# Nordic-Baltic roadmap for Digitalisation 2025 to 2030

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# Contents

## 1. Preface
(to be added)


## Introduction
The roadmap for MR DIGITAL outlines the political priorities and objectives for the period 2025 to 2030.

The vision of the Nordic Council of Ministers is for the Nordic region to become the most sustainable and integrated in the world by 2030. To realise this vision, sector-specific roadmaps guiding the work of all ministerial councils in the years 2025 – 2030 will be based on the three strategic priorities of Vision 2030: a green Nordic region, a competitive Nordic region and a socially sustainable Nordic region.

The cooperation on digitalisation in MR DIGITAL encompasses not only the Nordic, but also the Baltic countries. Our societies are built on democracy, equality, human capital, and social responsibility. We need to make sure that the digital transformation adheres to these principles now and in the future. As such, digitalisation and technological innovation are major drivers in the development of both private and public sectors as well as a key enabler of the green transition. The Nordic-Baltic region is one of the most digitalised in the world, which puts us in a unique position for driving digital development – regionally and internationally. The Nordic-Baltic collaboration within MR DIGITAL is outlined by our region's joint opportunities and challenges, in creating an inclusive and safe digital transition, strengthening competitiveness and green growth as well as increasing mobility and integration in the region through safe, effective, cross-border digital services for people, businesses and authorities.

The Nordic Council, the civil society, industry, and other relevant stakeholders have been involved in the development of this roadmap. The roadmap has been approved by the Nordic Council of Ministers for Digitalisation on [date] and is valid from 1 January 2025 until 31 December 2030.

Digitalisation is cross-sectoral by nature.  To realise the vision of this roadmap, cross-sectoral collaboration is crucial. Working together with other sectors of the Nordic co-operation such as Environment & Climate, Growth, Energy, Health, Education & Research, Natural Resources, Culture, and the Freedom of Movement Council will make sure that synergies can be identified and common challenges addressed, while achieving the most extensive impact in realising the ambitious goals of Vision 2030.


## 2. Political priorities
The political priorities of this roadmap build upon the commitment by the Nordic and Baltic Ministers of Digitalisation to ensure that our region maintains its position as a leader in digitalisation, and that the region will be the most digitally integrated in the world by 2030 while making sure that everyone in the region benefit from digitalisation regardless of age, gender, wealth, education, or level of digital skills.

In close collaboration with other ministerial councils, MR DIGITAL will contribute to a public sector that meets the needs of both people and businesses across the region now and in the future, promote regional mobility and connectivity, enhance digital skills and competencies and responsible use of digital technologies as well as

taking the lead in realising the twin digital and green transition and sustainable growth. MR DIGITAL will cooperate on agreed European standards, infrastructure, data sharing, data spaces and interoperability, as well as connectivity in alignment with relevant European Union initiatives and legislation.

The Nordic-Baltic countries can lead the way on digital transformation in the EU and globally, showing that digital technologies and data can be used and shared in a fair, open, secure, responsible, and democratic way. By working together, the Nordic-Baltic voice in global fora can be strengthened, to influence the policies and guidelines coming out of these making sure they are in line with our values and existing structures.

We live in a time of rapid technological development. This roadmap lays down overarching goals for the Nordic-Baltic cooperation on digitalisation, building on the existing cooperation and based on our common values and the vision of a safer, greener, and freer region 2030.

***Challenges and opportunities*** to delivering on the goals set out in this roadmap are tied to a set of global challenges and trends:

Climate change, environmental crises and delivering on the twin digital and green transition
Addressing environmental crises, climate change and reducing carbon emissions will require significant investment in renewable energy, sustainable transportation, and green infrastructure, as well as cross-border and cross-sector cooperation to align policies and priorities. At the same time as we must deliver on the green transition, our societies are also amid a digital transition. The green and digital transitions should reinforce each other; new technologies, better use of and sharing of data, as well as innovative digital solutions can, if applied to the green transition, give us enhanced policy- and decision making and smarter, more efficient and climate neutral solutions for both public and private sector. However, the digital transition is not green by default, and questions about energy consumption, resource-efficiency and waste from the digital solutions or systems themselves need to be addressed.

The twin transition and achieving the ambitious targets of the European Green Deal requires parallel collaborative efforts, bringing together all relevant sectors from policy making to academic research and private sector innovations. Ranking high on innovation and digitalisation, and with high environmental ambitions, the Nordic-Baltic region is in a good position to deliver solutions to the digital and green transition. One major European initiative is the Destination Earth initiative, aiming to involve different sectors by creating and using digital twin replicas of the Earth for monitoring and predicting climate change, impact of human behaviour on it and ultimately support the climate adaptation effort. The Nordic-Baltic region is in a particular position to contribute to this initiative due to the investments in the high-performance computing (HPC) infrastructure LUMI, based in Finland, that supports the development of the digital twin technology.

Global economic trends, rapid digital transformation and regulatory barriers
Being highly integrated into the global economy, the region's economic competitiveness is closely linked to global economic trends. To ensure that our region preserves its economic strength and competitiveness, as well as its human-centred approach, we need remain at forefront of today's rapid technological development and apply a coordinated and cross-sectoral approach to Nordic-Baltic cooperation. Artificial Intelligence (AI) is

being developed and applied in society at a high pace. AI offers great potential for economic growth, productivity and efficiency gains and may help solve pressing societal challenges.  At the same time, the use of AI may challenge public governance and decision making, as well as influencing democratic processes and information through increased risk of, for example, algorithmic bias or misinformation and disinformation. What is certain is that AI is key to the digital transformation and will continue to have an ever-growing impact on the economy and everyday life.

Differences in the implementation of regulations related to digitalisation could create barriers to cross-border cooperation in the region and make harmonisation of standards more difficult. Cooperating on the development and implementation on new and existing EU regulations could therefore contribute to a more streamlined regulatory environment in the region. Promoting interoperability as well as harmonising regulations and standards to enable sharing of data across borders is central for increasing digital and data-driven interaction between relevant Nordic-Baltic stakeholders, both in the public and private sector.

Geopolitical risks, regional instability and security threats to digital infrastructure
The Nordic-Baltic region is situated in a complex geopolitical context, with neighbouring countries experiencing political instability and conflict. The intentional destruction of infrastructure in Ukraine, including digital infrastructure, illustrates the need for resilience in communication networks.  In addition to the cyber-attacks in Ukraine, we have also seen a growing trend of organized cyber-crime on an international level.  As the region becomes more connected and reliant on digital technologies, cybersecurity risks and security risks to digital infrastructure increase, as made evident by the incidents in the Baltic Sea affecting critical underwater infrastructure. Maintaining and improving robust, resilient, and redundant digital infrastructures and a high level of security in the digital services that our societies rely on, has become increasingly important and a key aspect of our overall security. Addressing these risks will require close cooperation between countries in the region, as well as investment in cybersecurity research, development and education and skills, both for the public as well as on expert level

Demographic changes, a digital divide, differences in connectivity and skills
Demographic changes, including aging populations and migration puts pressure on the region's public welfare system and societal cohesion. Despite the high level of digitalisation in the Nordic-Baltic region, there are still significant disparities in connectivity and access to digital technologies and skills, contributing to a digital divide and creating barriers to competitiveness, innovation, and cooperation. Our region has some of the most digitalised public sectors in the world, making them efficient, effective, and better equipped to answer to the needs of people and businesses. But this has also highlighted the importance of digital inclusion to ensure that the public sector is accessible to all and that no one is left behind. Regional cooperation on developing and implementing measures to make digital services more accessible to all our inhabitants will be crucial to keep the spot as digital frontrunner, as well as the competitiveness of our region. The rapid pace of technological change requires not only a strong connectivity infrastructure, digitally competent population but a highly skilled workforce. Without targeted investment, the region risk facing skills shortages.

Harnessing these opportunities and addressing the challenges will require a coordinated, cross-border and cross-sectoral approach embracing technology, education, research, legislation, and public-private

cooperation, as well as investments in digital infrastructure and a strengthened cooperation to align policies and priorities.

## 3. Goals and subgoals

To contribute to make the Nordic-Baltic Region the most sustainable and integrated region in the world by 2030, the Nordic Council of Minsters for Digitalisation has adopted the following goals and subgoals for 2025 – 2030:

**Goal 1: The Nordic-Baltic region is a front runner in realising the digital and green transition in the EU and internationally**

The increased use of data and new technologies is fundamental to harness the potential of digitalisation while promoting the green transition. Knowledge and awareness regarding both green and digital technology is a competitive advantage for the region, providing tools for a high level of ambition in promoting and accelerating the digital green transition in the EU and beyond, taking the lead in aligning the twin green and digital transitions.

However, while recognising that the two transitions are closely linked, more efforts are needed to use data and digital solutions to address sustainability challenges and reduce the climate and environmental footprint of the Information and Communication Technologies (ICTs) themselves. For the digital transition to become a true driver in realising the green transition we need to address the energy consumption, emissions, and e-waste also from digital solutions.

**Subgoals:**

- **1.1: Strengthened competences, knowledge, and research on how digitalisation, data utilisation, and data-sharing can accelerate the green transition**
  Cooperation may involve efforts aimed at creating new knowledge, providing input to EU or other international processes and/or policy making by for example dissemination of good examples and pilot projects.  Application of digital solutions, collaboration on data sharing and utilisation of new technologies may be addressed in collaboration with other ministerial councils (for example the Ministerial Council for Growth or Environment and Climate). Examples may include contributions to the digital twin technology and pilots showcasing tools based on harmonized, interoperable, and shared data promoting Data-Driven Decision Making: Leveraging FAIR principles, helping stakeholders to make informed decisions, setting a new standard for data-driven governance of common resources.

- **1.2: Digital solutions will have positive effects on the environment**
  Cooperation on "greening ICT" could involve sharing best practices and national experiences, cooperate on standards and harmonisation in addressing the energy consumption, emissions, and e-waste from digital solutions.  Sharing expertise, conducting joint research projects, and cooperating in

implementing and assessing the impact of innovative technologies that optimise processes, reduce environmental impact, and enhance overall sustainability across the Nordic and Baltic region.

**Goal 2: A digitally secure, connected, and integrated Nordic-Baltic region**

Interconnected, secure and robust digital infrastructures that are interoperable across borders in the Nordic-Baltic region is an essential building block and an enabler to become the most integrated region in the world. The Nordic-Baltic countries are already characterized by a high level of digital maturity rooted to a vast availability and usage of digital services, skills, and connectivity in each country. Coupled with this maturity, the trust and the like-mindedness in the region composes a foundation to pursue the benefits of multilateralism and to make the Nordic-Baltic countries the most digitally interconnected region in the world. To achieve this, a joint effort is needed to further strengthen the cross-border digital infrastructure, accompanied by commonly promoting the mutual interests of the Nordic-Baltic countries on European and global level.

**Subgoals:**

- **2:1: A common area for cross-border digital services in the Nordic-Baltic region**
  This means the creation of shared enablers for public and private entities to be able to offer their digital services across borders, while also coordinating and strengthening the Nordic-Baltic countries' efforts in harmonizing, implementing, and influencing the relevant developments at European and international level. This involves collaboration on main elements of digital infrastructures, such as interoperable digital identities, frameworks for sharing of data and provisioning of key services to support mobility in the Nordic-Baltic region. For concrete results, coordination and collaboration with key service areas and entities responsible for these will need to be an important part. An example of this is the involvement of key stakeholders to enable student mobility in the region, and to combine these with the joint efforts of actors responsible for digital infrastructures.

- **2:2: Increased coordination of digital infrastructure efforts, especially in promoting connectivity and mobility**
  Development of a regional voice that is influential on European and international level on matters related to cross-border digital infrastructures, by leveraging and strengthening the existing cooperation in this domain. This could be achieved by connecting and coordinating the various efforts, initiatives and experts related to digital infrastructures, as well as linking the national priorities of each country with the goals and subgoals of MR DIGITAL. This could for instance be done by working towards bringing the responsible entities for key areas in each country together to form cross-border arenas for anchoring and consolidation on matters related to digital infrastructures, with the aim of fostering increased secure connectivity and mobility in the region.
  Differences in internet access and connectivity across the region creates barriers to regional cooperation and innovation. Cooperation may include advancing the research and debate on societal impact of connectivity, promoting collaborative networks within the Nordic-Baltic region, facilitate communication and technical discussions on 5G technology advancements and beyond, and identify challenges and emerging trends specifically tailored to the Nordic-Baltic regulatory landscape.

- **2:3 Enhanced data sharing and re-use of data**
  Closely connected to subgoals 2:1 and 2:2, and building upon existing initiatives, work towards enabling increased sharing and re-use of data across borders in the Nordic-Baltic region. This could be done by building common understanding, creating, and sharing of knowledge, and aligning on key frameworks through joint efforts to harmonize and influence related developments internationally, and by seeking to link these with the national regulatory, technical, and semantic considerations in each country.

**Goal 3: A secure, inclusive, and human-centric digital transformation to ensure resilient societies**

Cybersecurity is an important prerequisite for digitalisation. Maintaining and improving the security of our digital infrastructures and services has become an integral part of societal resilience and our civic defence. Cooperating on exchange of information and experiences to ensure reliable digital infrastructures, as well as necessary competence and capacity to recognise and deal with cyber incidents or attacks, will contribute to regional resilience in information management and digital security. General ICT competences, digital literacy as well as digital skills and competences are integral parts of the overall cybersecurity, but also necessary to participate in the digital economy and society. While the Nordic and Baltic countries in general are highly digitalised, certain groups or persons in certain life situation may be at risk of becoming digitally excluded. All countries in the Nordic-Baltic region face similar challenges, and much value can be found in cooperating on knowledge exchange, finding best practices and streamlining solutions. There might also be economic benefits in joining forces on regional level in developing or implementing digital solutions to ensure inclusion for certain smaller groups. For the region to remain at the forefront of today´s rapid technological development, a coordinated and cross-sectoral approach to Nordic-Baltic cooperation will be central. Interagency partnership and collaboration across borders will be key to regional coherence, sharing best practices among one another, and refining the ways we approach our policymaking.

**Subgoals**

- **3:1: The digital divide is addressed, and' digital competencies and digital judgement enhanced**
  The high-speed digital transformation of societies includes a risk of leaving groups of people, or persons in certain life situations, behind. Knowledge dissemination and policy actions on digital inclusion are a significant step to avoid this development. The continuous influence of digital media and digital social platforms has underscored the need for a population with digital judgement and general cybersecurity capabilities, a development further underscored by the use of new technologies. Promoting collaboration, dialogue, and knowledge sharing between practitioners and policymakers across borders will continue to be important with the goal to empower people to actively participate in a digital and democratic society and coming workforce transitions.

- **3.2: Digitally secure, efficient, and inclusive public sector services**
  Robust and secure digital services, safeguarding users' privacy and ensuring that personal data are stored and processed in a secure and trustworthy way, giving everyone the ability to better control their own data, are crucial to the resident' sustained trust in digital services, which in turn forms the

basis for the digital transformation. However, increasing security in digital services may decrease their accessibility if not carefully considered.  "Secure-by-design" must go hand in hand with useability and "inclusive-by-design". To facilitate this, and make sure that unintended bias is not introduced into products and services, the workforce must be skilled as well as diverse.

- **3.3: Increased ICT-competences, cyber- and information security skills, and capabilities**
  As our societies becomes increasingly digital and connected, cyberattacks and threats are growing concerns for both public and private organisations and institutions. Shortage of skilled workers in the realm of general ICT, cyber- and information security is not only a challenge for the Nordic-Baltic region, but a growing concern on a global level. Regional cooperation on best practices, knowledge exchange as well as cooperation on policy and infrastructure will be important to enable a secure digital transition and to maintain a high level of trust in the digital society.

  Critical gaps in general ICT competencies and cyber- and information security cannot be addressed through recruiting and hiring alone. Investing in our existing workforce and unlocking their full potential through reskilling and upskilling opportunities, and by instilling continuous learning environments, will be crucial.  How to attract talent to work within the areas of ICT, cyber and information security and fostering life-long learning opportunities within the IT-field for a workforce that will be on the job market longer are common regional challenges that offers great opportunities for cooperation.

- **3.4: A trustworthy, secure, responsible, and sustainable use of technology, including Artificial Intelligence**
  There is no doubt that new technology can be used to improve people's lives and assist in solving some of our time's most pressing challenges yet comes with significant risks. It is crucial that the technology is applied in a responsible way in which humans retain the main role to mitigate the risks while harnessing the potential.  Being at the forefront of digitalisation in Europe, with a strong common set of values and with highly educated and digitally skilled populations, the Nordic-Baltic region has an opportunity to influence and be a leading example in the usage of technology and how to manage potential risks. MR DIGITAL provides a platform for Nordic-Baltic cooperation.

## 4.  Evaluation of the roadmap

The roadmap applies to the period 2025 to 2030, although this period is divided into two three-year work plans, one for 2025 to 2027, and one for 2028 to 2030.

An evaluation is to be carried out at the mid-point of the period, based on which the ministerial council can choose to adjust the roadmap and get input on the design of the work plan for the final period.

In addition, evaluation takes place on an ongoing basis at the discretion of the Secretary General and the ministerial council.