SUSTAINABLY**



**CITIZEN AWARENESS, ABILITY, & WILLINGNESS**



**CIRCULAR ECONOMY & WATER MANAGEMENT**



**CLIMATE CHANGE MITIGATION**

# Main occupations driving change in smart and green cities



## SMART AND GREEN CITY MANAGEMENT PROFESSIONALS

- sustainability/climate officers
- innovation managers
- citizen engagement specialists
- analysts and researchers
- legal experts



## ICT PROFESSIONALS



## ENERGY PROFESSIONALS

Design, installation and maintenance of environmentally friendly energy systems

## URBAN SPACE SPECIALISTS

- horticulturalists
- gardeners

## DESIGNERS

- urban planners

## PROFESSIONALS IN CHARGE OF PROTECTING URBAN SPACE

- waste management
- sanitation



## TRANSPORT AND MOBILITY SPECIALISTS

Design, manufacture, installation, and maintenance of smart mobility systems



## ENVIRONMENTAL PROTECTION SPECIALISTS

- environmental engineers
- biodiversity protection professionals

## SPECIALISTS TO BOOST CITIZEN ENGAGEMENT AND IMPROVE THE AMBIANCE OF URBAN SPACE

- communication specialists
- psychologists
- artists



## CONSTRUCTION AND BUILDING SPECIALISTS

- involved in retrofitting
- better use of materials
- design of buildings

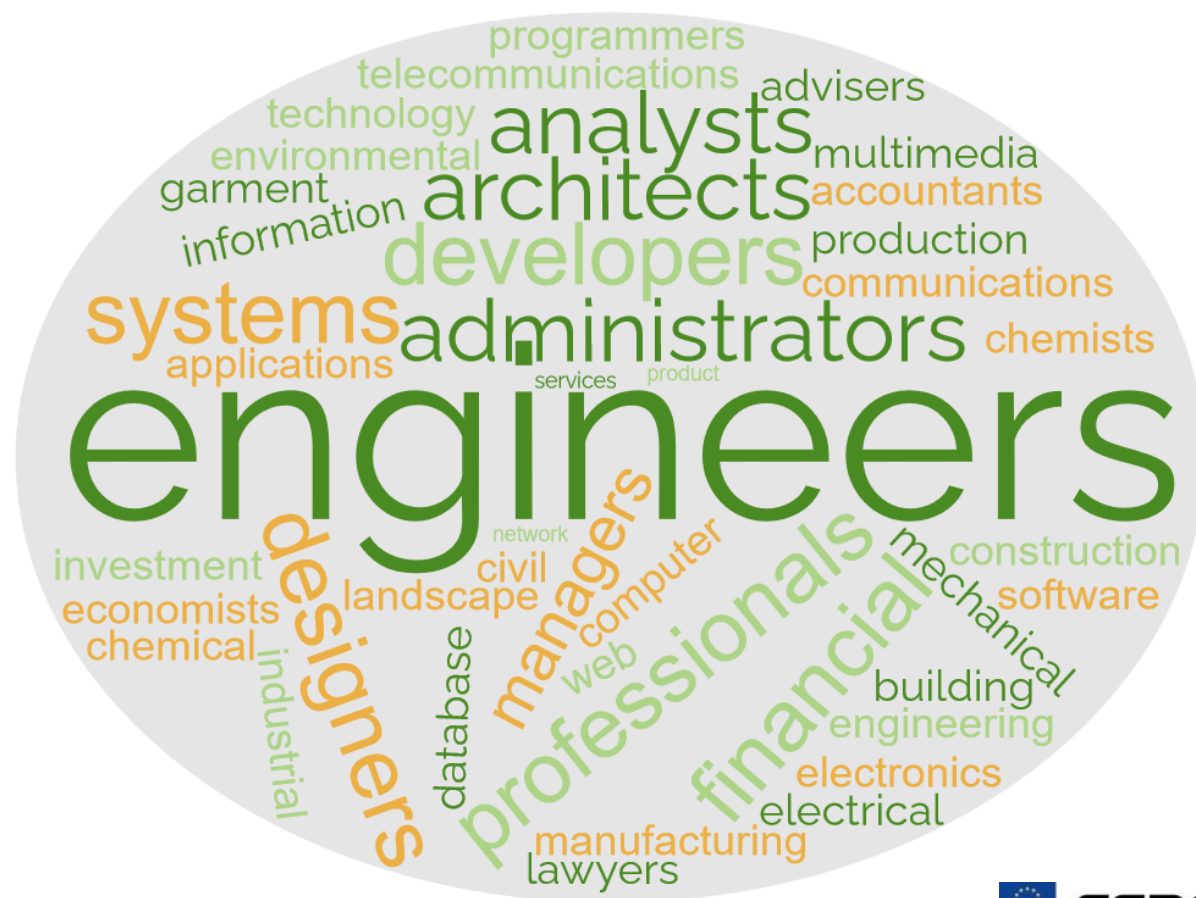
- Highly and medium-skilled
- Tasks change rapidly (emerging “greentech”)
- Inventing, designing, conceptualising green transition solutions:
  - Engineers, process designers, scientists/R&D

*and implementing it:*

- Managers, lawyers, renewable energy technicians, communication specialists

**Small but indispensable:**

**“thyroid” occupations are green transition enablers**



Source: [Cedefop Green Observatory](#)

# More data, technology and soft skills

- Equally important for city contractors and municipal employees
- Need **for generalist skills profiles** to ‘translate’ data/ findings into actionable policy responses and engage with politicians
- **Transversal skills:** *data analytics, legal (e.g. GDPR compliance, AI ethics), cybersecurity, and data manipulation (AI, machine learning)*
- **Soft skills** to bolster innovation and communication, with and for different citizen and stakeholder groups: *outreach and engagement, entrepreneurship, advanced communication skills*

jobs needed to support green activities in a smart city **do not always involve** digital technologies (e.g. tree maintenance).



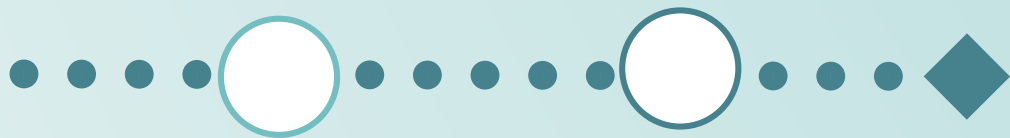
## VET's enabling role and responsibility

Short-term (*sprint*)



**Accompany change**

Long-term (*marathon*)



**Trigger change**

- Recalibrating VET
- Targeted CVET: Adjust training to learners' needs (e.g., short-training modules; microcredentials)
- Work-based learning/apprenticeships
- Shaping circular economy citizenship
- Technical and digital skills; but also *empathy*
- “Green” skills anticipation

[Cedefop's 3<sup>rd</sup> Virtual Get-Together on sectoral skills intelligence and strategies](#)

Tuesday September 26<sup>th</sup>, 10:00-12:00 CET

# Thank you



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