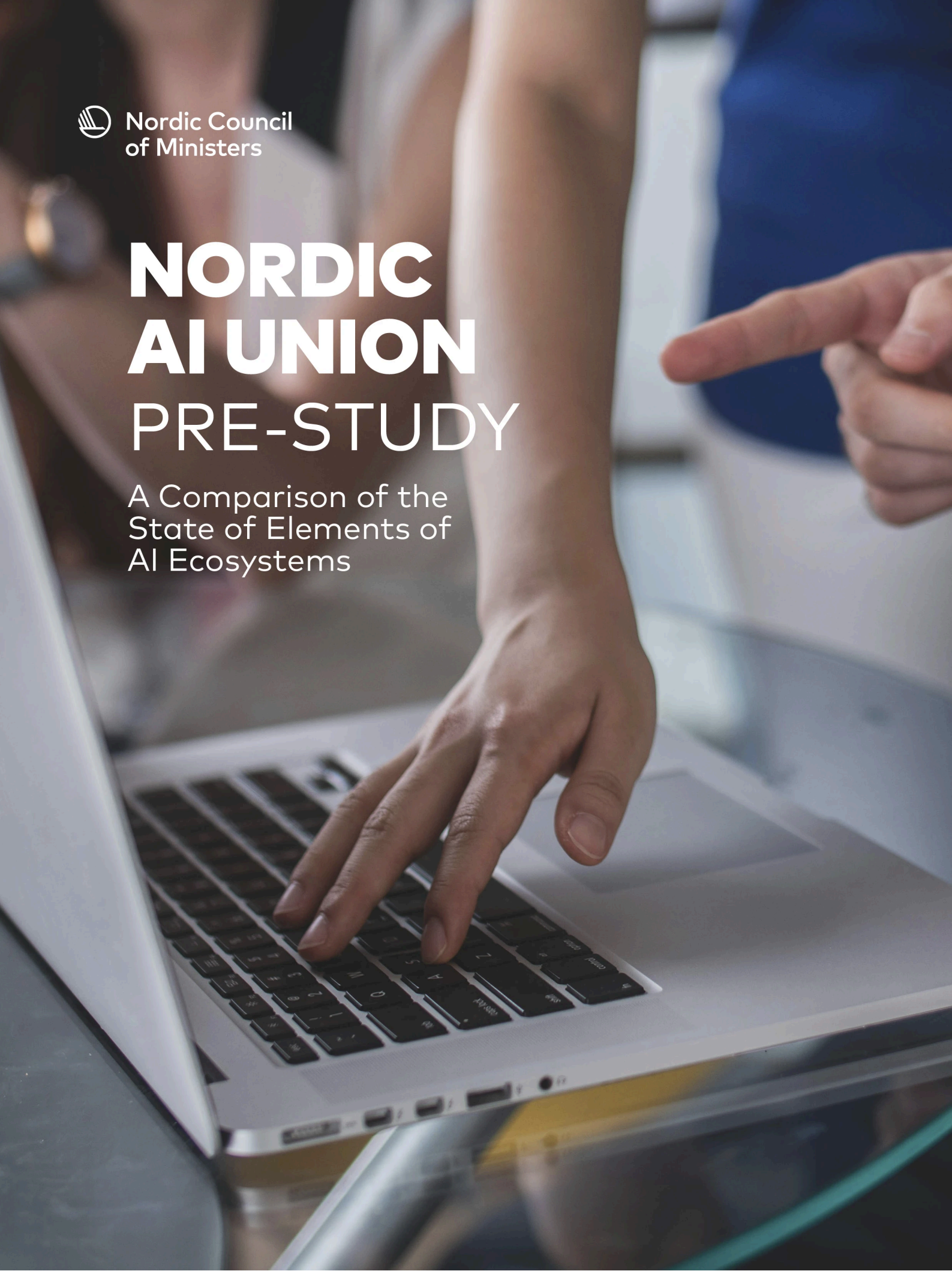




Nordic Council
of Ministers

NORDIC AI UNION PRE-STUDY

A Comparison of the
State of Elements of
AI Ecosystems



NORDIC AI UNION PRE-STUDY: A Comparison of the State of Elements of AI Ecosystems

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Contents

Executive Summary	4
Abbreviations and Key Terms	5
Acknowledgements	9
Introduction	10
Background	10
Objectives of the NAU Pre-study	11
Methodology	12
Findings	14
Main Challenges	14
AI Ecosystem Actor Roles: Present and Missing	17
Required Services for a Nordic–Baltic AI Ecosystem	24
EU Service Provision and Nordic–Baltic Needs	29
Intended Benefits and Beneficiaries of the Services	31
Immediate and Near-future Gaps Concerning the Intended and Current Benefits	33
Capacity	34
Capacity Overlap, Duplication and Fragmentation Patterns	35
Proposals	37
Two Alternative Paths to a Functioning Nordic–Baltic AI Ecosystem	37
Fast Forward	37
Plan and Play Ahead	41
Reflections	45
Conclusions	47
References	49
Appendices	50
Appendix 1: Nordic–Baltic stakeholders to be considered	50
About this publication	54

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<https://pub.norden.org/temanord2026-530>

Executive Summary

In the context of Nordic–Baltic cooperation, the larger Nordic countries have well-developed innovation support infrastructure for SMEs and startup innovation in general. This picture becomes more complex when examined through the lens of AI-specific ecosystem requirements. Finnish and Swedish AI Factories, which are well equipped, together with Norway's emerging high-performance computing infrastructure, could significantly complement the capacity-building efforts of the Baltic states and smaller Nordic countries. They could do this by addressing gaps in human resources, technical infrastructure and preparedness.

But this would require overcoming a structural coordination dilemma: the preconditions for collaboration (joint governance, aligned funding, shared data rules) are precisely what cooperation is needed to create. Concrete steps include dedicated cross-border coordination and funding instruments, joint representation towards the EU, learning from best practices across neighbouring countries, and shared AI development and testing environments with mutually recognised early sandbox implementations. To extend beyond current professional and expert audiences, the benefits of AI should be made tangible to the wider public through successful concrete, real-world use cases. For SMEs, a single point of contact and clear pathways to support services are needed. For all the above, developing coherent AI ecosystem terminology aligned with EU regulatory frameworks is a high priority. Finally, the present report proposes two critical paths towards these goals: a 12-month "Fast forward" path and an 18-month "Plan and Play Ahead" alternative.

Abbreviations and Key Terms

AI Act/AIA	The EU Artificial Intelligence Act, the main regulatory framework for AI systems in the EU.
AI Board	EU-level advisory body supporting coordination and consistent implementation of the AI Act across Member States.
AI Factory	European AI infrastructure and service framework supporting AI development, compute access, testing and scaling.
AI literacy	The knowledge and skills needed to understand, use, govern and assess AI systems responsibly.
AI Office	Established by the European Commission, the EU-level body responsible for supporting AI Act implementation, including guidance and oversight of certain AI systems (the supervision of general-purpose AI [GPAI] models).
AI regulatory sandbox	A controlled environment where AI systems can be developed, tested and assessed with regulatory guidance.
AI Act Service Desk	A support function intended to help actors interpret AI Act obligations, access information and provide clear guidance on the AI Act's application.
AIRE	AI & Robotics Estonia: an Estonian EDIH and innovation support actor referenced in the ecosystem.
Data Spaces	Shared data environments designed to enable trusted, governed and interoperable data access and reuse.

DCAI	Danish Center for AI Innovation, a company established with funding from the Novo Nordisk Foundation, operates Gefion, Denmark's first AI supercomputer and offers secure access to AI resources, expertise, and innovation support
DPA	Data Protection Authority: a national authority responsible for supervising data protection rules such as GDPR.
EDIH	European Digital Innovation Hub: an EU-supported hub providing digitalisation, testing, skills and innovation support.
EUSAIr	AI Regulatory Sandbox Framework: a Digital Europe supportive project, supporting sandbox-related infrastructure and services.
Gefion	Denmark's first AI supercomputer, gives organizations access to advanced computing power needed for developing and testing AI solutions.
GPAI	General-purpose AI: AI models or systems capable of being used for a wide range of tasks.
GovTech	A public-sector innovation approach in which governments cooperate with companies to develop digital or AI-based solutions.
HPC	High-performance computing: advanced computing capacity used for demanding AI training, testing and modelling tasks.
KPI	Key performance indicator: a measurable indicator used to assess progress or success.
LUMI	A EuroHPC supercomputer hosted in Finland, providing major compute capacity for research and AI development.
MLOps	Machine learning operations: practices for deploying, monitoring and maintaining machine learning systems in production.

MSA	Market Surveillance Authority: the authority responsible for monitoring products or systems placed on the market.
NAU	Nordic AI Union: the pre-study/project assessing the Nordic–Baltic AI innovation ecosystem and sandbox readiness.
NB	Notified Body: an accredited conformity assessment body involved in assessing compliance in regulated product areas.
NCA	National Competent Authority: a national authority responsible for AI Act implementation tasks such as sandbox coordination or guidance.
NCM	Nordic Council of Ministers: an intergovernmental cooperation body supporting Nordic collaboration.
NGO	Non-governmental organisation: a civil society actor potentially involved in AI literacy, trust-building and living labs.
NoLeFa	EU-level support action related to AI Act implementation, market surveillance and related regulatory capacity building.
R&D	Research and development: activities aimed at creating, testing and improving new technologies or solutions.
RWT	Real-world testing: testing AI systems in operational or production-like environments under defined safeguards.
SME	Small and medium-sized enterprise: companies with limited staff, turnover and balance sheet size under EU definitions.
SMC	Small mid-cap company: a company category larger than an SME but smaller than large enterprises.

SPOC	Single point of contact: a clear entry point helping companies navigate ecosystem services and support mechanisms.
TEF	Testing and experimentation facility: sector-specific EU-supported facility for testing and validating AI technologies.
Triple Helix	A model of collaboration between government, academia and industry in innovation ecosystems.
Quadruple Helix	An extension of the Triple Helix model that also includes civil society and citizens.
Trustworthy AI	AI that is lawful, ethical, technically robust, transparent and aligned with societal values.

Acknowledgements

We would like to express our sincere gratitude to all organisations and individuals who contributed to the NAU project. In particular, we thank the Nordic Council of Ministers for the opportunity to conduct this topical pre-study. We also thank Haaga-Helia UAS, JUSTDIGI, Anything AS, Atel Oy and Heikura Menace Circum Oy, our partner organisations in the project, for their commitment, collaboration and expertise throughout the work. Their contributions were essential in shaping the project's direction, analysis and outcomes.

We are also grateful to all workshop participants, interviewees and stakeholders who shared their time, insights and practical experiences. Their perspectives helped us build a more comprehensive understanding of the Nordic–Baltic AI innovation ecosystem, its current strengths, gaps and opportunities for future cooperation.

We would also like to thank all experts who gave presentations during the workshops. Their broad and diverse expertise greatly enriched the discussions and enabled the project to examine the topics from multiple perspectives. Their contributions helped create a shared knowledge base for the workshops and supported a more nuanced understanding of the opportunities and challenges related to AI innovation, regulation and ecosystem development.

We especially appreciate the open and constructive dialogue across countries, sectors and organisations. This collaborative spirit was central to the project and reflects the shared ambition to support trustworthy AI development, regulatory readiness and stronger Nordic–Baltic cooperation.

In addition, we would like to extend special thanks to the following individuals for their particularly active and valuable contributions to the project:

Ott Velsberg, JUSTDIGI, Estonia

Sofia Paes, JUSTDIGI, Estonia

Jaanus Vänt, JUSTDIGI, Estonia

Abdulrahman Azab Mohamed, Anything AS, Norge

Thomas Thaulow Stöcklin, Anything AS, Norge

Gísli Ragnar Guðmundsson, Almannarómur, Iceland

Lilja Dögg Jónsdóttir, Almannarómur, Iceland

Teemu Moilanen, FAIR, Finland

Introduction

The Nordic AI Union (NAU) project was a pre-study aimed at supporting the development of a coordinated Nordic–Baltic AI ecosystem in alignment with the EU AI Act. The project focused on supporting the creation of AI regulatory sandboxes that accelerate trustworthy and compliant AI solutions. This report analyses the current state of innovation support systems, regulatory frameworks and ecosystem resources from the perspective of companies, identifying key strengths, gaps and structural challenges across the region. It examines both national and cross-border dimensions, including services, infrastructure, governance and collaboration mechanisms. Besides, the report explores how Nordic cooperation can promote future AI solutions.

The findings are based on a situational overview and stakeholder engagement carried out during 2025–2026, including workshops held in Estonia, Norway, Iceland and Finland, with participation from across the Nordic–Baltic region. The report is intended for policymakers, regulators, ecosystem actors, companies and especially SMEs and startups. This report supports more effective coordination through recommendations, success indicators and an operating model, alongside two implementation paths: a 12 month “Fast Forward” option and an 18 month “Plan and Play Ahead” alternative.

Note: AI tools (Copilot and Claude) were used to support parts of the analysis, such as structuring information and identifying patterns with all outputs reviewed and validated by the project team.

Background

The idea of a Nordic AI Union (NAU) was proposed during the Finnish Presidency of the Nordic Council of Ministers (NCM) in 2025 to meet the growing need for concerted AI ecosystem coordination among Nordic–Baltic businesses, authorities, public sector and other actors. The pre-study project plan was presented to the Nordic Committee of Senior Officials for Business Policies (EK-N). EK-N is a responsible administrative body within the structure of NCM, responsible for implementing political decisions related to business, innovation and regional development.

The Nordic Council of Ministers' Vision 2030, adopted by the NCM in 2019, aims to make the Nordic region the most sustainable and integrated region in the world by 2030 by prioritising a green transition, competitiveness through innovation and digital integration, and social sustainability.

The NAU contributes to this vision by assessing the current state of AI ecosystem development and providing recommendations for the future regarding AI uptake in the private sector, with a focus on authorities, and the public sector, supporting action by:

- mapping Nordic–Baltic capabilities and key assets, with a view towards gaining a competitive advantage and becoming a global role model in AI development and implementation;
- developing recommendations towards making AI solutions sustainable by considering coordinated regulation, shared data governance and infrastructure;
- contributing to digital integration of the region by finding AI related synergies in the Nordics and Baltics;
- achieving regulatory coherence by analysing the implications of the EU AI Act and uptake of the AI sandboxes by the authorities across the region;
- contributing to reducing fragmentation and lowering barriers for cross-border collaboration between the public and private bodies involved in the NAU study.

Objectives of the NAU Pre-study

The Nordic AI Union (NAU) pre-study aims to identify ways of adjusting the Nordic–Baltic AI innovation ecosystem in support of the development, validation and market entry of trustworthy AI systems aligned with the EU AI Act. A central focus is the role of AI regulatory sandboxes in helping companies manage compliance requirements while enabling faster and more responsible AI innovation.

The project adopted a company-centric perspective while also engaging public authorities and ecosystem support organisations. Its primary objective was to map existing and missing elements of the ecosystem, including innovation support systems, regulatory environments and technical and organisational capacities, from the viewpoint of organisations developing or deploying AI. This work addressed the challenge that many companies face in interpreting and operationalising AI Act requirements in practice.

A key emphasis was placed on identifying gaps, overlaps and inefficiencies across the region. While the Nordic–Baltic countries were found to have strong assets, such as high levels of trust, advanced digital infrastructure and strong expertise, these strengths were not fully realised due to fragmented national approaches. Parallel development of services, tools and regulatory practices created duplication and made it difficult for companies to navigate the ecosystem or scale solutions across borders.

The project therefore explored opportunities for deeper Nordic–Baltic cooperation. It examined how shared approaches, replicable practices and coordinated support mechanisms could reduce fragmentation and create a more consistent and efficient pathway for companies. A central objective was to ensure that engaging with the innovation ecosystem or regulatory sandboxes would be simple, predictable and accessible regardless of the country of origin.

The work was closely aligned with EU-level initiatives, particularly the [EUSAIr](#) project. The EUSAIr project funded by the European Union’s Digital Europe programme aims to support the implementation of AI regulatory sandboxes across the EU. The NAU pre-study was conducted in cooperation with other related European and Nordic projects, such as New Nordic AI. This ensured interoperability with EU governance structures while recognising Nordic-specific strengths and needs.

Another important focus was clarifying the roles and responsibilities of ecosystem actors, ranging from EU-level bodies and national authorities to regional innovation organisations. Improving role clarity was seen as essential to reducing overlaps, closing service gaps and simplifying the business interface.

Overall, the project produced an evidence-based understanding of how the ecosystem functioned and how it could be improved. It identified key roles, services and capacities, and provided recommendations for a more coordinated operating model and stronger Nordic–Baltic cooperation. The ultimate goal was to support a more integrated, efficient and competitive ecosystem capable of advancing trustworthy AI innovation and enabling smoother market entry, particularly for start-ups and SMEs.

Methodology

The project built on findings from the EUSAIr project and a prior survey on stakeholder expectations regarding AI sandboxes (Kaakkurivaara, 2025) in the context of the European AI Innovation ecosystem. When the project started, the authors therefore had a reasonably comprehensive view of AI regulation and expectations for the AI sandbox and existing innovation ecosystem. Based on this knowledge and experience, it was decided to involve central stakeholders and focus on more participatory and interactive data collection methods in this project. In view of the project objectives and schedule, workshops organised in different countries were considered the most suitable for the project.

The total number of participants across workshops, government representative meetings and the Future Forum event was 103. Participants were invited through targeted outreach to relevant stakeholder groups across the Nordic–Baltic region, including large companies, SMEs, startups, supporting organisations, public sector actors, regulators and financiers.

The Tallinn workshop, attended by participants from Estonia, Latvia and Lithuania, was structured around six groups of questions containing six questions each. Information collection was conducted in a Learning Café style, where all six tables had a facilitator randomly assigned to groups that rotated round the tables. After a short presentation of the topic, the next group of questions was used, and the rotation was repeated six times. Post-It notes were used to collect the responses. Information from the notes was entered into an Excel spreadsheet, and all except one incomprehensible note was recorded. The responses were transcribed with the help of multiple LLM models (Copilot, Claude) and then reviewed by the facilitators on a question-by-question basis to ensure accuracy and improve reliability.

After analysis of the Tallinn workshop, the questions were restructured into clusters better presenting the themes handled. The Reykjavik and Helsinki workshops used the revised structure. We also focused the questions in the light of earlier experiences, so each group contained only three questions, except for one group that contained four, making a total of 19 questions. This time, rotation through all the questions happened using three tables with three facilitators. Information collection was carried out using transcriptions of the discussions. During the analysis phase, findings were extracted from the transcripts. To highlight the most important topics, the participants were also asked to write key findings on Post-it notes, the contents of which were then entered into an Excel spreadsheet. During the analysis phase, the findings from the transcripts were extracted with the help of an LLM (Copilot). The findings were then compared and combined with the findings presented on Post-it notes. The facilitators validated the results.

The workshop in Oslo followed a similar procedure, except that Post-it notes were not used. The smaller participant group allowed for fuller verbal discussion.

Haaga-Helia's Future Forum employed a subset of the questions. Only three clusters and three questions for each cluster were used due to the time constraints of the event. The questions were covered in three tables with three facilitators. Analysis was carried out in a way similar to that at the Oslo workshop.

The findings of this report are subject to certain limitations. The analysis is primarily based on qualitative data collected through workshops and stakeholder discussions, and therefore reflects the perspectives of participating actors rather than a statistically representative sample. Participation varied across countries and stakeholder groups, which may result in uneven coverage of regional viewpoints. There were no participants from Denmark or the Åland Islands. In addition, the AI ecosystem and regulatory landscape are evolving rapidly, and the findings represent a snapshot of the situation in 2025–2026. While AI-supported methods were used in parts of the analysis, all outputs were reviewed and validated by the project team. These limitations should be considered when interpreting the results.

Findings

Main Challenges

The four workshops carried out during this project (Tallinn, Oslo, Reykjavik and Helsinki) engaged over 100 participants and produced 40 cross-cutting themes. These themes consolidate into the following seven structural challenges (grouping a number of themes together). The challenges are not national peculiarities: six out of seven were confirmed independently across all four workshops, reflecting systemic, pan-regional dysfunctions rather than country-specific weaknesses. These challenges are naturally connected to the respective services listed in [Table 2](#).

→ **G1. Ecosystem Fragmentation and Discoverability** – The most universally shared structural problem across all workshops. The ecosystem is rich in actors but poor in connectivity; no organisation reliably knows who does what, support pathways depend on personal networks rather than formal channels, and the connective infrastructure (ecosystem maps, navigators, single points of contact and formal intermediary layers) is largely absent. Role ambiguity was named in every workshop as the foundational dysfunction that makes every other challenge harder to solve. Survey data from Finnish companies reinforces this diagnosis from the demand side: while AI training and skills development services attract the highest interest (mean 3.58/5), services that presuppose ecosystem navigation (matchmaking 2.75, roadmap support 2.66, and regulatory advisory 2.92) score considerably lower, despite companies clearly facing the barriers these services are designed to address (Moilanen, 2026). This gap between need and expressed interest suggests that companies either do not perceive these services as accessible or do not connect available offerings to their actual problems, which are both symptoms of the navigation failure. This also manifests differently by country: as “the role ambiguity problem” in the Baltic workshop, as the “weak Triple Helix industry link” and “SME reach problem” in Oslo, as the “HPC awareness-access gap” in Reykjavik, and as “discoverability and navigation failure” in Helsinki. But all have the same root cause.

→ **G2. Infrastructure Access and the Adoption Gap** – World-class HPC and AI Factory infrastructure exists across the region but consistently fails to convert into widespread use by SMEs, public-sector bodies and non-academic actors. The bottleneck is on the demand side: onboarding friction, absence of use case packaging and scale mismatch. The pay gaps prevent public institutions from hiring the AI expertise needed. Infrastructure investment without intermediation produces underutilisation. Workshop participants across all four locations described being aware that LUMI, AI Factories and sandboxes exist, but considered it difficult to reach them without a navigator. This awareness deficit is also visible

in survey data from Finnish companies: among Finnish companies actively using AI, familiarity with AI Factory infrastructure averages only 1.46 out of 5, with 68% reporting no awareness of it at all (Moilanen, 2026). The Estonian LUMI/ETAIS gateway and Norway's Sigma2 HPC model were cited as the clearest existing reference points for how intermediated access can work.

→ **G3. Regulatory Complexity, Sandboxes and Compliance** – AI Act compliance appears to create disproportionate overheads for micro, small and medium-sized enterprises, especially in small markets. In a recent FAIR study, AI regulatory compliance and knowledge was recognised as one of the key bottlenecks from a company's perspective (Moilanen, 2026). Regulatory sandboxes are the primary proposed remedy, but they only function if they are legally binding, have cross-border portability and are genuinely SME accessible, none of which is currently the case consistently across the region. If national sandbox designs diverge before a shared governance architecture is in place, companies will seek the most permissive jurisdiction, creating regulatory forum shopping that is individually rational but regionally destructive. The Baltic workshop identified this risk explicitly: Lithuania's Q1/2026 sandbox launch is a concrete milestone and a design reference, but Estonia and Latvia must align before their approaches diverge irreversibly. Companies across all four workshops stated they would not commit investment without legal certainty in the regulatory environment.

→ **G4. Cross-Border Governance and Coordination Architecture** – No standing governance instruments (shared templates, mandates, funding rules, or single points of contact) exist for Nordic–Baltic AI coordination. Every cross-border collaboration currently requires project-by-project renegotiation, producing discussion loops rather than delivery. National funding instruments are structurally misaligned with cross-border collaboration: KPIs measure domestic beneficiaries, funding rules exclude foreign partners, and decision cycles are too slow for AI development timescales. All four workshops converge on a federated model as the answer (local sovereignty preserved, shared coordination layer for consistency and scale), but the Oslo workshop adds a critical sequencing point: intra-Nordic data sharing, governance and architecture barriers must be resolved before broader alliance structures can function. Coordination without a mandate produces nothing.

→ **G5. Data Governance and Sensitive Data Infrastructure** – Cross-border data collaboration is the single most cited technical barrier. Data governance infrastructure for cross-border access remains aspirational: data labs, data spaces and interoperability initiatives exist, but lawful operational access mechanisms between jurisdictions do not. The Helsinki workshop identifies trusted data access as the hardest problem and therefore the most defensible competitive advantage if solved. The compute-to-data model, where data remains stationary and compute reaches it, as demonstrated by CSC's ePouta secure environment, is the most

promising architectural bypass because it routes around data sovereignty constraints rather than requiring their resolution. Iceland's ongoing data-mirroring arrangement with Sweden is a pragmatic concrete example of the same logic applied at a bilateral scale.

→ **G6. EU AI Office Engagement and the Policy Window** – The EU AI Office is actively developing GPAI implementation guidance, codes of practice and NCA frameworks in 2026. All four workshops independently identify this as the highest-leverage moment for Nordic–Baltic input: the window for shaping guidance closes once it is finalised, and implementation frameworks built now will likely be in effect for years. Small markets require a collectively constituted voice, and the workshops refer to this as a “European Alignment Interface” capable of engaging the AI Office as a co-designer rather than submitting fragmented individual country positions. The distinction matters: consultation produces a record while co-design produces influence. Iceland's EEA-but-non-EU status adds a further complication, as the AI Office's competency over EEA non-EU members on GPAI supervision is undefined, and very few officials across the region understand how this will be resolved.

→ **G7. AI Literacy, Skills Pipeline and Human Capital** – AI literacy gaps persist across all actor groups: companies, public officials, decision-makers and the general workforce. Also, survey evidence from Finnish SMEs confirms that skills and understanding gaps remain the single most frequently cited barrier to broader AI adoption, identified by 33% of actively AI-using companies. It even ranks above data security concerns, regulatory complexity and resource constraints (Moilanen, 2026). Finland's Elements of AI programme (developed by the University of Helsinki and MinnaLearn), which was identified during the Helsinki workshop, represents one of the Nordic region's most scalable training assets. It demonstrates that a train-the-trainer model at scale is achievable. On the other hand, Iceland's experience, where government funding for Icelandic language translation was cut by the incoming administration, shows that national AI literacy assets can erode rapidly without institutional protection. A structural threat distinct from general literacy gaps is also emerging: AI is increasingly able to perform the drafting, coding and routine analytical tasks that traditionally serve as the training ground through which graduates develop into senior professionals. If the junior-level pipeline disappears, senior expertise becomes irreproducible over time. This risk is also already visible in hiring data: among Finnish companies actively using AI, the share planning to recruit AI specialists within the next year dropped from 60% in 2021 to only 33% in 2026 (Moilanen, 2026). The industry-research link remains consistently the weakest Triple Helix connection across all four countries examined, due to misaligned time horizons, incompatible incentive structures and limited career mobility between sectors.

AI Ecosystem Actor Roles: Present and Missing

The Nordic–Baltic AI ecosystem can be organised into five interconnected actor layers as identified through the four regional workshops:

- a. EU AI infrastructure pillars such as EDIHs, AI Factories, Notified Bodies, Testing and Experimentation Facilities, and Data Spaces;
- b. governance, alliances and civil society actors;
- c. universities, research institutes and AI consultancies;
- d. the innovation ecosystem including incubators, accelerator networks and startup communities; and
- e. regulatory authorities, including National Competent Authorities, Market Surveillance Authorities and national AI regulatory sandboxes. The detailed actor mapping across these layers, covering all eight Nordic–Baltic countries, is presented in [Table 1](#) below.

The mapping reveals a clear asymmetry in ecosystem maturity across the region. Finland and Sweden are the most comprehensively equipped countries, with operational AI infrastructure (LUMI AI Factory, Berzelius), designated National Competent Authorities, planned regulatory sandboxes and mature AI alliances and research centres. Norway, Denmark and Estonia also demonstrate solid foundations, particularly in HPC access, innovation ecosystems and digital governance. Latvia and Lithuania are in active development: Lithuania was the first to launch the Baltic AI regulatory sandbox in Q1/2026, a concrete regional milestone. Iceland, as an EEA-but-non-EU member, faces unique structural constraints: it does not currently host an EU AI Factory and has no NCA or MSA formally appointed for AI Act purposes, while simultaneously possessing distinctive assets including abundant green energy, high social trust and specialised language technology expertise through Almannarómur.

The most consistent cross-workshop finding is that the ecosystem is rich in actors but poor in connectivity. Roles are mostly undefined, support pathways depend on personal networks rather than formal channels, and no organisation has reliable visibility of the full actor landscape. This role ambiguity problem, identified independently across all four workshops in Tallinn, Oslo, Reykjavik and Helsinki, is the foundational dysfunction from which most other gaps derive. Government–academia linkages are relatively mature across the region, but the connections between these actors and industry, particularly SMEs, remain thin, informal and dependent on personal networks. All four workshops converge on this Triple Helix (the collaboration model between government, academia and industry in innovation ecosystems [Etzkowitz and Leydesdorff, 2000]) gap as the root cause

of systemic ecosystem underperformance: SMEs are simultaneously the primary intended beneficiaries of most support mechanisms and the actors least able to access or absorb them.

Several actor roles are missing or critically underdeveloped across the region. No single front door, shared ecosystem map, or formal navigator function exists to make EU and national resources discoverable to companies seeking support. Cross-border sandbox coordination is absent: no common intake templates, shared evidence checklists or mutual recognition frameworks have been established, meaning that each country's sandbox approach is already diverging in ways that risk fragmentation and enable regulatory forum shopping. Data governance infrastructure for cross-border access is aspirational rather than operational. At the organisational level, the role of a designated corporate AI Officer (responsible for AI risk classification, documentation, compliance monitoring and regulatory interface) is largely absent from the current ecosystem design, leaving smaller companies without structured internal accountability or a clear organisational interface with the external regulatory ecosystem. At the intermediary level, boundary-spanning experts capable of translating simultaneously across business, technology and legal domains remain scarce throughout the region. These missing roles are not peripheral, but are the connective tissue through which all existing ecosystem assets become usable for the companies that need them most.

Table 1. Actor mapping across the AI innovation ecosystem layers

Nordic–Baltic–Iceland AI Innovation Ecosystem Actor Mapping Baltic Workshop (Tallinn, Jan 2026) · Norway Workshop (Oslo, Mar 2026) · Iceland Workshop (Reykjavik, 2026) Finland Workshop (Helsinki, Apr 2026)								
Ecosystem Element	Finland	Sweden	Norway	Denmark	Estonia	Latvia	Lithuania	Iceland
A. EU AI INFRASTRUCTURE PILLARS								
AI-related EDIHs (250 EU total) Sectoral Digital Innovation Hubs	FCAI Hub; Finnish AI Region EDI (FAIR); Health Hub; Forum Virium; ~9 EDIHs	AI Sweden EDIH; RISE; DRIVE Sweden; MedTech4 Health ~12 EDIHs	EIT Digital Hub; AI Hub Norway (NORA); SINTEF EDIH ~3 EDIHs	AI Innovation Hub DK; DTU; Alexandra Inst. ~6 EDIHs	AIRE EDIH (AI & Robotics EE) ★ well-regarded ~2 EDIHs	Digital Accelerator Latvia ~4 EDIHs	Innovation Agency LT GovTech Lab; AI Assoc. LT ~10 EDIHs	No AI-only specialised EDIH ★; Klak accelerator ~1 EDIH
AI Factories + Data Labs (15+ EU total)	LUMI AI Factory (CSC) ★ FCA flagship Data Labs; CSC ePouta secure env.	NAISS(HPC2N); AI Sweden Data Lab; Berzelius (NSC)	Sigma2 NRIS; NORA AI Hub; Norwegian EDIH Compute	DeiC HPC (Gefion); Pioneer Centre Data Lab	ETAIS / LUMI access; probing Google collab.	Riga TU HPC; following LUMI development	KTU Super-computer; Lithuanian AI Factory launching ~2026–27	Access to LUMI/ EuroHPC ★; Univ. Iceland local HPC; no national AI Factory
AI Giga-Factories (5+ EU total, emerging)	LUMI (EuroHPC JU @ CSC) – operational Nordic Giga-Factory	Berzelius expansion aspirations; no formal designation	GPU-enabled system expansion planned	Pioneer Centre; no GigaFactory designation yet	Access via LUMI/ETAIS; none national	No national GigaFactory; relies on LUMI	Lithuanian AI Factory planned; AIA sandbox launched Q1/2026	Cannot host EU AI Factories (non-EU member) ★

Notified Bodies (NBs) (250 EU total) Conformity assessment	Fimea (pharm/medical); Tukes; VTT; Traficom; Inspecta, SGS Fimko – mature NB system	SP/RISE; Intertek SE; SGS SE; Intertek Semko	Nemko; DNV; Intertek NO; BV Norway	DS (Danish Standards); UL; Bureau Veritas DK,	EKUK; Riigi IT-keskus (tech risk assessment)	BSCI; LTAB; developing	LST; LPCA; NCA/MSA tools under development	NCA not yet appointed; Ministry of Culture, Innovation & Higher Education tentative AIA lead
AI TEFs (20+ EU total) Testing & Experimentation Facilities	VTT TEF; Aalto TEF; FCAI testbed, TAU TEF	RISE Robotics & AI TEF; Chalmers; Zenseact (automotive)	SINTEF TEF; Norwegian Robotics Centre; Kongsberg maritime TEF	DTU AI TEF; Alexandra Institute; MedTech TEF Odense	AIRE EDIH testing; CybExer; eTRANSafe	RTU Testing Lab; Digital Accelerator testbed	Sandbox as TEF (Q1/2026 ★ first Baltic AIA sandbox)	No formal TEF ★; DPA health sandbox as precedent
Data Spaces (144 EU total) GAIA-X / IDSA aligned	Findata; Kanta (health); MDS (manufacturing); FinDIS (genetics); Mobility Data Space; Baltic Data Highway node	Swedish Health Data Space; Findability Platform; Mobility DS	Norwegian Health Data Service; Sikt; Digital Norway	Danish Health Data Authority; DR Data Space; Transport DS	AIRE/EIS data catalogues ★; access problematic. X-Road data spaces	Digital Accelerator DS; Data Value Chain LV; access gaps noted	LRKM open data; Infobalt DS initiative; sandboxes as data access	Iceland–Sweden data mirroring underway; Met Office data ad-hoc; Statistics Iceland advanced
ELLIS Institutes (EU AI excellence network)	ELLIS Unit Helsinki (Aalto/UH) ★; FCAI node	ELLIS Unit Stockholm (KTH/SU); Linköping	No formal ELLIS unit; NORA equivalent	Pioneer Centre (DK ELLIS-equivalent); DTU node	No ELLIS unit; TalTech nearest	No ELLIS unit; Riga TU research groups	No ELLIS unit; Vilnius Univ. AI group; KTU	No ELLIS unit; Univ. Iceland AI groups; Reykjavik Univ.

B. AI GOVERNANCE, ALLIANCES & CIVIL SOCIETY

AI Alliances (30 EU-level)	AI Finland; Finnish AI Accelerator Alliance; FCAI industry network; AI Business Finland; Technology Industries of Finland AI WG	AI Sweden ★ (national alliance flagship); Vinnova AI programme	NORA (Norwegian AI Research Consortium); Abelia tech alliance	AI Denmark; Danish AI Network; Digital Denmark consortium	AIRE ★; E-Estonia consortium	Latvian ICT Cluster; AI Latvia emerging coalition	Lithuanian AI Alliance ★; Infobalt; IT Alliance Lithuania	New Nordics AI initiative ★; no formal national AI alliance
AI Societies & Associations (25 EU region)	Finnish AI Society (FAIS); Tekoäly ry; IEEE Finland AI chapter; Aalto AI Group, Helsinki AI Meetup	Swedish AI Society (SAIS); MINN network	Norwegian AI Society (NAIS); Tekna AI group	Danish AI Society; AI & Tech DK; IEEE DK	Estonian Data Science Society; Garage48 community	Data Science Latvia; Latvian ICT association	Lithuanian Computer Society; AI Association LT ★	Icelandic AI community nascent; Almanarómur ★; Reykjavik Univ. tech community
NGOs & Civil Society (AI ethics, rights, advocacy)	Electronic Frontier Finland (EFFI); Tietosuojä NGOs; Sitra (quasi-NGO)	Civil Rights Defenders SE; Digi-demokrati; Swedish Consumer Agency	Datatilsynet advocacy; NUPI; Digital Rights Norway	IT-Pol; Danish Consumer Council; Digtalt Ansvar	Eesti Andmekaitse NGOs; Digital Society EE; Open Knowledge EE	Latvian Internet Association; Delna (transparency NGO)	Lithuanian Human Rights Monitoring; Open Lithuania Foundation	DPA ★; civil society engagement high per capita

C. KNOWLEDGE, EDUCATION & CONSULTANCY

Universities, Polytechnics & RDI (AI research & teaching)	Universities: Aalto; Tampere; Turku (incl. TSE); Oulu; ÅA; LUT; FCAI Flagship Universities of Applied Sciences: HHUAS; Metropolia; Laurea; TAMK; OAMK; TuAMK etc. RDI: VTT; GTK; THL	KTH; Chalmers; Stockholm Univ.; Linköping; Lund; RISE	NTNU; Univ. Oslo; Univ. Bergen; SIMULA; Sigma2/Sikt; SINTEF	DTU; Univ. CPH; Aarhus; SDU; IT-Univ. CPH; Alexandra Inst.	TalTech; Univ. Tartu; Tallinn Univ.; ETAIS; Cybernetica	RTU; Univ. Latvia; Latvia Univ. Life Sciences; Transport & Telecom Inst.	Vilnius Univ.; KTU; Vilnius Tech; VU Medical; MRU Law	Univ. Iceland ★ (Almannarómur host; Elements of AI localised); Reykjavik Univ.; Bifrost; AUI; academia-business pipeline via Klak ★
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AI Consultants & Educators (private sector capacity)	Reaktor; Solita; Futurice; Gofore; Siili Solutions; Digia; Accenture; Tietoevry; Silo.ai ; Valohai (MLOps); Loihde – large mature pool	Propell; Nansen; Visions; Accenture SE; Capgemini; Knowit	Bouvet; Knowit NO; Accenture NO; DNB Tech; Itera; Atea; Tieto EVERY NO	Devoteam DK; Net-company; Trifork; Accenture DK; KMD	Nortal; Helmes; Uptime; Guardtime – shortage of AI lawyers noted	Accenture LV; Scandiweb; Evolution Gaming tech – pay gap noted	Devbridge (Cognisant); Tesonet; NFAQ; Accenture LT – shortage noted	Small consultant pool; ecosystem builds wrappers on MS/Oracle; legal AI expertise scarce;
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D. INNOVATION ECOSYSTEM (Incubators · Networks · Communities)

Business Incubators (1 000–2 500 EU total)	Aalto Startup Center; NewCo Helsinki; Maria 01; Turku Science Park; Oulu BIC; Tampere Science Park – ~80+	Sting (Stockholm); Chalmers Ventures; Ignite; Lund Univ.; Science Park Skövde – ~100+	StartupLab (Oslo); Kjeller Innovasjon; Ipark; Norinova – ~60+	CAT Science Park; DTU Skylab; NOVI; Scion DTU; Accelerace – ~50+	Startup Wise Guys; Tehnopol; Garage 48; Cleantech EE; Startup EE – ~15+	Riga Tech-Hub; Latvian Startup Association; Magnetic Latvia – ~10+	Vilnius Tech Park; Startup Lithuania; Kaunas S&T Park; GO Vilnius – ~12+	Klax ★ (gov't/univ-owned accelerator; no AI-specific incubator; dedicated AI hub estimated at ~10M EUR)
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Innovator Networks (AI) (500–3 000 EU total)	AI Finland Meetup; Junction hackathon; Aalto ES; Helsinki Think Co; FCAI network – ~150+	AI Sweden network; Nordic.AI Meetup SE; Hack for Sweden; RISE – ~120+	NORA network; Norwegian AI Meetup; Oslo Innovation Week – ~80+	Copenhagen AI Meetup; Tech BBQ network; AI DK; Digital Hub, Danish Center for AI Innovation (DCAI), DK – ~70+	Garage48 global; Latitude59; e-Estonia Showroom; X-Road community	TechChill; DevClub.lv; Latvian Startup community; Digital Freedom Festival	Vilnius AI community; No Trolls Allowed (dev); Infobalt ★; LOGIN Festival	'Everyone knows each other' ★; Almannarómur community; Reykjavik tech meetups;
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Startup Communities (300+ EU total)	Slush ★ (flagship); Finnish Startup Community; Maria 01 Hub; BF Combinator cohorts; strong pay-it-forward culture	STING community; Nordic Makers; RISE Ventures; EIT Digital alumni SE	StartupLab; Nordic Startup Awards NO; Katapult; Norwegian Founders	TechBBQ ★ (flagship DK); Copenhagen FinTech; Danish Founders; Founders House	Startup Wise Guys ★ (regional); Latitude59; e-Residency network	TechChill; Latvian Startup Association; Startup Latvia; brain-drain concern	Startup Lithuania; VilniusTech; Tesonet ecosystem; cross-border investment growing	~75–80% of Klax competition entries involve AI ★
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E. REGULATORY AUTHORITIES & NATIONAL AI GOVERNANCE

National Competent Authority (NCA) AI Act pre-market	Traficom (NCA designation confirmed), Ministry of Transport and Communications (policy co-ordination)	PTS /Integritetsskyddsmyndigheten	Nkom; Data-tilsynet	Digitaliseringsstyrelsen; Danish Business Authority	TTJA; Digi-Just ★ (workshop)	PTAC; developing	RRT ★ (workshop); LLRD	Not yet appointed ★; admin knowledge of AIA supervision limited to very few officials
Market Surveillance Authority (MSA) AI Act post-market	Traficom + sector-specific MSAs (e.g.Tukes; Fimea; FIN-FSA)	Swedish Work Environment Auth.; Läke-medelsverket; PTS	DSB; Lege-middelverket	Sikkerhedsstyrelsen; DKFDA	TTJA; sector agencies – tools in development	PTAC; sector agencies – urgent tool need	LLRD + sector agencies; MSA training needs flagged	No MSA designated for AI Act; DPA advisory 'lean-back' culture
National AI Regulatory Sandbox	"Tekoöllyssäätelyn testiympäristö" i.e. Finnish AIA compliant Sandbox (Traficom); EUSAIr pilot participant	AI Sweden sandbox; Vinnova regulatory sandbox	No formal AIA sandbox; DPA GDPR sandbox; NORA test environments	No formal AIA sandbox; FSA FinTech sandbox	Probing Google col-lab.; EUSAIr participant	Planning; following Lithuania closely	LAUNCHED Q1/2026 ★ – first Baltic AIA sandbox	No general AI sandbox ★; DPA health sandbox;
AI Literacy & Public Education	Elements of AI ★ (Univ. Helsinki – globally adopted 'AI driver's license' MOOC); Sitra Digital FCAI public outreach; Business Finland AI capability building; SITRA digital skills programmes	AI Sweden literacy programme; Vinnova AI skills; Digilyft	NORA AI literacy; Norwegian Digital Directorate; Digital Norway	AI Denmark public literacy; Digital Minds DK; DSIN	e-Estonia AI literacy; Garage48 training; AIRE awareness events	Latvian digital skills programme; Digital Accelerator training	Lithuanian AI literacy plan; Infobalt events	Elements of AI translated to Icelandic ★; Almannarómur language tech awareness high

Notes & Legend

★ = Explicitly noted in workshop proceedings (Baltic: Tallinn Jan 2026 · Norway: Oslo Mar 2026 · Iceland: Reykjavik 2026 · Finland: Helsinki 2026)

The *Funding & Demand-Side Instruments* row is omitted from the comparative table but not from the analysis. The reason is asymmetry of evidence: these instruments were not discussed in the other workshops, but were prominently discussed during the Helsinki workshop. This finding is addressed in the capacity and service sections below. Participants spent substantial time on Business Finland funding forms, innovation vouchers and public procurement as ecosystem instruments, effectively treating funders as Triple Helix actors in their own right alongside EDIHs, sandboxes and research organisations.

The workshops identified the need for a designated corporate *AI officer*. This is an internal company role or a pooled function shared across smaller organisations, responsible for AI adoption, risk classification, documentation, monitoring and accountability. This role would serve as an organisational interface between a company's AI activities and the external regulatory and support ecosystem, particularly for SMEs navigating AI Act obligations without sufficient legal or compliance capacity.

The workshops also highlighted the need for *intermediaries* acting as "three-language" translators across business, technology and legal domains. Unlike the corporate AI officer, whose primary focus is compliance, risk classification and accountability within an organisation, the intermediary role is oriented toward innovation enablement. These boundary-spanning experts translate business problems into implementable AI projects, help organisations identify where AI can create genuine value, and ensure that technical design integrates regulatory requirements from the outset rather than treating compliance as an afterthought. It is researchers, AI consultants and educators who most naturally have this innovation-facing translation capacity, provided they develop holistic competence across all three domains (business opportunity recognition, technical feasibility and regulatory navigation) rather than defaulting to their home discipline.

Required Services for a Nordic–Baltic AI Ecosystem

The findings of the workshops reveal that, while many support mechanisms exist (funding, advisory services, compute access, networks, training and regulatory support), companies experience low discoverability, unclear entry routes, weak interoperability between services and significant role ambiguity. It remains unclear which actors are responsible for guiding companies through the ecosystem and which internal role within a company should own the AI support journey. In particular, the workshops highlighted a need to translate AI regulation into practical steps, to complement sandbox engagement with hands-on guidance, and to provide staged pathways that match company maturity and AI Act risk levels.

The required services described in the workshops can be organised into an end-to-end company pathway:

1. entry and navigation;
2. capability and project formation;
3. regulatory and technical validation, including certification and cross-border mutual recognition of compliance outcomes;
4. data and infrastructure access; and
5. scaling enablers (funding, procurement, cross-border knowledge exchange and learning).

A recurring message was that services remain underutilised not because they lack value, but because routing, translation, incentives and capacity are inadequate, while the roles and responsibilities of ecosystem actors remain insufficiently defined. Addressing this requires not only clearer role definition within the ecosystem but also structured cross-border information exchange between authorities, enabling mutual recognition of validation and certification outcomes across Nordic–Baltic jurisdictions.

Table 2 below presents the central services that were raised in workshop discussions. The table also maps each service to likely providers (“who provides/could provide”) and user groups (“who uses/would use”). This allocation follows the workshop evidence and the federated Nordic–Baltic operating logic: national nodes deliver locally embedded services, while a shared regional layer maintains reusable tools, shared catalogues and interoperability.

Table 2. The central services which were raised in workshop discussions.

Service	Short description	Typical outputs/success indicators	Who provides/could provide	Who uses/would use
1. Entry and navigation				
Ser 1. Front-door help-desk + triage (single service path)	A visible "front door" that provides intake, triage and routing across funding, advisory, regulation, sandboxing, compute, data and partners.	Shorter time to first guidance; higher conversion from interest to pilots/sandboxing; improved SME uptake.	National ecosystem operator (innovation agency/EDIH lead) with a Nordic-Baltic coordination layer for cross-border routing.	SMEs, startups, scale-ups, public-sector adopters and research teams seeking practical entry routes.
Ser 2. Ecosystem map & service catalogue ("who does what")	A maintained directory of actors and services with eligibility, time-lines, contact points and referral protocols.	Reduced duplication; better matchmaking; measurable usage of support instruments; fewer "insider only" pathways.	Nordic-Baltic coordination layer (competence centre/alliance) with national nodes contributing updates.	Companies, public buyers, regulators, support organisations and intermediaries.
Ser 3. Maturity-based support tracks	Distinct pathways for (1) non-technical SMEs, (2) scaling startups and (3) advanced organisations (compute/testing/benchmarking).	Better fit of support; fewer drop-outs; clearer expectations by maturity and risk.	Front-door operator + ecosystem partners (EDIHs, universities/UAS, accelerators, consultants).	Non-technical SMEs; startups moving MVP→production; AI-ready firms needing advanced resources.
2. Capability and project formation				
Ser 4. Hands-on advisory & co-creation	Life-cycle guidance ("hand-holding") from problem framing and feasibility to implementation, governance and monitoring.	Higher implementation success; better scoped use cases; stronger internal capability (not "free software development").	Innovation agencies, EDIHs, AI Factories (and other AI supporting initiatives) universities/UAS and qualified private consultants.	SMEs and public-sector teams adopting AI; startups building MVP→production.
Ser 5. AI literacy & training services (role-based, multilingual, micro-credentials)	Multi-level literacy for public, professionals and decision-makers; role-based modules; train-the-trainer and micro-credentials.	Higher safe-use competence; audit-friendly training records; reduced fear and over-compliance.	Nordic-Baltic joint education working group (universities/UAS + authorities + industry) with shared content library.	Employees of providers/deployers (esp. high-risk), executives, public officials, teachers/trainers, general workforce.

Ser 6. Use case & success/failure catalogue	Curated catalogue of AI use cases and lessons learned (successes and failures) to inspire adoption and reduce repeated mistakes.	Higher adoption confidence; better decision-making; clearer political and funding support.	Alliance/competence centre in partnership with AI alliances, EDIHs and public-sector innovators.	Companies, public buyers, regulators, educators, funders and ecosystem operators.
Ser 7. Fast funding instruments (vouchers, lightweight grants, tax relief)	Rapid experimentation funding aligned with AI development cycles (e.g. small vouchers) and incentives for AI-related R&D investments.	Faster experiments; reduced admin burden; fewer resource-locking effects.	National funding agencies/ministries; potentially co-ordinated Nordic–Baltic calls for cross-border work.	SMEs, startups and public-sector pilots needing quick iteration.
3. Regulatory and technical validation				
Ser 8. Regulatory sandbox service (staged pathway)	Sandbox support as staged engagement: early guidance → structured pre-assessment → conformity preparation/testing alignment, with clear deliverables.	Reduced rework; clearer AI Act readiness; reusable evidence trail; faster market credibility	National competent authorities/sandbox operators with technical support from EDIHs/AI Factories/academic partners.	AI providers and deployers (esp. high-risk); SMEs needing early guidance; public-sector innovators.
Ser 9. Cross-border sandbox coordination (templates + referrals)	Interoperable sandboxing across countries via common intake templates, evidence checklists, referral agreements and shared learning.	Reduced repeated submissions; fewer interpretation gaps; lower forum-shopping incentives.	Nordic–Baltic regulator working group (NCAs/MSAs) supported by a coordination secretariat.	Companies operating cross-border; regulators; investors/procurers relying on comparable evidence.
Ser 10. Compliance-by-design toolkit (templates, playbooks, examples)	Practical “how-to” materials: risk screening, documentation templates, transparency notices, governance checklists and examples.	Higher documentation quality; SME usability; reduced late-stage compliance surprises.	Nordic–Baltic coordination layer co-designed with regulators, standards bodies and industry.	SMEs/startups, public-sector deployers, advisors/consultants and regulators (for consistent guidance).
Ser 11. AI-assisted compliance tooling (triage and documentation checks)	Automation to support interpretation consistency and triage (with human accountability), e.g. AI-driven checks of documentation completeness.	Faster processing; more consistent checks; scalable support under limited staffing (subject to Human-in-the-Loop).	Competence centre/EDIH technical teams in partnership with regulators for governance and validation.	Companies preparing documentation; sandbox operators/regulators triaging cases; advisors.
Ser 12. Real-world testing pathway for high-risk AI	Staged testing: documentation & test planning → simulated/digital testing → supervised real-world testing (RWT) in operational settings.	Robust evidence for high-risk validation; safer deployment; clearer supervision model.	Sandbox authorities + domain testbeds (e.g. hospitals/transport) + pooled experts; potentially TEF-like facilities where available.	High-risk AI providers/deployers; public-sector service owners; regulators.

4. Data and infrastructure access

Ser 13. Compute onboarding/AI Factory access support	Onboarding to HPC/AI Factory resources: scoping, access guidance, training, reference pipelines and "test before investing".	Higher utilisation; faster onboarding; reduced application complexity barrier.	HPC centres/AI Factory operators + EDIHs + a dedicated navigator function.	Startups and AI-ready firms; researchers; SMEs needing integrator support.
Ser 14. Data governance & cross-border data access pilots ("digital passport for data")	Rulebooks, contracts and processes for lawful data access and sharing, including cross-border pilots and trusted portals.	Reduced lead times for data access; reusable agreements; clearer permitted uses and safeguards.	National data agencies/sector data authorities + data processing authorities (DPAs), co-ordinated regionally via competence centre.	AI developers in regulated domains (health, finance, public sector), researchers and public data holders.

5. Scaling enablers

Ser 15. Procurement support for trustworthy AI	Templates and guidance for innovation procurement, outcome-based contracting and harmonised documentation to reduce burden on startups.	Shorter procurement cycles; more pilots; clearer risk-sharing; improved interoperability.	Public procurement authorities, GovTech labs, and regulators (for safe operating models).	Public buyers/municipalities; startups and vendors supplying AI solutions.
Ser 16. Recurring knowledge-sharing (clinics, exchanges, steering group cross-participation)	Regular case-based sessions and authority-to-authority learning loops; cross-participation in governance to reduce duplication.	Faster diffusion of best practices; fewer duplicated pilots; stronger trust networks.	Competence centre/alliance + national nodes; regulators for authority exchanges.	All ecosystem actors: companies, authorities, academia, intermediaries.
Ser 17. Cross-border mutual recognition of compliance outcomes with certified/accredited services	An emerging service category requiring further definition, regulatory clarification and scrutiny as services and frameworks evolve			

EU Service Provision and Nordic–Baltic Needs

The workshop and interview evidence reveals substantive alignment between EU-level infrastructure and the Nordic–Baltic service layer, alongside a distinct set of regional needs that EU infrastructure does not currently address. The following matching services were found:

Nordic–Baltic Service

Matching EU Infrastructure

Ser 8. Regulatory sandbox service + cross-border coordination

Emerging Sandboxes + 250 Notified Bodies (across all sectors) + 20+ AI Testing and Experimentation facilities – conformity assessment and sectoral testing are the EU-level equivalents

Ser 13. Compute onboarding/AI Factory access

15+ AI Factories + Data Labs + 5+ AI GigaFactories – direct match, LUMI, Mimer and Sigma2 being the Nordic nodes

Ser 14. Data governance & cross-border data access

144 Data Spaces – the EU infrastructure exists; Nordic–Baltic adds the governance rulebook layer

Ser 4. Hands-on advisory & co-creation

250 AI-related EDIHs – this is precisely the EDIH mandate

Ser 5. AI literacy & training

AI Alliances (30) + AI Societies (25) + Universities/Polytechnics/RDI – distributed delivery infrastructure exists

Ser 6. Use case & success/failure catalogue

AI Alliances + EDIH knowledge-sharing mandate

Ser 12. Real-world testing pathway for high-risk AI

20+ AI TEFs – sectoral testing facilities are the EU answer

Ser 16. Recurring knowledge-sharing

Ellis Institutes + AI Alliances + AI Societies

Genuinely New Nordic–Baltic Service Needs, not covered by EU infrastructure

- **Ser 1. Front-door helpdesk + triage** – the EU has no single “front door”, but an AI Act Single Information Platform listing local single points of contact. The Nordic–Baltic front door and triage function would remedy the low discoverability of relevant EDIHs, alliances, societies and incubators across the region's localised services.
- **Ser 2. Ecosystem map & service catalogue** – similarly, the EU ecosystem is too fragmented for self-navigation, especially for SMEs; localised services are to be catalogued.
- **Ser 3. Maturity-based support tracks** – EU infrastructure assumes a baseline of organisational readiness through its TRL framework, but missing staged paths for non-technical SMEs represent a genuine gap.
- **Ser 7. Fast funding instruments/vouchers** – EU funding cycles are notoriously slow; lightweight rapid instruments are a structural gap that the Nordic–Baltic layer could fill.
- **Ser 10. Compliance-by-design toolkit** – the EU provides a regulatory framework and EU AI Act Compliance Checker (from the Commission) but does not yet provide the practical implementation tools or compliance-by-design toolkits. This is a concrete area where the Nordic–Baltic cooperation could add distinctive value.
- **Ser 11. AI-assisted compliance tooling** – No EU equivalent exists at the practical SME level; centralised tooling may emerge from AI Office activities but will require localisation to be usable across Nordic–Baltic contexts.
- **Ser 15. Procurement support for trustworthy AI** – largely absent at the EU level; public procurement guidance for AI remains thin and generic.

To summarise, during the workshops and interviews it became clear that the Nordic–Baltic service layer is not parallel to the EU infrastructure. It is the access and translation layer that makes EU infrastructure usable. Without it, the Nordic–Baltic companies, particularly SMEs, face an AI innovation environment that is technically well-resourced but inaccessible in practice. The Nordic–Baltic layer therefore serves a dual function: it localises and contextualises EU instruments, and fills structural gaps that EU-level provision does not address. Both functions depend on coordinated regional governance to deliver their full value with proper coordination.

Intended Benefits and Beneficiaries of the Services

Given the project's company-centric design and its focus on the innovation-facilitating side of the ecosystem, the services identified are primarily directed towards companies and, within that group, towards SMEs and SMCs in particular. Table 3 reflects this focus, which is clearly indicated by the lack of benefits to the public, something that was identified as one of the recognised weaknesses of the AI ecosystem more broadly. AI is frequently portrayed in public discourse as a threat to employment, privacy and societal stability, with expectations that remain abstract rather than characterised by safer and more trustworthy AI deployment. It remains distant from the everyday experience of most citizens.

Table 3, below, depicts the intended beneficiary logic of each service category. Where workshop evidence reveals a significant gap between this potential and current reality, the discrepancy identifies a priority action area rather than an existing achievement. Readers are therefore encouraged to study the gap analysis below in conjunction with the table, rather than treating the beneficiary mapping as a description of current service availability.

Table 3. Intended beneficiary logic of each service category

	Primary beneficiary ●	Secondary beneficiary ●	Not applicable –		
Service	Incumbents	SMEs/ startups	NCA MSAs	Public sector	General public
1 – Entry and navigation					
Front-door helpdesk + triage	●	●	–	●	–
Ecosystem map & service catalogue	●	●	●	●	–
Maturity-based support tracks	●	●	–	●	–
2 – Capability and project formation					
Hands-on advisory & co-creation	●	●	–	●	–
AI literacy & training (multilingual)	●	●	●	●	●
Use-case & success/failure catalogue	●	●	●	●	–
Fast funding instruments	–	●	–	●	–
3 – Regulatory and technical validation					
Regulatory sandbox service	●	●	●	●	–
Cross-border sandbox coordination	●	●	●	–	–
Compliance-by-design toolkit	●	●	●	●	–
AI-assisted compliance tooling	●	●	●	●	–
Real-world testing pathway (high-risk AI)	●	●	●	●	–
4 – Data and infrastructure access					
Compute onboarding/AI Factory access	●	●	–	●	–
Data governance & cross-border access	●	●	●	●	–
5 – Scaling enablers					
Procurement support for trustworthy AI	●	●	●	●	–
Recurring knowledge-sharing & clinics	●	●	●	●	–

Immediate and Near-future Gaps Concerning the Intended and Current Benefits

1. **Immediate Stage 1 gap (entry and navigation)** – SMEs and startups appear as primary beneficiaries of the front-door helpdesk, ecosystem map and maturity-based tracks. Yet the workshops explicitly found low discoverability, unclear entry routes, role ambiguity and insider-dependency as the dominant barriers. These services exist in partial form across countries but are neither integrated nor consistently accessible.
2. **Immediate Stage 3 gap (regulatory and technical validation)** – Cross-border sandbox coordination shows NCAs/MSAs and incumbents as the primary beneficiaries, but no reusable governance agreements exist, no common evidence template is in place, and no mutual recognition framework has been published. Hence the coordination services do not yet exist operationally across the Nordic–Baltic region.
3. **Near-future Stage 2 gap (capability and project formation)** – AI literacy and training services, maturity-based support tracks and hands-on advisory capacity are available across the region but are not systematically connected to either the entry that precedes them or the regulatory validation that follows. The workshops consistently identified a capability gap at the SME level that is structural. Many companies are aware that AI offers potential value but lack the internal competence to scope a viable use case, assess its regulatory risk category or prepare for sandbox engagement. Train-the-trainer capacity is thin or over-strained, role-based training provision is fragmented, and hands-on advisory, where it exists, tends to be delivered through personal networks rather than formal, accessible channels. The consequence is a significant drop-out between initial ecosystem contact and meaningful project completion. As a consequence, companies reach the front door but cannot progress to the sandbox or technical and commercial potential-improvement stages without support. That support is currently neither consistently available (front door) nor reliably routed (certified services).
4. **Near-future Stage 5 gap (scaling enablers)** – Funding instruments, procurement support and structured knowledge-sharing mechanisms are the least developed part of the regional service landscape relative to the ambition set out in the workshops. Fast and lightweight funding instruments aligned with AI development and experimentation cycles are largely absent. National grant mechanisms operate on timelines and administrative requirements that are misaligned with the iterative pace of AI piloting. As of today, few coordinated Nordic–Baltic funding instruments for cross-border AI development currently exist. Public procurement guidance for AI remains limited in scope and emphasises risk-averse bidding, leaving public buyers without practical tools for outcome-based contracting or risk-sharing with AI

vendors. This is a gap that disproportionately affects startups seeking public sector entry. Recurring cross-border knowledge-sharing between authorities is informal and episodic rather than structured, meaning that regulatory interpretations, sandbox learnings and compliance reference cases do not systematically circulate across the region. Taken together, these gaps mean that companies which successfully navigate the earlier stages of the pathway encounter a scaling environment that does not yet support the transition from validated pilot to market-ready, cross-border deployment. This is a universal problem for the EU AI Innovation ecosystem.

5. **Persistent Stage 4 gap (data governance and cross-border access)** – Data governance and cross-border access are not yet established and are aspirational, with ideas and data-labs in place but separate.

Capacity

Capacity is closely related to the services being implemented, and it should be considered together with the development of services. The focus here is deliberately general and structural because several central capacity elements (especially AI Factories, HPC access models and AI regulatory sandboxes) are still being built, piloted or refined. The purpose is therefore not to freeze a single institutional picture but to identify what kinds of capacity the Nordic–Baltic AI innovation ecosystem needs in order to support trustworthy AI development and AI Act-aligned market entry.

Capacity should be understood as more than infrastructure. The workshops pointed to a combination of technical, data, regulatory, human, organisational, financial and cross-border coordination capabilities. The region has clear strengths: advanced compute resources, strong education and research capacity, digital public sectors, active innovation agencies, emerging sandbox initiatives and valuable public-sector datasets. However, the practical usability of these assets remains uneven, especially for SMEs and organisations without strong internal AI expertise.

A recurring finding is that capacity and services are inseparable. Compute capacity is useful only when companies can access it, understand whether they need it and receive help in translating business problems into technical workloads. Sandboxes only create value if they are sufficiently staffed, technically supported, understandable to companies, efficient enough (fast) and able to produce credible outputs. Data capacity depends less on the existence of datasets than on lawful, trusted and operational access mechanisms. Human capacity and multi-disciplinary knowledge (legal, technical and business) is needed to connect all of these layers.

The findings also indicate overlap and fragmentation. The ecosystem contains many actors, but role boundaries and service ownership are often unclear. Similar projects, pilots, tools, guidance materials and templates may be developed in parallel across countries. At the same time, the following key functions are absent or inadequate: translation capacity, practical regulatory support, data access governance, use case learning transfer and cross-border sandbox interoperability. Therefore, the capacity agenda is not simply to add more resources but to make existing and emerging resources discoverable, interoperable and reusable. (See the Services section for more detailed discussion.)

Because AI Factories and regulatory sandboxes are still evolving, the most robust recommendation is to invest in reusable operating capacity: navigation, shared templates, pooled expertise, standardised intake and referral practices, common learning loops and role-based training. These remain valuable even if (when) the precise institutional arrangements change after the workshops.

Capacity Overlap, Duplication and Fragmentation Patterns

It is also important to look at the challenges from a capacity perspective. There are always limited resources for capacity creation, and the right allocation of resources is a central part of the solution.

As has already been shown, there are a lot of different solutions supporting the AI innovation ecosystem, and so much different capacity is available that there is little need for actual new capacity. If the challenges that are listed are examined specifically from the perspective of current capacity utilisation, several overlaps can be highlighted, mainly due to a lack of coordination or fragmentation for historical reasons. The material suggested that the capacity overlap is mainly “parallelism without reuse”; many activities exist, but they are not sufficiently connected into a coherent company-facing pathway (see [Table 4](#)).

Table 4. Overlap, Duplication and Fragmentation Patterns

Pattern	Observation	How to reduce overlap/fragmentation
1. Actor overlap and unclear ownership	Many actors exist, but companies cannot easily see who owns which function or which actor should be approached first.	Maintain an ecosystem map, service catalogue and single front-door routing logic. Service 2.
2. Parallel national development	Countries may develop sandbox processes, compliance tools, templates and guidance independently.	Use common templates, regulator exchanges and shared evidence structures before national models diverge. Services 9 and 10.
3. Pilot duplication	Small pilots and use cases may be repeated without systematic transfer of lessons or reusable artefacts.	Create use case and failure story catalogues and recurring case clinics. Service 6.
4. Fragmented data access	Data catalogues, data spaces and repositories may coexist without an operational access process.	Develop common data rulebooks, contracts and permissioning models. Services 13 and 14.
5. Overlapping but incomplete advisory services	Multiple actors provide partial advice, but companies still lack integrated business–tech–legal support.	Build a translator/intermediary layer and certify experts where appropriate. Service 1, 2 and 3.
6. Working groups without an operational mandate	There may be many discussions, but insufficient decision-making power, shared KPIs or funding authority.	Create a durable coordination layer with defined responsibility and roadmap ownership. Service 9.

Table 4 also includes a suggestion on how to reduce duplication or fragmentation. In practice this goes back to the services proposed previously. More detailed recommendations and development steps are presented in the next chapter.

Proposals

Based on the findings, we recommend implementing the services presented in previous chapters ([Table 2](#)) and creating new services to work together with existing ones. This will enable the resolution of both the above-mentioned challenges and capacity overlaps and fragmentations ([Table 4](#)). In practice, this means examining, evaluating and modifying all the services described in [Table 2](#). It is particularly important to note that it is not enough to implement only the services that have been identified as missing. The existing services must also be modified to work as a single entity that supports the ecosystem.

When implementing services, it is vital to take into account the *Immediate and near-future gaps concerning the intended and current benefits* presented previously. Particular attention should be paid to the immediate gaps in stages 1, entry and navigation, and stage 2, regulatory and technical validation. It is of paramount importance to start with developing the discoverability of services and cross-border cooperation throughout the Nordic–Baltic region.

To implement the services ([Table 2](#)) while taking the *immediate and near-future gaps* into account, we have prepared two progress models: the “Fast Forward” model and the “Plan and Play Ahead” model, which we will discuss in more detail in the next chapter.

Two Alternative Paths to a Functioning Nordic–Baltic AI Ecosystem

Fast Forward

The primary recommendation for action “Fast Forward” is a 12-month critical path (see [Figure 1](#)). The Fast Forward model) that answers a single binary question: Is the Nordic–Baltic AI Alliance real or aspirational by the end of the Horizon 1 timeline?

In the first diagram, we refer to grouped themes (G1, G3, G4, G5 and G6), i.e. challenges, which are on the critical path, so not all the challenges are mentioned there in combination with the critical actions.

CRITICAL PATH ROADMAP: DETERMINING IF ALLIANCE IS REAL OR ASPIRATIONAL (HORIZON 1 END)

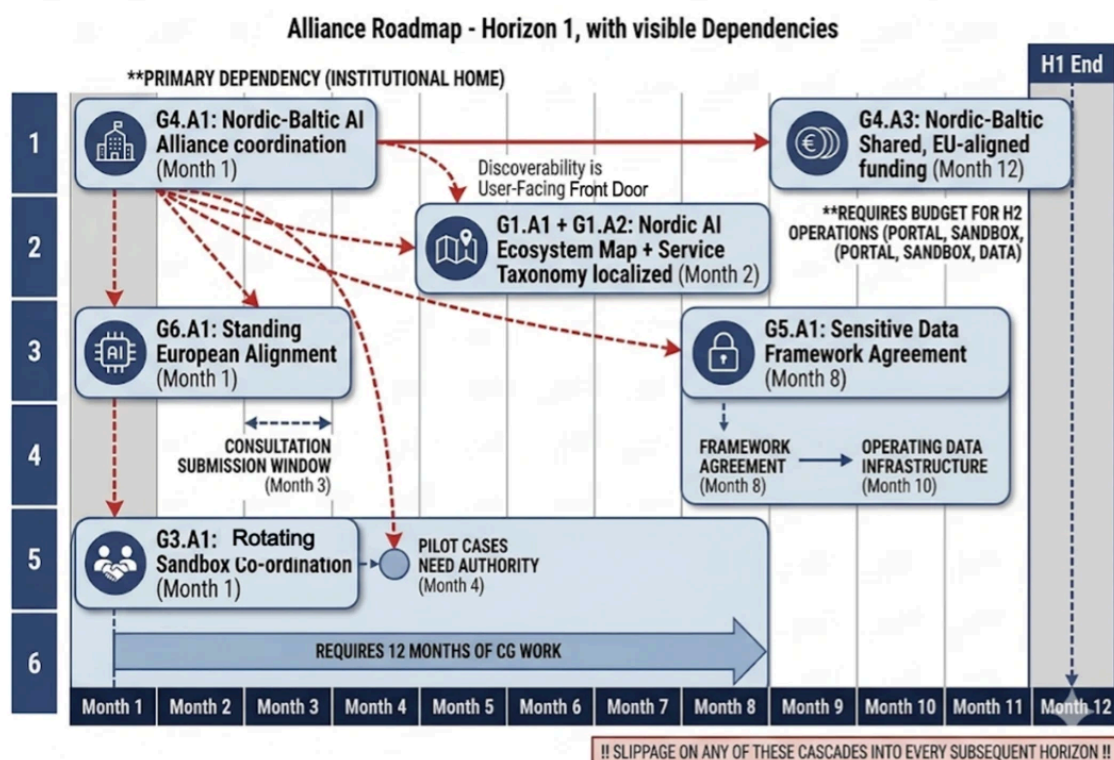


Figure 1. The Fast Forward model (co-created with Gemini)

1.

Three actions to start immediately: the foundation is laid by three parallel commitments at the start, on which everything depends. Therefore, the three actions start simultaneously in Month 1. Missing this window of activities will have the knock-on effect of delaying every subsequent horizon, or making "Fast Forward" obsolete.

G4.A1 Alliance coordination establishes the institutional home, without which nothing has a governance address. Based on the interviews and workshops, this could be established in the New Nordics A, with strong involvement from the enterprises that will benefit from the supporting actions. However, permanent structure, governance and funding must be established for the selected AI Ecosystem coordinator.

G6.A1 Standing European Alignment opens the EU engagement channel before the consultation submission window closes at Month 3 (including simplification of digitalisation Omnibus). It is to be established by and for the parties that have contacts with the EU bodies related to the AI Act and connected activities. There are natural institutional contact points for businesses, academics, NGOs, authorities (such as NCAs, MSAs), regulators and policy makers (such as NoBaReg) to be appointed by the NCM or the alliance coordination body.

- There are multiple points of institutional contact within the EU AI Strategy Plan, where representation should be confirmed and coordinated:
 - EU AI Board (member states coordination and strategising)
 - EC AI Office (AIA preparation and implementation)
 - EU AI Observatory (influencing strategic sectors' AI policies)
 - EU AI Scientific Panel (long-term issues and AI policy)
 - EU Advisory forum (powerful stakeholders' representatives)
 - EU Apply AI Alliance (all stakeholders' open forums)
- AI Acts implementation of testing and development environments via the Digital Europe supporting action project, the EUSAIr project, which is to design an operations basis and interaction between the national minimum sandboxes, in coordination with EC AI Office instruments for GPAI and Platforms for NCAs and companies.
- AI Acts and related acts, Digital Europe supporting action project NoLeFa analysis, and harmonised standards to create R&D and testing services throughout Europe, where the EU's Testing Facilities come together to create not only the standards but coordinated training, advice and training on NCAs and MSAs on testing standards, procedures and quality systems.
- In addition, participation in a coordinated manner in the OECD AI Policy Observatory and UNESCO task forces could be useful.

G3.A1 Rotating Sandbox Coordination starts the 12-month coordination group process. This cannot be compressed regardless of political will since it simply requires time to build the governance agreements and codes of conduct that mutual recognition of sandboxes depends on. It would be natural to start from the Lithuanian (planned and pending) and Finnish Traficom's Sandboxes, including the RegTech tools.

2.

The Month 2 start (denoted with red dashed lines)

G4.A1 Alliance Coordination immediately triggers G1.A1: Ecosystem Map and G1.A2: Localised Service Taxonomy. The diagram explicitly labels this as "user-facing", signalling that the map is not an internal coordination tool but the public front door that makes all other services discoverable (i.e. a map of the ecosystem), defining and explaining services coherently across the AI ecosystem in local languages, bridging intended users – startups, SMEs and corporations – with EU AI Act obligations and Nordic–Baltic innovation support services. Making the Ecosystem Map and Localised Service Taxonomy is a prerequisite for the creation of a Discoverability Front Door for all stakeholders alike.

3.

Consultation Submission Deadline

The EU consultation submission window closes at Month 3. This is the roadmap's only hard external deadline, and the diagram treats it as such; **G6.A1** Standing European Alignment feeds directly into consultation with no slack. Slippage here is uniquely damaging because it cannot be recovered within the 12-month horizon.

4.

Unlocking data infrastructure for cross-border access

G5.A1, the Sensitive Data Framework Agreement, starts latest at Month 8, as it creates the governance agreement. The latter is a prerequisite for operational data infrastructure at Month 10 (such as the Estonian Open Data implementation and high-level national level cooperation with the Finnish Government). This two-step sequence – framework agreement first, operating infrastructure second – reflects the lesson that technical build without governance sign-off produces infrastructure that cannot legally be used. The sandbox pilots, especially cross-border open data repositories (primarily public) and sectoral data labs (public-private mesh) identified in Month 4, depend on this pathway being clear. This data framework also anticipates the EU Data Act's provisions for AI data access, positioning the Nordic–Baltic region ahead of its implementation.

5.

Aligned and joint funding as the credibility verdict

G4.A3, Nordic–Baltic shared EU-aligned funding, is the year one endpoint. If shared funding mechanisms are secured by Month 12, the Alliance is real and the co-ordination has fulfilled its promise. If not, everything above remains aspirational. The funding requirement is explicitly flagged as necessary to finance Horizon 2 operations – front door, interoperable sandbox, and data infrastructure with coherent, localised terminology – meaning failure here freezes the entire subsequent sequence. There are pooled investment funds by the EU in progress and the Nordic Compass industry alliance with funds like Investor AB is somewhat similar activity.

Please note that the dependencies in the “Fast Forward” diagram are not parallel tracks that can recover independently; they are a sequenced chain where each delay compounds forwards. This makes the Month 1 political commitment, particularly regarding institutional home and EU alignment, the single highest-leverage intervention in the entire roadmap.

Plan and Play Ahead

The secondary option is “Plan and Play Ahead”. It is an 18-month roadmap organised across six ecosystem layers and three phases (see [Figure 2](#)). The Plan and Play Ahead model), answering a more ambitious question than the previous critical path of “Fast Forward”: namely, how does the Nordic-Baltic AI ecosystem move from fragmented aspiration to mainstream institutional adoption? Since it is based on a set of actions from the layers of the ecosystem and combined phases, it cannot be derived directly from the challenges; it facilitates the infrastructure by actions across ecosystem layers and phases instead of solving the grouped themes challenges directly.

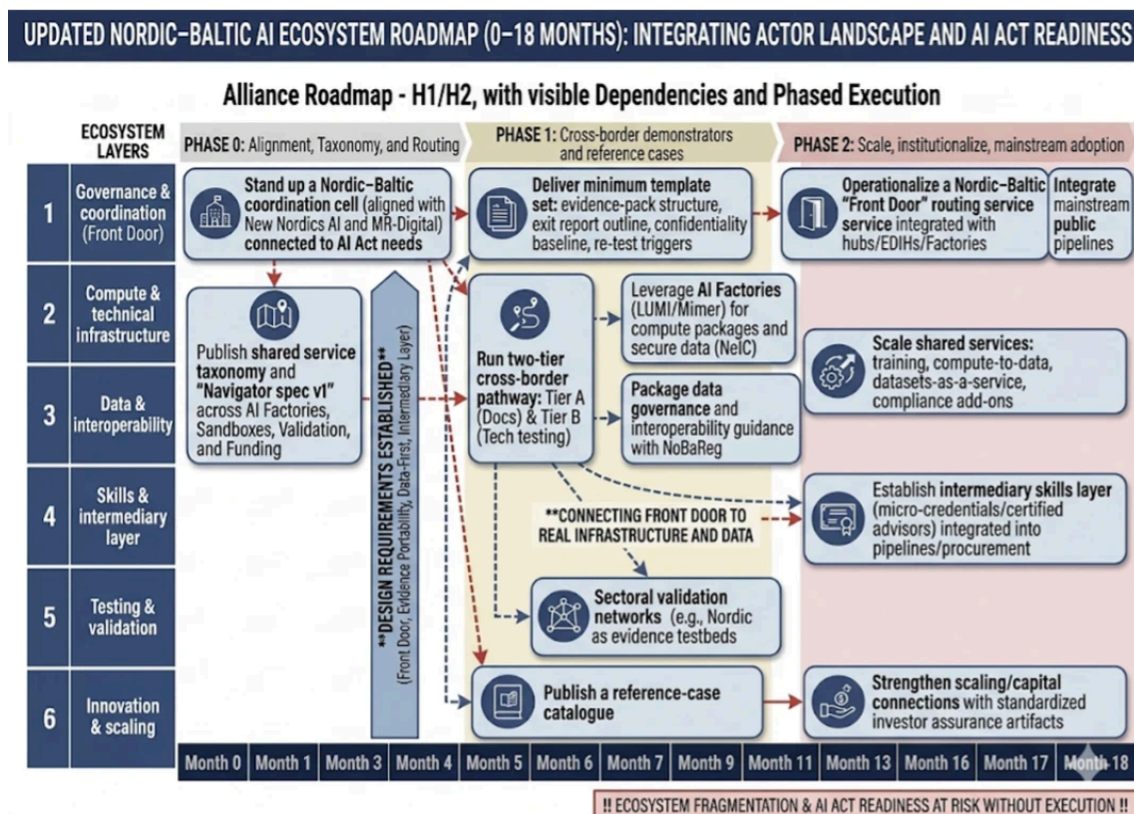


Figure 2. The Plan and Play Ahead model (co-created with Gemini)

The foundational logic of “Plan and Play Ahead” is not a single track, as in the “Fast Forward” dependency chain, but is explicitly organised in six layers:

Layer 1: Governance is the precondition for ...

Layer 2: Compute, which enables ...

Layer 3: Data interoperability, which supports ...

Layer 4: Skills and intermediary development, which again feeds ...

Layer 5: Testing and validation, which ultimately produces ...

Layer 6: The innovation and scaling outcomes.

The sequencing is vertical as much as it is horizontal; each layer must be sufficiently established before the layer below it can operate meaningfully. While the six layers define what must be built and in what order, the following three phases below define when to build, with horizontal progress across all layers advancing simultaneously within each phase.

Phase 0: Alignment, taxonomy and routing during Months 0–4

The whole of Phase 0 is taken up by a single compound action: establishing the design requirements that every subsequent phase depends on. The coordination layer, Layer 1, aligns with the New Nordics AI mandate from the beginning. Simultaneously, the shared service taxonomy and Navigator specification v1 are published across AI Factories, Sandboxes, Validation and Funding, creating the common language without which cross-border routing is impossible. The vertical banner explicitly labels these as design requirements covering Front Door, Evidence Portability (i.e. making Real Success and Failure Cases available across the Nordic–Baltic countries), Data-First and the Intermediary Layer. Nothing in Phase 1 is buildable without these four design commitments being locked in.

Phase 1: Cross-border demonstrators and reference cases during Months 4–13

The ecosystem moves from agreements to operational evidence. Three tracks run in parallel during Phase 1, as follows.

The governance track delivers the minimum template set: evidence portability and repository, exit report outline, confidentiality (NDA) model contracts, and re-test triggers for the sandbox and innovation services interaction. This is the technical specification that makes sandbox outputs portable across borders.

The infrastructure track runs the two-tier cross-border pathway simultaneously: Tier A handles documentation and Tier B handles technical testing. This feeds directly into AI Factories (e.g. LUMI/Mimer) for compute packages and NeIC (the Nordic e-Infrastructure Collaboration) for secure data, while data governance and

interoperability guidance can be packaged with NCM's NoBaReg (Nordic–Baltic Working Group on EU Regulation) and DataLabs. The critical annotation "connecting Front Door to real infrastructure and data" signals that Phase 1 is the moment the front-door concept becomes operationally real rather than directional.

The evidence track publishes a reference-case catalogue (as defined in the governance track) and establishes sectoral validation networks using Nordic countries as evidence testbeds. These two outputs together create the credibility infrastructure that Phase 2 scaling depends on.

Phase 2: Scale, institutionalise, mainstream adoption efforts during Months 13–18

Phase 2 operates at ecosystem scale across all six layers simultaneously. Layer 1 operationalises the Front Door routing service integrated with hubs such as EDIHs, DataLabs, TEFs and AI Factories and Public Innovation pipelines. This is the quadruple helix moment where public buy-in becomes structural rather than communicative, i.e. integrated through action, not only being informed.

Layers 2 and 3 scale shared services including training, compute-to-data, datasets-as-a-service and compliance add-ons such as data passports.

Layer 4 establishes the intermediary skills layer through micro-credentials in education/training and integrates certified advisors into sandbox and procurement pipelines, operationalising the three-language translator role as a certified professional function.

Layer 6 strengthens scaling and capital connections through standardised investor assurance artefacts (business models, exit reports, due diligence, market analyses), which is the commercial sustainability mechanism that prevents the ecosystem from remaining grant-dependent.

Probably the most analytically important element in [Figure 2](#) is the vertical Phase zero banner labelling design requirements for checking AIA compliance and market viability. These design requirements encompass not only technical specifications but also market viability criteria, i.e. viable business models, technical readiness levels, and sector-specific AI safety measures and quality system compliance. It visually spans all six layers and feeds forward into every Phase 1 action via dashed red arrows. This is the diagram's central argument: without Front Door design, Evidence Portability standards, Data-First architecture and Intermediary Layer specification locked by Month 4, Phase 1 produces *incompatible pilots rather than replicable reference models*. The design requirements are not preparatory work, but are the ecosystem's operating system.

Another central aspect of the "Plan and Play Ahead" roadmap is that it tackles potential ecosystem fragmentation and AI Act compliance issues more effectively than "Fast Forward", which is under the control of one party, e.g. the Nordic AI

Alliance. In "Plan and Play Ahead", two distinct failure identification modes emerge simultaneously. Together they frame inaction due to fragmentation or non-compliance as active institutional risks for every Nordic–Baltic country individually, and they can be treated both nationally and/or collectively, not only at a collective level.

Hence, we prefer "Fast Forward" as a basis for enhanced Nordic–Baltic AI innovation cooperation to get things going. Its dependency chain, while demanding, remains under the governance control of a single alliance body with clear accountability at each milestone. "Plan and Play Ahead" offers a more comprehensive ecosystem architecture but distributes execution risk across six layers and multiple institutional actors simultaneously. In the reflections that follow, we ponder, in the light of recent studies, the two alternative ways of progressing further.

Reflections

We chose four reports to validate our findings and increase their readability. We reflected on our findings and critical paths against the backdrop of the following reports: The Finnish AI Ecosystem – State of the Art in 2026 (Demos Helsinki, 2026); an official performance inspection report by the National Audit Office on the use of AI in central government (NAOF, 2026); the fourth survey on the state of the Nordic AI ecosystem (Halonen and Lähdesmäki, 2026); and a post-conference report from the European ASCEND Deep Tech Innovation event (ASCEND, 2026).

All the reports support the outcomes of our expert workshops well. In our empirical enquiry, the main elements for supporting innovation resemble those in each of the reports, but the emphasis differs. This is likely to be due to the observed growing gap, or disparity, between the companies applying AI in their business (Demos Helsinki, 2026; Halonen and Lähdesmäki, 2026). Building on that observation, the landscape for innovating parties and support organisations becomes challenging because they have to serve multiple skillsets and aspirations. For example, a report based on 140 responses from Nordic companies and public sector organisations (20% response rate) indicates that those companies and organisations can provide more detailed data on the varying claims regarding the successful cooperation: 60% of the surveyed companies show versatile forms of cooperation, 34% none (Halonen & Lähdesmäki, 2026).

However, interaction happens primarily in national ecosystems, while the inherently international AI technology calls for Nordic–Baltic cooperation. This takes the form of, for example, New Nordics AI for exchanging information and the Universities Network for advanced research, skills and seeds for innovation (Halonen and Lähdesmäki, 2026) and attracting international talent (Demos Helsinki, 2026; Halonen and Lähdesmäki, 2026).

The key takeaways from the ASCEND 2026 Deep Tech Innovation Conference are:

1. "Universities must be recognised as central execution platforms for Europe's deep tech ambitions, rather than simply as sources of research excellence."

In this sense our finding of engaging higher education institutions more closely is valid, and more attention should be given to the balance between high-quality research, educating a skilled workforce and doing these in cooperation with companies and the authorities (Triple Helix), without excluding citizens (Quadruple Helix).

2. *"Europe's scale-up gap is fundamentally a demand problem."*

This recommendation goes farther than our suggestion of joint funding. The conference basically suggests creating a long-term market for deep-tech SMEs and SMCs: *"Public institutions and large corporations must move beyond their role as regulators, funders and customers, and act as venture partners that help create markets for innovative solutions through credible, long-term and substantial demand."* That says it all.

3. *"Deep tech cannot scale without production capacity and specialised value chains."*

This is something where Nordic–Baltic cooperation can prove most useful as a long-term benefit, as suggested in most of our workshops. This is because the network is versatile with a good industrial and service basis and can reduce the dependency on the overseas hyperscalers.

Three of the reports raise the issue of the public sector lagging behind in AI – slow in execution, restricted in capacity and redundant in activities (NAOF, 2026). Skills, governance and the ability to execute are limited (Halonen and Lähdesmäki, 2026; ASCEND, 2026) and the recommendations by NAOF (2026) call for much closer cooperation between the national authorities to make things happen, which is a prerequisite for expanding cooperation with authorities throughout the Nordic–Baltic countries.

It could be argued that closer scrutiny of the reports would support the Plan and Play Ahead path more than the Fast Forward path. This is primarily because the evidence regarding ecosystem readiness (Halonen & Lähdesmäki, 2026; Demos Helsinki, 2026), public sector capacity (ASCEND, 2026; NAOF, 2026) and investment levels (Halonen and Lähdesmäki, 2026; Demos Helsinki, 2026) all suggests that the preconditions for rapid scaling are not yet in place. However, the Fast Forward path remains defensible as a political signal and in supporting the pioneers and early innovators in the Nordic(–Baltic) market. So Fast Forward serves to demonstrate intent: it creates the accountability structures within which the slower, more thorough Plan and Play Ahead work can proceed. The latter can then draw the later innovators to the ecosystem with sufficient resources and skills to create and utilise the common digital market (ASCEND, 2026; NAOF, 2026). In light of the findings of these reports, our two critical paths are perhaps best described as nested options for strengthening the benefits of the Nordic–Baltic cooperation. In addition, our approach avoids the potential fragmentation that is strongly opposed by the deep-tech advocates (ASCEND, 2026) and instead brings the small states of the North together as one.

Conclusions

The NAU project findings demonstrate that the Nordic–Baltic region has a strong foundation for becoming a leading environment for trustworthy AI development, but that the full potential of this ecosystem has not yet been realised. Significant technical assets, institutional capacity, expertise and innovation structures are already in place. However, the project findings show that the main challenge lies, not in the absence of resources, but in their operational integration, coordination and usability from a company perspective.

A central conclusion is that the current ecosystem remains fragmented and difficult to navigate, particularly for SMEs, start-ups and organisations without strong in-house AI, legal or regulatory expertise. Multiple actors, initiatives and support mechanisms exist at the EU, national and regional levels, but their roles, responsibilities and interconnections are often unclear. This creates duplication of effort, gaps in service provision and unnecessary transaction costs for companies seeking to develop, validate and bring AI systems to market in line with the EU AI Act.

The project therefore points to the need for a clearer and more coherent company-facing pathway through the ecosystem. The proposed direction is not to replace national structures, but to connect them more effectively through shared mechanisms. Key proposals include a visible single front door for companies, a maintained Nordic–Baltic ecosystem map, clearer service descriptions, common referral practices and better coordination between innovation support services, regulatory authorities, AI Factories, data actors and sandbox operators. These elements would help companies understand where to go, what support is available and how different services relate to each other.

Another key finding is the importance of strengthening operational capacity, especially in the roles and services that connect different parts of the ecosystem. These include navigation functions, business–technology–legal “translator” roles, practical regulatory guidance, AI Act compliance templates and checklists, data access support, compute onboarding and structured sandbox processes. Without these connective services, even strong capacities such as compute infrastructure, data resources, research expertise and regulatory frameworks risk remaining underutilised.

The project also highlighted that AI regulatory sandboxes and AI Factories are still evolving. Their impact will depend heavily on how they are implemented in practice and how well they are connected to the broader ecosystem. To be useful for companies, sandboxes need clear entry criteria, predictable processes, sufficient technical, legal and business support, SME-friendly participation models and

meaningful outputs such as outcome statements (exit reports and written proofs), gap analyses or reusable evidence packages. Similarly, AI Factory and HPC capacities require onboarding services and use case translation so that companies can understand how to benefit from advanced infrastructure.

The proposals and roadmaps developed in the project point toward a federated Nordic–Baltic operating model. In this model, national nodes would remain responsible for local legal context, language, outreach and authority mandates, while a shared regional layer would coordinate reusable tools, templates, expert pools, sandbox learning, use case catalogues and cross-border practices. This approach would reduce duplication while respecting national responsibilities and differences.

The roadmap logic suggests a stepwise development path. First, the ecosystem should be made more visible and navigable through mapping, service catalogues and clear contact points. Second, practical support capacity should be strengthened through shared templates and checklists, AI literacy materials, compliance guidance and expert networks. Third, sandbox and data access practices should be aligned across countries to support interoperability and reduce repeated work. Finally, cross-border pilots, shared use cases and joint learning mechanisms should be used to test and refine the operating model in practice.

From a regional perspective, the project confirmed that there is significant added value in Nordic–Baltic cooperation. Smaller countries cannot efficiently build every specialised capacity independently, and fragmented national approaches risk wasting resources and weakening the region’s collective position. Shared approaches, common tools and coordinated support structures can improve efficiency, reduce barriers for companies and strengthen the region’s ability to support trustworthy AI innovation.

Overall, the NAU project concludes that the Nordic–Baltic region can build a competitive, values-driven and internationally attractive AI ecosystem by focusing on four priorities:

- simplifying access and navigation for companies;
- strengthening practical services and cross-disciplinary capacity;
- improving interoperability between sandboxes, data access and technical infrastructure;
- building durable Nordic–Baltic coordination and learning mechanisms.

By addressing these priorities, the region can better support AI innovation, enable smoother market entry – particularly for SMEs – and strengthen its position as a coherent and trusted AI ecosystem within Europe.

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Appendices

Appendix 1: Nordic–Baltic stakeholders to be considered

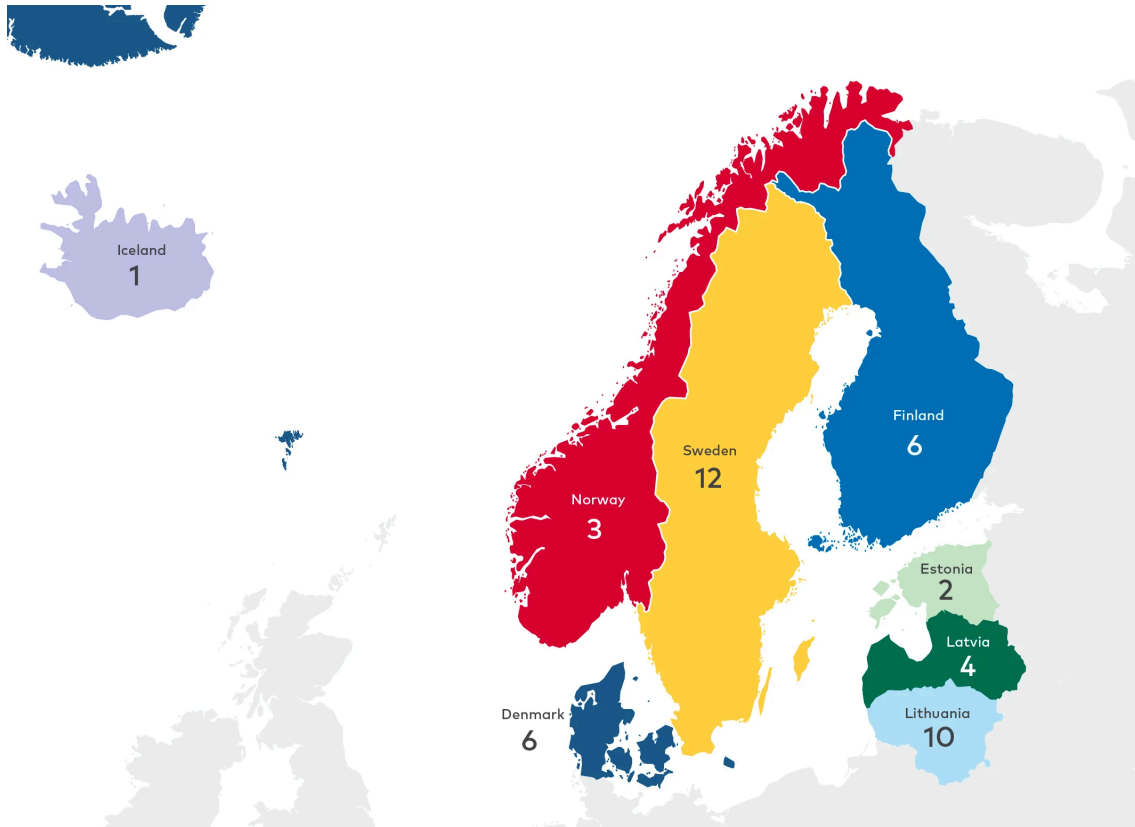


Figure A1. Stakeholders per country

The following lists contain European digital innovation hubs (EDIH) located in the Nordic–Baltic region. It includes hubs funded under:

- The Digital Europe Programme: Co-funded by the European Commission and Member States/Associated Countries;
- The Seal of Excellence: Positively evaluated in a European competitive call but funded exclusively by national or regional resources;
- Other initiatives: Digital innovation hubs with similar activities to EDIHs but not connected to the network.

(source: <https://european-digital-innovation-hubs.ec.europa.eu/edih-catalogue>)

Finland 6

[Arctic Development Environments Cluster](#)

[Arctic Drone Labs](#)

[DigiCenterNS](#)

[FAIR](#)

[Finnish Center for Artificial Intelligence \(FCAI\)](#)

[HHFIN](#)

Estonia 2

[AIRE](#)

[Smart Industry Centre \(SmartIC\)](#)

Sweden 12

[Aero EDIH](#)

[Agrihub Sweden](#)

[AM-EDIH](#)

[DigiT Hub Sweden](#)

[Digital Impact North \(DIN\)](#)

[EIT Digital Sweden](#)

[Health Data Sweden \(HDS\)](#)

[Infrastructure and Cloud data centre test Environment \(SICS ICE\)](#)

[LTU AI Innovation Hub](#)

[MIGHTY EDIH](#)

[ShiftLabs](#)

[Sweden Secure Tech Hub by Sweden ICT](#)

Norway 3

Nemonoor

OCEANOPOLIS

SINTEF

Denmark 6

AddSmart

CD-EDIH

EDOcobot

FORENINGEN MADE

GC EDIH

SEDIH

Iceland 1

EDIH-IS

Latvia 4

DAoL

EDI

EDIHLV

ZSA

Lithuania 10

Advanced Manufacturing Digital Innovation Hub

DI4 LITHUANIAN ID

DIGITAL INNOVATION HUB „Smart Society“

EDIH VILNIUS

EDIH4IAE.LT

Laser Digital Innovation Hub (LaserLT DIH)

Manufacturing Innovation Valley

Santaka Digital Innovation HUB

Smart Health Digital Innovation Hub

SV DIH

About this publication

Nordic AI Union Pre-study

Jukka Heikkilä, Seppo Heikura, Altti Lagstedt, Juuli Venkula and Tomasz Malkiewicz

TemaNord 2026:530

ISBN 978-92-893-8499-5 (PDF)

ISBN 978-92-893-8500-8 (ONLINE)

<http://dx.doi.org/10.6027/temanord2026-530>

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Cover photo: Mimi Thian/Unsplash

Published: August 2026

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