PORTABILITY

PortAbility Blueprint: Executive Synthesis

Vocational Education and Training, Skills and Just Transition in European Port City Regions

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Acknowledgements and Disclaimer

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Introduction: About this synthesis

This document presents a standalone synthesis of the PortAbility Blueprint process. It is intended for readers who may not be familiar with PortAbility, the Centre of Vocational Excellence model, or the internal structure of the project. Its purpose is to set out the main policy messages, analytical findings and priorities emerging from the Blueprint in an accessible form.

The synthesis draws on the evidence generated through the PortAbility Blueprint process, including literature review, regional analysis, stakeholder consultation and comparative synthesis across Cyprus, Greece, Italy and Spain. It focuses on what the evidence means for vocational education and training, skills systems, inclusion and just transition in European port city regions.

It is designed to be read as a policy-oriented synthesis rather than as a technical project report. It explains the rationale for PortAbility, the significance of the findings, and the priorities that will guide the next phase of work.

1. Strategic context

Port city regions occupy a critical position in Europe's transition towards a climate-neutral, digital and inclusive economy. They are gateways for trade, logistics, energy, tourism, industrial activity, international mobility and territorial development. They are also places where the social, economic and environmental consequences of transition are particularly visible.

Across Europe, port city regions are being reshaped by decarbonisation, digitalisation, automation, changing logistics systems, climate adaptation, industrial reconversion, tourism development, demographic change and new patterns of employment. These developments create significant opportunities for innovation, diversification and regional renewal. However, they also create major policy and implementation challenges.

Existing workers may require reskilling, upskilling or redeployment. New occupational profiles may emerge faster than education and training systems can respond. Communities affected by industrial decline, environmental degradation or labour-market exclusion may not automatically benefit from new forms of investment. Vulnerable or under-represented groups may remain outside emerging employment pathways unless inclusion is built into transition planning from the outset.

This is the context in which the PortAbility Blueprint process was undertaken. The process examined how vocational education and training (VET) can support port city regions as they move through green, digital, economic and social transition. A central premise of the analysis is that VET is more than a mechanism for responding to labour-market change after it has occurred. It can also act as a strategic instrument for shaping just transition.

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For PortAbility, just transition is not a secondary or compensatory concern. It is the organising principle through which green, digital, economic and social change are understood together. A port city region transition that is technologically advanced but socially narrow would not meet this ambition. Equally, a skills response that focuses only on technical adaptation, without addressing access, inclusion, progression and governance, would be insufficient.

This synthesis therefore starts from a central policy question:

How can vocational education and training support port city regions not only to adapt to change, but to shape change in ways that are economically credible, environmentally responsible and socially inclusive?

The answer emerging from the PortAbility Blueprint process is clear. A just transition in port city regions will not be achieved through infrastructure investment, technological innovation or isolated training provision alone. It requires inclusive, anticipatory and well-governed skills ecosystems. VET has a strategic role in making that transition practical, accessible and socially fair.

2. About PortAbility

PortAbility, *Strategies for VET to Support Port City Economies towards a Just Transition* is a European transnational initiative focused on strengthening the role of vocational education and training in port city regions undergoing major transformation. It is implemented by a partnership of 27 organisations from Italy, Spain, Greece, Cyprus and Germany, bringing together VET providers, port authorities, businesses, chambers of commerce, trade unions, public authorities, universities, research organisations, social enterprises and civil society actors.

The project is funded through the European Union's Centres of Vocational Excellence initiative, from March 2025 to February 2029. Centres of Vocational Excellence are partnership-based structures designed to improve the quality, relevance and innovation capacity of VET by connecting education and training providers with employers, public authorities, research organisations, social partners and civil society. They are intended to support regional development, innovation, social inclusion and labour-market responsiveness through stronger skills ecosystems.

PortAbility applies this approach to port city regions. Its focus is not limited to one maritime occupation or one industrial sector. Instead, it addresses the wider territorial ecosystem in which ports, cities, hinterlands, businesses, public institutions, VET providers and communities interact.

This distinction is important. The challenges facing port city regions are not only sectoral. They are spatial, institutional, economic, environmental and social. They concern industrial reconversion, logistics modernisation, climate and environmental pressures, digitalisation, new energy systems, labour-market access, social inclusion and community wellbeing.

PortAbility is grounded in four Mediterranean port city region contexts:

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- **Taranto, Italy**
- **Andalusia, Spain**, with a focus on Seville and Málaga
- **Volos and the surrounding Thessaly region, Greece**
- **Cyprus**, as a multi-port island context

The project also draws on reference experience from the Hamburg area, where port transition has been underway over a longer period and offers useful points for reflection and exchange.

PortAbility is implemented by a broad transnational partnership of **27 organisations** from **Italy, Spain, Greece, Cyprus and Germany**. The partnership brings together the main types of actors needed to address port city transition as both an economic and social challenge: VET providers, port authorities, businesses and chambers of commerce, trade unions and social partners, universities and research organisations, public authorities, social enterprises and civil society organisations.

This composition is central to the PortAbility approach. The project is not built around VET providers alone, nor around port authorities or employers alone. It reflects the understanding that just transition in port city regions requires cooperation across the whole regional skills ecosystem. Education and training providers bring expertise in learning design and delivery; port authorities and businesses bring insight into operational and labour-market change; public bodies connect the work to territorial development and policy priorities; trade unions and social partners represent employment and worker-transition perspectives; universities and researchers contribute evidence and foresight; and civil society and social enterprises help ensure that inclusion, access and community impact remain central.

The partnership also reflects PortAbility's transnational added value. Each participating region brings a different transition context, while the German reference partners contribute experience from a port region where longer-term transformation offers useful comparative learning. This diversity allows PortAbility to develop shared principles and tools without imposing a single model on very different territories.

The participating regions differ in scale, economic structure, institutional maturity, policy environment and transition trajectory. However, they share a common challenge: how to ensure that port-related economic transformation is accompanied by skills systems, learning pathways, inclusion measures and governance arrangements that enable people and territories to participate in transition rather than simply experience its effects.

PortAbility is structured as a four-year progression from shared analysis to practical action. The Blueprint process provides the evidence-based foundation for this wider purpose by clarifying the transition dynamics affecting port city regions, the implications for VET systems, and the priorities identified for future action. On this basis, PortAbility is designed to support the development of learning pathways, micro-credential approaches, skills foresight methods, capacity-building activities, pilot training and upskilling/reskilling actions, stakeholder cooperation mechanisms, and dissemination and sustainability measures. Its overall aim is to help port city regions design VET responses that are anticipatory, inclusive and relevant to green, digital and social transition.

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3. Purpose of this synthesis

This document presents the main policy-relevant findings and priorities emerging from the PortAbility Blueprint process. It is designed as a standalone synthesis for stakeholders interested in the role of vocational education and training in just transition in port city regions.

It is intended for a broad audience, including public authorities, port authorities, VET institutions, employers, chambers of commerce, trade unions, social partners, civil society organisations, researchers, regional development actors and European-level stakeholders.

The synthesis has four main purposes.

It explains why port city regions require a specific VET and skills response in the context of just transition.

In addition, it summarises the evidence generated through the PortAbility Blueprint process, including literature, regional analysis, stakeholder consultation and comparative synthesis.

Furthermore, it identifies the main findings across the participating port city regions.

Finally, it presents a set of priorities that can inform future VET innovation, skills foresight, inclusive pathway design and regional cooperation.

The synthesis is therefore both analytical and action-oriented. It does not seek to present a full technical report on each region. Nor does it propose a single model that can be applied identically across all contexts. Rather, it identifies what can be learned comparatively and what can be translated into common principles, adaptable approaches and practical priorities.

4. Evidence base and approach

The PortAbility Blueprint process was developed through a staged evidence-gathering and synthesis approach. It combined comparability across the participating regions with sensitivity to local context.

The first stage consisted of a baseline analysis of partner perspectives, transition readiness, inclusion priorities, VET system issues and expectations for transnational cooperation. This provided an initial assessment of starting conditions and helped shape the subsequent enquiry process.

The second stage consisted of a parallel and complementary three-pillar approach. The first pillar was a state-of-the-art literature review on port city regions in transition, skills foresight, VET reform, social inclusion and innovative learning methodologies. This review provided the conceptual and research frame for understanding port city transition as a multidimensional process involving spatial, institutional, environmental, digital and social change.

The second pillar consisted of regional analysis in the four participating contexts. Each cluster examined its port city region, policy and planning environment, labour-market dynamics, VET

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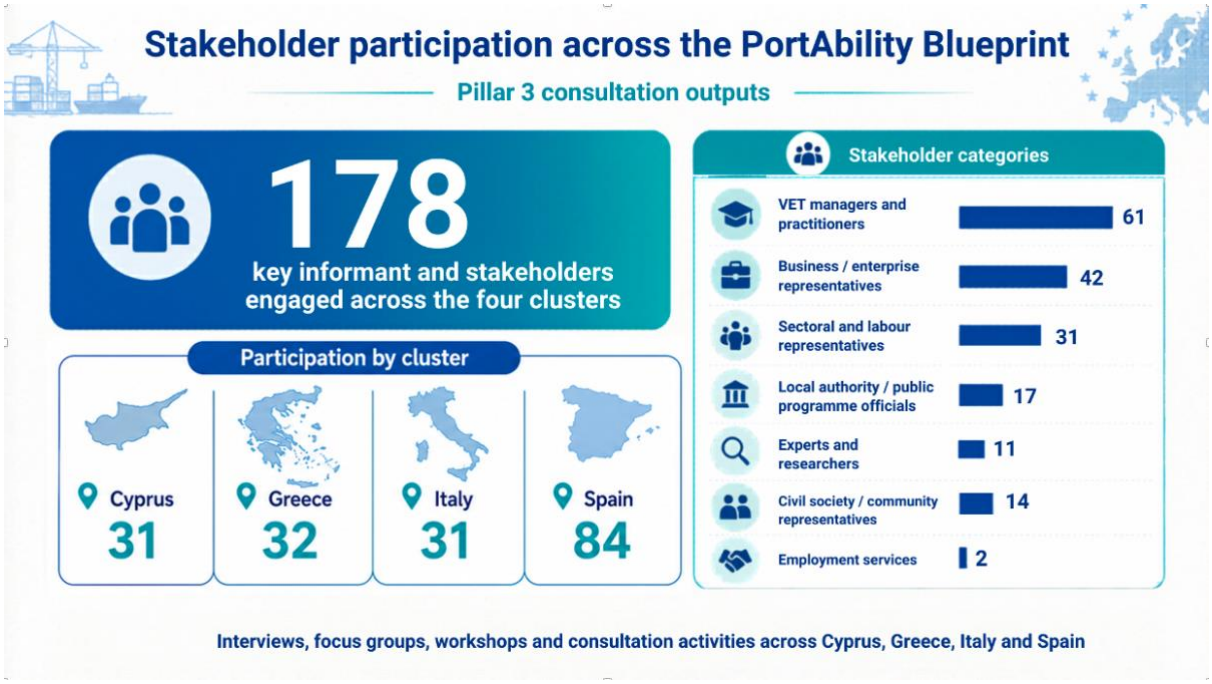
system, inclusion challenges and stakeholder landscape. This generated grounded regional portraits of Cyprus, Volos, Taranto and Andalusia.

The third pillar consisted of stakeholder consultation, ensuring that the Blueprint process was informed by a bottom-up perspective. Across Cyprus, Greece, Italy and Spain, 178 key informants and stakeholders contributed through interviews, focus groups, workshops and consultation activities. Participants included VET managers and practitioners, business and enterprise representatives, sectoral and labour representatives, port-related actors, public authorities, researchers, employment services and civil society organisations. The figure below visualises the breadth of the consultation process and the range of perspectives brought into the Blueprint evidence base.



The final stage brought the findings together through comparative analysis and synthesis. The objective was not to harmonise the regional evidence artificially, but to identify recurring patterns, significant contrasts and transnational implications. This approach makes it possible to retain the specificity of each region while identifying common issues that justify a shared PortAbility response.

5. What the literature indicates

The literature reviewed through the Blueprint process shows that port city regions can be understood as evolving territorial systems rather than static port locations or narrow economic sectors. Their transition involves changes in infrastructure, land use, governance, logistics, energy systems, labour markets, community relations and institutional coordination.

The literature identifies several overlapping dimensions of port city transition.

One is **spatial-functional transition**, as port activity extends beyond the waterfront into wider logistics corridors, inland nodes and regional systems.

A second is **institutional transition**, as port authorities, public bodies, private operators and regional actors take on changing roles.

A third is **environmental and energy transition**, linked to decarbonisation, alternative fuels, onshore power supply, circular economy and climate resilience.

A fourth is **digital transition**, involving automation, smart-port systems, data platforms, artificial intelligence and new forms of coordination.

For PortAbility, the most important implication is that these dimensions do not unfold separately. Technological innovation depends on governance capacity. Decarbonisation affects labour demand and social legitimacy. Digitalisation changes competence requirements and can alter access to employment. Infrastructure investment has consequences for regional development and community wellbeing.

This means that VET systems cannot respond effectively through isolated or narrowly technical training offers. They need to be connected to wider transition planning.

The literature also highlights the growing importance of skills foresight. As labour markets become more uncertain, more technology-mediated and more affected by climate, geopolitical and demographic pressures, education and training systems need stronger mechanisms for anticipating change. The question is not only which jobs will grow or decline. It is how workers, learners, employers and institutions can prepare for competence profiles that are increasingly hybrid.

In port and port-adjacent sectors, emerging competence needs include digital logistics, data management, environmental compliance, energy systems, safety, automation, regulatory understanding, customer-facing services, sustainability awareness, adaptability and coordination skills. Technical knowledge remains essential, but it is increasingly combined with transversal, digital, green and organisational competences.

The literature also points to the risk that green and digital transitions may reinforce inequality if they are not accompanied by inclusive skills systems. Without attention to access, support, recognition, progression and social inclusion, new opportunities may be captured by those already closest to employment and training, while people facing barriers remain excluded.

This is particularly relevant in port city regions, where industrial decline, migration, seasonal work, low-qualified employment, environmental burden and territorial disadvantage often intersect.

The literature therefore supports one of the central conclusions of the PortAbility analysis: just transition in port city regions requires skills systems that combine foresight, inclusion, governance capacity and pedagogical innovation.

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6. Regional evidence

This section summarises the regional evidence gathered across the four PortAbility territories: Cyprus, Volos and Thessaly in Greece, Taranto in Italy, and Andalusia in Spain, with a focus on Seville and Málaga. It shows how different port city regions are experiencing green, digital, economic and social transition, while facing common questions around skills, inclusion, workforce adaptation and stakeholder coordination.

6.1 Cyprus

Cyprus presents a multi-port island context in which maritime activity is closely connected to logistics, shipping services, energy-related activity, tourism and international trade. Its ports, particularly Limassol and Larnaca, are central to the island's economic and strategic position. Smaller ports also contribute to tourism, fisheries, leisure and regional economic activity.

The Cyprus evidence shows a port economy undergoing diversification and modernisation. Digitalisation is advancing through port community systems, vessel tracking, paperless customs and wider logistics modernisation. Environmental priorities are also becoming more significant, including energy efficiency, onshore power supply, emissions reduction and alignment with European decarbonisation objectives. Maritime services, tourism, logistics, offshore support and energy-related activities are increasingly interconnected.

However, the analysis also indicates a gap between economic transformation and skills system adaptation. The port economy is changing faster than the training ecosystem that serves it. Several sectors require substantial workforce transition, including port operations, logistics, maritime services, environmental management, cruise and marina services, offshore support and related technical fields.

The Cyprus evidence also highlights social inclusion concerns. As the port economy becomes more specialised, digital and service-oriented, there is a risk that traditional workers, young people, women, migrants and other groups may not gain access to emerging opportunities unless pathways are intentionally designed. Effective inclusion initiatives exist, but they are often located outside the port system rather than embedded within port-related workforce planning.

The Cyprus case therefore points to the importance of stronger coordination between port actors, VET providers, public bodies, employers and civil society. It also underlines the need for inclusive upskilling pathways that connect maritime and logistics transformation with broader social and regional development.

6.2. Volos and Thessaly

Volos presents a port city region shaped by industrial history, logistics, tourism, climate-related disruption and the need for resilience. The port has historically served manufacturing, agricultural activity and regional trade, while also expanding into passenger transport, cruise activity and tourism-related functions.

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The evidence from Volos shows a transition from a more industrially anchored port economy towards a more mixed model involving cargo, ferries, cruise tourism, logistics, renewable energy and smart-port development. This transition has been affected by climate-related shocks, including severe weather events that disrupted port operations and the wider regional economy. These events reinforced the need to understand port transition not only as a matter of growth or modernisation, but also as a matter of resilience.

Several sectors require workforce transition. Traditional cargo and port handling roles are affected by digital logistics, automation and energy-efficient machinery. Shipping and maritime services are affected by alternative fuels, environmental compliance and smart systems. Tourism and cruise services require digital customer service, sustainability standards and new forms of service quality. Energy and green infrastructure create demand for technical skills linked to renewable energy, installation and maintenance.

The region also faces demographic and social challenges, including an ageing population, youth outmigration, structural unemployment, skills mismatches and risks of poverty or exclusion. Vulnerable groups, including migrants, women, young people not in employment or training and low-qualified adults, are not sufficiently connected to port-related skills pathways.

The Volos case highlights the importance of stronger labour-market intelligence, more structured employer engagement, better coordination between VET providers and regional actors, and pathways that connect resilience, green transition, digital skills and inclusion. It also shows that just transition must include climate resilience and social resilience alongside economic renewal.

6.3. Taranto

Taranto is the most explicit high-stakes just transition context in the PortAbility analysis. Its development has been profoundly shaped by heavy industry, especially steel production, and by the environmental, social and economic consequences of industrial dependence. The port is not only a logistics infrastructure; it is part of a wider territorial system connected to industrial reconversion, environmental repair, urban development and regional identity.

The Taranto evidence shows a territory with significant strategic ambition and investment frameworks, but also with structural conditions that slow down implementation. The direction of travel is towards diversification, including project cargo, offshore wind, energy-related value chains, cruise activity, advanced logistics, circular economy and environmental remediation. At the same time, the region remains affected by uncertainty, employment risks, environmental legacies and the challenge of translating strategies into coordinated action.

A central message from Taranto is that the main constraint is not necessarily the absence of strategies or resources, but the difficulty of turning them into coherent, inclusive and stable implementation. The stakeholder ecosystem is rich and multi-layered, but collaboration can be hindered by fragmented governance, limited intersectoral dialogue and slow decision-making.

Skills and training are presented as both a decisive lever and a critical vulnerability. The evidence identifies a mismatch between available competences and those required by an

evolving port economy. These include specialised technical skills, green and energy-related skills, digital competences, organisational capabilities and transversal skills linked to adaptability and change management.

Social inclusion is especially central in Taranto. The credibility of transition depends on whether vulnerable groups, workers in transition and communities affected by industrial change can access meaningful opportunities. NEETs, migrants, disabled people and adult workers in transition require differentiated and supported pathways, rather than generic training offers.

The Taranto case therefore reinforces the need for just transition to be visible in governance, pathway design, learner support, employer engagement and territorial regeneration.

6.4. Seville and Málaga

The Andalusian evidence focuses on Seville and Málaga, two port contexts with different but complementary roles. Seville is Spain's only inland seaport, connected to multimodal logistics, agro-industrial supply chains, renewable energy components and inland connectivity. Málaga is a coastal port with strong links to cruise tourism, services, logistics and a more tourism-oriented economy.

The evidence shows both ports adapting to structural change. In Seville, logistics modernisation, digitalisation, green hydrogen, renewable energy and intermodal development are reshaping the port economy. The use of digital innovation, including digital twin development, points to a more technologically complex future. In Málaga, cruise tourism, sustainability measures, shore-to-ship power and service-oriented activities are central to the transition context.

The Andalusian case highlights the coexistence of immediate labour shortages and longer-term transition needs. Many actors are concerned with current workforce gaps, while green and digital transitions are gradually reshaping occupational profiles. Companies increasingly recognise the emergence of hybrid technical-digital-green roles, but training pathways and accreditation routes are not always sufficiently visible, flexible or aligned.

The evidence also highlights significant access barriers. The port economy can appear inaccessible to vulnerable groups, young people and even trained workers. Social inclusion organisations report limited collaboration with port firms and limited visibility of job opportunities. Weak coordination between companies, trade unions, VET providers and inclusion actors limits both workforce development and access to port employment.

The Andalusian case therefore reinforces several PortAbility-wide conclusions: skills needs are increasingly hybrid; labour shortages are closely linked to inclusion and access; stronger connections between initial and continuing VET are increasingly important; and port transition depends on better coordination between economic, educational and social actors.

7. Comparative findings

Read comparatively, the four regional cases show that PortAbility is not dealing with isolated local challenges, but with a shared transition agenda expressed through different territorial conditions. The findings in this section distil the common issues that can inform future action: implementation capacity, VET responsiveness, hybrid skills, inclusion by design and governance as an operating method..

7.1. The transition is underway, but unevenly governed

Across the four participating contexts, transition is already underway. None of the regions is starting from zero. All have policy frameworks, investments, strategies or institutional actors concerned with green transition, digitalisation, economic diversification, blue economy development, resilience or social inclusion.

However, the analysis finds that transition is often more advanced as policy ambition than as coordinated implementation. The challenge is not simply to create more strategies, but to strengthen the mechanisms that connect strategies to skills, inclusion, employers, learners, public bodies and communities.

In Taranto, the transition is highly visible and politically charged, but difficult to operationalise coherently across industrial reconversion, environmental repair, skills and inclusion. In Volos, climate disruption and economic restructuring create a strong case for green, digital and resilient repositioning, but coordination remains fragmented. In Cyprus, investment and infrastructure are advancing, but workforce development and inclusion require stronger integration. In Andalusia, port modernisation and sustainability agendas are visible, but access routes and training pathways remain insufficiently clear.

This finding has important policy implications. Just transition cannot depend only on the existence of plans, investments or institutional mandates. It requires operating capacity: the ability to translate transition objectives into coherent skills pathways, stakeholder commitments, inclusion measures, labour-market intelligence and implementation structures.

7.2. VET is expected to do more

Across the regions, vocational education and training is increasingly expected to do more than provide conventional occupational preparation. It is being asked to anticipate labour-market change, support economic diversification, respond to green and digital competence needs, widen access, support adult workers, connect employers and learners, and contribute to regional innovation.

This expanded role is consistent with the Centre of Vocational Excellence model, but it also creates pressure. VET systems are not always configured for rapid adaptation, employer co-design, modular progression, micro-credential recognition, inclusion support or continuous foresight. In some contexts, curricula are slow to change. In others, training provision exists but is not sufficiently connected to port-related employment. In others, employers are experiencing shortages while vulnerable groups remain outside available pathways.

The analysis therefore positions VET as part of the regional transition infrastructure. This places VET within a wider governance environment, where education and training providers are connected to employers, public authorities, port actors, social partners, civil society and research bodies. From this perspective, VET contributes most effectively to transition when it operates as part of a coordinated regional skills ecosystem rather than as a separate training function.

For just transition, this is essential. If VET is not connected to transition planning, new investments may not produce inclusive employment opportunities. If VET is not connected to inclusion systems, people facing barriers may not access emerging jobs. If VET is not connected to foresight, training may remain behind the pace of change.

7.3. Skills needs are becoming hybrid

The PortAbility analysis finds that the emerging skills agenda in port city regions is hybrid. The issue is not a simple replacement of old jobs by new jobs. Instead, traditional roles are changing while new demands accumulate around them.

Port-related jobs increasingly require combinations of technical, digital, environmental, regulatory, service-oriented and transversal competences. Workers may need to understand logistics systems, digital platforms, data flows, safety, environmental compliance, energy systems, customer interaction, teamwork and problem-solving. Employers may require people who can operate across organisational boundaries, adapt to new technologies and understand sustainability requirements.

This hybridisation is visible in all regions. In Cyprus, digital logistics, maritime services, emissions monitoring, offshore support and tourism-related functions overlap. In Volos, cargo, cruise activity, resilience, tourism and smart-port development combine. In Taranto, intermodality, compliance, energy transition, environmental repair and blue economy diversification intersect. In Andalusia, inland logistics, digital systems, green hydrogen, cruise tourism and service employment coexist.

The implication is that training responses need to reflect the breadth and integration of emerging competence profiles. The PortAbility analysis points towards learning pathways that show how technical, digital, green, regulatory and transversal competences combine in real work contexts. This also has implications for micro-credentials, whose value lies in recognising coherent skill combinations and progression routes.

7.4. Inclusion is recognised, but not yet embedded

Across the participating regions, inclusion is widely recognised as important. However, the analysis finds that it is rarely embedded deeply enough in mainstream port-related planning and skills development.

Inclusion often remains located in separate projects, specialised organisations or policy commitments, rather than being integrated into pathway design, recruitment, guidance, assessment, learner support, employer engagement and progression routes. This creates a

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risk that green and digital transition will produce new opportunities without ensuring that those opportunities are accessible to people facing barriers.

The groups concerned differ by context, but include young people not in employment or training, migrants, women, disabled people, low-qualified adults, older workers, seasonal workers, precarious workers, adult workers in transition and residents of disadvantaged port-adjacent neighbourhoods.

The barriers are also varied. They include limited visibility of port-related opportunities, lack of trusted guidance, rigid entry requirements, weak recognition of prior learning, language barriers, transport and care constraints, low confidence, limited employer engagement with inclusion organisations, and insufficiently supported transition pathways.

The analysis therefore points towards inclusion by design: embedding access, support and progression considerations into the development of pathways, curricula, micro-credentials, pilots, governance structures and stakeholder processes. In this framing, inclusion is a quality dimension of PortAbility's VET response and a condition for the credibility of just transition.

7.5. Governance is the bottleneck

One of the clearest conclusions of the PortAbility analysis is that governance is a central bottleneck in port city transition. Relevant actors exist in all regions, but the connections between them are often insufficiently structured.

Collaboration is frequently valued, but may remain informal, episodic, project-based or dependent on individual relationships. Employers may not be consistently involved in curriculum design. VET providers may not receive timely information about emerging skill needs. Civil society organisations may understand access barriers but remain outside port-related workforce planning. Public authorities may set strategies without sufficient mechanisms for implementation. Port authorities may be central to transition planning but less directly connected to training and inclusion systems.

The result is a gap between ambition and delivery. Policy frameworks may identify transition priorities, but skills systems may not translate them quickly. Employers may identify shortages, but pathways may remain unclear. Inclusion actors may support vulnerable groups, but not have access to port-related opportunities.

For PortAbility, the governance implication is clear. The quadruple helix approach, involving education and research, business and industry, public authorities and civil society, should move from a general partnership principle to an operating method. This requires practical mechanisms for shared intelligence, pathway design, employer validation, inclusion review, evidence capture, peer learning and feedback from implementation.

8. Just transition as the organising principle

The strongest cross-cutting conclusion of this synthesis is that just transition must be made operational. It cannot remain only a policy value or project title. It must become visible in how skills needs are identified, how learning pathways are designed, how access is widened, how

employers are involved, how social partners contribute, how micro-credentials are structured, how learners are supported, and how regional actors collaborate.

For port city regions, just transition has several linked dimensions. It is **economic**, because it concerns diversification, renewal, innovation and competitiveness in places where traditional port and industrial activities are changing. It is **environmental**, because it requires decarbonisation, energy transition, circular economy approaches, climate resilience and sustainable port operations. It is **digital**, because workers, learners and organisations must be prepared for automation, data systems, AI-related change, smart logistics and digital coordination. It is **social**, because transition must ensure that workers and communities are not left behind and that emerging opportunities are visible, accessible and credible. It is also **institutional**, because these agendas need governance capacity if they are to be connected and translated into practical pathways.

This integrated understanding of just transition is central to PortAbility. It avoids treating green skills, digital skills and inclusion as separate or parallel agendas. Instead, it asks how VET can connect them in a coherent response to the changing realities of port city regions.

9. Implications for VET systems

The PortAbility Blueprint analysis identifies several implications for VET systems and skills partnerships. VET needs stronger links to skills foresight and labour-market intelligence, since rapid change in port city regions means that training systems cannot rely only on established occupational categories or retrospective data. They require regular feedback from employers, port actors, public authorities, workers, trade unions, inclusion organisations and learners.

VET is also increasingly required to respond to hybrid competence profiles. Green, digital and social transitions are reshaping existing roles as well as creating new ones. The analysis points towards training approaches that combine technical content with digital, environmental, regulatory, transversal and coordination competences.

The analysis also points to the need for stronger connections between initial and continuing learning. Port city transition affects young people entering the labour market, but also adult workers, displaced workers, people changing roles, low-qualified workers and people returning to learning. A just transition approach therefore requires flexible, modular and re-enterable pathways.

Inclusion must also be built into pathway design. This includes outreach, guidance, entry routes, support measures, accessible materials, recognition of prior learning, assessment arrangements and progression opportunities.

The role of change agents is equally important. Trainers, tutors, guidance workers, VET managers, employer representatives, public officials, mentors, social partners and civic intermediaries all play roles in mediating transition. They require shared tools, professional development, peer learning and stronger coordination.

Finally, the analysis also points to the value of a transnational but adaptable architecture for VET systems. For PortAbility, this means common principles and standards that support

coherence across the partnership, alongside sufficient flexibility for each region to adapt content and delivery to its own context.

10. The PortAbility educational response

The PortAbility analysis points towards a pathway-based and ecosystem-based educational response. Across the participating port city regions, the evidence indicates a need for learning approaches that connect skills development, recognition, inclusion, labour-market relevance and stakeholder cooperation.

A pathway-based response places emphasis on visible routes into, through and beyond training. This is particularly important in port city transition, where learners and workers may enter from different starting points, combine work and learning, return to education after interruption, or need recognition for prior experience. Pathways therefore need to support progression, recognition, re-entry and connection to credible labour-market opportunities.

An ecosystem-based response places training design within the wider regional skills environment. The evidence points to the importance of collaboration between VET providers, employers, port authorities, public bodies, research organisations, social partners, civil society and learners, particularly where transition challenges cut across sectors, institutions and communities.

Taken together, the evidence suggests that PortAbility's educational response needs to be modular but connected; progressive and re-enterable; relevant to both initial and continuing VET; linked to micro-credentials and recognition; informed by employers and labour-market intelligence; inclusive by design; locally adaptable; and transnationally coherent.

The shared architecture emerging from the analysis would combine common principles, learning-outcome formats, assessment baselines, inclusion minimums, micro-credential logic and feedback loops with local adaptation in content, delivery, target groups and partnership arrangements.

This balance between common architecture and local adaptation is central to the PortAbility approach. It allows the initiative to develop transnational coherence while respecting the different starting points, institutional conditions and transition pathways of each port city region.

11. Micro-credentials and recognition

Micro-credentials emerge in the PortAbility analysis as part of a wider pathway and recognition agenda. Their value is strongest where they help recognise specific learning outcomes, support progressive skills development, and connect shorter learning experiences to broader routes for progression, mobility and labour-market relevance.

This is particularly relevant in port city transition, where learners and workers may need to build competences progressively. Some may require low-threshold entry points; others may bring prior experience that is not formally recognised. Some may need to combine work and

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learning, while others may require short, focused upskilling linked to specific occupational changes or longer progression routes towards new employment or career advancement.

The evidence therefore points to micro-credentials as one element within a broader learning architecture. They can support flexibility where they are connected to clear learning outcomes, assessment criteria, quality standards, recognition arrangements and progression links. They can also help bridge initial and continuing VET, formal and non-formal learning, employer needs and learner mobility.

At the same time, the analysis highlights the importance of coherence. Modular provision is most useful when it is credible, recognised, linked to progression and embedded within wider standards and quality-assurance arrangements. For PortAbility, this points towards a common transnational architecture for pathways, micro-credentials and recognition, combining shared principles with scope for regional adaptation.

From a just transition perspective, the significance of micro-credentials lies not only in labour-market responsiveness, but also in access and progression. Used well, they can help learners and workers demonstrate competence, move between learning and work, and gain recognition for skills that might otherwise remain invisible.

12. Skills foresight and labour-market intelligence

Skills foresight and labour-market intelligence emerge from the PortAbility analysis as practical capabilities that can support adaptation over time. In fast-changing port city regions, foresight is most useful when it informs curriculum design, pathway development, micro-credential review, pilot adaptation, trainer professional development, employer validation and transnational learning.

The evidence also points to the importance of broadening skills intelligence beyond technical or occupational forecasting. Port city transitions are shaped by investment decisions, technological adoption, regulatory change, environmental pressures, supply-chain developments, demographic shifts and social dynamics. For this reason, skills intelligence benefits from multiple perspectives, including those of employers, port authorities, public bodies, trade unions, VET providers, civil society organisations, learners, workers and research institutions.

PortAbility's potential contribution lies in supporting shared methods for identifying drivers of change, emerging roles and competence implications. This is less about fixed prediction than about strengthening the capacity of partners and stakeholders to anticipate, review, adapt and respond collectively.

From a just transition perspective, foresight also has a social dimension. It can help identify who may be affected by change, who may be less able to access emerging opportunities, and what forms of support may be needed to make transition more inclusive and fair.

13. Change agents

The analysis places strong emphasis on change agents. These are the people and organisations expected to mediate, coordinate and implement transition-oriented change. They include trainers, tutors, VET managers, guidance practitioners, employer representatives, port actors, public officials, social partners, civil society organisations, mentors, researchers and community intermediaries.

The evidence shows that transition depends heavily on their capacity. Change agents are expected to interpret labour-market change, adapt learning provision, engage employers, support learners, connect institutions, understand inclusion barriers, use digital tools, apply quality standards and contribute to regional cooperation. Yet they may not always have the time, resources, shared language or professional development needed to perform these roles.

Change-agent capacity is identified as a central condition for effective implementation. The evidence points to the value of structured professional development, peer exchange, practical tools and communities of practice for those involved in delivering, coordinating and supporting transition-related VET.

This is particularly relevant for just transition. Strategies can set the direction for technical, green and digital change, but implementation depends on people and organisations able to work across institutional, sectoral and community boundaries. Change agents often provide the link between policy and practice, between institutions and learners, and between economic opportunity and social access.

14. Six priorities for action

The PortAbility Blueprint process distils the evidence into six priorities for action. These priorities are presented at strategic level and indicate where PortAbility can add most value as a transnational VET and skills partnership. Before each priority is discussed in turn, the figure below summarises how the Blueprint evidence translates into six connected areas of action for PortAbility's next phase of work.

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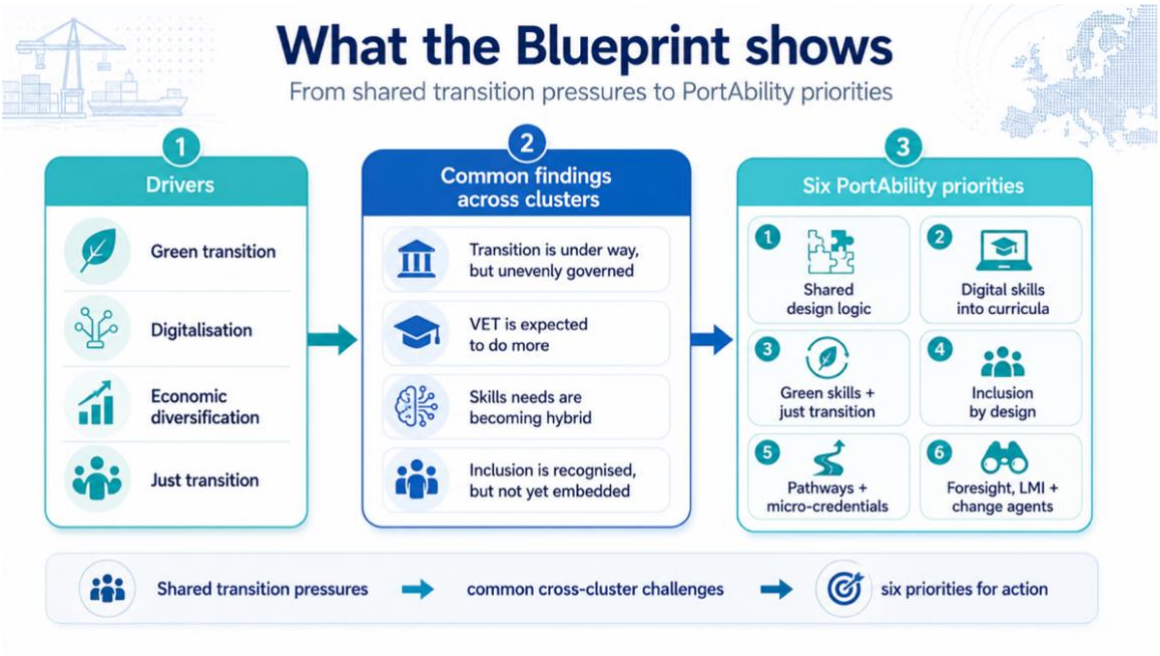

14.1. Establish a clearer shared design logic and minimum transnational specification

The evidence points to the value of a clearer shared design logic for the next phase of PortAbility. A common design logic would help the initiative operate coherently as a transnational Centre of Vocational Excellence while still allowing activities to reflect local needs and institutional contexts.

This shared specification can cover common principles for learning outcomes, assessment, pathway design, micro-credential development, inclusion standards, evidence capture and feedback mechanisms. Such an architecture would strengthen comparability, transferability and coherence across the participating regions.

14.2. Give clearer educational expression to digital skills

Digitalisation is a major driver across all regions, and the analysis points to the need for clearer educational expression of digital skills. This means translating digital transition into teachable, assessable and recognisable learning outcomes.

Relevant areas include digital logistics, data use, port community systems, automation, smart-port technologies, digital communication, cybersecurity awareness, artificial intelligence and digital confidence. The priority is to give digital skills curricular, pedagogical and credential form, so that workers and learners can adapt to digital change in real organisational settings.

14.3. Give green skills and just-transition content explicit curriculum and pedagogical form

Green transition and just transition are identified as central elements of the PortAbility skills agenda. The analysis points to the importance of making these themes visible in learning design, including decarbonisation, renewable energy, environmental compliance, circular economy, resilience, sustainable logistics and climate adaptation.

The evidence also reinforces the connection between green skills and the social dimension of transition. Learners and workers need opportunities to understand the implications of transition for jobs, communities, inclusion and fairness, as well as the technical and environmental requirements of new or changing roles. In this sense, green skills and just-transition content are closely linked: both help connect economic renewal with social inclusion.

14.4. Design inclusion into pathways, standards and collaboration structures

Inclusion is identified as a core condition for credible just transition. The evidence points to the importance of embedding inclusion within PortAbility's learning and governance structures from the outset. This includes identifying target groups, understanding barriers, involving civil society and inclusion actors, creating accessible entry points, providing learner support, recognising prior learning and connecting training to credible opportunities.

Inclusion can also function as a quality criterion across pathways, pilots, micro-credentials and partnership activities. The analysis suggests that inclusion minimums would help ensure that PortAbility's technical and educational work remains connected to access, progression and social fairness.

14.5. Develop a common transnational architecture for pathways, micro-credentials and recognition

The evidence supports the development of a common transnational architecture for pathways, micro-credentials and recognition. Such an architecture would support modularity, progression, re-entry, transferability and quality assurance across the PortAbility initiative.

The participating regions differ significantly, and local adaptation remains essential. Common principles can nevertheless provide coherence across learning-outcome formats, assessment, credential metadata, recognition and progression. This priority is an important part of PortAbility's European added value, because it allows diverse regions to develop place-based responses within a shared transnational framework.

14.6. Develop foresight, labour-market intelligence and change-agent capacity as operational capabilities

Foresight, labour-market intelligence and change-agent capacity are identified as continuing capabilities that can support design, implementation, review and adaptation over time.

This includes shared methods for identifying emerging skill needs, engaging employers, capturing learner and worker experience, reviewing inclusion barriers, updating learning pathways and supporting professional development for those responsible for transition-oriented change.

The priority is to strengthen the capacity of partners and stakeholders to anticipate change, interpret evidence and adapt practice collectively. This is particularly important in port city regions, where economic, environmental, technological and social transitions are unfolding simultaneously.

15. Implications for policy and practice

The PortAbility Blueprint process has several wider implications for policy and practice beyond the immediate partnership.

It points to the value of understanding port city transition territorially. Port city regions function as wider ecosystems in which ports, cities, hinterlands, labour markets, communities, institutions and training systems interact. Policy responses are therefore stronger when they address this wider territorial system, alongside specific maritime, logistics or infrastructure priorities.

The analysis also reinforces the strategic value of VET in just transition. VET can connect economic development, social inclusion, employer demand, learner progression and regional cooperation. In this sense, it operates as part of the transition infrastructure of port city regions, helping to translate economic and environmental change into accessible skills pathways.

A further implication concerns the social design of green and digital transition. Technological investment and environmental targets gain practical effect through the pathways, support measures, access routes and governance arrangements that enable people to participate in change. Skills systems therefore play a central role in determining whether transition becomes inclusive and credible.

The Blueprint process also highlights the importance of intermediate institutions and change agents. Transition is implemented through people and organisations able to connect systems, interpret evidence, support learners, engage employers and coordinate across institutional boundaries. Their professional development and coordination capacity are critical to effective implementation.

Finally, the analysis reinforces the value of transnational cooperation. The participating regions differ in context and trajectory, while sharing comparable challenges around skills, inclusion, governance and transition. This creates a basis for shared methods, common principles and peer learning, and allows PortAbility to contribute to European knowledge on how VET can support just transition in specific territorial ecosystems.

16. PortAbility's added value

PortAbility's added value lies in its capacity to connect evidence, partners, regions and action around a shared just-transition agenda.

The CoVE is designed to complement, rather than duplicate, national and regional investment programmes. It cannot replace the responsibilities of public authorities, employers, VET systems or port institutions. Its distinctive value lies in providing a transnational framework for learning, experimentation, comparison and practical cooperation.

Its added value includes:

- developing a shared understanding of port city transition as a green, digital, economic and social process;

- positioning VET as a strategic instrument for just transition;
- connecting skills foresight with pathway design;
- supporting micro-credentials and recognition within a common architecture;
- integrating inclusion into learning and governance structures;
- supporting change agents across regional skills ecosystems;
- enabling peer learning between different port city contexts;
- translating local evidence into transnational principles and tools.

This is particularly important because port city regions are undergoing change at different speeds and from different starting points. A transnational partnership can help regions learn from one another without imposing uniform solutions.

17. Towards an Operational Just Transition in Port City Regions

The PortAbility Blueprint process shows that port city transition is shaped by more than infrastructure investment, technological innovation or individual training provision. It depends on integrated regional skills ecosystems capable of anticipating change, supporting inclusion, aligning VET with emerging labour-market needs, and strengthening cooperation between education, industry, public authorities, social partners, research organisations and civil society.

PortAbility's distinctive contribution lies in this integration. It positions VET as a strategic instrument for just transition: connecting new skills demands with more inclusive, adaptive and future-oriented development in port city regions.

The analysis also indicates that just transition gains practical meaning through implementation. It becomes visible in how learning pathways are designed, how micro-credentials are structured, how employers are involved, how vulnerable and under-represented groups are supported, how change agents are prepared, how evidence is gathered, and how regional skills ecosystems collaborate.

The evidence from Cyprus, Volos, Taranto and Andalusia confirms that transition is already underway, but unevenly governed. VET is expected to play a broader role and the evidence points to the need for stronger foresight, clearer pathways, better inclusion design and more structured collaboration. Skills needs are becoming hybrid, requiring more adaptive education and training responses. Inclusion is recognised across the regions, while the analysis points to the importance of embedding it more deeply in mainstream transition planning.

The central policy message is therefore clear: a just transition in port city regions requires more than green and digital investment. It also depends on inclusive skills systems, credible learning pathways, stronger regional cooperation and VET institutions able to anticipate and shape change as well as respond to it.

The PortAbility Blueprint process moves the project from a strong initial rationale to an evidence-based agenda for action. It provides a common foundation for the next phase of the project and a wider contribution to European thinking on how vocational education and training can support just, green, digital and inclusive transition in port city regions.

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