

INTELLIGENT CITIES CHALLENGE

A Cities Guide to Reskilling the Local Workforce

Introduction to launching
a Local or Regional Skills
Partnership

The European Commission's
**INTELLIGENT CITIES
CHALLENGE**



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ABOUT THE INTELLIGENT CITIES CHALLENGE

The Intelligent Cities Challenge (ICC) is a European Commission initiative that supports cities in using cutting-edge technologies to lead the intelligent, green and socially responsible recovery. ICC cities and their local ecosystems will be engines for the recovery of their local economies, create new jobs, and strengthen citizen participation and wellbeing. The first phase of ICC supported a total of 136 cities in the period from 27 January 2020 to 30 November 2022. The ICC is continued by the second phase - launched on 1 December 2022 – with a new group of cities to be selected to take part in the network and benefit from advisory support.

Cities receive one-to-one strategic advice from international experts and mentor cities. In the first phase of ICC this was delivered across five themes: green economy and local green deals; improving citizen participation and the digitalisation of public administration; green and digital transition in tourism; resilience of local supply

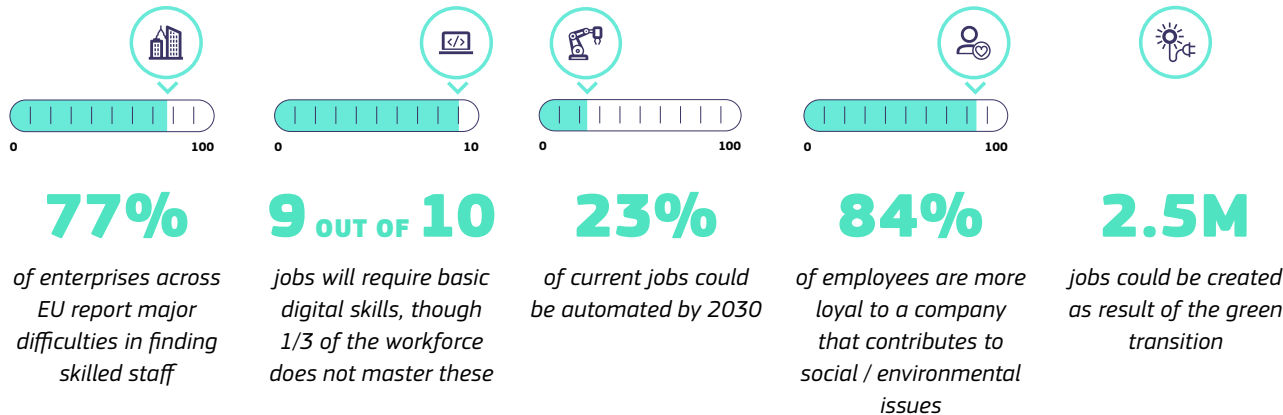
chains; and up- and reskilling of the workforce. The second phase's thematic focus concentrates on the green and digital transition as well as the proximity economy. Cities are also supported by transversal services covering access to data, access to finance and through Tech4Good, a marketplace of innovative solutions.

The ICC is part of a wider EU support system that recognises the importance of delivering on the promises made by the European Green Deal, the digital strategy, and other EU policies. It looks to help cities deliver on the transition, moving towards an increasingly green, digital, service-oriented and low-carbon economy, supported by a knowledge-based society, that enables circular economy systems through 'local value loops', evidence-based reskilling, and sustainable investments.

More information on the ICC is available at www.intelligentcitieschallenge.eu

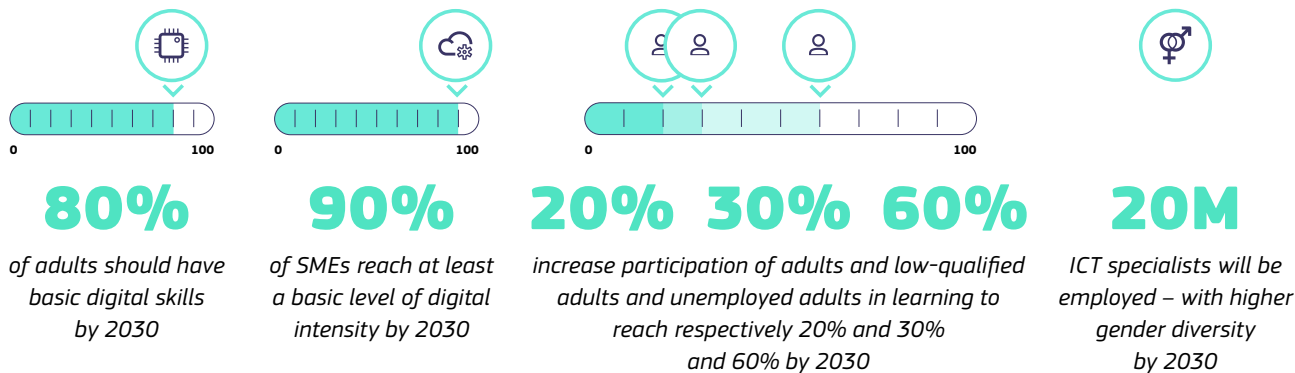
THE BURNING PLATFORM FOR RESKILLING

Skills are central for mastering the digital and green transitions. However, mismatches and shortages in skills are increasing, while a large number of people are at risk of unemployment.



AMBITIOUS GOALS FOR RESKILLING

The European Commission has set several targets to help individuals and businesses develop more and better skills and enable them to put them to use.



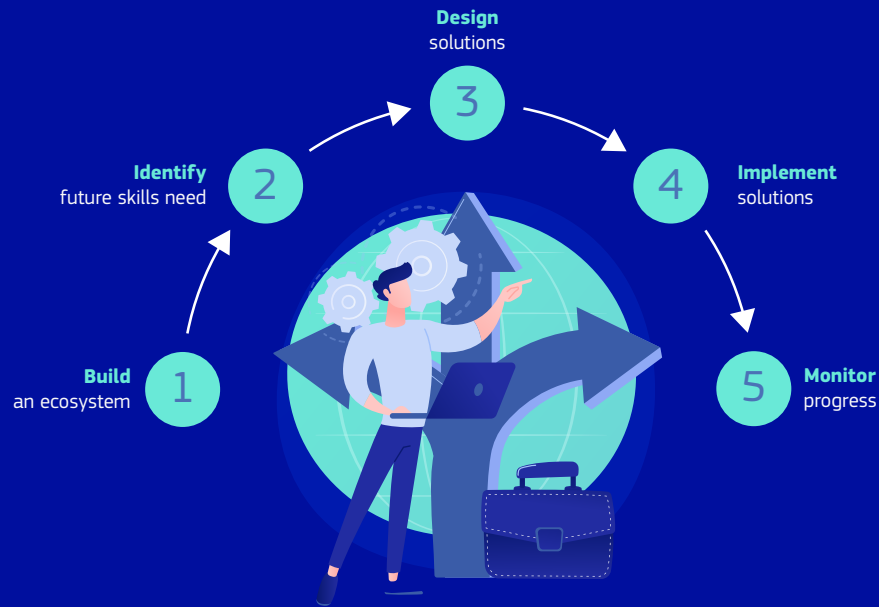
JOINT ACTION REQUIRED



Cities play a major role within local and regional economies in mobilising business, social partners and stakeholders, to commit to working together. Investing in reskilling and implementing a reskilling revolution is a critical investment.

Cities need a strategic and pro-active approach to manage reskilling of the working age population.

THE GUIDE DESCRIBES 5 PHASES THAT ARE CRUCIALLY IMPORTANT FOR DESIGNING RESKILLING INITIATIVES



Originated from reskilling track in Intelligent Cities Challenge (ICC), this guide proposes a step-to-step approach to developing a reskilling initiative, provides examples of the experiences of cities, key success factors and lessons learned.

This guide includes:

- Description of the phases
- Tools and instruments where relevant
- Key success factors
- Funding models and opportunities
- Lessons learned from 32 good practices

WHAT CITIES CAN EXPECT IN THIS GUIDE



- Understanding lessons learned from good practice examples
- Facilitating collective action in local ecosystems & growing maturity
- Identifying ways to make local skills gaps and mismatches insightful
- Discovering practical methods and examples of crafting skills initiatives

INTELLIGENT CITIES – A PRAGMATIC GUIDE TO UP AND - RESKILLING IN THE PROXIMITY ECONOMY

The essence of the Guide in bird-eye view



Policy context:

- Practical example of Pori (FI) - a signatory of the Pact for Skills showcasing a city's roadmap to participation



Build & mobilise reskilling ecosystem:

- Map & understand key stakeholders and their roles
- Define steps to increase higher maturity level
- 10 practical tips from Amsterdam's House of Skills on how to build a sustainable ecosystem



Identify current and future skills needs:

- Consult available sources at European and national level
- Apply methods for determining regional and local skills needs
- Explore advanced techniques (using AI) for skills forecasting
- Re-use or scale existing tools for assessing skills at individual level
- Explore re- and upskilling for the green and tech transition



Design solutions:

- Establish a clear reskilling strategy aligned with the city's overall future vision and transformation strategy
- Determine priorities and scope for efficient and effective solutions – keeping in mind current and future shortages
- Design a clear action plan from evaluating ongoing and potential solutions– engaging the ecosystem's key players



Implement solutions:

- Focus on creating end-to-end programmes to support people on their journey to new job placement
- Planning and preparation are pivotal to successful implementation
- Formalise the collaboration to align on roles & commitments and provide a foundation for the reskilling initiatives



Monitor progress:

- Monitoring and evaluation are key to understand effectiveness: detect problems, take corrective actions, gain insights into progress and quality, build evidence on what (does not) work
- Establish a virtuous cycle in which early initial successes are built upon, creating momentum and support Funding models:
- Explore public (at all government levels) and private funding Opportunities



Funding models:

- Explore public (at all government levels) and private funding Opportunities

CONTENTS

1	Introduction	8	5	Phase 3: Design solutions	31	Finland	51			
2	A phased approach to developing and implementing a reskilling strategy	16	5.1	Establish a vision	31	France	52			
			5.2	Determine priorities and scope	32	France	53			
			5.3	Determine what solutions already exist within the ecosystem	33	Ireland	54			
3	Phase 1: Build and mobilise the reskilling ecosystem	18	5.4	List all possible solutions (options)	34	Ireland	55			
			5.5	Evaluate and select solutions	34	Latvia	56			
			5.6	Document the agreed solutions	34	Northern-Ireland	57			
			5.7	Document the agreed solutions	35	The Netherlands	58			
			3.1	What is a reskilling ecosystem and why is it important?	18	The Netherlands	59			
			3.2	Key actors and their responsibilities	19	The Netherlands	60			
			3.3	Considerations in developing the reskilling ecosystem	21	The Netherlands	61			
3.4	Tools and instruments	21	6	Phase 4: Implement solutions	37	Portugal	62			
3.5	Maturity phases in ecosystems	22	6.1	Planning, preparation, implementation	37	Spain	63			
3.6	Best practices for building a sustainable ecosystem	23	7	Phase 5: Monitor progress and adjust	39	Bulgaria	65			
4	Phase 2: Identify the city's future skills needs	24	8	Funding Models	40	Denmark	66			
						8.1	Public sector	40	Denmark	67
						8.2	Private sector	42	Germany	69
						9	Appendix 1 : Good practices	43	Greece, Cyprus, Germany, Portugal	70
									Greece, Cyprus, Germany, Portugal	72
									Croatia	74
									Belgium	75
4.1	What are skills needs and why identify them?	24	Croatia	77						
4.2	Assessing skills needs	24	Croatia	79						
4.3	Assessing local or regional skills needs	27	Croatia	81						
4.4	Approaches to assess skills needs	29	Finland	83						
4.5	Advanced tooling for needs assessment	30	Finland							
4.6	Best practices for assessing skills needs	30	Finland							

1 Introduction

The European Commission aims to make Europe the first climate-neutral continent by 2050 through the European Green Deal (EGD).

The EGD is the EU's plan to create a sustainable economy by turning climate and environmental challenges into opportunities. The EU has committed to zero net greenhouse gas emissions by 2050, economic growth decoupled from resource use, and ensuring no one is left behind. This ambitious plan makes Europe the first continent with a clear path to climate neutrality.

Cities are crucial in implementing the EGD, as all policy areas and initiatives will be carried out at the local cities level, through the so called Local Green Deals (LGDs). These LGDs are local tailored-made action plans to implement local green initiatives and to accelerate and scale up a city's green transition.¹ It builds on and joins existing strategies, legislation, market, and financial incentives into a coherent approach to advance the European Green Deal locally.² For this, cities are expected to involve local stakeholders, design local green initiatives and actions plans (LGDs), and take integrated action in the transformation process to make Europe the first climate-neutral continent by 2050.

¹ [European Commission - Local Green Deals. A Blueprint for Action \(2023\).](#)

² <https://www.intelligentcitieschallenge.eu/local-green-deals>

“The collective intelligence of the twenty-first century, which combines the knowledge and skills of people, new forms of data, harnessing the power of technology, has the untapped potential to transform the way we understand and act regarding the future. To achieve this, it’s vital to stimulate innovation and foster the development of leading industrial ecosystems capable of producing entities of global importance within Europe.”

Enrico Letta

Member of the Chamber of Deputies of Italy³

³ *Much more than a single market (2024). Empowering the single market to deliver a sustainable future and prosperity for all EU citizens.*

A key cross-cutting element of accelerating and scaling up a city's green transition through LGDs, is fostering workforce development through reskilling and upskilling.⁴ By prioritizing reskilling and upskilling within the context of LGDs, cities can ensure that their workforce remains adaptable, competitive, and prepared for the challenges and opportunities of the green transition.

"Competitiveness today is less about relative labour costs and more about knowledge and skills embodied in the labour force."

Mario Draghi

Former President of the European Central Bank⁵

By investing in training for sustainable practices, cities can meet the growing demand for skilled workers in sectors such as renewable energy, green construction, engineering, teacher education, European health professionals, and eco-friendly transportation, and offer opportunities for workers to acquire the competencies required to drive sustainable development initiatives at the local level and stay competitive. Furthermore, compliancy with environmental regulations often requires specialized knowledge and skills. By developing training programs that equip workers with the right expertise, cities can navigate complex regulatory landscapes and implement sustainable solutions effectively.

⁴ [European Commission - Local Green Deals. A Blueprint for Action \(2023\).](#)

⁵ [The future of European competitiveness \(2024\). A competitiveness strategy for Europe.](#)

To succeed in accelerating and scaling up a city's green transition through LGDs, thus requires the right people with the right skills in the right roles to drive transformation and innovation. Yet many cities and regional governments increasingly face skills gaps - a mismatch between the supply and demand of needed skills - in both the public and private sector.⁶ Research shows that 79% of CEOs say that a lack of key skills is threatening the future growth of their organisation and 8 out of 10 EU companies find that the limited availability of adequately skilled staff impedes investment.⁷

Skills gaps, shortages and mismatches act as a brake on innovation and adoption of advanced technologies. Emerging skills such as digital, green- and clean-tech skills are a pressing challenge, while a broader set of traditional skills such as problem solving, communication, creativity, readiness to learn, and critical thinking are increasingly demanded by organisations and the market.

"The best investment in our future is the investment in our people. Skills and education drive competitiveness and innovation."

Ursula von der Leyen

President of the European Commission⁸

⁶ [JRC - Supporting policies addressing the digital skills gap \(2022\) finds a digital skills gap across occupations for the 'generic' employee. Other documents have reported on the skills shortage for specific technologies, such as the various publication of the Cybersecurity Skills Alliance's REWIRE project.](#)

⁷ [PwC - Talent trends 2019. Upskilling for a digital world. Part of PwC's Annual Global CEO Survey trends series](#)

⁸ [European Skills Agenda for sustainable competitiveness, social fairness and resilience \(2020\)](#)

A paradigm shift and focus on skills is needed. We need to re-think our reskilling strategies so that learning throughout life becomes the norm.

Significant skills gaps exist within the public sector – city and regional governments – as well as within the private sector. Developing skills within the public sector will enable governments to maximise the talents of the workforce, take advantage of emerging technologies, and drive innovation in government services to best meet the demands of citizens for responsive, sustainable, and efficient services. Developing skills in the private sector and the broader workforce also brings substantial benefits to cities: a skilled workforce gives a city a competitive advantage and acts as a catalyst in the virtuous circle of job creation and growth, enabling cities to attract and retain employers. Moreover, a skilled workforce enhances employability, while improving health, social cohesion, and civic engagement. In general, a more skilled and competent population is better able to generate and adopt new ideas that stimulate innovation and technological progress.

"The reskilling of our workforces is one of our central responses to the recovery and providing people the chance to build the skillsets they need is key to preparing for the green and digital transitions."

Nicolas Schmit

Former European Commissioner for Jobs and Social Rights (2020) European Skills Agenda for sustainable competitiveness, social fairness and resilience

Supporting workforce reskilling⁹ is essential for cities and their local economies to succeed in their green and digital transition and improve their resilience.

With the importance of skills for growth and innovation, cities need a strategic and pro-active approach to manage reskilling of the working age population. Investing in reskilling and implementing a reskilling revolution must thus be viewed as a critical investment for national and local governments, industry, and education and training institutions alike.

To boost skills development, the European Commission launched the [Pact for Skills](#) in 2020 as a flagship action of the [European Skills Agenda](#). The Pact for Skills is a shared engagement model for skills development in Europe and will also be a central element of the Union of Skills. It brings together public and private organisations to upskill and reskill people of working age, so that they can thrive in the labour market and society. The four key principles of the pact are:

1. Promoting a culture of lifelong learning for all
2. Building strong skills partnerships
3. Monitoring skills supply/demand and anticipating skills needs
4. Working against discrimination and for gender equality and equal opportunities for all

⁹ For reasons of simplicity with 'reskilling' we refer to both reskilling (learning new skills to do a different job) and upskilling (learning new skills to advance in the same job) practices

Cities can join the Pact as an individual organisation, or by forming or joining a skills partnership. Partnerships can be set up at regional and local level, or at EU level for an industrial ecosystem. For organisations willing to lead in forming a new skills partnership, there is a [handbook](#) available and tailored support. By becoming a member of the Pact, cities can get support through services such as:

- The Network hub, where members get support to kick-start a skills partnership and get in contact with other Pact members.
- The Knowledge hub, where members get access to webinars, joint peer learning activities, trends and good practices, as well as EU policy updates and tools, including on EU funding.
- The Guidance hub helps Pact members to develop their activities based on their specific needs and priorities.

The Pact is gaining traction, with over 2 500 members, among them also many cities (see below). The Pact also comprises 20 large-scale partnerships of EU dimension in key industrial ecosystems. Together, the large-scale partnerships are committed to providing upskilling and reskilling opportunities to over 25 million people by 2030. The Pact includes 9 Regional Skills Partnerships, including Bari City & Metropolitan Area. More Regional Skills Partnerships are expected to be launched in the course of 2025. Further below is included an example by the city of Pori (Finland). Other ICC cities that have signed up are: Skellefteå, Guimaraes, Las Rozas de Madrid, Alcobendas, Arad, Reggio Emilia, Antwerp. More information, including on inspiring commitments for up- and reskilling actions by Pact members can be found on the Pact for Skills [website](#).

Other factors affecting the labour market in EU Member States, are the compellingness of citizens to relocate in order to thrive and the fast demographic transition that each affect the working age population. EU Member States are facing a sharp decline of their working age population. Between 2015 and 2020, the working age group has decreased by 3.5 million and is expected to decline with around 35 million people by 2050.¹⁰

"We must strive to continue securing the free movement of people but also ensure a “freedom to stay”. Free movement is a valuable asset, but it should be a choice, not a necessity. Retaining talents is critical for Europe’s economic resilience, innovation capacity, strategic independence, and societal welfare and should be one of the most urgent priorities."

Enrico Letta

Member of the Chamber of Deputies of Italy¹¹

¹⁰ https://ec.europa.eu/regional_policy/policy/communities-and-networks/harnessing-talent-platform_en

¹¹ Much more than a single market (2024). Empowering the single market to deliver a sustainable future and prosperity for all EU citizens.

To support EU regions affected by the accelerated decline of their working age population as a result of demographic transition, the EU European Commission launched the *Harnessing Talent Platform* (HTP) in 2023. This knowledge-building and experience-exchange platform provides guidance and access to best practices, technical assistance, and comprehensive strategies by which cities that have been affected by the accelerated decline of their working age population can train, attract and retain talent. The Harnessing Talent Platform includes information, guidance and access to:

- *Talent Booster Mechanism*
- Open calls for direct support
- Working groups
- Support on the Ground
- Knowledge repository, including good practices
- Events

The Talent Booster Mechanism

The Talent Booster Mechanism provides guidance on how cities can contribute to the development of their local communities and empower citizens rather than create circumstances where they feel compelled to relocate in order to thrive. The Talent Booster Mechanism is based on 8 pillars:

A new pilot project in 2023 to assist regions in the development and implementation of strategies to train, attract and retain talents.

A new initiative 'Smart adaptation of regions to demographic transition' to assist regions affected by the accelerated decline of their working-age population.

Technical Support Instrument (TSI) support to address the shrinking working-age population and the skills gap.

Financial support from Cohesion Policy programmes and Interregional Innovation Investments to stimulate innovation and opportunities for high skills jobs.

The 'European Urban Initiative' to test place-based innovative solutions led by regions to develop, retain or attract talents.

Signposting EU initiatives to inform interested regions about EU policies in the areas of research and innovation, education, and youth mobility.

Exchanging experiences and dissemination of good practices.

Improving analytical knowledge to support evidence-based policies on regional development and migration.

To support these policy initiatives, EU funding is also being made available (see section 8) to support the development of skills ecosystems. These include funds directly managed by the member states, including in particular the European Social Fund, as well as funds managed directly by the European Commission, such as the Centres of Vocational Excellence (CoVE) as well as the Alliances for Sectoral Cooperation on Skills (known as 'blueprint' projects).

Some cities and regions have already taken important steps and made significant progress towards fulfilling their reskilling ambitions. They have established, for example, new and innovative skills ecosystems with close links between

government, businesses, and educational and training institutions. Other cities are at the beginning of their reskilling journey and can learn from front-runners. In 2020, 14 European cities came together and established the Network of Cities4 Apprenticeships led by the Metropolitan City of Rome, within the framework of the European Alliance for Apprenticeships (EAfA), with the aim of strengthen the role of cities and metropolitan authorities in supporting skills development through work-based learning and apprenticeships.

The Moving Global Talent (MGT) project in Denmark

An interesting example in the field of reskilling is the Moving Global Talent (MGT) project. This project aimed to support companies to attract, onboard, and retain highly qualified international talent in the region of Southern Denmark (Syddanmark). In total, 18 private companies, 11 municipalities and two educational providers were involved. Project activities included desk research and stakeholder engagement, clear mapping of the companies' current and future competence needs, data-driven exercise to select areas with an excess of the required skills and conditions encouraging relocation, establishing several theme-based networks, the development of HR tools and social media campaigns. The HR tools cover areas such as maturity assessment, employer branding, pre-boarding, on-boarding, retention, off-boarding, and international employees. The vast majority (92%) of the firms that participated in the MGT initiative, viewed these tools as value-creating. The number of matches between international workers and participating test companies was 143, compared to a goal of 141. As a result of the project, a total of 86 highly qualified international talents were attracted to the region and took on stable positions as permanent employees, compared to a goal of 97. Of this number, 32 employees were employed in companies of the robotics cluster. The number of exposures obtained via the visibility campaigns largely exceeded expectations: 208,917 exposures were registered compared to a goal of 80,000.

The Skillsfuture programme in Singapore

An interesting example in the field of reskilling from outside of the EU is the Skillsfuture programme in Singapore. The programme aims to, amongst others, promote employer recognition and career development based on skills. To this aim, Skillsfuture has developed an integrated high-quality system of education and training that responds to constantly evolving needs, offering a wide selection of specially prepared programmes and resources for all Singaporeans to reskill or upskill to keep pace with changing job demands. All Singaporeans have access to a one-stop portal for education, training and career guidance, supported by a skills framework and a skills demand for the future economy report. Students and young professionals' benefit from enhanced internships and work-study programmes. For more experienced employees, career transition programmes and subsidies (up to 90%) for certifiable skills-training courses are offered. Among the short courses offered are eight courses in emerging skills areas such as advanced manufacturing, data analytics and cyber security.

Intelligent Cities do not emerge overnight but develop over the years. Development and implementation of a reskilling strategy to drive the Intelligent City agenda requires a clear economic and social vision, a structured approach to reskilling, and engagement of an ecosystem that ensures the right parties have a seat at the table. In this way, cities can focus their energy and resources on what brings the most value to the city over the short – and long – term.

Among all ecosystem stakeholders, cities are uniquely positioned to drive the work age population reskilling initiatives. Cities are not only direct beneficiaries of reskilling initiatives; they can and should serve the vital role of ecosystem orchestrators to align all stakeholders and build momentum.

This guide proposes a step-by-step approach to developing a reskilling initiative, provides examples of the experiences of cities, key success factors, and showcases lessons learned. The guide is not a static document but will evolve over time with additional input from cities participating in the ICC.

In focus: Pori's pledge to the Pact for Skills: Goals & Road Map

The city of Pori (Finland) is one of the first of cities to sign up for the Pact for Skills. The Pact for Skills offers promising support to signatories through dedicated services regarding networking, knowledge-exchange and guidance and resources. EU funding, in particular the [Recovery and Resilience Facility](#) and the relevant [funding instruments](#) under the [Multiannual Financial Framework 2021-2027](#) can support the Pact and participating cities.

Regarding upskilling and reskilling, Pori aims to promote a culture of lifelong learning for all (using local role models for promotion), to build strong skills partnerships with local stakeholders and to monitor and forecast the supply and demand of skills. Pori designed a roadmap for their participation in the Pact, covering three stages:

1. Preparation. Drafting the action plan, defining the goals of the programme and engaging with key stakeholders in Pori via workshops.
2. Implementation. This concerns two pilots and the construction of the Satakunta Skills (see below) and Data Management Ecosystem. The figure below summarises these.
3. Monitoring and evaluation. Includes monitoring and evaluation of the pilots with the aim to take corrective measures to steer the pilots and to learn for future upscaling. Key Performance Indicators (KPI) were set for this purpose.



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PILOT 1 - 'ROBO SATAKUNTA'

The first pilot is '**RoboSatakunta**', which consists of increasing the digital skills of companies in the metal manufacturing industry. In particular automating work steps, as well as introducing collaborative robots systems and possibilities. Winnova is the leader and partners are SAMK and Prizztech.

KPIs are set for number of companies that commit to the programme, participants passing courses and self-evaluation of participants and their acquired new skills.

PILOT 2 - 'KUMMIFAMILY'

The second pilot is called '**KummiFamily**' and aims to increase the vitality of the region, improve the integration of international students into local business ecosystems and provide equal opportunities.

It is offering international students a chance to learn about Finnish culture and lifestyle outside of the education institutes, university of applied science or universities. At the same time, it creates a positive cultural experience for the families and the companies involved.

KPIs are set on number of participating students, families and companies as well as on how many actually find employment.

SATAKUNTA SKILLS & DATA MANAGEMENT ECOSYSTEM

The aim is to build an ecosystem of data management skills, bringing together all the organisations in Satakunta ecosystem that play a role in the development of activities focused on skills and lifelong learning.

The objective is to create the model of competence development to support operational activities. The model defines shared goals to be achieved, co-solutions, to support success, as well as indicators to verify systemic change.

The Satakunta Skills and Data Management ecosystem will boost digital skills and competences from an early age.

KPIs concern the number of Public Employment Service clients starting a reskilling initiative and 30 committed companies.

A phased approach to developing and implementing a reskilling strategy

There is no single 'right way' to developing and implementing a reskilling strategy. The political, economic, cultural, societal, and environmental context of cities must be considered when establishing a reskilling strategy. Cities must analyse and understand the broader context in which reskilling initiative takes place. For example: What does the city aspire to be, where does it see its future in the broader economy? What jobs may become obsolete, what are the emerging jobs of the future? What are the city's strategic advantages - and disadvantages? What is the region's smart specialisation strategy? What are the needs and interests of the populace? What experiences with collaboration schemes with relevant stakeholders exist? These contextual elements need to be understood and aligned.

While each city exists in a different context, there is a broad approach to developing and implementing a reskilling initiative, consisting of five phases:



Figure 1: Five phases for a reskilling initiative

These five phases are also (partially) reflected in the Pact for Skills. The Pact for Skills Guidance Handbook lists as key elements of a partnership amongst others an engaged community of members (comparable to phase 1), an in-depth skills needs assessment (comparable to phase 2) and monitoring of impact (to a certain extent comparable to phase 5).¹²

¹² Pact for skills. Guidance Handbook. September 2022.

This guide takes cities through these steps, including:

- Description of the phases
- Tools and instruments where relevant
- Key success factors
- Funding models and opportunities
- Lessons learned
- Good practices from front runners

The phases are not necessarily isolated from each other, some might have a different order and/or overlap in practice. For clarity and easy reading, we discuss each phase in a dedicated chapter.



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Phase 1: Build and mobilise the reskilling ecosystem

3.1. WHAT IS A RESKILLING ECOSYSTEM AND WHY IS IT IMPORTANT?

Developing and implementing a reskilling initiative demands collaboration between all relevant stakeholders. A well-functioning reskilling ecosystem that gains commitment and drives collaboration is a necessary pre-requisite and is essential to a successful reskilling initiative.

A reskilling ecosystem is the network of entities who are stakeholders in the development of workforce skills. In a reskilling ecosystem, each stakeholder affects and is affected by the others, creating a constantly evolving relationship in which each stakeholder must be flexible and adaptable to achieve the goals of the reskilling initiative. The keys are rooted in cooperation, shared responsibility, and commitment between the relevant entities.

The first step is to identify and connect key local stakeholders and bring them together.

"No industry player can solve this challenge alone. However, together – industry, social partners, education and training providers, and public authorities – we can make a difference. This is the essence of the Pact for Skills: inclusive collaboration, concrete commitments from all partners, and urgent action for current and future workers."

Thierry Breton

Former European Commissioner for Internal Market.

3.2. KEY ACTORS AND THEIR RESPONSIBILITIES

A broad range of actors is potentially involved in the LGD's ecosystem, such as local government, employment agencies, large, small, and medium-sized enterprises, the broad range of education and training providers, employer and employee associations, advocates and entrepreneurs or start-ups. Depending on the reskilling initiatives, the stakeholders may vary. It is hence important to have an understanding of the city specific needs and the LGD initiatives that will be pursued.

The key actors and their responsibilities in skills ecosystems are:

- **Industry:** companies demonstrating their skills needs
- **Education and training:** understanding the companies' skills needs and responding
- **Regional/Local government:** managing the ecosystem and bringing key actors together

The 'Triple Helix' ecosystem model captures the interplay of relationships between the government, industry, and academia with a purpose to contribute to society as a whole.

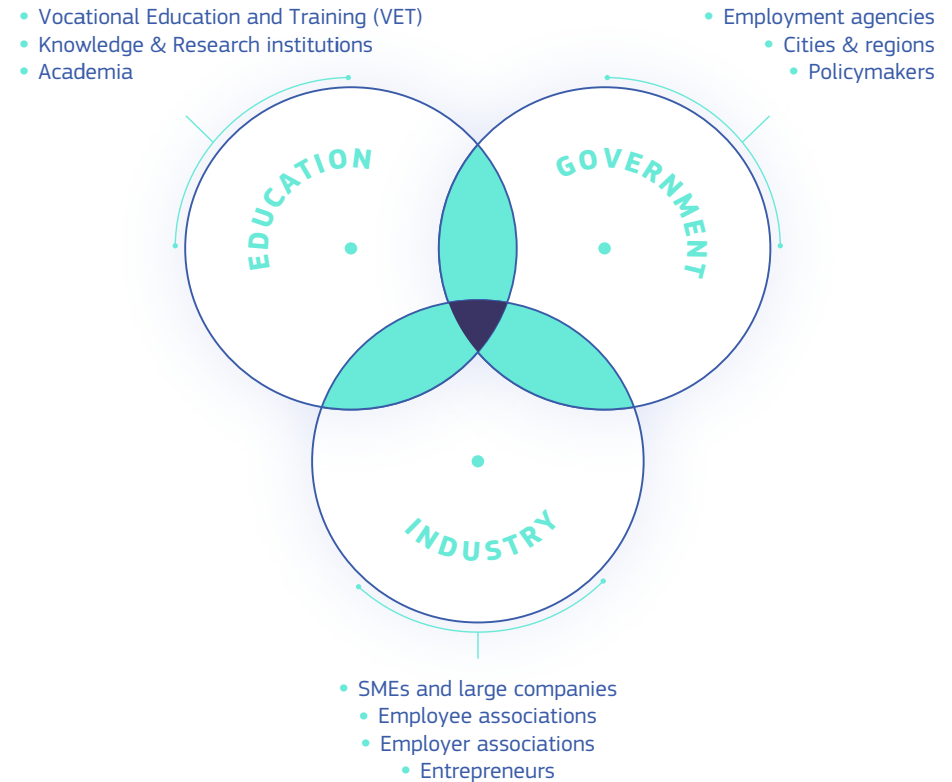


Figure 2: The Triple Helix relationships in a skills ecosystem

For example, in the Blueprints for sectoral cooperation on skills, the illustrative list of stakeholders includes business, trade unions, research institutions, education and training institutions, public authorities.¹³ Similarly, the Skills Partnerships under the Pact for Skills aim to bring together all relevant stakeholders to join forces for the implementation of skilling action, and also through research provides key

¹³ European Commission, Blueprint for sectoral cooperation on skills.

global trends, success factors and recommendations for collaboration between stakeholders to maximise the success of up- and reskilling initiatives, based on good practice initiatives. More information about the recent study¹⁴ conducted by the Pact for Skills regarding key global trends and success factors for up-and reskilling initiatives, based on good practices, can be found on the [website](#). For each key performance indicator, recommendations and strategies are provided regarding:

- Continuous upskilling of policy makers engaged in up-and reskilling policies.
- Stimulating the involvement of private sector in up-skilling and reskilling initiatives in different forms.
- Stimulating the engagement of all key stakeholder groups in the design and implementation of up-skilling and reskilling policies.
- Establishing a framework for collaboration in up-and reskilling initiatives.
- Diversifying funding types for up-and reskilling initiatives.
- Including 'green' components in upskilling and reskilling initiatives.¹⁵

For structuring reskilling-activities, the Pact of Skills also provides methods, processes, and practical considerations for information collection and analysis, collection and analysis of best-practices, and organizing workshops.

There is also a relationship between national and local authorities to take into account. National authorities could provide for policy initiatives, funding and instruments that could support cities in implementing successful skills strategies. This could consist of formats for successful initiatives and sharing of good practices, or concrete instruments (e.g. skills assessment methodology). The national level could also contribute to providing trends analysis and statistical insights into skills gaps and mismatches, which is now often only taking place at national or regional level. Skills partnerships at local and regional level can also provide a favourable framework to develop skills actions at local level.

¹⁴ Pact for Skills - Analysing of up- and reskilling policy initiatives and identifying best practices: final report (2024).

¹⁵ Pact for Skills - Analysing of up- and reskilling policy initiatives and identifying best practices: final report (2024).

The reskilling ecosystem may change over time depending on the phase of the reskilling program, and the size, scope, and target group of specific initiatives.

Examples of reskilling ecosystems in European cities are:

Robocoast

Robocoast, a Digital Innovation Hub located in Pori, Finland. It investigates the needs of enterprises to promote modernisation of the industry and services by developing new robotics solutions together with a large network of **industrial** and **research** partners. The Robocoast consortium is coordinated by an organisation unit and works together with **9 universities**, over **45 000 students**, almost **7 000 specialists** in research and development and over **60 partner companies** in the field of Robotics, AI, Cybertechnology and IoT.

The network of cities apprenticeship

The *Network of Cities for Apprenticeship* is an initiative led by the Metropolitan City of Rome and supported by the European Commission within the framework of the European Alliance for Apprenticeship. One of the primary goals of the network is to raise awareness of the potential that the cities have to support apprenticeships, to become an advocacy platform and to provide cities with information, training and technical and policy assistance. The Network supports apprenticeships in collaboration with regional and national stakeholders, to become an advocacy platform, providing cities with information, training and technical and policy assistance and build strong cross-city partnership.

TechConnect

TechConnect, a skills programme in the Amsterdam Metropolitan Area, the Netherlands. It provides initiatives to upskill and reskill underrepresented groups in tech and IT. In practice, this means thousands of women, people from socially disadvantaged neighbourhoods, and homegrown SMEs are trained to become programmers, data analysts, growth hackers, UX designers or tech managers. TechConnect is an initiative of **Amsterdam Economic Board, Booking.com, Rabobank, TomTom and CA-ICT**. Dozens of **companies, educational institutions**, and **government organisations** from the Amsterdam metropolitan region are participating.

To keep the process efficient and effective, it is advisable to define the most important initiatives in the city with a few anchor stakeholders that are highly committed and then engage with the broader ecosystem.

3.3. CONSIDERATIONS IN DEVELOPING THE RESKILLING ECOSYSTEM

When you are building an ecosystem, it is important to first address several key considerations:

- What is the problem that you want to solve or the opportunity you want to seize?
- Who needs to be part of your ecosystem?
- What should be the initial governance model of your ecosystem?
- How can you capture the value of your ecosystem?
- How can you solve the 'chicken-or-egg' problem during launch?
- How can you ensure evolvability and the long-term viability of your ecosystem?

With the answers to these questions in mind, a city or region can begin developing their reskilling ecosystem.

3.4. TOOLS AND INSTRUMENTS

Determining who should participate in the reskilling ecosystem depends on the ambition, maturity and scope of the anticipated reskilling programme and the existing cooperation networks on which to build. It is recommended to engage with the widest range of potential ecosystem stakeholders at the outset to ensure the right stakeholders are at the table. As the scope is refined, some stakeholders may become more important or may no longer be relevant. There is a risk of losing speed and direction when the group is too large. The better the initiatives are specified, the more it allows to corral specific stakeholders around that initiative.

A commonly used tool to design an ecosystem is an 'ecosystem map', which captures all potential ecosystem stakeholders and their role in the ecosystem. The target group(s) of the reskilling initiative – the persons who will receive the skills – is placed at the centre and the map expands outwards with the stakeholders who have the most direct influence on the centre. 'First ring' stakeholders may include employers/ companies, unions, vocational and technical trade schools and training providers, academia and employment agencies, while 'Second ring' stakeholders may include city and regional government, employer councils, charitable foundations, and business associations. There are many freely available [ecosystem mapping tools](#) available online.

Each reskilling initiative is unique, so the mix and importance of various stakeholders will be different for every initiative. But what remains the same is that the target group is always at the centre. Joining the Pact for Skills can also help to access support services and learning opportunities on different options in setting up partnerships for up- and reskilling.

3.5. MATURITY PHASES IN ECOSYSTEMS

Ecosystems develop over time, developing from ad hoc to optimised maturity stages. While many cities have already started upskilling initiatives, it is important for cities to assess and understand their current level of ecosystem maturity, to determine their starting point and to set aspirational goals for their upskilling initiatives. But it is also important to understand that achieving higher levels of ecosystem maturity

also increases the complexity and demands higher resource commitments from all stakeholders. The ecosystem maturity model below can be useful determining realistic and achievable goals for the upskilling initiative.

ECOSYSTEM MATURITY PHASES



3.6. BEST PRACTICES FOR BUILDING A SUSTAINABLE ECOSYSTEM

There are several keys to building a durable reskilling ecosystem that drives a successful reskilling initiative. The guidance below is based on Amsterdam's experiences:¹⁶

- **Identify a 'coalition of the willing'** – Engage with parties and entities with a demonstrated interest and familiarity with workforce reskilling and start with the endgame in mind. From this starting point, additional parties can be brought to the table.
- **Build on already existing collaborations or networks** – In most cities and regions there will already be networks in place that can be leveraged.
- **Governance of the ecosystem is critical** – The ecosystem must be skilfully managed, with clear leadership that is able to build trust and instil confidence, while keeping all parties aligned and moving in the same direction. Agreement on roles, responsibilities, and resource inputs is critical. It is generally the responsibility of the city or regional government to govern and manage the reskilling ecosystem.
- **Communication and collaboration within the ecosystem are key** – Develop and maintain communication channels that engage and inform stakeholders and that foster collaboration. Set up joint teams where possible to spur progress.
- **Strive for 'horizontal collaboration'** – in which parties with a common interest in a skilled workforce collaborate across the ecosystem, accounting for the interests and expertise of each party.
- **Create linkages between businesses and education providers** – Engage the full range of business interests – start-up, small, medium and large – and the full variety of educational institutions – vocational, technical, college/university, and specialised training resources in both the public and private sector.

¹⁶ With special thanks to Annelies Spork, Programme Director House of Skills Amsterdam.

- **Build evidence of successes** – no matter how small, and use the evidence maintain engagement and attract additional stakeholders to the reskilling ecosystem. Showcase how solutions contribute to societal challenges.
- **Be patient** – it takes time to get a wide variety of actors on board.
- **Leverage external expertise** – if the city or region does not have the expertise necessary to develop the reskilling ecosystem, considering bringing in external expertise.

The Pact for Skills Guidance Handbook identifies as typical elements that underpin partnerships: a core partnership agreement, a process of stakeholder engagement, the development of work plans and partnership coordinating arrangements. Regarding external expertise, the Pact for Skills aims at facilitating access to a knowledge hub that helps establishing partnerships at different levels and can ease developing stronger reskilling ecosystems.

The **Harnessing Talent Platform** (HTP), also provides key elements for building and mobilizing an ecosystem to support develop and implement tailored and comprehensive strategies to train, attract and retain talents, which can be examined on the working groups page of the [website](#).



MKavalenkau - stock.adobe.com

Phase 2: Identify the city's future skills needs

4.1. WHAT ARE SKILLS NEEDS AND WHY IDENTIFY THEM?

Cities and regions increasingly face skills mismatches and skills shortage. Changing policy priorities for the green and digital transitions is impacting jobs and skills needs. The need for green digital, healthcare, energy, and tech jobs are increasing and require new skills to be developed locally. Emergent and innovative sectors in particular face shortages, finding it difficult or impossible to recruit and retain employees with the necessary skills. Furthermore, a vast number of jobs are not only changing, but in many cases disappearing, as a consequence of emerging technologies and digital transformation. Put together, these trends speak to the urgency of workforce reskilling initiatives. The cost of skills mismatches and shortages are in both human and financial terms substantial. For public and private sector alike, skills gaps in all kinds of jobs impact economic activity – for instance as they can constrain the ability to innovate and adopt new technologies. The European Economic and Social Committee estimated an annual productivity loss in the EU economy of 2.14% due to existing skills mismatches¹⁷.

¹⁷ Skills Mismatches - An Impediment to the Competitiveness of EU Businesses, European Economic and Social Committee (2018). Available online: <https://www.eesc.europa.eu/sites/default/files/files/qe-02-18-922-en-n.pdf>

Information and data on current and future skills needs on regional and local level are necessary to create policies and programmes and react appropriately and proactively. By better understanding the skills likely to be in demand now and in the future, education providers can adjust programmes and align better with the demand.

4.2. ASSESSING SKILLS NEEDS

There is a significant amount of data and study available regarding current and future skills needs. These could help to understand (the changes regarding) the number of employees in any given profession and the type of skills needed to perform those occupations and consequently design the right solution (skills initiative).

The Skills Panorama, developed by the European Commission, Directorate-General for Employment, Social Affairs and Inclusion, is an online central access point for data, information, and intelligence on skills and needs in countries and sectors across EU Member States. The European Centre for the Development of Vocational Training (Cedefop) provides a wealth of information regarding skills development including the European Skills Index as well as thematic research such as skills demanded in the green economy and their recently launched *Skills Online Vacancy Analysis Tool for Europe* (Skills-OVATE) in collaboration with Eurostat, and their thematic research into areas such as skills demanded in the *green economy*, which is highlighted in their *Global Green Skills Report 2022*. On-going research into '*Future of Work, Employability and Digital Skills*' by Future Agenda combines insights from across Europe – and beyond – identifying emerging trends and building informed assessment of the changes ahead and their implications for policy and action.

More than one-quarter of European companies have faced difficulties in finding employees with the right skills, while another half report some difficulties. The majority, around 77% of EU companies, reported that even newly recruited employees do not have the required skills.¹⁸

¹⁸ European Foundation for the Improvement of Living and Working Conditions. Company practices to tackle labour shortages (2024).

This persistent skills shortages occurs in several sectors and occupations within the European economy, such as administrative and support service activities, professional, scientific and technical services, construction, information and communication, accommodation and food services, transportation and storage, wholesale and retail trade, manufacturing, financial and insurance and storage, real estate activities, water supply, sewage, waste management and remediation activities, electricity, gas and air conditioning supply, and mining and quarrying.¹⁹ Sectors such as construction, healthcare, and STEM (science, technology, engineering, and mathematics), particularly ICT (Information and Communications Technology), were among the most affected in 2022. According to the European Commission, in the context of green and digital transition, there is a need for both employers and workers within sectors that are already experiencing labour shortages (e.g., transportation and storage, manufacturing, building, electrical and electronic trades), or are likely to do so in the future (e.g., net-zero technologies, water supply, waste management and certain science and engineering professions).²⁰

Cedefop launched an important *foresight study*²¹ in this field too. It re-emphasises the important role of cities in the green transition: at the crossroads of the twin (green and digital) transitions, smart and green cities (SGCs) can become hubs driving the achievement of European Green Deal-set objectives. Cedefop's skills forecast scenario concludes that skills formation will be crucial for filling the additional jobs created and enabling workers to transition into greener sectors and points out that VET has a key role to play in accommodating economic and social change (for a great example, please see Amsterdam's 'Project Cross-over'). Cedefop's work on exploring the links between the EGD and smart and green cities was part of a green foresight study that also covers waste management, the circular economy and agri-food. The study comes forward with policy recommendations.

¹⁹ Statista. *Job vacancy rate in the European Union in quarter three of 2023, by industry*.

²⁰ European Commission - *Commission report finds labour and skills shortages persist and looks at possible ways to tackle them (2023)*.

²¹ Cities in transition How vocational education and training can help cities become smarter and greener, CEDEFOP 2022. <https://www.cedefop.europa.eu/en/publications/9172>

Cedefop investigated accelerators for cities' green transition. These accelerators highlight key areas where green cities can focus when developing re- and upskilling strategies for their green transition and Local Green Deal. Cedefop explored the foresight of skills to guide city green transitions and **future green jobs**,²² which includes the following:

Frontline green jobs

- Construction professional
- Repair specialist
- Energy professional
- Material extraction/recycling/reuse expert
- Material and process engineers
- Circular product designers
- Transport and mobility specialist
- Environmental protection specialist

Greentech specialists

- Industrial problem analysts
- Industrial symbiosis facilitators
- Hydrogen specialists
- Urban space specialist
- Energy expert
- Circular economy plant designer
- Agronomists

Green management

- Green/smart city manager
- Logistics manager
- (Strategic) waste manager
- Waste valorisation professional
- Renewable energy managers

²² Cedefop – *Skills and jobs for the green transformation (2024)*.

Digital specialists

- ICT professional
- Data scientists and data analysts
- E-commerce specialists
- GPS experts (precision agriculture)
- Waste sorting optimisation professional

Green hearts and minds

- HR specialists
- Consumer behaviour specialists
- Sustainability trainers
- Waste management trainer
- Citizen engagement specialist

Next to the jobs that drive the green transition in the future, Cedefop also investigated [main occupations](#) that drive change in smart and green cities today.

The European Commission's twin green & digital transition bring their own **set of skills needed**. Most interesting, the skills required to achieve the twin transition extend beyond the pure digital skills, but also include managing the change of citizen behaviour. For example, the International Energy Agency IEA discusses setting up awareness and behaviour campaigns to enable and empower citizens to save energy.²³ IEA presents insights from many lessons that have been learned on how to design awareness and behaviour change campaigns to achieve maximum effect, focusing on four crucial key concepts:

- Getting the message right
- Getting the message across
- Combining information with behavioural insights
- Campaigns for a crisis context

²³ IEA, *Empowering people to act: How awareness and behaviour campaigns can enable citizens to save energy during and beyond today's energy crisis*. (2022)

A recent study identified the benefits of transforming citizens from energy consumer to active, co-managing citizens for achieving carbon-neutrality objectives.²⁴ In three different pilots in Amsterdam, a Lighthouse city, bottom-up approaches were used on the district level to create and share knowledge and to empower citizens to feel in control of their own energy flexibility. As a result, a strong innovation potential was unleashed, intensified participatory processes took place and integrated, collective solutions for the urban energy transition were developed by new partnerships between incumbents and newcomers.

A recent white paper published by the World Economic Forum in collaboration with Capgemini, analysed how global digital jobs can reduce labour shortages and connect skilled workers from regions with surplus to those with labour shortages. Insights are shared on:

- Identifying where the greatest global digital job opportunities exist
- Demand-and supply skills matching through global digital jobs
- Challenges and solutions for developing a global digital workforce
- Risk and mitigation actions for successfully establishing a global digital workforce

The result shows a slight increase around 10% in the world's more highly educated population and those with skills relevant to global digital jobs moving away from high-income countries to less-high income countries, which will likely continue through demographic changes. The results also show a need for creativity and problem-solving skills, management skills, self-efficacy, technology skills, and collaboration skills. According to the research, insufficient skills, lack of technological infrastructure, and work and tax regulations can hinder the establishment of a global digital workforce and to overcome these barriers, collaboration with employers, educational institutions, and government entities is crucial. In addition, implementation robust cybersecurity measures also need to be prioritized, to mitigate risk and technology malfunction.

²⁴ Amsterdam University of Applied Sciences, *Towards Energy Citizenship for a Just and Inclusive Transition: Lessons Learned on Collaborative Approach of Positive Energy Districts from the EU Horizon2020 Smart Cities and Communities Projects*. (2020)

4.3. ASSESSING LOCAL OR REGIONAL SKILLS NEEDS

Much of the available information focuses on skills demands on a national or European level or within a specific industrial sector. A more narrow or tailored approach is often necessary to gain insights into local or **regional skills developments** and needs to ensure that reskilling initiatives address the needs of the local workforce. Many times, Public Employment Services have analysis and data at regional level, with a degree of detail that can be used by cities to gain insights into those needs. Where a city or region does not have internal expertise on assessing skills needs, it is recommended to bring in external expertise to support the assessment.

There are several ways to begin to understand local and regional skills needs. The entire ecosystem needs to be involved to define the vision of the city, and the respective future jobs and skills required.

First and foremost is to engage with and listen to employers. Cities need to start conversations with employers within their ecosystem to gain insights into:

- Current skills mismatches and shortages
- Roles and jobs that will be changed or eliminated by technology or other market conditions
- Roles and jobs that may be required in the future
- Skills needed for the workforce in the future

It can be tempting to focus on larger companies and industry leaders because they have greater appetite for reskilling initiatives and are most likely to be interested in providing information on their needs and demands and to collaborate on initiatives. But the perspectives of start-ups, small, and medium-sized enterprises must also be considered; they may have uniquely valuable insights that differ from those of large enterprises as well as have different challenges to hiring the right candidates. More on this is analysed in a study report on supporting specialised skills development in SMEs. It is also important to gain perspectives across all sectors of employers in the city or region to ensure that an accurate picture of future skills demands is created.

In addition to employers, there are several other ecosystem parties that need to be engaged:

- Employers/employees associations and social partners represent sectors or groups of similar employers/employees and can provide sector specific insights into skills demands.
- Educational institutions typically often conduct research to determine if their offerings are meeting the needs of students.
- Employees associations such as trade and industrial unions can provide reskilling insights from the perspective of employees, enabling the reskilling initiative to have a more complete picture.
- Public Employment Services, which have privileged access to a wealth of data, also at local level and are at the centre of the monitoring and analysis of the employment situation of the region.

Project CrossOver in the Netherlands is a programme that aims to contribute to having sufficient technical professionals for realising the green energy transition. Together with trade organisations, companies, and professionals, they develop initiatives to recruit, develop and retain technical professionals. They focus on three different themes: work-to work (1), lifelong learning (2) and vitality and appreciation (3).

The City of Alcoy (Spain) embarked on a journey to realise a new Talent Centre to facilitate the creation of a platform to carry out a mapping and analysis of industries, companies and businesses by sectors, with the aim of retaining local talent and boost the local economy through digitisation. Alcoy aimed at creating an ecosystem to support companies in their digital transition

and also companies that need advice for a business model change. A pool of experts in digitisation and the green economy is to provide solutions to companies in the territory, based on trust established in the ecosystem with the support of local administration. It promotes actions to favour applied and results-oriented research, the transfer of knowledge to companies in the territory, and advise on the search for grants and subsidies and promoting collaboration and business alliances in innovative projects.

The CRISIS project in Greece

An interesting example of collaboration with peers and joint initiatives is The Crisis project. This role involves planning and building resilience capacity in smart cities to address various risks and shocks, including natural disasters, health epidemics, and socio-economic challenges. The primary aim of the CRISIS project is to define and promote the role of the Smart City Resilience Officer. This includes developing a comprehensive curriculum and educational resources to train professionals such as municipal officials, smart city planner, urban resilience professionals and individuals seeking careers as Smart City Resilience Officers. The project focuses on several key areas:

1. Transversal Skills: Crisis management, decision-making, and problem-solving.
2. Smart City Planning and Organizational Skills: Stakeholder management, citizen engagement, and smart city standards for resilience.
3. Resilience Management Skills: Risk assessment, asset evaluation, and disaster response planning.

4. Business and Economic Management Skills: Economic recovery planning and program management.
5. In these joint initiatives, the European Commission, local authorities, municipalities, Higher Education Institutions (HEIs), and Vocational Education and Training (VET) providers were involved. By focusing on digital infrastructure and innovative technologies, the project seeks to prepare cities to effectively manage crises and maintain the quality of life for their residents

Green Travel Team in Aalborg Denmark

In Aalborg, the “Det Grønne Rejsehold” (The Green Travel Team) trains recent university graduates with green competences and connects them with local businesses, mainly Local Green Deal partners.²⁵ These graduates support businesses with green actions and solve real cases for the companies. In total 6 companies and 35 unemployed academics were involved. The aim is to provide the graduates a skillset required from the business ecosystem and to matchmake them with local companies, focusing on sustainable and circular business development. Through this, many of the graduates either get hired afterwards or at least get experiences that makes them more attractive for the next job possibility. To strengthen the companies’ green transformation, the project focused on several key areas:

- ESG
- Climate accounting
- Communication

²⁵ [The Green Travel Team \(2024\)](#).

- Circular economy
- Environmental management
- Value chains
- Data and traceability
- Digitization
- Green business models
- Nudging
- Communication of sustainability
- Green hushing and green washing
- Proportions and significant and minor challenges
- Tipping point and the greenhouse effect

To:DO Dortmunds New Work

The city Dortmund (Germany) started a new campaign called To:DO Dortmunds neue arbeit.²⁶ This campaign functions both as broad-campaign and urban social innovation platform for shaping the future in and through work for all generations. This campaign aims to exchange on the central challenges and possible solutions regarding the changing world of work, demographic change, the economy, and society in Dortmund. It identifies leverage points and “to: Do’s” for a future-proof Dortmund. The platform aids in shaping the future work in Dortmund and give a strategic direction of the workforce in the future. With their innovative approach, the initiative received the German Demography Award 2024. Important is that this initiative is not a- one-time initiative but the beginning of a permanent institutionalization of an independent municipal innovation platform.

²⁶ www.todo-dortmund.de

4.4. APPROACHES TO ASSESS SKILLS NEEDS

Cedefop supports development of European vocational education and training policies and contributes to their implementation. The agency helps the European Commission, EU Member States and social partners to develop the right European reskilling policies. Cedefop advises to adopt a holistic approach to measuring current or future skills needs, i.e., a combination of various methods to achieve robust and reliable results.²⁷ Some examples of these methods are:

- Industry roundtables where companies come together to discuss common needs
- Surveys of employers and employees asking about skill deficiencies and skill gaps
- Analyses of local labour market information (e.g. flows in and out of employment)
- ‘Delphi method’ with an iterative process and participation of multiple experts
- Sectoral/occupational/regional studies
- Surveys of recent graduates
- Vacancy surveys and research
- Data mining of local/regional job vacancies and other publicly available information.

The choice of methods must fit the context and strategy of the city and/or region. A sectorial approach might be necessary when skills and jobs demands differ hugely between sectors. Examples of best practice approaches to assess local skills and jobs needs are:

²⁷ OECD Assessing and anticipating skills needs Cedefop, 2008a, p. 6

House of skills

House of Skills in the Amsterdam Metropolitan area, a public-private partnership with a mission to direct today's labour market towards a more skills-based focus. House of Skills developed the **online tool** "*The Fitting Room*" to assess local skills demands and needs. Workers and jobseekers can create a personal profile centred around their skills and receive suggestions of career opportunities that match their skills. Employers can indicate which skills are required to fulfil vacant positions and create a job profile based on skills. Over time, a database on local skills supply (workers and jobseekers) and demand (employers) grows and allows insights into current and future local skills needs and demands.

The regional skills flora

The Regional Skills Fora in Ireland, an initiative that provides an opportunity for employers and the education and training system to work together to meet the emerging skills needs of their regions. In each region, there is a close collaboration between enterprises and education and training providers facilitated by the Forum Manager. The regions assess **local** skills needs by bringing industry leaders together in **round tables**. The roundtables are organised per sector. The reason behind this approach is that skills demand in sectors in Ireland are relatively similar, while between sectors relatively different. In the roundtables, participating companies discuss and agree to shared skills needs. Education providers are also present at these roundtables and listen to the skills needs, and later (collaboratively) respond to those needs.

4.5. ADVANCED TOOLING FOR NEEDS ASSESSMENT

Understanding local skills needs and demands requires engaging and listening to employers and other ecosystem parties. But this can be a time-consuming process and does not always provide the complete picture of current mismatches and shortages and future skills needs. Specialised tooling can help to develop a more robust prediction of future skills needs. Such tools can also assess and predict skills, for instance using data from job portals that include the skills needed for a particular job, allowing cities to compare sectors and monitor progress over time. An example of such an approach is *Headai*, that helps to connect all actors in ecosystems and makes data interoperable between individuals, companies, education, and labour markets. An example of Headai being used to create a solution for Technology Industries of Finland's to offer AI-analysed information on skills demand and trends. *OKSA* from Estonia, is matching labour market needs with training resources, taking into account the proposals and suggestions put forward by sectoral expert panels. Another data rich system is *Faethm*, which assesses the impact of emerging technologies, including a technology *impact assessment* for the government of Australia.

4.6. BEST PRACTICES FOR ASSESSING SKILLS NEEDS

Combine a variety of perspectives to gain the best view on skills needs within the city or region. This includes consideration of longer-term trends within society and in Europe as well as local and regional needs as identified by ecosystem stakeholders

- Provide the space for companies to listen to their skills needs
- Identify both current skills mismatches and as well as future skills needs
- Academia has a crucial role to research and predict future skills needs
- Analyse regional labour market developments and understand the economic drivers of the city
- Technology-powered tools.

Phase 3: Design solutions

Once the reskilling ecosystem has been identified and mobilised and the city has a view on current reskilling mismatches and shortages and future reskilling needs, solution development can commence. Designing the workforce reskilling strategy and solutions requires significant effort; it is not reasonable to try to fill the entire future skills gap at one time. Start with a realistic and manageable scope, aim for 'quick wins' to build momentum and win support. Pilot projects are recommended to achieve quick wins.

It is essential to engage ecosystem stakeholders throughout the solution design phase. This section explains the necessary steps in the design phase.

5.1. ESTABLISH A VISION

Having a clear vision of what you want to achieve is a must have. Without a clear vision, there is no way to assess progress, effectiveness and results of your reskilling initiative. A vision for a workforce reskilling initiative should have the following characteristics:

- **Simple** – If it is longer than a sentence or two, it is not clear enough.
- **Actionable** – Use strong verbs such as 'deliver' or 'produce' to encourage action.
- **Engaging** – Make it relevant for others in the ecosystem.
- **Realistic** – Make sure the vision is achievable.
- **Collaborative** – Solicit input from ecosystem partners to establish shared ownership.
- **Forward thinking** – Initiative's conclusions, benefits.
- **Specific** – What success looks like.

The vision must fit with the context and strategy of the city. A vision to transform an agricultural region into a high-tech hub may be laudable but would not necessarily be a fit for the context.

An example of a clear vision comes from [TechConnect](#) from the Amsterdam Metropolitan Area (The Netherlands). They aim to *"activate 50 000 people from underrepresented groups to Tech and IT in 4 years"*. With that, TechConnect wants to contribute to increasing equity in the tech labor market and make tech training and jobs accessible to all.

Another example of a clear vision is from [the Guimarães' Career Guidance Programme](#) (Portugal). They aim to *"support students to move from school to the workplace as effectively and smoothly as possible."* By assisting all 9th grade students (aged 14-15) of Guimarães, the programme seeks to adjust personal interests, aptitudes and skills to the needs of local and global economies, contributing to helping students to be better prepared to access the labour market.

Gelsenkirchen started 'GE-innoviert'. In this project, an "Application Center of Artificial Intelligence for Municipal Solutions (KI4KL)" is to be established as a lighthouse project. Based on artificial intelligence, machine learning and data analytics, municipal applications will be developed and piloted. The focus is on the transfer of innovation into application. Application-oriented research is to be conducted and put into practice. It focuses on "a strong and innovative business location" and "a pioneer in taking advantage of the opportunities offered by digitisation in Germany".

5.2. DETERMINE PRIORITIES AND SCOPE

In any reskilling initiative, cities and ecosystems need to make decisions regarding priorities and scope, including:

- **Urgency** – The skills demand assessed in phase 2 will help to determine the urgency of various reskilling initiatives. City specific indicators such as large numbers of unemployed people, plant closures, proposed new businesses, or significant labour market changes such as an inflow or outflow of workers, can all help to set the priorities for the reskilling initiative.
- **Target group** – Who will be the target group for the initiative? The recently unemployed, new entrants to the labour market, employees at risk of substantial negative impacts from new technologies?
- **Skills focus** – Will the focus of the reskilling initiative in its early phases be on 'hard' skills, focused on specific tasks and processes such as the use of tools, equipment, or software, that have such as coding, that are relevant for a specific job or sector? Or will they be 'soft' skills such as problem solving, communication, creativity, readiness to learn, and critical thinking that have more general

applicability in the labour market? Hard skills are often easier to quantify and the benefits more readily recognizable and are often a good choice for the early phases of a reskilling initiative.

An example of a clear target group in a skills initiative comes from Rijeka, Croatia. The *RinovatoRI programme* is intended for **pupils attending higher elementary school grades** in Rijeka with the key aim of developing entrepreneurial competencies and raising entrepreneurial culture among young people. It allows the youth to participate in events of various intensity and therefore develop various skills related to entrepreneurship.

The *Korko Project* in Espoo, Finland, also has a clear target group. The project supports the job search of **highly educated people over 30 years of age**. They support them to clarify their own employment objectives, update their competence, or consider alternative career paths. The aim of the project is to lower down unemployment of **educated jobseekers**.

Londonderry's *YouthAction* programme clearly targets unemployed youth by connecting young people with business and employers, by educating young people on the skills they need for work, and by empowering young people to find meaningful training and employment.

An example of a clear skills focus is *School 42* (L'école42) in Nice, France. School42 is a digital **computer programming** school that is completely free and available to everyone above 18 years with or without degrees. The programme teaches people skills for the **technology industry** with coding, computer programming, and software engineering at the heart of the programme.

Another example of a clear skills focus is *IT@Cork Skillnet* in Cork, Ireland. It is a learning network that fosters a set of unique practical supports between companies and training providers. IT@Cork Skillnet works with companies to identify gaps in skills that are specific to **ICT** that meet both short term immediate demand as well as long term strategic needs. They provide subsidised upskilling solutions that are tailored to very specific needs across all elements of the **ICT skills** domains and beyond.

5.3. DETERMINE WHAT SOLUTIONS ALREADY EXIST WITHIN THE ECOSYSTEM

Stakeholder in the ecosystem may already have reskilling initiatives, training or apprenticeship programmes, or curricula that can be leveraged as part of the solution set. Existing ecosystem reskilling initiatives can potentially be expanded, adapted, or combined with new solutions.

House of Skills in the Amsterdam Metropolitan Area started with a few skills initiatives and over time developed more tools for facilitating skills matching for employers, employees, and jobseekers, such as: *The Fitting Room*, *My House of Skills*, *The Skills Passport*, *Career Coaching*. One of their recent programmes is the *Transfer point Health and Wellbeing* to better match demand, training and supply for the care and welfare sector. Due to the COVID-19 pandemic, the healthcare industry faced a shortage of employees, while at the same time unemployment was rising in the travel industry. Therefore, House of Skills supported employees in the travel industry to transfer from 'air to care'.

The Open Data City Officer (Greece, Cyprus, Germany and Portugal)

Another example of a clear vision and making use of existing frameworks is from the Open Data City Officer – OpenDCO, which is an initiative from the Universities of Greece, Cyprus, Germany and Portugal together.²⁸ It promotes European collaboration on smart cities' education and raises awareness about the complexity of open data competencies. They aim to close the skills gap in municipalities regarding open data and smart city development by creating an innovative curriculum and learning tools for Open Data City Officers. The initiative also seeks to foster a culture of continuous learning and adaptation in the face of evolving technological and societal challenges, though the development of an innovative curriculum for Open Data City Officers, creation of eLearning modules and resources, collaboration with previous and ongoing projects like SmartDevOps and CRISIS to build upon their frameworks and findings, promotion of European collaboration through workshops, webinars, and a community of practice.

²⁸ [The Open Data City Officer \(OpenDCO\)](#)

5.4. LIST ALL POSSIBLE SOLUTIONS (OPTIONS)

Within the ecosystem, brainstorm possible solutions that are consistent with the city's vision and that address the priorities and scope. The goal of brainstorming is to generate as many potential solutions as possible before final evaluation and selection. Ensure that all stakeholders have the opportunity to be heard and avoid evaluating potential solutions as they are proposed. Be sure to include initiatives that already exist within the ecosystem as potential solutions as well as shared via national authorities and from other geographies. Do not prematurely exclude any possible solutions as impractical, they can inform the selected solutions or may be viable in the future. If the ecosystem is not experienced with brainstorming, consider bringing in an experienced facilitator to guide the brainstorming sessions. Experts could help to identify the right solutions in the specific city setting.

5.5. EVALUATE AND SELECT SOLUTIONS

Evaluation of solutions for initial reskilling initiatives is about assessing the strengths, weaknesses, positive impacts and possible downsides of each potential solution, keeping in mind the goals of the reskilling initiative. Evaluation can be as simple as listing pluses and minuses of proposed solutions or it can involve complex weighted criteria. Evaluation informs the selection process: what are the best options, considering the constraints, what is practical and achievable within the constraints. Throughout the selection process, keep in mind that 'quick wins' are important when starting a reskilling initiative; they build momentum.

Consider the extent to which the solution(s):

- Successfully address the agreed priorities and scope, without causing other problems
- Gain the acceptance of all (or most) stakeholders
- Leverage existing initiatives within the ecosystem
- Fit within the ecosystem constraints - timelines, costs, infrastructure, human capital resources
- Are likely to be implemented

5.6. DOCUMENT THE AGREED SOLUTIONS

Once solutions are evaluated, selected and agreed upon by stakeholders, it is critical to document the agreed solutions. This could take the shape of a memorandum of understanding that underpins the partnership between the stakeholders. **Considerations for documenting solutions include the following questions:**



Who will do what?



Who is the target group?



What reskilling activities will be undertaken?



What dependencies exist between ecosystem stakeholders?



How will the solution be implemented?



How will reskilling solutions be delivered (content, form)?



What resources are required to deliver the solutions?



What are prerequisites that must be satisfied?



In what time frame will solutions be implemented?



What are the measurable or tangible outcomes?



How will progress be monitored?



What feedback mechanisms are required?



How will success be measured?

There is no single, right way to document the agreed solutions, but documentation should strive to make solutions, agreements, implementation plans and monitoring transparent for all ecosystem stakeholders - envisioning an agile approach that allows for updating along the way.

5.7. SKILLS CLASSIFICATION

As skills taxonomy varies between nations, sectors and public and private organisations, it is important to use a common skills language to enable intersectoral and international mobility and gain a clear picture on needs and demands. The most commonly used language frameworks are:

- **ESCO:** The ESCO classification identifies and categorises skills, competences, qualifications and occupations relevant for the EU labour market, education and training. ESCO provides descriptions of 2 942 occupations and 13 485 skills linked to these occupations, translated into 27 languages. The aim of ESCO is to support job mobility across Europe and therefore a more integrated and efficient labour market, by offering a 'common language'. The ESCO classification is used by House of Skills (Amsterdam) to develop the *Fitting Room*, an online matching tool for jobseekers and employers. Cedefop also built their recently launched *Skills Online Vacancy Analysis Tool for Europe* (Skills-OVATE) on ESCO.
- **O*NET:** The O*NET is the primary source of occupational information for the US, containing standardised and occupation-specific descriptors on 923 occupations covering the entire economy. It includes a list of activities per each job, which can help to infer skills needed. The interactive application identifies the most important types of information about work and integrates them into a system of worker and job dimensions. O*NET is continuously updated and is available to the public at no cost. Although O*NET is a US database, it is applicable for roles and occupations in Europe as well.
- **e-CF:** The European Competency Framework (e-CF) is a competency framework specifically for Information and Communication Technology (ICT) workplace, using a common language for digital competences, skills, knowledge, and proficiency levels that can be understood across Europe.



BullRun - stock.adobe.com

Phase 4: Implement solutions

The city's focus should be on creating end-to-end programmes to support people on their journey to a new job placement. This starts with understanding the needs of the city's economy to allow for designing efficient and effective solutions (as described in previous sections) and should lead to a (measurable) increase in job placements in those growth areas. More on monitoring the next paragraph. Implementing the agreed reskilling plan follows a standard approach, as described in the following paragraphs.

6.1. PLANNING, PREPARATION, IMPLEMENTATION

Planning and preparation are the keys to successful implementation. The implementation plan is the most important stage in ensuring efficient implementation and must be accurate and thorough. It could help to formalise the partnership in writing, so everyone knows its role and commitment requested (e.g. in the form of a memorandum of understanding as mentioned in the previous section 5.6). That could then also serve as the foundation for operationalising the collaboration (into meetings etc), while keeping an agile mindset. The importance and complexity of the solutions will determine how detailed planning and preparation needs to be to ensure success.

The main features of planning and preparation include the following:

- **Detailing the required actions/solutions:** These must be identified fully and precisely, otherwise the results expected will not be achieved. The expected effects of these actions must also be identified, so that you will know when they have been carried out successfully.
- **Scheduling the implementation phases or steps:** Identify the time allocation for each implementation step. It is best to portray this in a Gantt chart or project plan to see interdependencies and the total time to achieve the reskilling solution implementation goals.
- **Detail on required sources:** For each action the resources should be defined along a number of parameters, including the type of resource, amount of resources and when resources are required. Resources include funding, human capital, space and materials.
- **Dealing with risks:** Risks must be considered in planning and mitigation measures detailed. This ensures that the reskilling initiative remains on track, regardless of surprises or adverse consequences.
- **Managing plan execution:** Specify what results are expected at each point of execution of the reskilling plan. This includes how progress and results will be measured and by whom.
- **Plan review:** Before implementation review the plan with relevant stakeholders to ensure that it is workable and achievable, that resource requirements are accurate and appropriate mitigation measures are in place to keep the plan on track.
- **Socialise the plan and secure commitment:** While the ecosystem stakeholders will have been involved in developing the implementation plan, a key step prior to kicking off the plan is ensuring that all ecosystem stakeholders are fully informed, aligned, and committed to the results they are expected to achieve and their responsibilities. This typically takes the form of a briefing with each stakeholder involved in delivery of the reskilling initiative.

With their concrete commitments, ecosystem stakeholders could join the Pact for Skills, an EU initiative promoting the upskilling and reskilling of people at working age.

PATRAS

The city of Patras (Greece) established a Digital Skills Academy. It aims to exploit existing efforts in the region and provide necessary curricula for upskilling and reskilling in the area to drive digitalisation and intelligence and will also offer upskilling and reskilling towards city / public sector officials. The initiative builds on the European Digital Innovation Hubs (EDIHs). The governance structure pursued by ICC and especially the establishment of a Steering Committee at city level helped the involvement of the entire ecosystem and the identification of necessary skills to be pursued at city and wider ecosystem level.

The vision of Patras is to become a smart digital city with the aim to improve the living conditions of its citizens, professionals and visitors through the active involvement of its human resources, through innovative initiatives by academic and research institutes and by the business sector, taking advantage of the opportunities offered by the development of next-generation networks. The vision of Patras makes it mandatory to develop both elementary and advanced digital skills for its entire ecosystem so as to support new applications and services that will improve the living conditions of its citizens, professionals and visitors.

SOFIA

An information platform for waste management open to citizens (Bulgaria)
The municipality of Sofia aims to encourage citizens in the process of separation and disposal of the waste by creating an online platform for real-time information on household waste separation and disposal, enabling

issue reporting to the Sofia Inspectorate.²⁹ The platform will map waste collection methods by colour and allow for new options. This project will boost citizen awareness of legislation, streamline communication with municipal administration, and enable businesses to showcase their initiatives on the city map. The implementation of the project will occur through the ICC initiative by creating a local Green Deal for Sofia. Activities include promoting and educating the citizens on responsible disposal practices and managing quick access to relevant information and integrated municipal systems to streamline communication between citizens and municipal administration and to enhance transparency and responsiveness.

Green Travel Team in Aalborg Denmark

In Aalborg, the “Det Grønne Rejsehold” (The Green Travel Team) trains recent university graduates with green competences and connects them with local businesses, mainly Local Green Deal partners.³⁰ In total 6 companies and 35 unemployed academics were involved. The aim is to provide the graduates a skillset required from the business ecosystem and to matchmake them with local companies, focusing on sustainable and circular business development. Through this, many of the graduates either get hired afterwards or at least get experiences that makes them more attractive for the next job possibility. The training and matching program is a nine-week program, wherein unemployed academics first follow a 2–3-week green education course, then conduct case work with a local company in 3–4 weeks, attend a one-day conference and afterwards go through a 4 days’ job-search process.

²⁹ Municipality of Sofia - [A guide to separate collection of household waste](#)

³⁰ [The Green Travel Team \(2024\)](#).

Phase 5: Monitor progress and adjust

Reskilling initiatives must be monitored and evaluated to understand their effectiveness. Monitoring and evaluating systems provide the opportunity to detect problems, to take corrective actions on time, to gain insights into the progress and quality of initiatives and to build evidence on what works and what does not work. Ideally this leads to a 'virtuous cycle' in which early initial successes are built upon, creating momentum and support.

A monitoring and evaluation system needs to be established directly at the start of the reskilling initiatives, so that in a later analysis can be done and lessons can be learned. Different systems can apply depending on context and goals. An often-used model to monitor progress and evaluate impacts is figure 3³¹. It would require setting Key Performance Indicators (KPIs) at outcome and output level and focus the evaluation on those.

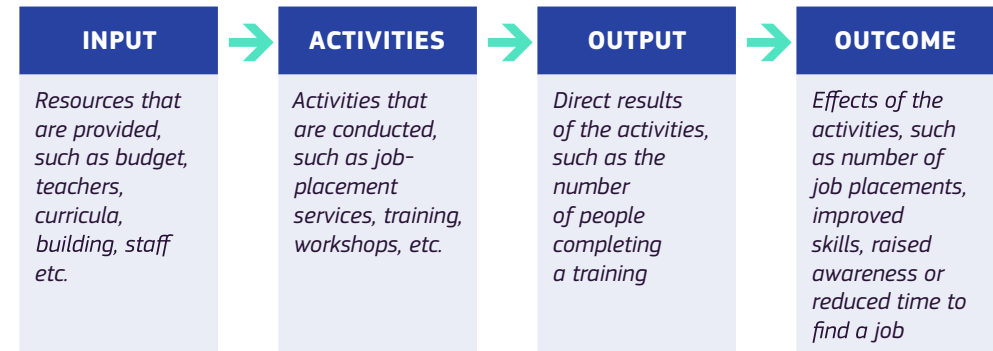


Figure 3: Model to monitor progress and evaluate impact. Source: ILO

Monitoring and evaluation require supervision of the implementation. Supervision of the reskilling plan occurs in three dimensions:

- **Monitor progress** – ensure that the reskilling initiative is being carried out as planned, stakeholders are fulfilling their commitments as agreed.
- **Take corrective action** – where problems or deviation arise, countermeasures detailed in the implementation plan, or other unplanned mitigation measures, need to be implemented to keep the reskilling initiative on track.
- **Review and analyse the outcomes** – When the plan has been completed and the reskilling solutions implemented it is important to measure and analyse success. Review and analysis of outcomes should be done in both the short-term – at key implementation plan milestones – as well as over the long-term. This tells you whether the solution has been effective in solving the problem and how useful it will be in solving similar problems in the future.

The Pact for Skills Guidance Handbook advises to use key performance indicators (KPIs) to enable partnerships to track, understand and demonstrate their progress and contribution to skills development. Various KPIs are suggested in the Handbook for different dimensions, such as activities, partnership output, reskilling and training output, and impact.

31 International Labour Organization (2018) Guide on Decent Jobs for Youth. And others.

Funding Models

A key consideration for any reskilling initiative is funding as it necessarily puts constraints on the scope and duration of any reskilling initiative. Depending on the context of ecosystems, the stakeholders involved and their ambitions, different type of funding models can apply. There are multiple potential sources of funding for reskilling initiatives and initiatives can receive funding from several sources. Some examples of funding are:

8.1. PUBLIC SECTOR

- **European funding:** the European Union provides multiple channels for funding reskilling initiatives, which can be found on the [European Education Area](#). Some, such as the [European Social Fund Plus](#) (ESF+), are implemented by the Member States. The ESF+ is the EU's primary instrument dedicated to investing in people. Some, such as the [EFSI 2 Skills and Education Guarantee Pilot](#), are accessible through financial intermediaries. Others, like [Erasmus+](#), are administered through national agencies, but also include centralised calls to support skills development through transnational collaborative projects, such as the Partnerships for innovation and Partnerships for Excellence that include

the initiative on Centres of Vocational Excellence (see box below). The [European Globalisation Adjustment Fund for Displaced workers](#) (EGF) provides co-finance measures in the form of help with looking for new job opportunities, coaching, and career advice to European workers that were displaced due to restructuring. To encourage more SMEs to participate in offering apprenticeships, various forms of financial support measures for SMEs are outlined by the EC in the new [EAfA factsheet](#). The [NextGenerationEU](#) stimulus plan has been implemented to repair the immediate economic and social damage brought about by the coronavirus pandemic. Through the [Recovery and Resilience Facility](#), loans and grants are available to support reforms and investments undertaken by EU countries with the aim of making European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions post-COVID-19.

- **National government funding:** in addition to EC initiatives funded through national authorities, other countries directly provide funding for reskilling initiatives. As an example, in Ireland the national Department of Education provides funding to the [Regional Skills Forum](#) a single contact point in each region within Ireland to help employers connect with the range of services and supports available across the education and training system.
- **Regional funding:** various regional government authorities provide funding for reskilling initiatives. For example, in the Netherlands, the city region of Amsterdam provides funding to [House of Skills](#) to reduce skills mismatches in the city and its areas.
- **City/municipality funding:** cities and municipalities are a further source of funding for reskilling initiatives. An example is the 'Derry City Plan' in Derry, Northern-Ireland provides funding to [Youth Action](#) to re- and upskill youth in the region.

The EU initiative on [Centres of Vocational Excellence](#) (CoVE) is an example of how Erasmus+ funding is supporting the development of skills ecosystems in which education and training institutions rapidly adapt skills provision to evolving local economic and social needs, including the digital and green transitions. CoVEs operate in a given local context, involving a wide range of

local stakeholders, acting as a linchpin of skills ecosystems for innovation, regional development and social inclusion, while working with CoVEs in other countries through international collaborative networks.

The European Innovation Hub Adriatic Croatia (EDIH Adria)

The EDIH network, an initiative by the European Commission, aims to assist companies and public administration in accelerating the integration of modern technology, training their personnel, identifying finance options, and establishing links with key regional, national, and European actors, within various areas including health, transport and mobility, and energy and sustainable development. The EDIH, in cooperation with the city of Pula (Croatia) created workpackages on several themes such as the customized training, which included training material for planning and transformation of business processes, IT and digital skills, an AI in everyday work.³² Building on initiatives and tools of the European Digital Innovation Hubs (EDIHs), such as the [Digital Maturity Assessment tool](#), the digital maturity and value for

³² [EDIH - ADRIA](#)

EDIH Adria was assessed. Before investing, the financial capabilities were also assessed in the Test Before Invest workpackage. Afterwards, implementation support was given on downstream employee trainings and upstream expert trainings. The project EDIH Adria is co-financed by the European Union from program Digital Europe (DIGITAL) according to the Grant Agreement and the National Recovery and Resilience Plan of the Republic of Croatia 2021-2026.

The European Urban Initiative launched by the European Commission is another example of how EU initiatives and funding is supporting the harnessing of talent in European cities. Within the EU, a total of 16 member states accounting for almost 30% of the EU population are experiencing a shrinkage of their working age population, as result of a low and stagnant share of tertiary education graduates and a net out-migration of their 15-39 age population.³³ To retain and attract talent in these cities, the European Commission launched the European Urban Initiative (EUI) as fifth pillar of the [Talent Booster Mechanism](#), where companies are encouraged to apply and share their proposals for urban innovative solutions and pilot projects that are aligned with the European Union's priorities, such as the green and digital transitions, as well as the Urban Agenda for the EU. Up to 80% of project activities are co-financed through the EUI-Innovative Actions calls (EUI-IA) and additional funding can be provided for project implementation through the European Regional Development Funds (ERDF).³⁴ Through the EUI, the European Commission aims to develop a portfolio of projects, that reflect the geographical, spatial and demographic diversities of these European cities, that supports the economic revitalisation and development of the right skills to attract high-potential activities.

³³ [European Urban Initiative – Harnessing talent in shrinking cities](#) (2023).

³⁴ [European Urban Initiative](#)



8.2. PRIVATE SECTOR

While public sector funding is most common, there are potentially funding sources for workforce reskilling initiatives within the private sector.

- **Companies:** for most companies, the focus of funding for reskilling initiatives is internal, the reskilling of their existing workforce. However, companies are increasingly recognising the importance of reskilling the workforce through their Corporate Social Responsibility initiatives. Individual companies and groups of companies with aligned interests can be a source of funding for reskilling initiatives, especially in collaboration with other ecosystem partners including educational institutions, NGOs and employee associations. In any case, they are key participants in the reskilling ecosystem.
- **Employees associations:** while not typically sources of direct funding for reskilling initiatives, employee representative bodies such as trade and industrial unions frequently have skills development programmes that can be leveraged in the broader workforce reskilling initiative.
- **Foundations and charities:** in many countries, foundations and charities are important sources of funding for reskilling initiatives. As an example the UK [Skills Development Fund](#) provides short and long-term grants targeted at specific reskilling programmes. Global foundations such as the [Gates Foundation](#) also provide support for economic mobility and opportunity programmes where reskilling is an important component.

When considering funding for a local or regional reskilling initiative, it is important to appreciate that not all funding is necessarily financial. 'In kind' contributions from different stakeholders may include making facilities available, sharing developed skills training materials, communications and marketing support and volunteer resources.

APPENDIX 1

Examples of good practices from Europe

Examples of good practices on reskilling in cities and regions in Europe are shown per country and on alphabetical order. The list is not complete and will evolve over time.



BELGIUM

Ghent – Skills Navigator

City/Region/country	Ghent, Belgium
Title	Skills Navigator
Description	Ghent is part of the Interreg project 'Skills Navigator' which aims at tackling the skills mismatch in the harbour regions of the Flemish-Dutch Delta in close cooperation with the employers.
Aim	The Skills Navigator project aims to help enterprises in the harbour region to find the right personnel.
Focus	21st century skills
Target group(s)	Skills Navigator focuses on developing the necessary digital skills of both school-age youngsters as (re) entrants on the labor market between 16 and 26 years.
Stakeholders	Skills Navigator consists of 14 organisations as full partner (co-financers) and other interested actors. Participating port areas are in Antwerp, Ghent, Terneuzen and Rotterdam.
Instruments and initiatives	The project developed a 21st century skills framework focusses on jobs in harbour-regions. Skills Navigator also developed a matching tool between demand and supply on the labour market for harbour jobs. Jobseekers/ students can use this tool to see whether they have the skills required for the job. And if not (yet) then they can be upskilled through one of the many employer arrangements listed and tried out in the project.
Impact	It is expected that the tool and employer arrangements help bridge the gap between supply and demand in the labour market of the Flemish-Dutch Delta.
Link	www.skillsnavigator.eu



CROATIA

Rijeka – RinovatoRI

City/Region/country Rijeka, Croatia

Title Rinovatori

Description

The RinovatoRI programme is intended for pupils attending higher elementary school grades in Rijeka with the key aim of developing entrepreneurial competencies and raising entrepreneurial culture among young people through a direct insight into entrepreneurial practice and devising and developing their own business ideas. It allows the youth to participate in events of various intensity and therefore develop various skills related to entrepreneurship. The Weekend School event imitates 48 hour hackathons and the summer lab imitates a mini-acceleration programme where all important skills about business modelling etc are developed. Interreg database of good practices: www.interregeurope.eu/policylearning/good-practices

Aim

Encouraging entrepreneurial competences of children

Focus

Entrepreneurial skills

Target group(s)

Children (pupils of higher grades of Rijeka's elementary schools, age 11-14)

Stakeholders

City of Rijeka – department of entrepreneurship; the Youth Home Institution; Local businesssc, incubators,others

Instruments and initiatives

(1) regular year-round programme (weekly organised workshops), (2) Weekend school of entrepreneurship and (3) Summer school of entrepreneurship

Impact

So far, 560+ children have participated in the program. In 2019 program RinovatoRI was declared the national winner of European Enterprise Promotion Award 2019 for Promoting the Entrepreneurial Spirit.

Link

<https://www.rijeka.hr/en/themes-for-citizens/business-and-investments/become-an-entrepreneur/rinovatori/>



Startup Stock Photos

CROATIA

Rijeka – Start-up incubator

City/Region/country	Rijeka, Croatia
Title	Start-up incubator
Description	Startup Incubator Rijeka is a support center for people who want to develop their entrepreneurial idea independently or within a team and start their own business. Users are provided with educations, workspace, mentoring network, assistance in development and implementation of a business plan, and support in connecting with investors and international startup scene. All services are free of charge.
Aim	Supporting the development of new business ideas
Focus	Entrepreneurial skills
Target group(s)	Unemployed youth, students at the University of Rijeka, as well as other young people from Croatia and abroad. Although first focus was on young people (<30 years), there is no age limit anymore.
Stakeholders	The programme and activities of the Startup Incubator are realised in co-operation with partners: Rijeka Development Agency PORIN, the University of Rijeka, the Polytechnic of Rijeka, the High School of Business PAR and the University of Pula Juraj Dobrila.
Instruments and initiatives	The young people who sign up for this project have the opportunity to work with new technologies (3D printing/ virtual reality/AI/IoT) and are provided with free mentoring and advice. The incubation program lasts 8 months and is consisted of 35+ workshops divided into three thematic modules: Idea validation (1), Product development, legal aspects and finance (2) and Go-to-market (3). https://startup.Rijeka.hr/lectures
Impact	Since opening, Startup incubator Rijeka hosted 173 teams with their initial business ideas, i.e. 435 users in 11 generations. Altogether 290 workshops and 889 individual consultations were held until today, resulting with 23 newly established enterprises in the city of Rijeka.
Link	https://www.rijeka.hr/en/themes-for-citizens/business-and-investments/incubators-and-co-working-spaces/incubators/start-up-incubator/



CROATIA

Rijeka – STEP-RI

City/Region/country Rijeka, Croatia

Title	STEP-RI –Science and Technology Park of the University of Rijeka
Description	The Science and Technology Park STEPRI was established by the University of Rijeka in order to become the premier science and technology hub in the region and beyond. It offers numerous services for development of entrepreneurship based on knowledge, innovation and new technologies to scientists and innovators.
Aim	Supporting innovations, entrepreneurship & knowledge transfer between academia, business & public sector and NGOs.
Focus	Product and service innovations, scale-up and internationalisation of businesses, digital transformation, business support excellence & best practice exchange.
Target group(s)	For everyone who want to start a business or already have a startup.
Stakeholders	Scientific community, local and regional authorities, entrepreneurs, NGOs, social entrepreneurs, business support institutions, international organisations.
Instruments and initiatives	Consulting services and trainings. Structured programs for: a) startup incubation and support; b) innovation (product, service, and business model); c) digital transformation; d) knowledge transfer between academy and industry; e) internationalization support services.
Impact	Since 2013: 1.486 companies, scientists and start-up entrepreneurs were consulted; 341 trainings and events held with 6.201 participants, supported entrepreneurs got access to finance of +3M; 55 EU (H2020, COSME, Interreg) and national projects implemented with total value of 34M with STEP RI budget of 3.1M.
Link	https://www.step.uniri.hr/o-nama/



FINLAND

Espoo – Young People to work plan

City/Region/country Espoo, Finland

Title Young People To Work Plan

Description In July 2020, there were 4,901 young people under 30 years of age registered as unemployed jobseekers in Espoo. The goal of the plan is to halve youth unemployment in Espoo by the end of 2022. In concrete terms, they must help more than 2,500 young people find employment within the next two years and create services aimed at preventing unemployment.

Aim To halve youth unemployment by the end of 2022

Focus Skills in general

Target group(s) Youth (15-29 year old)

Stakeholders Employment Espoo, youth services, high schools, second degree, Omnia, social- and health services, Te-services.

Instruments and initiatives Initiatives are focused on:

- improving the effectiveness of service counselling;
- developing young people's skills (skills guarantee); and
- increasing job opportunities.

Impact All young people involved in working life; young people are provided with employment opportunities and work in a timely manner through controlled and identified pathways; securing young people's knowledge capital, inclusion and well-being.

Link [https://www.espoo.fi/en-US/City_of_Espoo/Information_about_Espoo/International_Espoo/Hello_Espoo/We_have_a_PLAN__a_collaborative_effort_t\(187769\)](https://www.espoo.fi/en-US/City_of_Espoo/Information_about_Espoo/International_Espoo/Hello_Espoo/We_have_a_PLAN__a_collaborative_effort_t(187769))



FINLAND

Espoo – Korko Project

City/Region/country Espoo, Finland

Title Korko Project

Description The Korko service supports the job search of highly educated people over 30 years of age. They support them to clarify their own employment objectives, update their competence, or consider alternative career paths.

Aim Lowering down unemployment of educated jobseekers

Focus Skills in general

Target group(s) Highly educated jobseekers above 30 years

Stakeholders Businesses, education and training providers, economic and employment actors

Instruments and initiatives Thematic groups, training sessions, strengths and competence workshops, sessions with business coordinators, presentations, review of CV's and job interviews.

Impact In total, 50% of the participants were employed. Nearly 400 cooperation companies reached.

Link https://www.espoo.fi/en-US/Jobs_and_enterprise/Help_for_finding_employment/Korko__Value_of_academics



FINLAND

Espoo – Business Espoo

City/Region/country Espoo, Finland

Title Business Espoo

Description The Business Espoo business service network supports the vitality of entrepreneurs and companies in Espoo and its surrounding municipalities by offering the best, constantly evolving services in one place.

Aim The Business Espoo network brings all services under one roof, both physically and digitally.

Focus Serving all target groups in one place. In updating and developing skills (reskilling) side focus is e.g. In the development of services and operating models for recruitment through training to meet the high skills requirements of companies.

Target group(s) Entrepreneurs, future entrepreneurs, companies, talents

Stakeholders The following organisations serve entrepreneurs and companies in the Business Espoo network: City of Espoo Economic and Urban Development, Enter Espoo, Federation of Espoo Enterprises, Helsinki Region Chamber of Commerce, Omnia, Uusimaa Employment and Economic Development Office, Enterprise Espoo.

Instruments and initiatives Support for starting a business, growing a business, competence development, recruitment assistance, internationalisation, and change situations

Impact One full year after the establishment of the Business Espoo network, the number of customer service contacts was 16.350 (2020). The visibility of the new service network was good as 46% of companies were aware and/or had used its services. For small companies and self-employed the percentage was even higher at 59%.

Link <https://www.businessespoo.com/fi-FI>

www.businessespoo.com/fi-FI



FINLAND

Pori – Robocoast

City/Region/country	Pori, Finland
Title	Robocoast
Description	Robocoast is a Digital Innovation Hub located in Finland. It is an international center of excellence for robotics and artificial intelligence that focuses on need-based product development projects and the modernisation of industry and services (Industry 4.0).
Aim	The mission of Robocoast is to increase industrial competitiveness by providing modernization services and RDI support for SMEs.
Focus	Skills and lifelong learning for robotics, cyber security, data analytics, AI and IoT & talent attraction.
Stakeholders	Robocoast Digital Innovation Hub is a consortium of coordination unit and 9 universities, over 45 000 students and almost 7 000 specialists in research and development and over 60 partner companies in the field of Robotics, AI, Cybertechnology and IoT etc. Robocoast DIH and its Competence Centers also run several RDI laboratories and test bed environments for implementation and research of new digital technologies.
Instruments and initiatives	<p>Services of the Digital Innovation Hub are: innovation ecosystem and networking, test before invest, skills and training, and support to find investments.</p> <p>Instruments and initiatives:</p> <ul style="list-style-type: none"> • Lifelong learning and closing the skillsgap needed for technology & industry skills. • International relations & RDI centers. • Hackathons & talent attraction.
Link	https://robocoast.eu/ ; also see: https://www.roboai.fi/



FRANCE

Nice - school42

City/Region/country The Metropole Nice Côte d'Azur, France

Title School 42

Description School 42 is a digital computer programming school that is completely free and available to everyone above 18 years with or without degrees. The program learns people skills for the digital world and for the technology industry with coding, computer programming, and software engineering at the heart of the program.

Aim Skills for a lifetime and equal access to tech education and tech jobs

Focus Skills for tech sector

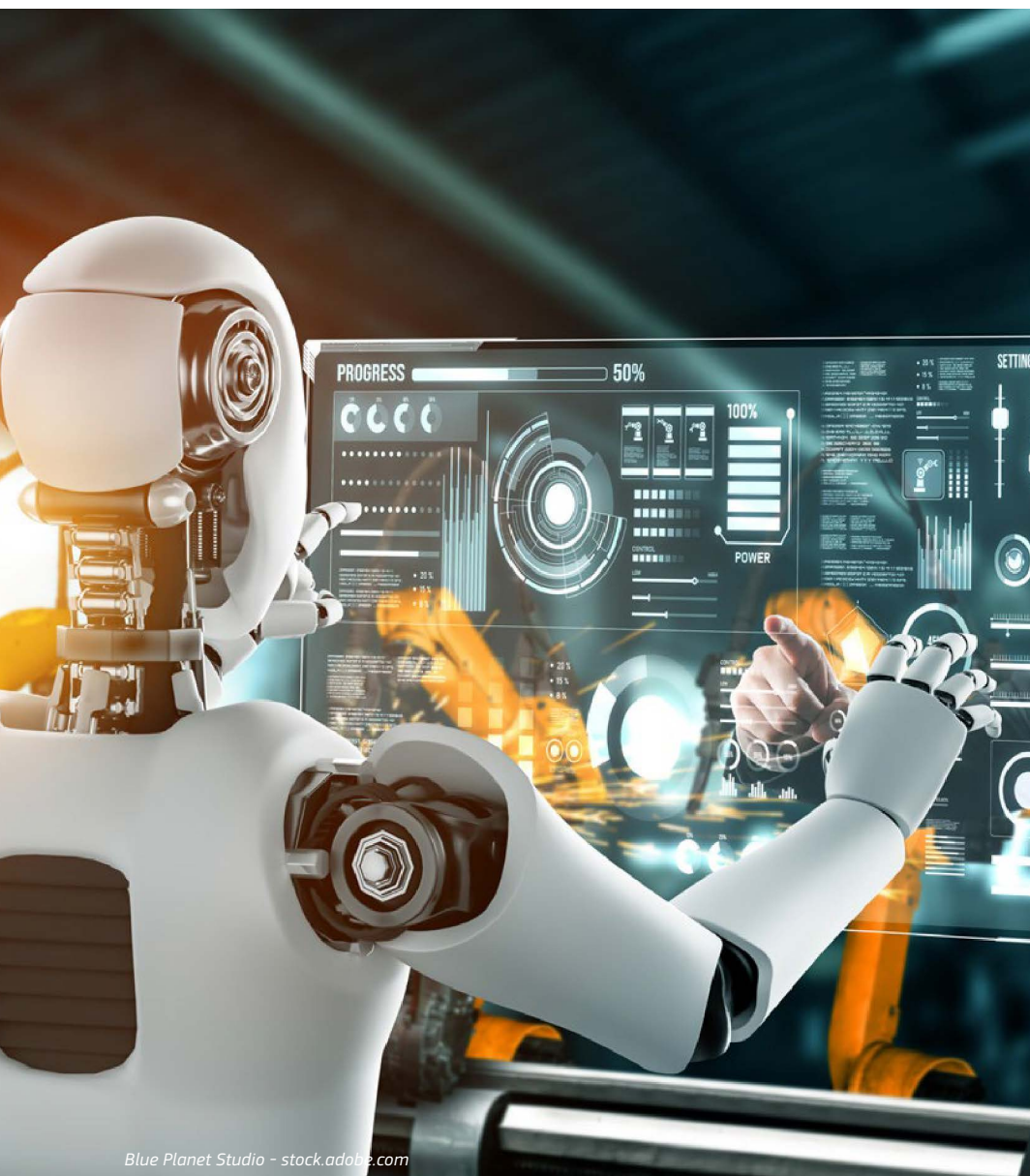
Target group(s) Primarily people without (the right) degrees

Stakeholders Métropole Nice Côte d'Azur

Instruments and initiatives The school is based on learning principles such as peer-to-peer learning and project-based learning. There are no teachers, no lessons, no age limit and no requirement for diplomas.

Impact The opening of Ecole 42 meets a real need for digital skills for local companies.

Link <https://www.42.fr/>



FRANCE

Nice - 3AI

City/Region/country The Metropole Nice Côte d'Azur, France

Title

3AI

Description

The 3IA Côte d'Azur project to create an Interdisciplinary Institute for Artificial Intelligence (3IA), led by Université Côte d'Azur, the CNRS and Inria was selected by the international jury on April 24 as part of the French national program for artificial intelligence. 62 large companies, SMEs and startups, mainly located in the South Region will be involved in the project's innovation program.

Aim

Bring high level academic research and business close together on AI with applications in health and smart territories.

Focus

Four axes: Core Ai models and algorithms, Ai for integrative computational medicine, Ai for computational biology and bio-inspired Ai, Ai for smart and secure territories.

Target group(s)

SMEs, start-ups, researchers, students

Stakeholders

Nice, Université Côte d'Azur, the CNRS and Inria

Instruments and initiatives

Scientific chairs, training programs, collaboration projects

Impact

The goal of the training program is to double the number of people trained in artificial intelligence.

Link

<https://3ia.univ-cotedazur.eu/>



IRELAND

Cork - IT@Cork Skillnet

City/Region/country	Cork, Ireland
Title	IT@Cork Skillsnet
Description	IT@Cork Skillsnet is a learning network that fosters a set of unique practical supports between companies and training providers. Our aim is to strengthen competitiveness in SME organisations through provision of subsidised training solutions. We work with companies (industry-led) to identify gaps in skills that are specific to ICT that meet both short term immediate demand as well as long term strategic needs.
Aim	To identify and deliver through training providers, world class subsidised training solutions that help enterprises with their priority skill development needs. We aim to undertake primary research and training needs analysis to scientifically pin-point skills gaps and then work with training providers to design specific interventions. We sue Government funding through Skillnet Ireland to enable the cost efficiency of skills development.
Focus	ICT domain skills
Target group(s)	Our core demographic includes both the employed and unemployed cohorts. As a direct result of COVID-19 the focus changed even more ro re-skillin programmes (e.g. www.cyberquest.ie). Our customers are MNC's, SME's and start-ups.
Stakeholders	The network is made up of Tech and Tech-enabled companies in the South West region. Other key stakeholders are the Skillnet promoting organisation IT@Cork and Skillnet Ireland.
Instruments and initiatives	We partner with industry to provide subsidized upskilling solutions. We emphasise our ability to tailor our approach to very specific needs across all elements of the ICT skill domains, and beyond.
Impact	The number of companies we haev provided subsidised trainig for has grwon year on year. In 2020, we engaged with over 80 companies through training and eventsl with 500 trainees and over 4.600 training days. We have also put 100 unemployed trainees through a Cyber learning programme.
Link	https://itcorkskillnet.ie/



LinkedIn Sales Solutions - unsplash.com

IRELAND

Regional Skills Forum

City/Region/country	Regions in Ireland
Title	Regional Skills Forum
Description	A Network of Regional Skills Fora was created as part of the Government's National Skills Strategy and provides an opportunity for employers and the education and training system to work together to meet the emerging skills needs of their regions.
Aim	To contribute to better outcomes for learners and support enterprise development.
Focus	Skills in general.
Target group(s)	Regional collaboration between training and education providers and enterprises.
Stakeholders	A dedicated team of 9 Regional Skills Forum Managers are the key contact points and lead the work of the Forum in each Region. In each region, there is a close collaboration between enterprises and education and training providers.
Instruments and initiatives	The Fora provides: a single contact point in each region to help employers connect with the range of services and supports available across the education and training system (1), more robust labor market information and analysis of employer needs to inform programme development (2), greater collaboration and utilisation of resources across the education and training system and enhancement of progression routes for learners (3), and a structure for employers to become more involved in promoting employment roles and opportunities for career progression in their sectors (4).
Link	https://www.regionalskills.ie/



LATVIA

Ventspils Digital Centre

City/Region/country	Ventspils Digital Centre, Latvia
Title	Ventspils Digital Centre
Description	Ventspils City has established a public municipal institution dedicated to support development of information society in Ventspils. In Ventspils Digital Centre access is provided to computers, scanners, small and large 3D printers as well as courses and classes to provide the necessary knowledge and skills for the use of digital technologies.
Aim	To develop a digital infrastructure in the city and to provide access to citizens, businesses and public bodies in the city.
Focus	Development of ICT infrastructure in the city and provision of access to ICT for all. Provision of the opportunity to acquire knowledge, develop skills, abilities and attitudes necessary for the meaningful use of technology for children and adults.
Target group(s)	Citizens, enterprises and public bodies
Stakeholders	Ventspils municipality, vocational school, University of applied sciences, education board of Ventspils, High Technology Park.
Instruments and initiatives	Operational program for the acquisition of computer skills in Ventspils city general education Schools has been implemented. 25 different classes available for free to children: computer skills, programming, digital photo and video, 3D modelling, robotics etc. Also, a curriculum for teachers "Towards digital competences" is developed to facilitate the use of ICT in formal education. Science and Innovation Centre is being built to establish a first-class learning resource for children and adults.
Impact	About 20% of all children participate in one or more classes and each year about 5% of inhabitants take classes both at professional level and for home use (e.g. Spreadsheets, digital photo and video processing, internet security, use of e-services).
Link	https://digitalaiscentrs.lv

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NORTHERN-IRELAND

Londonderry – Youth Action NI

City/Region/country Londonderry, Northern-Ireland

Title YouthAction NI

Description Londonderry identified skills as catalyst to contribute to rebuilding a more competitive, resilient and inclusive economy. At the same time, there is a high number of unemployed youth in the region. YouthAction NI offers, amongst others, support to youth in building skills for life, work and business. They aim to change the culture, perceptions and mindset about work, education and skills and improve the well-being, aspirations and opportunities of young people in the region.

Aim The core aim is young people's health and wellbeing. YouthAction aims to make a significant difference to the lives of young people and their communities by providing unique, life changing opportunities.

Focus Skills in general

Target group(s) Youth

Instruments and initiatives Initiatives of YouthAction focus on:

- Connecting young people with business and employers
- Educating young people on the skills they need for work
- Empowering young people to find meaningful training and employment

Impact In 2019, Youth Action built the skills of 600 young people through practical skills building workshops. A total of 115 employers from their business network, led workshops and mentored young people.

Link <https://www.youthaction.org/youth-empowered>



THE NETHERLANDS

Amsterdam – House of Skills

City/Region/country Amsterdam Metropolitan Area, the Netherlands

Title House of Skills

Description House of Skills is a public-private partnership that seeks to realize structural mobility to and between work, both in economic downturn or economic boom. Their mission is to direct today's labour market towards a more skills-based focus, by making intersectoral mobility easier, and by approaching learning as a lifelong practice.

Aim The mission of the House of Skills is to develop skills tools to make a fundamental contribution to a more skills-oriented labour market so that the working population is given more control over their career, making optimal use of talents, lifelong learning development is promoted, the transition to another sector of work is made easier, and regional labour market coalition is created.

Focus Skills (in general)

Target group(s) Primarily people with secondary education in the Amsterdam Metropolitan Area who are: working in a stable sector; working in an industry threatened by job losses; being unemployed for less than 1 year; having a sole proprietorship or being self-employed.

Stakeholders Local governments, Universities, Research institutes, Vocational education, Trade unions, Employers organization, Employment Agencies, PES Amsterdam, Amsterdam Economic Board.

Instruments and initiatives House of Skills develops tools that facilitate skills matching for employers, employees, and for people who are currently looking for work, such as: The Fitting Room, My House of Skills, The Skills Passport, Career Coaching and Transfer point Health and Wellbeing. Most of the tools are transferred to new stakeholders after the House of Skills ended.

Link <https://www.houseofskillsregioamsterdam.nl/about-house-of-skills/>



THE NETHERLANDS

Amsterdam – TechConnect

City/Region/country Amsterdam Metropolitan Area, the Netherlands

Title TechConnect

Description TechConnect provides initiatives to upskill and reskill underrepresented groups in tech & IT. In practice, this means thousands of women, people from socially disadvantaged neighborhoods and homegrown SMEs are trained to become programmers, data analysts, growth hackers, UX designers or tech managers.

Aim The overall aim is to increase equity in the tech labor market and make tech training and jobs accessible to all.

Focus Skills for tech and IT sector

Target group(s) Underrepresented groups in tech & IT

Stakeholders TechConnect is an initiative of Amsterdam Economic Board, Booking.com, Rabobank, TomTom and CA-ICT. Dozens of companies, educational institutions, government organizations from the Amsterdam metropolitan region are participating.

Instruments and initiatives Different initiatives focus on different target groups or goals, such as: Techgrounds, Become a Tech, TechMeUp, Pathways, SME Digital, TeachForAmsterdam.

Impact In four years, TechConnect activates 50,000 people from underrepresented groups to tech & IT.

Link <https://techconnect.city/>



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THE NETHERLANDS

Twente – Fund for Craftmanship

City/Region/country Twente, the Netherlands

Title Twents Funds for Craftmanship

Description Investing in craftsmanship is important to keep Twente's economy vital. That is why entrepreneurs, education and government make it possible with Twents Fund for Craftmanship to develop talent on a permanent basis. People can request a personal check from the fund up to a maximum of € 5,000 to pay for training.

Aim Promoting modern craftsmanship at vocational secondary level 4 (MBO 4), driving Lifelong Development, stimulating intersectoral mobility and cooperation, and innovating the training offer in Twente.

Focus Training and/or retraining people on vocational secondary level 4 (MBO 4 level).

Target group(s) The training check is for workers, freelancers and job seekers from Twente who currently have a maximum of vocational secondary level diploma, and who want to retrain or additionally train in a specialization up to and including vocational secondary level 4.

Stakeholders Government, education and entrepreneurs

Instruments and initiatives Career consulting, drawing a training plan and a 2.500 euro voucher for training

Link <https://www.twentsfondsvoorkmanschap.nl/>



THE NETHERLANDS

National - Project Crossover

City/Region/country The Netherlands

Title Project CrossOver

Description CrossOver develops “work-to-work”, “lifelong learning” and “vitality and appreciation” initiatives for technical professionals.

Aim To contribute to enough technical professionals with smart hands to keep the Netherlands liveable for the next 100 years. The goal for 2030 is that all 700.000+ Dutch technical professionals have Smart Hands.

Focus Skills for tech and green sector

Stakeholders A broad network, such as employers’ associations, industry organizations, management, HR and technical professionals

Instruments and initiatives Together with trade organizations, companies and professionals, they develop initiatives to recruit, develop and retain technical professionals. They focus on three different themes: work-to work (1), lifelong learning (2) and vitality and appreciation (3).

Impact Project Crossover has already reached more than 85.000 tech professionals in more than 190+ different tech businesses. One of their projects – Smartest Hands of the NL – has attracted 64 teams, 44 technical businesses, and 8000+ engaged professionals.

Link <https://www.projectcrossover.nl/>



PORTUGAL

Guimarães – Career Guidance Programme

City/Region/country Guimarães, Portugal

Title Guimarães' Career Guidance Programme

Description The career guidance is a comprehensive school counselling annual programme managed by the city of Guimarães that helps students moving smoothly into professional life. Participation is free for all. The programme is funded by the Intermunicipal Community of Ave (sub-region). Activities are carried out by the psychologists of the respective schools with the support of the School of Psychology of the University of Minho that ensures consultancy, training and monitoring.

Aim Career guidance programme aims to support students to move from school to workplace as effective and efficient as possible.

Focus Career guidance

Target group(s) All 9th grade students (14-15 years old) who are finishing the third cycle of Portuguese basic education and are enrolled in schools of Guimarães.

Stakeholders City of Guimarães, Intermunicipal Community of Ave, all schools

Instruments and initiatives The programme includes face-to-face and online activities, providing information about the educational system and academic options, assessment and development of professional, academic and personal skills, and the establishment of individual academic and professional plans for each participant.

Impact Currently addresses 1460 students in Guimarães, and the impact will significantly increase in the coming years as it will be enlarged to include also younger (from 7th grade) and older students (attending secondary school between 10th and 12th grades), up to 8942 students.

Link https://www.dge.mec.pt/sites/default/files/noticias_documentos/seminario_de_psicologia_da_educacao2021_programa.pdf



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SPAIN

Las Rozas – Regional Skills Partnerships for Madrid Oeste Tecnológico (MOT).

City/Region/country	Las Rozas, Spain
Title	Regional Skills Partnerships for Madrid Oeste Tecnológico (MOT).
Description	Madrid Oeste Tecnológico (MOT) is a collaborative project launched by three municipalities settled in the northwest of Madrid Region (Spain) that are firmly committed to promoting digital transformation by the creation of a “Smart Metropolitan Area”: Las Rozas de Madrid, Boadilla del Monte, and Majadahonda.
Aim	The aim is to constitute a pole for the development of innovative initiatives to improve the productivity and competitiveness of the region in the northwest corridor of Madrid. Technology is the main lever of change that will accelerate the sustainable growth of the region, generating public-private synergies, placing citizens at the centre of digital innovation, and maximizing their social benefits through it.
Focus	Through the Regional Skills Partnership for Madrid Oeste Tecnológico (MOT), we expect to: <ul style="list-style-type: none"> • Consolidate MOT as the main region of digital, technological, and scientific talent in Spain. • Promote STEM and scientific vocations throughout the school stage up to higher education and connecting this young talent to the labour market. • Provide management and technical skills to entrepreneurs and start-ups so that they can develop their projects. • Identify skills needs of the local economy and align needs with upskilling and reskilling activities.

City/Region/country	Las Rozas, Spain
Target group(s)	“Smart People” goal focuses on enhancing the human capital that resides in the city, empowering citizens to become participants in the process of co-creating the «intelligent city». This ambition must count on an active participation of private organizations that are part of the local ecosystem: big companies, SMEs, start-ups, entrepreneurs, universities, RD+ centres, etc., so that the real needs of the labour market can be projected to the goals of Madrid Oeste Tecnológico (MOT) and its associated entities.
Stakeholders	The skills partnership under the Pact for Skills can be instrumental to this objective of engaging all relevant stakeholders in the local ecosystem (such as public authorities, training providers, small, medium and large companies, research institutions, non-governmental or civil society organizations) in the skilling actions planned.
Instruments and initiatives	<p><u>Commitment 1: Consolidate MOT as the main region of digital, technology and science talent in Spain.</u></p> <ul style="list-style-type: none"> • Action 1: Development of a regional talent observatory. • Action 2: Ecosystem mapping. • Action 3: Pact for Skills Partnership promotion. <p><u>Commitment 2: Promote STEM and scientific vocations throughout the school stage up to higher education and connecting this young talent to the labour market.</u></p> <ul style="list-style-type: none"> • Action 4: Smart schools. • Action 5: Building university links to promote scientific knowledge transfer. <p><u>Commitment 3: Provide technical skills to entrepreneurs and start-ups so that they can develop their projects.</u></p> <ul style="list-style-type: none"> • Action 6: Entrepreneurial support agenda. • Action 7: Acceleration services. <p><u>Commitment 4: Identify skills needs of the local economy and align needs with upskilling and reskilling activities.</u></p> <ul style="list-style-type: none"> • Action 8: Talent Seeking and Developing Actions.

City/Region/country	Las Rozas, Spain
Impact	<p>Participating in the Pact for Skills initiative will enable to develop activities aimed at:</p> <ul style="list-style-type: none"> • Create and launch a cooperation network with all relevant stakeholders at a local level. This network will consolidate a public-private collaboration framework for the digital and intelligent transformation of cities and the Madrid Oeste Region. • Generate knowledge, good practices, and demonstrative experiences around the use of disruptive technologies, contributing to the sustainable development of the territory. • Promote the generation of synergies between local entities, companies, and the academic and research ecosystem, for the development of projects that respond to the global and specific challenges faced by the territory. • Facilitate the development of joint projects by members of the skills partnership to access the different European and national funding sources that are available for the implementation of skilling policies.
Link	https://pact-for-skills.ec.europa.eu/about/regional-skills-partnerships/madrid-oeste-tecnologico-mot-skills-partnership_en



BULGARIA

Sofia – Maintaining an Information Platform for Waste Management Open to Citizens

City/Region/country	Sofia, Bulgaria
Title	Maintaining an Information Platform for Waste Management Open to Citizens
Description	The initiative will enhance an online platform for real-time information on household waste separation and disposal, enabling issue reporting to the Sofia Inspectorate. The platform will map waste collection methods by color and allow for new options. It will also provide quick access to useful information, reporting, a blog, news, and FAQs, integrating with other municipal systems. This project will boost citizen awareness of legislation, streamline communication with municipal administration, and enable businesses to showcase their initiatives on the city map.
Aim	To encourage citizens in the process of separation and disposal of the waste as creating of a single point of access for citizens to waste management process.
Focus	Sofia Municipality's strategic papers.
Target group(s)	Citizens, NGOs, Public and Private Sectors, Academics, etc.
Stakeholders	Sofia Green, CSR NGO, Ecopack, Kronospan, Bulecopack, Institute GATE etc.
Instruments and initiatives	The implementation of the project will occur through the ICC initiative by creating a local Green Deal for Sofia.
Impact	Promoting and educating the citizens on responsible disposal practices, coupled with visualizing waste collection methods on a city map, will significantly improve waste management efficiency and encourage better disposal habits. Quick access to relevant information and integrated municipal systems will streamline communication between citizens and municipal administration, enhancing transparency and responsiveness. Moreover, businesses will benefit from showcasing their environmental initiatives, fostering community involvement and sustainable practices.
Link	https://waste.sofia.bg/



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DENMARK

Aalborg - Det Grønne Rejsehold

City/Region/country	Aalborg, Denmark
Title	Det Grønne Rejsehold
Description	In Aalborg, the «Det Grønne Rejsehold» (The Green Travel Team) trains recent university graduates with green competences and connects them with local businesses, mainly Local Green Deal partners. These graduates support businesses with green actions and solve real cases for the companies.
Aim	The aim is to provide the graduates a skillset required from the business ecosystem and to matchmake them with local companies. Through this many of the graduates either get hired afterwards or at least get experiences that makes them more attractive for the next job possibility.
Focus	Sustainable and circular competences for business development
Target group(s)	University students/recent graduates
Stakeholders	Aalborg University, University College North, Aalborg Municipality, Network for Sustainable Business Development, local companies
Instruments and initiatives	2-3 weeks of “green education” and 3-4 weeks of case work with a local company
Impact	Advancement of local green competences, easier way to employment for graduates, cost-efficient solving of company cases.
Link	Det Grønne Rejsehold (nben.dk) https://nben.dk/praktiskinformation/projekter/det-gronne-rejsehold



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DENMARK

Aalborg - The Green Academy/Det Grønne Akademi

City/Region/country

Aarhus, Denmark

Title

The Green Academy/Det Grønne Akademi

Description

The Green Academy is a 9-week program that upskills unemployed academics into sustainability change agents for companies and municipal workplaces. Participants are matched in interdisciplinary groups with a company to develop a sustainability plan, which includes strategies for sustainable production and operations, mapping initiatives, and creating action plans. These range from innovative projects to small actions like improving energy efficiency. Participants gain insights into project management, green business development, and business building, while also training to promote a sustainable agenda for companies.

Aim

To empower and upskill unemployed academics (change agents) by providing specialized training in sustainable businessmodels, Environmental, Social, and Governance (ESG) criteria, and Sustainable Development Goals (SDGs). And to offer comprehensive support to local businesses in adopting and integrating sustainability practices into their production processes and daily operations. Amidst the challenges many companies face in navigating the Corporate Sustainability Reporting Directive (CSRD), this course also provides support to businesses in preparing for future ESG reporting requirements.

Focus

Green business models, ESG, and SDGs: Empowering academics with the skills needed for careers in the green transformation. Providing practical insights into corporate sustainability through green baseline case studies, innovative knowledge, and sustainable practices. Facilitating hands-on experience with internships at local companies and driving green transitions in both businesses and municipal workplaces.



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City/Region/country	Aarhus, Denmark
Target group(s)	Unemployed academics, local SMEs, larger companies, municipal workplaces (schools, nursing homes, and city administration)
Stakeholders	Local authorities, job centers, citizens, companies, national authorities, business academics, and municipality employees working with sustainability.
Instruments and initiatives	Methods and learnings on CO2 accounting, Circular economy, Business understanding, and Sustainable business development. Communication, CSR and ESG, Corporate culture, and how to mobilize and assist companies in promoting and communicating sustainable agendas.
Impact	Since 2020, the Green Academy has: Delivered 9 comprehensive programs, supported 74 companies and 17 municipal workplaces in initiating their green transition, and trained 270 change agents to lead sustainable initiatives. And supported academics towards employment.
Link	Det Grønne Akademi (aarhus.dk) https://dga.aarhus.dk/



GERMANY

Dortmund - To:DO Dortmund's New Work

City/Region/country	Dortmund, Germany
Title	To:DO Dortmunds Neue Arbeit (to:DO Dortmund's New Work)
Description	To:DO Dortmund's New work» is a broad-based campaign and, at the same time, a permanent urban social innovation platform for shaping the future in and through work for all generations.
Aim	The initiative promotes the exchange on the central challenges and possible solutions regarding the changing world of work, demographic change, the economy, and society in Dortmund. It identifies leverage points and "to: Do's" for a future-proof Dortmund.
Focus	Future of Work, demographic change
Target group(s)	Entrepreneurs and employees, civil society covering all generations, "silver workers"
Stakeholders	Economic Development Agency Dortmund, InnoLab Future of Work Dortmund, labor market actors from Dortmund including researchers and practitioners
Instruments and initiatives	Media campaign, event week "to:DO Dortmund's New Work" 2024 with over 100 speakers in 26 events incl. graphic and video recording; implementation of a "to:DO-list", Transformation-Monitoring
Impact	To:DO Dortmund's New Work is not a one-time initiative but the beginning of a permanent institutionalization of an independent municipal innovation platform for shaping the future of work in Dortmund and will sustainably shape the future strategic direction of the work of the Dortmund Economic Development Agency. For its innovative approach, this initiative received the "German Demography Award 2024".
Link	Initiative: www.todo-dortmund.de Recap / video documentation: Recap to:DO-Eventwoche https://www.youtube.com/watch?v=FmZsBRIZ-sc&t=64s



GREECE, CYPRUS, GERMANY, PORTUGAL

CRISIS Project - Smart City Resilience Officer (SCRO)

City/Region/country	Greece/Cyprus/Germany/Portugal
Title	CRISIS Project
Description	The CRISIS project focuses on enhancing the resilience of smart cities by developing the role of the Smart City Resilience Officer (SCRO). This role involves planning and building resilience capacity in smart cities to address various risks and shocks, including natural disasters, health epidemics, and socio-economic challenges. The project aligns with European policies to improve digital skills for smart cities while simultaneously enhancing urban resilience.
Aim	The primary aim of the CRISIS project is to define and promote the role of the Smart City Resilience Officer. This includes developing a comprehensive curriculum and educational resources to train professionals.
Focus	<p>The project focuses on several key areas:</p> <ul style="list-style-type: none"> • Transversal Skills: Crisis management, decision-making, and problem-solving. • Smart City Planning and Organizational Skills: Stakeholder management, citizen engagement, and smart city standards for resilience. • Resilience Management Skills: Risk assessment, asset evaluation, and disaster response planning. • Business and Economic Management Skills: Economic recovery planning and program management.
Target group(s)	<ul style="list-style-type: none"> • Municipal officials • Smart city planners • Urban resilience professionals • Individuals seeking careers as Smart City Resilience Officers



City/Region/country	Greece/Cyprus/Germany/Portugal
Stakeholders	<ul style="list-style-type: none"> • European Commission • Local Authorities • Municipalities • Higher Education Institutions (HEIs) • Vocational Education and Training (VET) providers
Instruments and initiatives	<p>Development of a comprehensive curriculum for the Smart City Resilience Officer.</p> <p>Creation of an online platform to support personalized learning experiences, likely based on Moodle LMS.</p> <p>Pilot implementation of the SCRO curriculum in four EU countries to create the first cohort of certified SCROs.</p>
Impact	<p>The CRISIS project aims to significantly improve the resilience of smart cities by training a new cadre of professionals equipped to handle diverse urban challenges. By focusing on digital infrastructure and innovative technologies, the project seeks to prepare cities to effectively manage crises and maintain the quality of life for their residents.</p>
Link	<p>For more detailed information, you can visit the https://crisisproject.eu/</p>



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GREECE, CYPRUS, GERMANY, PORTUGAL

OpenDCO project - Open Data City Officer

City/Region/country

Greece/Cyprus/Germany/Portugal

Title

Open Data City Officer – OpenDCO

Description

The OpenDCO project aims to develop and implement a structured framework for educating city staff on open data competencies. It is designed to address the challenges of creating open data from smart, sustainable, and resilient cities by providing the necessary knowledge, skills, and attitudes for city officials and professionals.

Aim

The project aims to close the skills gap in municipalities regarding open data and smart city development by creating an innovative curriculum and learning tools for Open Data City Officers. It promotes European collaboration on smart cities' education and raises awareness about the complexity of open data competencies. Objectives of the OpenDCO project include: Providing a structured framework for educating smart cities staff on open data. Developing an innovative curriculum for OpenDCOs. Closing the competence and skills gap for municipal officials. Promoting European collaboration on smart cities' education. Increasing awareness among Member States, local authorities, municipalities, and stakeholders about the complexity of smart cities' open data competencies.

Focus

The project focuses on developing a comprehensive curriculum and educational resources for Open Data City Officers. It emphasizes the need for smart cities to not only incorporate advanced technologies but also to have well-trained personnel capable of managing and exploiting open data for improved urban services and quality of life.



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City/Region/country**Greece/Cyprus/Germany/Portugal****Target group(s)**

Municipal officials, Smart city planners, Knowledge workers in urban-related organizations, Individuals seeking careers as Open Data Officers

Stakeholders

European Commission, Local Authorities, Municipalities, Higher Education Institutions (HEIs), Vocational Education and Training (VET) providers, Organizations such as the Open Data Institute

Instruments and initiatives

Development of an innovative curriculum for Open Data City Officers, Creation of eLearning modules and resources, Collaboration with previous and ongoing projects like SmartDevOps and CRISIS to build upon their frameworks and findings, Promotion of European collaboration through workshops, webinars, and a community of practice.

Impact

The project aims to have a significant impact on the economic growth of European cities by enhancing the skills and competencies of city officials. It will help cities to better manage open data, leading to more efficient urban services and improved quality of life for residents. The initiative also seeks to foster a culture of continuous learning and adaptation in the face of evolving technological and societal challenges.

Link

<https://www.opendatacity.eu/>



CROATIA

Pula – European Innovation Hub Adriatic Croatia

City/Region/country	Pula, Croatia
Title	European Innovation Hub Adriatic Croatia (EDIH Adria project)
Description	The EDIH Adria is a user centred consortium with experienced experts who offer knowledge, experience and problem-solving skills to private owned companies and public institutions.
Aim	The project aims to assist companies and public administration in accelerating the integration of modern technology, training their personnel, identifying finance options, and establishing links with key regional, national, and European actors, within various areas including health, transport and mobility, and energy and sustainable development.
Focus	Future of Work, health and quality of life, transport and mobility, energy and sustainable development
Target group(s)	Private based and public organisations.
Stakeholders	UNIRI, Džurina University of Pula, Infobib, Ericsson, STEPRI, SmartRI
Instruments and initiatives	Downstream employee trainings, Upstream expert trainings, Digital Workforce learning factory, Digital Innovation Bootcamp, Test Before Invest (TBI) project.
Impact	Customized training package for effective operations management.
Link	https://edihadria.eu/en/edukacije/

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GERMANY

Mannheim - The Flurfunk Programme

City/Region/country	Mannheim, Germany
Title	The Flurfunk Programme.
Description	A motivational programme with interactive workshops for the city administration and company employees with various team formats from Climate Breakfast to Climate Café.
Aim	Learning by "Living", sharing useful tricks and tips for a sustainable Lifestyle: When it comes to the city of Mannheim acting as a role model in achieving a climate-neutral city administration, the municipal employees play an important role. Many small climate sins are hidden in everyday office life, which the action programme 'Flurfunk' (office gossip) aims to educate people about. All it takes to change behaviour slightly is a little nudge and motivation here and there.
Focus	Skill-Building: Communication Skills, Green Skills, Sustainability Skills. Everything related to energy, mobility, food and waste, for everyday office life or as tips for the home. In the office and at home. Flurfunk has had a new learning space for everyday decisions – the sustainability model flat.
Target group(s)	Employees in the city administration and in companies, organisations, and schools.
Stakeholders	Organised by the Climate Action Agency Mannheim.



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City/Region/country

Mannheim, Germany

Instruments and initiatives

Tailormade interactive Workshops for teams of the City administration (now adopted by companies). There are information events and special offers in every module, from energy and mobility to nutrition and consumption. At our Climate Café events companies are invited to gain a better understanding of the future issues of climate change and sustainability – and in particular their own role in them – in order to initiate change.

Impact

Guiding employees from knowledge to action, facilitating and visualising the path to sustainable living: Using interactive methods thought-provoking impulses and suggestions are provided and, based on scientific findings, what is behind the terms greenhouse effect, climate justice and climate change adaptation. A particular focus is on getting to know local sustainability initiatives and one's own options for action. This not only makes you an expert in climate protection, but also a multiplier for climate protection in the workplace.

Link

www.klima-ma.de/bildung/flurfunk



GERMANY

Mannheim - The Heat Transition Academy

City/Region/country

Mannheim, Germany

Title

The Heat Transition Academy.

Description

Central point of contact for all craft enterprises to actively shape the heating transition in Mannheim and information events on the municipal heating plan with the climate department and the energy supplier MVV.

Aim

The municipal heating plan has been finalised, and with that, the foundation has been laid for a climate-neutral and future-proof heating supply. However, the local heating transition can only be successfully implemented if we all work together – the City of Mannheim, the business community, tradespeople, MVV Energie AG and the city's residents. At the Academy, craft enterprises will receive all the relevant information that is needed to implement the heating transition for customers – from municipal heating planning, legal changes, funding programmes and expansion paths to innovative product solutions.

Focus

Technical skills, financial skills and communication skills. Learning for the future: In-depth knowledge and practical tools to optimally prepare for the challenges and opportunities of the heating transition.

Target group(s)

- Craft enterprises and citizens.
- Status Sep 2024:
- 14 information events in the city districts
- 1,500 consultations to citizens, 51 Energy checks, 48 heat pump checks

**City/Region/country****Mannheim, Germany****Stakeholders**

The Heating Transition Academy is an initiative of the Plumbing, Heating and Air Conditioning guild, the Electrical Engineering Guild, the Chamber of Industry and Commerce, the Chamber of Skilled Crafts, the Climate Action Agency, the energy supplier MVV and the City of Mannheim.

Instruments and initiatives

- Heat transition Academy:
- Climate Action Agency providing regulations and funding possibilities
- Chamber of Craft and MVV energy utility training on heat pump installation and communication
- Citizen Info Website „all about Heating“

Impact

Access to a valuable partner network leads to an increased customer satisfaction, a greater visibility and business opportunities: With the comprehensive training programme, tradespeople, engineers, and the public can expand their knowledge about municipal heating planning, legal regulations, innovative product solutions, funding and financing, and much more. Tradespeople can optimise their consultations, which leads to customer acquisition and high customer satisfaction. Academy participants receive an official certificate of participation and a seal for their e-mail signature and a promotional package.

Link
www.waermewende-akademie.de



GERMANY

Mannheim - The Deal Box – Deals to go

City/Region/country	Mannheim, Germany
Title	The Deal Box – Deals to go.
Description	The Deal Box offers everyone who has not yet found their own deal for their company or organisation ideas, impulses and orientation for sustainable measures. It is a modular and digital format for a simple overview of concrete recommendations for action for more sustainability.
Aim	The Local Green Deal Team supports companies, associations, clubs, initiatives and other organisations in how they can become active with their own contribution and makes their successes visible. Every contribution from large to small companies such as retailers and restaurants, hotels, cultural organisations, faith communities, sports clubs counts. The deals are as diverse as the landscape of stakeholders in Mannheim.
Focus	Skills-Building on Local Green Deals: Sustainability skills, technical skills, reporting skills, green skills, social skills, and financial skills.
Target group(s)	The Deal-Box is divided into four categories, for each of which large and small companies, retailers and restaurants, hotels, cultural organisations, faith communities, sports clubs will find the recommendations for action from all eight fields of action of the Local Green Deal.
Stakeholders	Local Green Deal Office: Mannheim's Local Green Deal initiates, activates and bundles concrete agreements towards more sustainability. Together with citizens, politics, administration, business and research, we want to create a green, clean and healthy Mannheim.

fizkes – stock.adobe.com



City/Region/country

Mannheim, Germany

Instruments and initiatives

Toolbox in all 8 action fields: knowledge on Local Green Deals
 What are the benefits – What is in for me?
 Inspiring Tool for SMEs and Associations, initiatives
 Providing ideas for:

- Deals with employees
- Deals around the building
- Deals around the property, land use
- Deals around production and processes

Impact

The companies win:

- Image: Competitive advantages on the market through positioning as a sustainable company
- Skilled workers: Advantages on the personnel market as a 'sustainable' employer
- Advantages on the capital market, e.g. through proactive ESG reporting
- Security: Optimisation of risk management/reporting
- Savings: Comprehensive reduction in operating costs, e.g. through efficient use of resources
- Profitability: Better conditions when negotiating with customers and suppliers
- Financial resources: Advantages when acquiring funding
- Time: Fulfilment of legal requirements with regard to reporting obligations

Mannheim wins:

- Image: Attractive, future-oriented business location Mannheim
- Sustainability: Positive effects on the environment and climate
- Quality of life: Shaping a liveable & climate-neutral city together (Mannheim 2030 mission statement and Local Green Deal)
- Together: Achievement of the urban society becomes visible, inspires and networks other actors
- Facts: Obtaining further data for measuring the success of climate neutrality on the 'Climate View' portal

Link

www.mannheim-gemeinsam-gestalten.de/local-green-deal



lovelyday12 – stock.adobe.com

GERMANY

Mannheim - The Climate Net

City/Region/country	Mannheim, Germany
Title	The Climate Net.
Description	An energy efficiency and climate protection network was set up to support companies in the interests of climate protection.
Aim	The aim of the project is to set up a company network with Mannheim companies in order to work together on the topics of energy efficiency and sustainability and to pursue specific savings targets.
Focus	The motto of the company network will be: 'Learning from and with each other': Sustainability skills, digital skills, technical skills, green skills, reporting skills, and economic skills.
Target group(s)	10 Mannheim-based companies want to work together over several years to increase their energy efficiency and expand their sustainability activities.
Stakeholders	Climate Action Agency: The Mannheim network is part of the federal initiative Energy Efficiency Networks and is organised and moderated by the Climate Action Agency Mannheim. Eproplan GmbH from Stuttgart is responsible for providing energy technology advice for the entire duration of the project.



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City/Region/country

Mannheim, Germany

Instruments and initiatives

At the start of the network, all companies receive qualified energy counselling to take stock of their energy and emissions balance and their efficiency potential. They then set their own savings target for the duration of the network of just under three years, as well as an overall savings target for the network. During the term of the programme, the companies' energy, environmental and sustainability experts also regularly share their experiences, creating the basis for investments to save energy costs and for individual companies to contribute to the energy transition and climate protection.

KliMANetz (Climate Net) – Workshops: A total of nine workshops focussed on current topics of the future, such as hydrogen, carbon management.

- Heat Transition (03.07.24)
- CSRD Reporting (09.10.24)
- Carbon Management (Feb 25)

Impact

The network focusses on increasing energy efficiency and balancing emissions. The special focus is on medium-sized companies and their path to climate-neutral production. The joint target agreement of the network community stipulates that at least (Commitment by 31.12.2026):

- Reduction of energy consumption by 2,400 MWh/year
- Reduction CO₂ -Emissions by 1,200 t/year
- Increasing renewable energy by 1,700 kWp

Link

www.mannheim.de/de/nachrichten/energieeffizienz-und-nachhaltigkeitsnetzwerk



www.tus.ie

GERMANY

Mannheim – ManagENERGY Expert Mission

City/Region/country Mannheim, Germany

Title ManagENERGY Expert Mission.

Description Seamus Hoyne, ManagEnergy Coordinator and Dean of Flexible and Work Place Learning at the Technological University of the Shannon (IE), spent three days at the Mannheim Agency as part of the 11th ManagEnergy Expert Mission, which took place from 15-17 October 2024.

Aim The mission focused on strategic planning for The Climate Action Agency of Mannheim's (KSA's) future, exploring the development of a One Stop Shop (OSS) and discussing its critical role in Mannheim's broader climate action ecosystem. KSA manages a complex array of subsidy programmes that support energy retrofitting, heat pump installations, district heating connections, photovoltaic (PV) systems, green roofs, and climate adaptation measures. These initiatives empower citizens to take concrete steps toward energy efficiency and sustainability.

Focus KSA's future plans are ambitious. They include the development of a dedicated One Stop Shop, focusing on retrofitting and heating decarbonisation, along with potential growth into mobility-related activities. The Agency is also looking to strengthen its collaboration with other city teams to maximise its impact on the city's climate action strategy. Skill Building: Communication skills, methodological skills, and financial skills.

Target group(s) Energy Agency and the transition team (climate Department and Local Green Deal team).



www.tus.ie

City/Region/country

Mannheim, Germany

Stakeholders

Innovative climate action ecosystem, including the city's Climate Action Department and a newly established Local Green Deal Team, created in 2023, that works across departments such as energy and mobility.

Instruments and initiatives

- 3 days tailor-made expert consultancy with Seamus Hoyne
- Strategic development of the Climate Action Agency Mannheim
- Positioning of the Agency within the Ecosystem
- One-Stop-Shop Concept

Impact

As the city's dedicated Climate Action Agency, focuses on raising awareness, facilitating citizen participation, and administering a wide range of subsidy programmes aimed at reducing the city's carbon footprint. The Agency manages around €2 million in funds annually, which trigger investments of over €10 million in climate action initiatives. The Expert Mission was highly valuable in exploring how the KSA can strategically grow and expand its services, particularly in the development of a One Stop Shop for retrofitting and heating decarbonisation.

Link

https://managenergy.ec.europa.eu/managenergy-discover/news/managenergy-expert-mission-11-driving-climate-action-mannheim-2024-10-24_en

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www.intelligentcitieschallenge.eu