

INTELLIGENT CITIES CHALLENGE

# A Cities Guide to Reskilling the Local Workforce

Introduction to launching  
a Local or Regional Skills  
Partnership

The European Commission's  
**100** Intelligent Cities  
**Challenge**

An initiative by **EISMEA** and **DG GROW**



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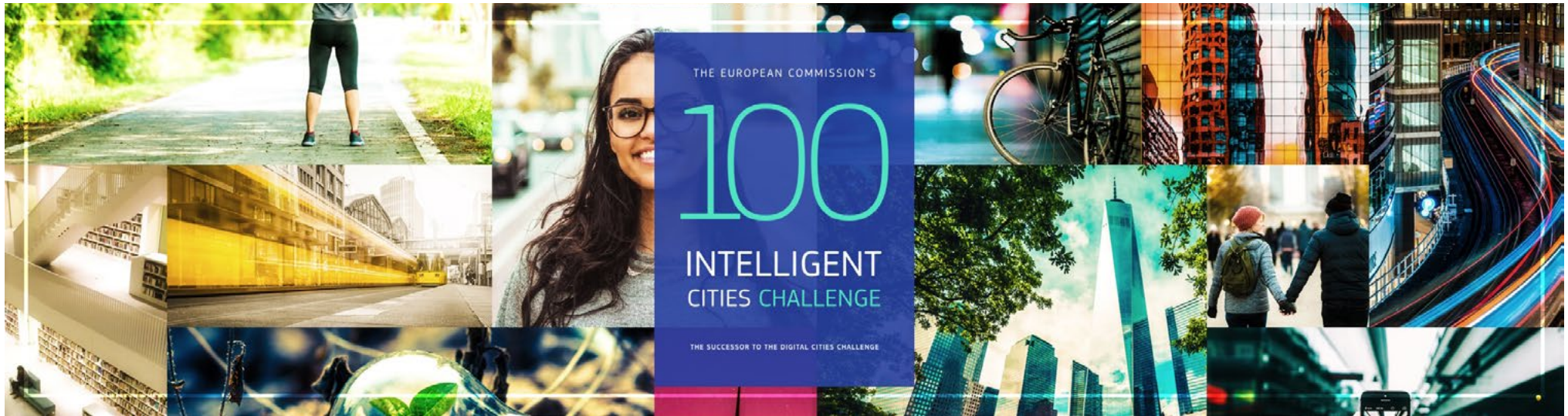
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## About the Intelligent Cities Challenge

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

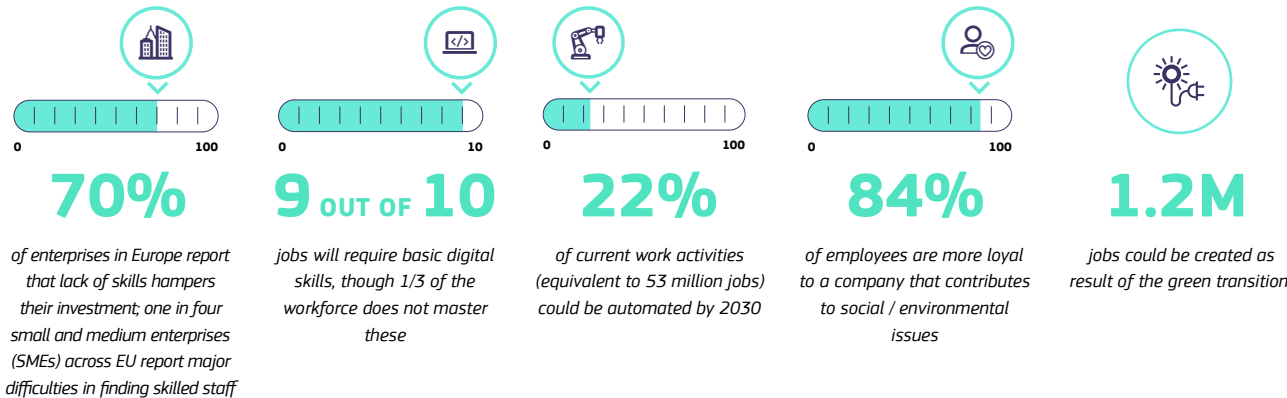
administration; green and digital transition in tourism; resilience of local supply chains; and up- and reskilling of the workforce. The second phase's thematic focus concentrates on the green and digital transition as well as the proximity economy. Cities are also supported by transversal services covering 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](http://www.intelligentcitieschallenge.eu)

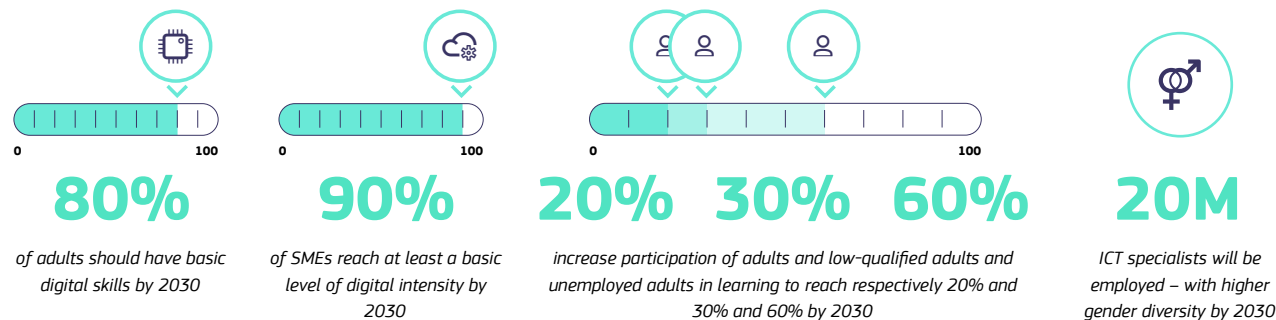
## THE BURNING PLATFORM FOR RESKILLING

Skills are central to our recovery from the coronavirus pandemic and 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. COVID-19 crisis accelerates the need for further skills investment.



## 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 20 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

# CONTENTS

<b>1 Introduction</b>	<b>8</b>	<b>5 Phase 3: Design solutions</b>	<b>27</b>	Croatia: Rijeka – Step Ri	41
<b>2 A phased approach to developing and implementing a reskilling strategy</b>	<b>13</b>	5.1 Establish a vision	27	Finland: Espoo – Young People To Work Plan	42
<b>3 Phase 1: Build and mobilise the reskilling ecosystem</b>	<b>15</b>	5.2 Determine priorities and scope	28	Finland: Espoo – Korko Project	43
3.1 What is a reskilling ecosystem and why is it important?	15	5.3 Determine what solutions already exist within the ecosystem	29	Finland: Espoo – Business Espoo	44
3.2 Key actors and their responsibilities	16	5.4 List all possible solutions (options)	29	Finland: Pori – Robocoast	45
3.3 Considerations in developing the reskilling ecosystem	17	5.5 Evaluate and select solutions	29	Finland: Pori – RoboAI	46
3.4 Tools and instruments	18	5.6 Document the agreed solutions	30	France: Nice – École 42	47
3.5 Maturity phases in ecosystems	18	5.7 Skills Classification	31	France: Nice – 3AI	48
3.6 Best practices for building a sustainable ecosystem	20	<b>6 Phase 4: Implement solutions</b>	<b>32</b>	Ireland: Cork – IT@Cork Skillnet	49
<b>4 Phase 2: Identify the city's future skills needs</b>	<b>21</b>	6.1 Planning, preparation, implementation	32	Ireland: Regional Skills Forum	50
4.1 What are skills needs and why identify them?	21	<b>7 Phase 5: Monitor progress and adjust</b>	<b>34</b>	Latvia: Ventspils Digital Centre	51
4.2 Assessing skills needs	21	<b>8 Funding Models</b>	<b>35</b>	Northern-Ireland: Londonderry – Youth Action NI	52
4.3 Assessing local or regional skills needs	24	8.1 Public sector	35	The Netherlands: Amsterdam – House of Skills	53
4.4 Approaches to assess skills needs	25	8.2 Private sector	36	The Netherlands: Amsterdam – TechConnect	54
4.5 Advanced tooling for needs assessment	26	<b>9 APPENDIX 1</b>	<b>37</b>	The Netherlands: Twente – Fund for Craftmanship	55
4.6 Best practices for assessing skills needs	26	Belgium: Ghent – Skills Navigator	38	The Netherlands: National – Project CrossOver	56
		Croatia: Rijeka – RInovatoRI	39	Portugal: Guimarães – Career Guidance Programme	57
		Croatia: Rijeka – Start-up incubator	40	<b>10 Library</b>	<b>58</b>



# 1 Introduction

**An Intelligent City harnesses the power of technology and social innovation to enhance existing strengths, to solve persistent challenges, and to create new successes by leveraging opportunities.**

To succeed, Intelligent Cities need 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.<sup>1</sup> 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.<sup>2</sup> Also the EC has identified the challenge of lack of staff for European companies, suggesting to make 2023 the European Year of Skills.<sup>3</sup>

<sup>1</sup> 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.

<sup>2</sup> PwC – Talent trends 2019. Upskilling for a digital world. Part of PwC's Annual Global CEO Survey trends series

<sup>3</sup> Ursula von der Leyen – President of the European Commission (2022) State of the Union Address

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.

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.

**"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 Commission<sup>4</sup>

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.

<sup>4</sup> European Skills Agenda for sustainable competitiveness, social fairness and resilience (2020)



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**

European Commissioner for Jobs and Social Rights<sup>5</sup>

Supporting workforce reskilling<sup>6</sup> is essential for cities and their local economies to succeed in their green and digital transition and improve their resilience.

<sup>5</sup> European Skills Agenda for sustainable competitiveness, social fairness and resilience (2020)

<sup>6</sup> 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

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. The Pact for Skills is a central element of the [European Skills Agenda](#) and creates a shared engagement model for skills development in Europe. 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

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 to kick-start a skills partnership.
- Collaborate with peers to lead joint actions that support the reskilling and upskilling of adults.
- Access information on funding opportunities that can boost their upskilling and reskilling actions.
- Learn about skills trends and best practices on up- and re-skilling.

Over 15 cities have signed up for the Pact already as it is gaining traction, with over 1 000 members and 13 large-scale partnerships of EU dimension in key industrial ecosystems. Together, the large-scale partnerships are committed to providing upskilling and reskilling opportunities to nearly six million people. The first regional partnerships are expected to be launched in early 2023. 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 recently launched [website](#).

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 process 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 strengthening the role of cities and metropolitan authorities in supporting skills development through work-based learning and apprenticeships.

### THE SKILLSFUTURE PROGRAMME IN SINGAPORE

An interesting example in the field of reskilling from outside of the EU is the Skillsfuture programme in Singapore.<sup>7</sup> 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.

<sup>7</sup> <https://www.skillsfuture.gov.sg/>

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.



Igor Groshev - stock.adobe.com

### 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 *Source: Capgemini Invent*

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 extend comparable to phase 5).<sup>8</sup>

<sup>8</sup> 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 dedicated chapter.



# 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,**

European Commissioner for Internal Market

## 3.2 Key actors and their responsibilities

A broad range of actors is potentially involved in the 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 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.

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.<sup>9</sup> Similarly, the Skills Partnerships under the Pact for Skills aim to bring together all relevant stakeholders to join forces for the implementation of skilling actions.

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.

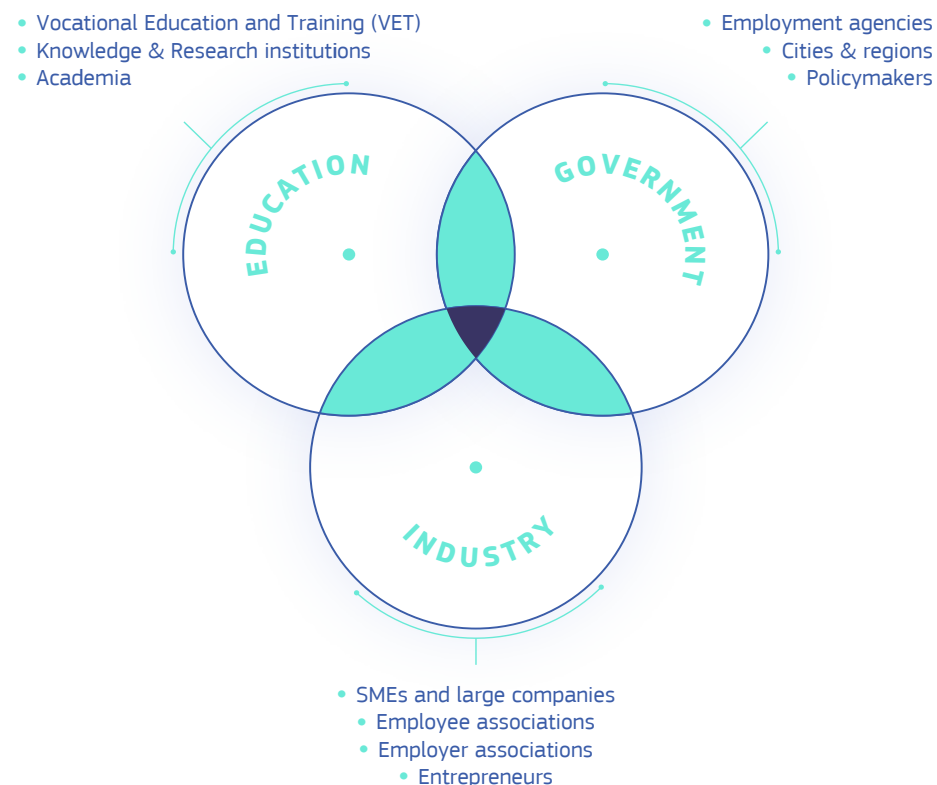


Figure 2: The Triple Helix relationships in a skills ecosystem

<sup>9</sup> European Commission, Blueprint for sectoral cooperation on skills



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

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.

### 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 FOR 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.

## 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.



Figure 3: Ecosystem map

# ECOSYSTEM MATURITY PHASES



Figure 4: Ecosystem maturity phases Source: Capgemini Invent

## 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<sup>10</sup>. The guidance below is based on Amsterdam's experiences<sup>11</sup>:

- **Identify a 'coalition of the willing'** – Engage with parties and entities with a demonstrated interest and familiarity with workforce reskilling. 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.

- **Build evidence of successes** – no matter how small, and use the evidence to maintain engagement and attract additional stakeholders to the reskilling ecosystem.
- **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, consider 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.**



<sup>10</sup> Further reading can also be found in this report that captures the discussion of a workshop held during the European Week of Regions and Cities: <https://europa.eu/regions-and-cities/programme/2022/sessions/493>

<sup>11</sup> With special thanks to Annelies Spork, Programme Director House of Skills Amsterdam



# 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. COVID-19 has accentuated the need for agile structural and cross-sectoral mobility of the workforce e.g. towards green, healthcare, or tech jobs that require new skills to be developed locally. Changing policy priorities for the green and digital transitions is impacting jobs and skills needs locally as well. 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 changing - and 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 mismatches<sup>12</sup>. 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.

<sup>12</sup> 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>

## Skills for the green and digital transition and citizen behavioural change

Recent research by LinkedIn makes clear that the share of green talent is rising (up 38.5% in 2021 from 2015), and green skills – those skills that enable the environmental sustainability of economic activities – are urgently needed to power the green transition<sup>13</sup>. The research also reveals which jobs are in high demand, country insights and the trends shaping the green economy. It recommends policymakers to champion green skills and prepare the workforce for the green transition.

Cedefop launched an important *foresight study*<sup>14</sup> 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 (EGD)-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.

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.<sup>15</sup> 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

A recent study identified the benefits of transforming citizens from energy consumer to active, co-managing citizens for achieving carbon-neutrality objectives.<sup>16</sup> 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.

In addition to governmental sources, there is a great deal of research into current and future skills needs. For example, a discussion paper by the McKinsey Global Institute, *The future of work in Europe* takes a longer-term view of labour market developments in Europe. *Explore the future of work in Europe* is an extensive research project undertaken in a collaboration between McKinsey, Eurostat and Oxford Economics that examines technology and structural shifts in the European economy and how they are reshaping the workplace. The research provides perspectives on 1 095 local labour markets as well forecasts of job growth/loss across all occupational groups. Of particular interest to cities and regions is the McKinsey report *closing the skills gap in Europe's public sector*. This report highlights the urgency for skills development to benefit the public sector with an emphasis on upskilling and reskilling to meet the demands of the future.

<sup>13</sup> Global Green Skills Report 2022, LinkedIn Economic Graph, <https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/global-green-skills-report/global-green-skills-report-pdf/li-green-economy-report-2022.pdf>

<sup>14</sup> 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>

<sup>15</sup> IEA, Empowering people to act: How awareness and behaviour campaigns can enable citizens to save energy during and beyond today's energy crisis. (2022)

<sup>16</sup> 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 Horizon 2020 Smart Cities and Communities Projects. (2020)

## IN FOCUS:

# ‘Explore the Future of Work’ by McKinsey, Eurostat and Oxford Economics



**This study clustered local economies and analysed its labour markets. Some of the key findings:**

- Forty-eight dynamic cities, including Amsterdam, Copenhagen, London, Madrid, Munich and Paris, are home to 20 percent of Europe’s population. They account for more than half of its high-tech patents, three-quarters of its start-ups and 83 percent of its STEM graduates. By contrast, 438 shrinking regions with 30 percent of the population, mostly in Eastern and Southern Europe, have declining workforces, older populations and lower educational attainment. The remaining half of Europe’s population lives in a wide range of largely stable economies.
- Growth has become geographically concentrated in recent years. Since 2007, just 48 dynamic cities have generated 35 percent of Europe’s net job growth, 42 percent of its GDP growth and 40 percent of its population growth. During the same period, job growth has been modest in stable economies and stagnant or even negative in shrinking regions. Before the coronavirus pandemic, employment rates rose in 85 percent of local economies across the continent as the workforce shrank.
- Work activities equivalent to about 53 million jobs could potentially be displaced by automation. There is some overlap between these jobs at risk

from automation and those at risk in the short term from the impact of the COVID-19 crisis. Many of the largest occupational categories in Europe today have the highest potential for displacement. About 21 million workers, most of whom lack tertiary education, may need to change occupations by 2030. At the same time, we see a continuing rise in demand for workers in technology, science and engineering fields as well as business and legal professionals. Human workers will also increasingly concentrate in roles that require personal interaction, caregiving, teaching and training and managing others—activities for which machines are not good substitutes.

- Automation could intensify regional concentration in the years to come. The 48 dynamic cities that outperformed in the past decade could capture more than 50 percent of Europe’s potential job growth in the next. Meanwhile, stable economies should continue to add jobs at a modest pace, just as they did in the past decade. Within the shrinking regions category, the outcomes could range from small increases to negative growth. Around 40 percent of Europe’s population lives in regions that could have fewer jobs in 2030 than they do today in absolute terms. However, even places facing job losses will need to boost employment to compensate as ageing and outmigration shrink the working-age population.

## 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

[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

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.

## 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.<sup>17</sup>

<sup>17</sup> OECD *Assessing and anticipating skills needs Cedefop, 2008a, p. 6*

### Some examples of these methods are:

- Industry round-tables 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:

### 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) grow and allows insights into current and future local skills needs and demands.

### THE REGIONAL SKILLS FORA

*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 demands 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. For example, *Headai* used AI-tools to analyse (public) information on skills demand and trends in the different industry sub-sectors for the Technology Industries of Finland association. *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 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.

### TECHCONNECT

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.

### GUIMARÃES' CAREER GUIDANCE PROGRAMME

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.

## 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 recognisable and are often a good choice for the early phases of a reskilling initiative.

### RINOVATORI

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.

### KORKO PROJECT

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.

### YOUTHACTION

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.

### ÉCOLE 42

An example of a clear skills focus is *École 42* (School 42) 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.

### IT@CORK SKILLNET

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

*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'.

## 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.



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# 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.

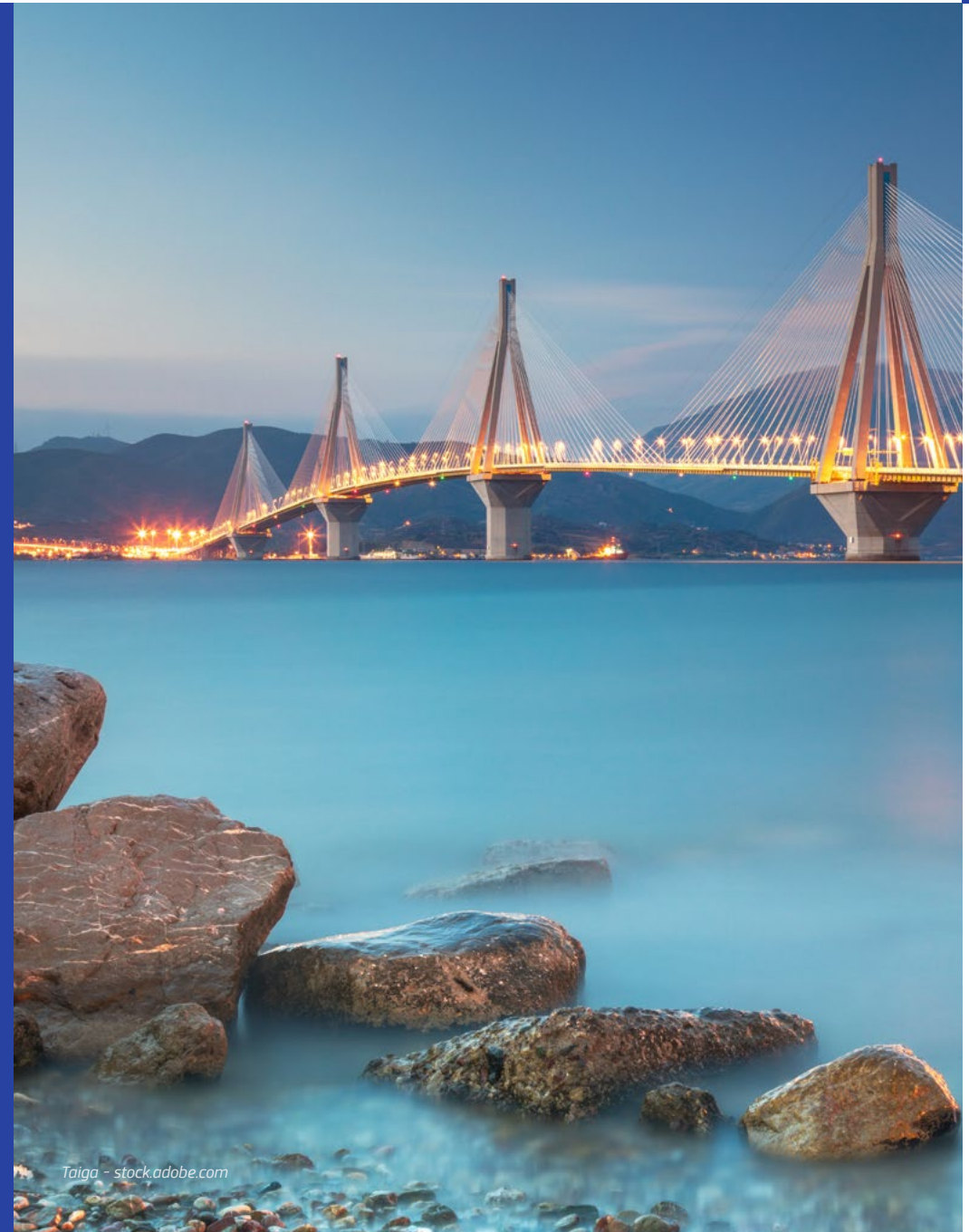
With their concrete commitments, ecosystem stakeholders could join the Pact for Skills, an EU initiative promoting the upskilling and reskilling of people at working age.



# 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.



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## 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 5<sup>18</sup>. It would require setting Key Performance Indicators (KPIs) at outcome and output level and focus the evaluation on those.

<sup>18</sup> Figure 4: Model to monitor progress and evaluate impact. Source: ILO

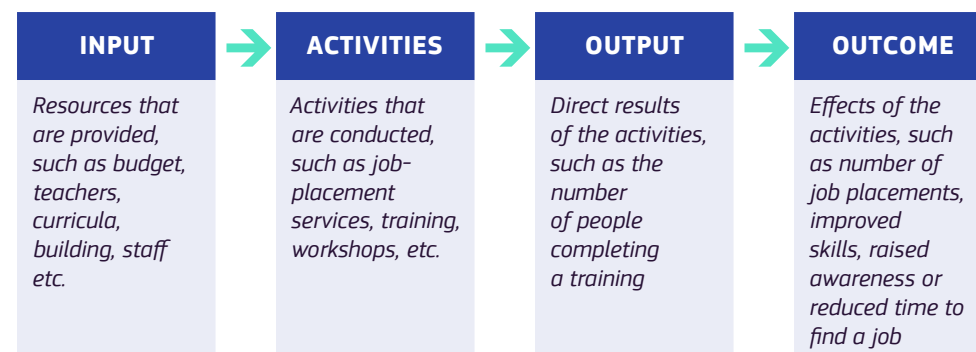


Figure 5: Model to monitor progress and evaluate impact Source: ILO

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.

# 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. 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 *InvestEU* and 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 *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.

### CENTRES OF VOCATIONAL EXCELLENCE

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.



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## 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.



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# BELGIUM

## Ghent – Skills Navigator

City/Country	Ghent, Belgium
<b>Title</b>	Skills Navigator
<b>Description</b>	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.
<b>Aim</b>	The Skills Navigator project aims to help enterprises in the harbour region to find the right personnel
<b>Focus</b>	21st century skills
<b>Target group(s)</b>	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
<b>Stakeholders</b>	Skills Navigator consists of 14 organisations as full partner (co-financers), employers and other interested actors. Participating port areas are in Antwerp, Ghent, Terneuzen, Bruges and Rotterdam.
<b>Instruments and initiatives</b>	The project developed a 21st century skills framework focussed on jobs in harbour regions. Skills Navigator also developed a matching tool between demand and offer 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.
<b>Impact</b>	COVID-19 intervened in the entire project and the proces of matching. But we expect the tool and the employer arrangements to help bridge the gap between supply and demand in the labour market of the Flemish-Dutch Delta.
<b>Link</b>	<a href="https://www.skillsnavigator.eu/">https://www.skillsnavigator.eu/</a>



AVPHOTOSALES – stock.adobe.com

# CROATIA

## Rijeka – RInovatoRI

City/Country	Rijeka , Croatia
<b>Title</b>	RInovatoRI
<b>Description</b>	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 events imitate 48h hackathons and the summer lab imitates a mini-acceleration programme where all important skills about business modelling etc. are developed. Please see the <a href="#">Interreg Europe database</a> of good practices.
<b>Aim</b>	Encouraging entrepreneurial competences of children
<b>Focus</b>	Entrepreneurial skills
<b>Target group(s)</b>	Children (pupils of higher grades of Rijeka's elementary schools, age 11-14)
<b>Stakeholders</b>	City of Rijeka – Department of entrepreneurship; The Youth Home Institution; Local businesses, incubators, marketlabs, co-working spaces
<b>Instruments and initiatives</b>	(1) regular year-round programme (weekly organised workshops), (2) Weekend school of entrepreneurship and (3) Summer school of entrepreneurship
<b>Impact</b>	So far, 560+ children have participated in the programme. In 2019 programme RInovatoRI was declared the national winner of European Enterprise Promotion Award 2019 for Promoting the Entrepreneurial Spirit. In December 2020, RInovatoRI was included in the Interreg Europe database of good practices in the category SME competitiveness. At the moment, it is also the only good practice from the city of Rijeka and Adriatic Croatia that is included in this category.
<b>Link</b>	<a href="https://www.rijeka.hr/en/themes-for-citizens/business-and-investments/become-an-entrepreneur/rinovatori/">https://www.rijeka.hr/en/themes-for-citizens/business-and-investments/become-an-entrepreneur/rinovatori/</a>





Startup Stock Photos

# CROATIA

## Rijeka – Start-up incubator

City/Country	Rijeka , Croatia
<b>Title</b>	Start-up incubator
<b>Description</b>	Start-up Incubator Rijeka is a support centre 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 start-up scene. All services are free of charge.
<b>Aim</b>	Supporting the development of new business ideas
<b>Focus</b>	Entrepreneurial skills
<b>Target group(s)</b>	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.
<b>Stakeholders</b>	The programme and activities of the Start-up Incubator are realised in cooperation 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.
<b>Instruments and initiatives</b>	The people who sign up for this project have the opportunity to be provided with free mentoring and advice. The incubation programme lasts 8 months and consists of 35+ workshops divided into <i>three thematic modules</i> : Idea validation (1), Product development, legal aspects and finance (2) and Go-to-market (3).
<b>Impact</b>	Since opening, Start-up 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 in 23 newly established enterprises in the city of Rijeka.
<b>Link</b>	<a href="https://www.rijeka.hr/en/themes-for-citizens/business-and-investments/incubators-and-co-working-spaces/incubators/start-up-incubator/">https://www.rijeka.hr/en/themes-for-citizens/business-and-investments/incubators-and-co-working-spaces/incubators/start-up-incubator/</a>




[linkedin.com](#)

# CROATIA

## Rijeka – Step Ri

City/Country	Rijeka , Croatia
<b>Title</b>	Step Ri Science and Technology Park of the University of Rijeka
<b>Description</b>	Step Ri 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.
<b>Aim</b>	Supporting innovations, entrepreneurship & knowledge transfer between academia, businesses & public sector and NGOs
<b>Focus</b>	Product and service innovations, scale up and internationalisation of businesses, digital transformations, business support excellence & best practice exchange
<b>Target group(s)</b>	Scientists, students, companies, start-ups, entrepreneurs, investors, public administrations
<b>Stakeholders</b>	Scientific community, local and regional authorities, entrepreneurs, NGOs, social entrepreneurs, business support institutions, international organisations
<b>Instruments and initiatives</b>	Consulting services and training. Structured programmes for: a) start-up (profit and social) incubation and support; b) innovation (product, service and business model); c) digital transformation; d) knowledge transfer between academia and industry; e) internationalisation support services
<b>Impact</b>	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) & national projects implemented with total value of €34m with STEP RI budget of +€3.1m
<b>Link</b>	<a href="https://www.step.uniri.hr/o-nama/">https://www.step.uniri.hr/o-nama/</a>



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# FINLAND

## Espoo – Young People To Work Plan

City/Country	Espoo, Finland
<b>Title</b>	Young People To Work Plan
<b>Description</b>	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 was to halve youth unemployment in Espoo by the end of 2022. In concrete terms, they aimed to help more than 2 500 young people find employment within this period and create services aimed at preventing unemployment.
<b>Aim</b>	To halve youth unemployment by the end of 2022
<b>Focus</b>	Skills in general
<b>Target group(s)</b>	Youth (15 – 29 year old)
<b>Stakeholders</b>	Employment Espoo, youth services, high schools, second degree, Joint Authority of Education in the Espoo region (Omnia), social- and health services, Employment-services
<b>Instruments and initiatives</b>	<p>Initiatives are focused on:</p> <ul style="list-style-type: none"> <li>• improving the effectiveness of service counselling;</li> <li>• developing young people's basic skills (skills guarantee); and</li> <li>• increasing job opportunities.</li> </ul>
<b>Impact</b>	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.
<b>Link</b>	<a href="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)</a>





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# FINLAND

## Espoo – Korko Project

City/Country	Espoo, Finland
<b>Title</b>	Korko Project
<b>Description</b>	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.
<b>Aim</b>	Lowering down unemployment of educated jobseekers
<b>Focus</b>	Skills in general
<b>Target group(s)</b>	Highly educated jobseekers above 30 years
<b>Stakeholders</b>	Businesses, education and training providers, economic and employment actors
<b>Instruments and initiatives</b>	Thematic groups, training sessions, strengths and competence workshops, sessions with business coordinators, presentations, review of CV's and job interviews
<b>Impact</b>	In total, 50% of the participants were employed. Nearly 400 cooperation companies were reached.
<b>Link</b>	<a href="https://www.espoo.fi/en-US/Jobs_and_enterprise/Help_for_finding_employment/Korko__Value_of_academics">https://www.espoo.fi/en-US/Jobs_and_enterprise/Help_for_finding_employment/Korko__Value_of_academics</a>



[www.businessespoo.com/fi-FI](https://www.businessespoo.com/fi-FI)

# FINLAND

## Espoo – Business Espoo

City/Country	Espoo, Finland
<b>Title</b>	Business Espoo
<b>Description</b>	The Business Espoo business service network, formed by seven organisations, supports the vitality of entrepreneurs and companies in Espoo and its surrounding municipalities by offering the best, constantly evolving services in one place.
<b>Aim</b>	The Business Espoo network brings all services under one roof, both physically and digitally.
<b>Focus</b>	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 and the needs of labour shortage sectors
<b>Target group(s)</b>	Entrepreneurs, future entrepreneurs, companies of all sizes, talents, highly educated job seekers
<b>Stakeholders</b>	The following organisations serve entrepreneurs and companies in the Business Espoo network:
<b>Instruments and initiatives</b>	Support for starting a business, growing a business, competence development, recruitment assistance, internationalisation and change situations
<b>Impact</b>	One full year after the establishment of Business Espoo network, in 2020 the number of customer service contacts was 16 350. The visibility of the new service network was also very good as 46% of companies in Espoo knew Business Espoo or had used its services, among the self-employed, one-person companies the percentage was even higher, 59%.
<b>Link</b>	<a href="https://www.businessespoo.com/fi-FI">https://www.businessespoo.com/fi-FI</a>



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# FINLAND

## Pori – Robocoast

City/Country	Pori, Finland
<b>Title</b>	Robocoast
<b>Description</b>	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).
<b>Aim</b>	The mission of Robocoast is to increase industrial competitiveness by providing modernisation services and RDI support for SMEs.
<b>Focus</b>	Skills & lifelong learning for robotics, cyber security, data analytics, AI and IoT & talent attraction
<b>Stakeholders</b>	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.
<b>Instruments and initiatives</b>	<p>Services of the Digital Innovation Hub are: innovation ecosystem and networking, test before invest, skills and training and support to find investments.</p> <ul style="list-style-type: none"> <li>• Lifelong learning and closing the skillsgap needed for technology &amp; industry skills</li> <li>• International relations &amp; RDI centers</li> <li>• Hackathons &amp; talent attraction</li> </ul>
<b>Link</b>	<a href="https://robocoast.eu/">https://robocoast.eu/</a>





# FINLAND

## Pori - RoboAI

City/Country	Pori, Finland
Title	RoboAI
Description	RoboAI's research and development centre provides companies with product development services related to automation, robotics and artificial intelligence, as well as start-up services for students and start-ups
Aim	Closing the skills gap for needed specialist in robotics & programming
Focus	Robotics, AI and programming skills
Target group(s)	Companies & talents
Instruments and initiatives	<p>RoboAI provides training and webinars as well RDI cases for companies. There are three lines of education in RoboAI:</p> <ul style="list-style-type: none"> <li>• The Robotics Academy offers new study methods for students interested in doing practical work, and at the same time, companies have opportunities to implement technology projects together with students.</li> <li>• International AI training produces artificial intelligence professionals of the future.</li> <li>• The focus of STEM activities is to support and encourage teachers in the teaching use of technologies and to inspire children and young people to enjoy and study mathematics, natural sciences and technology.</li> </ul>
Link	<a href="https://www.roboai.fi/">https://www.roboai.fi/</a>

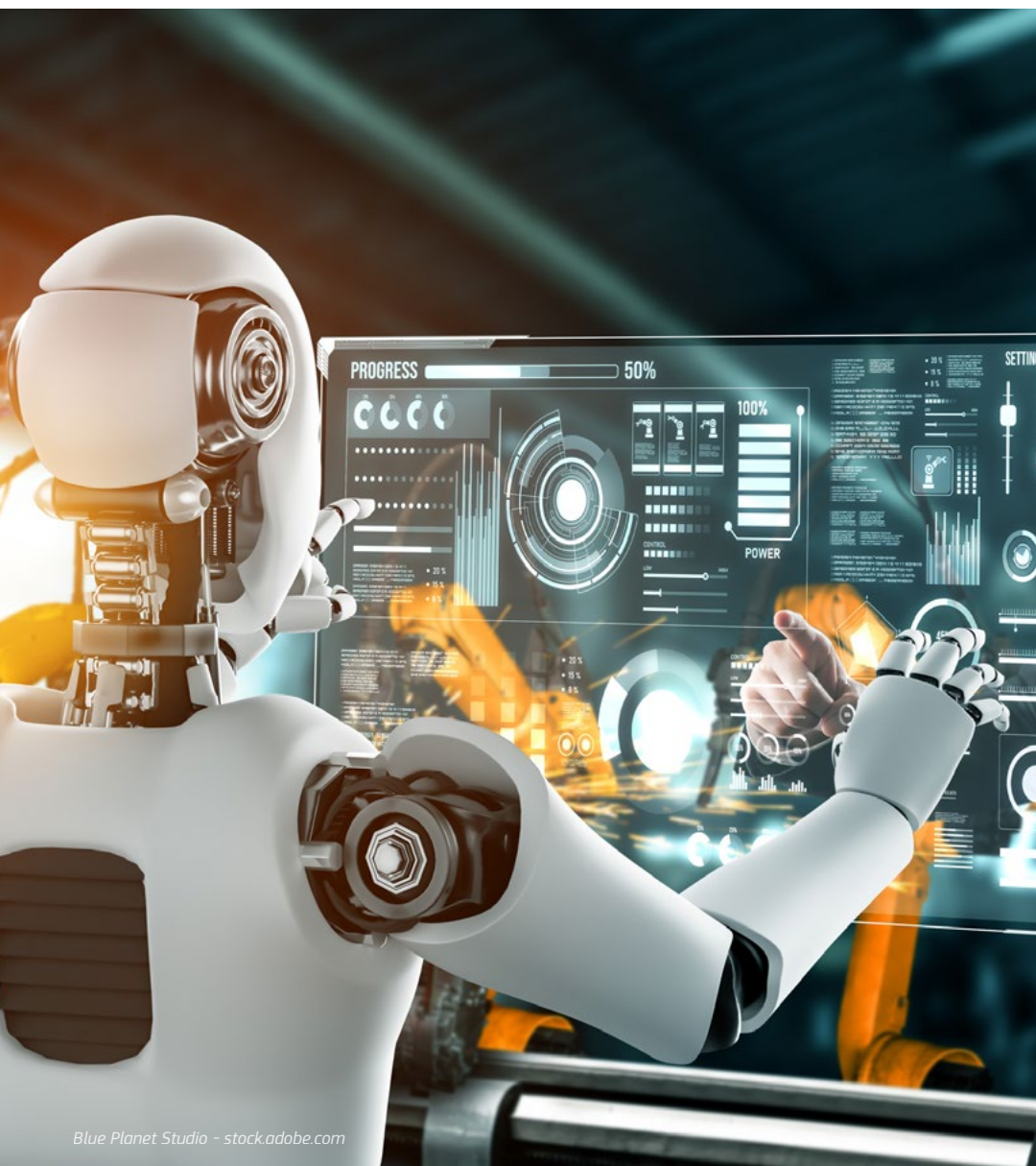


# FRANCE

## Nice - École 42

City/Country	The Metropole Nice Côte d'Azur, France
<b>Title</b>	École 42 (School 42)
<b>Description</b>	École 42 is a digital computer programming school that is completely free and available to everyone above 18 years with or without a degree. The programme teaches people skills for the digital world and for the technology industry with coding, computer programming and software engineering at the heart of the programme.
<b>Aim</b>	Skills for a lifetime and equal access to tech education and tech jobs
<b>Focus</b>	Skills for tech sector
<b>Target group(s)</b>	Primarily people without (the right) degree
<b>Stakeholders</b>	Métropole Nice Côte d'Azur
<b>Instruments and initiatives</b>	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 of diplomas.
<b>Impact</b>	The opening of École 42 in Nice (the first batch of students started school in January 2021) meets a real need for digital skills for local companies
<b>Link</b>	<a href="https://www.42.fr/">https://www.42.fr/</a>





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# FRANCE

## Nice - 3AI

City/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 as part of the French national programme for artificial intelligence.
Aim	Bring high level academic research and business close together on AI with applications on health and smart territories
Focus	4 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 and Students
Stakeholders	Métropole Nice Côte d'Azur, Université Côte d'Azur, the CNRS and Inria. 62 large companies, SMEs and start-ups, mainly located in the South Region will be involved in the project's innovation programme.
Instruments and initiatives	Scientific chairs, training programmes, collaboration projects
Impact	The goal of the training programme is to double the number of people trained in artificial intelligence
Link	<a href="https://3ia.univ-cotedazur.eu/">https://3ia.univ-cotedazur.eu/</a>



# IRELAND

## Cork - IT@Cork Skillnet

City/Country	Cork, Ireland
<b>Title</b>	It@Cork Skillnet
<b>Description</b>	It@Cork Skillnet is a learning network that fosters a set of unique practical supports between companies and training providers. Their aim is to strengthen competitiveness in Multinational Corporations (MNCs) and SME organisations through a subsidised skills partnership approach. They work 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.
<b>Aim</b>	To identify and deliver through training providers, world class subsidised training solutions that help enterprises with their priority skill development needs. It aims to undertake primary research and training needs analysis to scientifically pin-point skills gaps and then work with training institutions and providers to design very specific training interventions. It@Cork Skillnet utilises Government funding through Skillnet Ireland to enable the cost efficiency of skills development.
<b>Focus</b>	ICT domain skills
<b>Target group(s)</b>	Their core demographic includes both the employed (largely in the Tech sector in the South West region) and unemployed cohorts. As a direct result of COVID-19 they have recently focused on re-skilling programmes (e.g. see <a href="http://www.cyberquest.ie">www.cyberquest.ie</a> ). Their customers are MNCs, SMEs and start-ups.
<b>Stakeholders</b>	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 ( <a href="http://www.itcork.ie">www.itcork.ie</a> ) and Skillnet Ireland ( <a href="http://www.skillnetireland.ie">www.skillnetireland.ie</a> )
<b>Instruments and initiatives</b>	It@Cork Skillnet partners with industry to provide subsidised upskilling solutions. The Network emphasises its ability to customise its approach to address specific needs across all aspects of the ICT skill domains and beyond. Main areas include: Software, Development, Service Management, Project Management, Management Development, Data Science, Testing and Quality Assurance, Automation, Cyber Security, Cloud Computing, Infrastructure and Networking
<b>Impact</b>	The number of companies they have provided subsidised training for has grown year on year. In 2020 they engaged with over 80 companies through training and other events; with 500 trainees and over 4 600 training days. They have also put over 100 unemployed trainees through a Cyber learning programme.
<b>Link</b>	<a href="https://itcorkskillnet.ie/">https://itcorkskillnet.ie/</a>



LinkedIn Sales Solutions – unsplash.com

# IRELAND

## Regional Skills Forum

City/Country	Regions in Ireland
<b>Title</b>	Regional Skills Forum
<b>Description</b>	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.
<b>Aim</b>	To contribute to better outcomes for learners and support enterprise development.
<b>Focus</b>	Skills in general but most regions also focus on main industry sectors within respective regions as well to ensure general and sector specific skills needs are addressed.
<b>Target group(s)</b>	Regional collaboration between training and education providers and enterprises
<b>Stakeholders</b>	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 facilitated by the Forum Manager.
<b>Instruments and initiatives</b>	The Forum 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)
<b>Link</b>	<a href="https://www.regionalskills.ie/">https://www.regionalskills.ie/</a>





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# LATVIA

## Ventspils Digital Centre

City/Country	Ventspils, Latvia
<b>Title</b>	Ventspils Digital Centre
<b>Description</b>	Ventspils City has established a public municipal institution dedicated to support development of information society in Ventspils – Ventspils Digital centre. In Ventspils Digital centre access to computers, scanners, ordinary and large format and 3D printers is provided as well as courses and classes are available to provide the necessary knowledge and skills for the use of digital technologies.
<b>Aim</b>	To develop a digital infrastructure in the city and to provide access to the digital technologies to citizens, enterprises and public bodies in the city.
<b>Focus</b>	Development of ICT infrastructure in the city and provision of access to ICT for all. Provision of opportunity to acquire knowledge, skills, abilities and attitudes necessary for the meaningful use of technology for children and adults.
<b>Target group(s)</b>	Citizens, enterprises and public bodies.
<b>Stakeholders</b>	Ventspils Municipality, Ventspils Vocational school, Ventspils University of Applied Sciences, Education board of Ventspils, Ventspils High Technology Park.
<b>Instruments and initiatives</b>	Operational Programme for the Acquisition of Computer Skills in Ventspils City General Education Schools has been implemented – 25 different classes are available for free for children – computer skills, programming, digital photo and video, 3D modelling, robotics etc. Also curriculum for teachers 'Towards digital competencies' 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.
<b>Impact</b>	About 20% of all children participate in one or more classes and each year about 5% of inhabitants take classes both at the professional level and for home use in topics such as spreadsheets, digital photo and video processing, computer graphics, computer drawing, programming, internet security and use of e-services.
<b>Link</b>	<a href="https://digitalaiscentrs.lv/">https://digitalaiscentrs.lv/</a>



www.youthaction.org

# NORTHERN-IRELAND

## Londonderry – Youth Action NI

City/Country	Londonderry, UK - Northern-Ireland
<b>Title</b>	YouthAction NI
<b>Description</b>	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.
<b>Aim</b>	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.
<b>Focus</b>	Skills in general
<b>Target group(s)</b>	Youth
<b>Instruments and initiatives</b>	<p><b>Initiatives of YouthAction focus on:</b></p> <ul style="list-style-type: none"> <li>• Connecting young people with business and employers</li> <li>• Educating young people on the skills they need for work</li> <li>• Empowering young people to find meaningful training and employment</li> </ul>
<b>Impact</b>	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.
<b>Link</b>	<a href="https://www.youthaction.org/youth-empowered">https://www.youthaction.org/youth-empowered</a>





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# THE NETHERLANDS

## Amsterdam – House of Skills

City/Country	Amsterdam Metropolitan Area, the Netherlands
<b>Title</b>	House of Skills
<b>Description</b>	House of Skills is a public-private partnership that strives for structural mobility to and between work, in both an economic downturn and a boom. Their mission is to focus the current labor market more on skills, to make intersectoral mobility easier and to stimulate lifelong development.
<b>Aim</b>	The mission of House of Skills is to develop skills tools to make a fundamental contribution to a more skills-oriented labor market so that: the working population is given more control over their career; making optimal use of talents; lifelong Development is promoted; the transition to another sector is made easier; and regional labor market coalition is created.
<b>Focus</b>	Skills (in general)
<b>Target group(s)</b>	The vulnerable working population (lower and intermediate educated people, people with a disability and / or who are low literate; employers, both in the shrinking and in the tightening sectors; HR professionals from companies and customer managers and advisers from Department for social domain (WPI), Employers Service Point Amsterdam, Regional Work Center Amsterdam and other relevant organisations that mediate people to learn and work.
<b>Stakeholders</b>	Local authorities, Universities, Research institutes, Vocational education, Trade unions, Employers' organisation, Employment agencies, branch organisations, Library Amsterdam, Amsterdam Economic Board
<b>Instruments and initiatives</b>	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. An important foundation is laid here to realise career paths to work where the demand for personnel is greatest: care, welfare, construction and technology.
<b>Link</b>	<a href="https://www.houseofskillsregioamsterdam.nl/about-house-of-skills/">https://www.houseofskillsregioamsterdam.nl/about-house-of-skills/</a>



techconnect.city

# THE NETHERLANDS

## Amsterdam – TechConnect

City/Country	Amsterdam Metropolitan Area, the Netherlands
<b>Title</b>	TechConnect
<b>Description</b>	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.
<b>Aim</b>	The overall aim is to increase equity in the tech labor market and make tech training and jobs accessible to all.
<b>Focus</b>	Skills for tech and IT sector
<b>Target group(s)</b>	Underrepresented groups in tech & IT
<b>Stakeholders</b>	TechConnect is an initiative of Amsterdam Economic Board, Booking.com, Rabobank, TomTom and CA-ICT. Dozens of companies, educational institutions, government organisations from the Amsterdam metropolitan region are participating.
<b>Instruments and initiatives</b>	Different initiatives focus on different target groups or goals, such as: Techgrounds, Become a Tech (TekkieWorden), TechMeUp, Pathways, SME Digital, TeachForAmsterdam.
<b>Impact</b>	In four years, TechConnect activated 50 000 people from underrepresented groups to tech & IT.
<b>Link</b>	<a href="https://techconnect.city/">https://techconnect.city/</a>





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# THE NETHERLANDS

## Twente – Fund for Craftmanship

City/Country	Twente, The Netherlands
<b>Title</b>	Twents Funds for Craftmanship
<b>Description</b>	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. Citizen can request a personal check from the fund up to a maximum of €2 500 to pay for training.
<b>Aim</b>	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.
<b>Focus</b>	Training and/or retraining people on vocational secondary level 4 (MBO 4 level).
<b>Target group(s)</b>	The training check and fund 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 in a specialisation up to and including vocational secondary level.
<b>Stakeholders</b>	Government, education and entrepreneurs
<b>Instruments and initiatives</b>	Career consulting, drawing a training plan and a €2 500 voucher for training
<b>Link</b>	<a href="https://www.twentsfondsvoorkmanschap.nl/">https://www.twentsfondsvoorkmanschap.nl/</a>





youtube.com

# THE NETHERLANDS

## National – Project CrossOver

City/Country	The Netherlands
<b>Title</b>	Project CrossOver
<b>Description</b>	CrossOver develops 'work-to-work', 'lifelong learning' and 'vitality and appreciation' initiatives for technical professionals.
<b>Aim</b>	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.
<b>Focus</b>	Skills for tech and green sector
<b>Target group(s)</b>	A broad network, such as employers' associations, industry organisations, management, HR and technical professionals
<b>Stakeholders</b>	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)
<b>Instruments and initiatives</b>	Project Crossover has already reached more than 85 000 tech professionals and 190+ companies. One of their projects – Smartest Hands of the NL – has attracted 50+ companies and 8 000 tech professionals.
<b>Link</b>	<a href="https://www.projectcrossover.nl/">https://www.projectcrossover.nl/</a>



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# PORTUGAL

## Guimarães – Career Guidance Programme

City/Country	Guimarães, Portugal
<b>Title</b>	Guimarães' Career Guidance Programme
<b>Description</b>	The career guidance is a comprehensive school counselling annual programme managed by the city of Guimarães that helps students move smoothly into professional life. Participation is free for all participants, as the programme is funded by the Intermunicipal Community of Ave (sub-region where Guimarães is located). 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.
<b>Aim</b>	Career guidance programme aims to support students to move from school to the workplace as effectively and smoothly as possible.
<b>Focus</b>	Career guidance
<b>Target group(s)</b>	All 9th grade students (14-15 years old) who are finishing the third cycle of Portuguese basic education and are enrolled in the schools of Guimarães.
<b>Stakeholders</b>	City of Guimarães, Intermunicipal Community of Ave and schools of Guimarães.
<b>Instruments and initiatives</b>	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.
<b>Impact</b>	By assisting all 9th grade students (1 460 students) 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. The impact of the programme will significantly increase in the coming years, as it will be enlarged to include younger (from 7th grade) and older students (attending secondary school between 10th and 12th grade) (up to 8 942 students).
<b>Link</b>	<a href="https://www.dge.mec.pt/sites/default/files/Noticias_documentos/seminario_de_psicologia_da_educacao2021_programa.pdf">https://www.dge.mec.pt/sites/default/files/Noticias_documentos/seminario_de_psicologia_da_educacao2021_programa.pdf</a>

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