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Collaborative Regional Leadership in the Nordic Region

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Preface

Collaborative regional leadership is essential for promoting regional development and implementing effective regional strategies, policies, and projects. Regular collaboration between regional public and private actors is also crucial for overcoming regional socio-economic challenges, promoting innovation and economic diversification, delivering high-quality public services, overcoming crises, building regional resilience, and implementing sustainable green, social, and smart transitions. Multi-actor regional-level collaboration is commonplace across the Nordic Region; however, the collaborations tend to be ad hoc and short-term and there is limited knowledge and understanding of which factors contribute to productive and sustainable regional-level collaborations. Further research is needed on how to build effective long-term collaborative regional leadership processes in a Nordic context.

This report showcases key research findings from the Nordic Collaborative Regional Leadership Project. The project examined how Nordic regional institutions (e.g. regional and municipal authorities) and other public and private stakeholders (e.g. industries, businesses, universities, NGOs and societal groups) collaborate to drive policy change, overcome socio-economic challenges, and maximise opportunities at the regional level. The report highlights the main drivers, challenges, enablers, and benefits of collaborative regional leadership processes in a Nordic setting. Based on these findings, a model for Nordic collaborative regional leadership is proposed to promote long-term, sustainable regional-level collaborations. The model is supplemented by practical recommendations designed to provide regional public and private actors with a blueprint for building effective regional collaborations in the future.

The study was carried out by Nordregio between 2021 and 2024 on behalf of the Nordic Thematic Group C for Green, Innovative, and Resilient Nordic Regions, and in collaboration with Nordic Thematic Group B for Green and Inclusive Rural Areas. The Nordic Thematic Groups work under the Nordic Council of Ministers' Committee of Senior Officials for Regional Policy (EK-R). The thematic groups are responsible for the delivery of the Nordic Co-operation Programme for Regional Development and Planning 2021–2024 and implementing the Nordic Vision 2030.

Executive Summary

Collaboration between regional-level public and private actors is imperative to promote regional growth and development, deliver high-quality local public services, build regional resilience, and implement sustainable green, social, and technological transitions that meet the needs of citizens. This report highlights the key findings from the Nordic Collaborative Regional Leadership Project. The study examined the main drivers, challenges, enablers, and benefits of collaborative regional leadership in a Nordic context based on 1) a Nordic survey sent out to regional public and private actors to gauge their perspectives on the nature of stakeholder collaboration in different Nordic regions; and 2) four case studies of collaborative regional leadership from across the Nordic Region based on semi-structured interviews with participants within these collaborations. This report highlights the key project findings and conclusions, including:

- **Drivers of collaborative regional leadership: *Exogenous shocks***, caused by both natural and human phenomena, can create periods of crisis and a sense of uncertainty and urgency around unknown challenges which cannot be managed by a single actor and require a collaborative multi-actor response. ***New political, policy, and funding directions*** resulting from elections, referendums, and new EU and national policy frameworks, can provide a window of opportunity to stimulate new regional-level collaborations. Similarly, the identification of ***shared regional challenges and opportunities*** and new ***entrepreneurial ideas*** can provide the catalyst for cooperation between regional public and private actors. There is a dynamic relationship between these key drivers of collaboration, as they can occur separately or simultaneously, sometimes working in combination; for example, exogenous shocks and new political, policy and funding directions can foster new collaborations on their own, but they can also present new challenges and opportunities that bring stakeholders together and/or cultivate entrepreneurial ideas and solutions. As such, regional public and private actors need to be alert and adaptive to changing exogenous and endogenous contexts that might provide a window of opportunity for instigating collaborative activities at the regional level.
- **Challenges facing collaborative regional leadership: *A lack of institutional capacities and resources*** in regional and municipal authorities presents a significant obstacle for collaborative regional leadership processes. These authorities often play a key role in facilitating collaborations, but this role can be more challenging if they 1) lack responsibility, legitimacy, or a

mandate to initiate collaborations in a specific policy area; 2) have limited experience of managing multi-actor collaborations; 3) possess little knowledge and expertise of the thematic policy area; and 4) lack access to sufficient funding. ***Institutional fragmentation*** both within and between these authorities can prove a significant obstacle to building collaborations, highlighting a lack of a systemic and holistic approach to policymaking at regional level. There is a need to identify collaborative policy synergies across departments within individual authorities, while also establishing where it is feasible to coordinate strategies and policies between regional and municipal authorities. A ***weak collaboration culture*** within a region has ramifications for building trust and social capital between public and private actors. Levels of collaboration are often lower in larger urban regions where public and private actors have the capacities and resources to work alone. ***Differences in stakeholder ideas, opinions, priorities, and values*** will also create tension and obstacles in the formulation and implementation of collaborative activities. ***Limited stakeholder engagement*** can significantly weaken collaborations if key stakeholders are underrepresented or not included. The leaders of collaborative ventures need to ensure that all voices and interests are represented; this involves engaging regional and local politicians and providing support to stakeholders that traditionally lack the time and resources to participate, including SMEs, NGOs, and civil society groups. ***Sustainable and long-term collaboration*** is the exception and not the norm across the Nordic regions. Permanent regional collaborative leadership platforms are needed to build holistic, long-term collaboration between regional actors.

- **Enablers of collaborative regional leadership:** Both formal (i.e. public authorities) and informal (i.e. industries, businesses, universities, NGOs, and societal groups) ***place leaders*** are essential for facilitating effective collaborations. Place leaders must possess certain characteristics that enable them to effectively assist collaborative initiatives, including: 1) possessing strong local networks; 2) experience of multi-actor management; 3) being empathetic and adept at facilitating dialogue between different stakeholders; 4) being politically savvy; 5) being bold with high levels of enthusiasm and inspiration; 6) a mandate to make things happen; 7) knowledge and expertise in the policy field. Collaborations are most effective if they are built around overarching regional and ***strategic policy planning***. Similarly, taking a ***policy thematic approach*** is advisable, with collaborations constructed around the key policy themes and regional issues outlined within broader regional policy strategies or plans. ***Assigning clear roles and responsibilities*** to partners at

the outset of a collaboration is crucial. This ensures that participants understand their roles in relation to specific collaborative activities and tasks, which reduces the potential for disputes during the implementation phase. An existing ***culture of collaboration*** within the region can facilitate cooperation; strong collaboration cultures often exist in smaller rural regions where actors know each other and have built up trust and social capital. The ***proactive stakeholder engagement*** of all relevant and interested actors is crucial. The inclusion of a wide range of voices is vital to avoid a situation where one actor or group dominates discussions or determines the direction of collaborative activities. Proactive stakeholder engagement is also important to ensure that collaborations are based on local ***knowledge and expertise*** that address regional challenges and meet the needs of citizens. ***Regular interactions and clear communication*** using a variety of stakeholder engagement tools (e.g. face-to-face meetings, digital meetings, workshops, seminars, and conferences) are essential for building trust and social capital between partners in a collaboration.

- **Benefits of collaborative regional leadership:** Regular cooperation between public and private stakeholders ***strengthens collaboration and builds networks*** at the regional level. Identifying common challenges and opportunities and sharing knowledge and expertise helps to ***build coherence and synergies*** between actors and policies, while also enhancing ***trust and social capital***. Direct involvement in collaborative activities can foster the development of a more ***holistic mindset*** amongst participants, which promotes collective thinking over individual interests. Participation in EU-funded collaborative activities can help *enhance the visibility* of participants at local, national and EU levels. Participation ***builds the capacities*** of stakeholders by exposing them to new knowledge, ideas, and tools, while also helping to *reduce* ***financial costs*** by sharing funding resources. Regional collaborations facilitate the identification of ***place-based policy solutions***. Similarly, building a critical mass of stakeholders around a key regional policy priority can ***increase the influence*** of the regional level in multi-level governance policymaking processes dominated by national and EU actors. Finally, collaborations often yield ***positive results*** and help regional actors achieve their shared goals and objectives. Positive outcomes can help sustain collaborations as they encourage actors to continue to invest their time and resources. Collaborations can quickly be disbanded if positive results are not achieved. Highlighting the results of cooperation is crucial for long-term, sustainable collaborations. It is, therefore, important that regional actors widely communicate and advertise key collaboration outputs and achievements.

An important overarching conclusion from the project is that long-term platforms are required to promote more sustainable collaborative regional leadership processes in the Nordic Region. In response to this, the final section of the report outlines a holistic model of collaborative regional leadership designed to foster collaboration at different stages of the programme cycle for regional policy. The model is supported by practical recommendations targeted at regional-level public and private institutions and stakeholders to help them build successful regional collaborations in the future.

Resumé

Samarbejde mellem regionale offentlige og private aktører er afgørende for at fremme regional vækst og udvikling, levere offentlige tjenester af høj kvalitet, opbygge regional resiliens og implementere bæredygtige grønne, sociale og teknologiske omstillinger, der opfylder borgernes behov. Denne rapport fremhæver de vigtigste resultater fra det nordiske samarbejdsprojekt om regional ledelse. Studiet undersøgte de vigtigste drivkræfter, udfordringer, muligheder og fordele ved samarbejdende regional ledelse i en nordisk kontekst, baseret på 1) en nordisk undersøgelse sendt ud til regionale offentlige og private aktører for at vurdere deres perspektiver på stakeholdersamarbejde i forskellige nordiske regioner; og 2) fire casestudieeksempler på samarbejdende regional ledelse fra hele Norden, baseret på semistrukturerede interviews med samarbejdsdeltagere. Denne rapport fremhæver de vigtigste projektresultater og konklusioner, herunder:

- **Drivkræfter for samarbejdende regional ledelse: *Eksogene chok***, forårsaget af både naturlige og menneskeskabte fænomener, kan skabe krisesituationer og en følelse af usikkerhed og pres over ukendte udfordringer, som ikke kan håndteres af én aktør og kræver et samarbejdende multiaktør svar. ***Nye politikker og finansieringsretninger***, der følger af valg, referenda og nye EU- og nationale politiske rammeværker, kan skabe muligheder for at stimulere nye regionale samarbejder. Identificeringen af ***fælles regionale udfordringer og muligheder*** samt nye ***entreprenørideer*** kan også være katalysatoren for samarbejde mellem regionale offentlige og private aktører. Der er et dynamisk forhold mellem disse centrale drivkræfter for samarbejde, da de kan optræde individuelt, samtidig eller i kombination. For eksempel kan eksogene chok samt nye politikker og finansieringsretninger fremme nye samarbejder, men de kan også skabe nye udfordringer og muligheder, som bringer stakeholders sammen og/eller fremmer entreprenørideer og løsninger. Regionale offentlige og private aktører skal derfor være opmærksomme og adaptive overfor skiftende eksogene og endogene kontekster, der kan åbne muligheder for at igangsætte samarbejdsaktiviteter på regionalt niveau.
- **Udfordringer ved samarbejdende regional ledelse: *Manglende institutionelle kapaciteter og ressourcer*** i regionale og kommunale myndigheder udgør væsentlige hindringer for samarbejdsbaserede regionale ledelsesprocesser. Offentlige myndigheder har ofte en central rolle i at facilitere samarbejder, men denne rolle kan blive mere udfordrende, hvis myndighederne 1) mangler ansvar, legitimitet eller

mandat til at igangsætte samarbejder inden for et specifikt politikområde; 2) har begrænset erfaring med at håndtere multiaktør samarbejder; 3) har lidt viden og ekspertise inden for det politiske tematiske område; og 4) har utilstrækkelig finansiering. **Institutionel fragmentering**, både inden for og mellem myndigheder, kan hæmme opbygningen af samarbejder og fremhæve behovet for en systemisk og holistisk tilgang til politikudformning på regionalt niveau. Der er behov for at identificere samarbejdspolitiske synergier på tværs af afdelinger i myndighederne og koordinere strategier og politikker mellem regionale og kommunale myndigheder. **Svag samarbejdskultur** inden for en region har konsekvenser for opbygningen af tillid og social kapital mellem offentlige og private aktører. Lavere samarbejdsniveauer findes ofte i større byregioner, hvor offentlige og private aktører har kapacitet og ressourcer til at arbejde alene. **Forskelle i stakeholders' ideer, meninger, prioriteter og værdier** vil også skabe spændinger og hindringer i formuleringen og implementeringen af samarbejdsaktiviteter. **Begrænset stakeholder-engagement** kan svække samarbejder, hvis vigtige stakeholder er underrepræsenterede eller ikke inkluderet. Samarbejdsledere skal sikre, at alle stemmer og interesser er repræsenteret. Dette indebærer at engagere regionale og lokale politikere samt støtte interessenter, der traditionelt mangler tid og ressourcer til at deltage, herunder SMV'er, NGO'er og civilsamfundsgrupper. **Bæredygtigt og langsigtet samarbejde** er undtagelsen og ikke normen på tværs af nordiske regioner. Permanente regionale samarbejdsledelsesplatforme er nødvendige for at opbygge holistisk, langsigtet samarbejde mellem regionale aktører.

- **Muligheder for samarbejdende regional ledelse:** Både formelle (dvs. offentlige myndigheder) og uformelle (dvs. industrier, virksomheder, universiteter, NGO'er og samfundsgrupper) **stedledere** er essentielle for at facilitere effektive samarbejder. Stedledere skal have karakteristika, der gør dem i stand til effektivt at støtte samarbejdsinitiativer, herunder: 1) stærke lokale netværksrelationer; 2) erfaring med multiaktør ledelse; 3) empatiske og dygtige til at facilitere dialog mellem forskellige stakeholders; 4) politisk kyndige; 5) Modige og inspirerende med stor entusiasme og inspiration; 6) et mandat til at få ting til at ske; 7) viden og ekspertise inden for politikområdet. Samarbejder er mest effektive, hvis de er bygget omkring overordnede regionale **strategiske politikplanlægning**. Bred stakeholderinddragelse i udviklingen af en regional strategi eller plan er fundamentalt for at opbygge samarbejder. Det er også tilrådeligt at anvende en **tematisk politisk tilgang**, hvor samarbejder bygges op omkring de centrale politiske temaer og regionale spørgsmål, som er beskrevet i bredere regionale strategier eller planer. **Tildeling af klare roller og ansvar**

til partnere ved starten af et samarbejde er afgørende. Dette sikrer, at deltagerne forstår deres roller i forhold til specifikke samarbejdsaktiviteter og opgaver, hvilket reducerer potentialet for konflikt under implementeringsfasen. En etableret **samarbejdskultur** inden for regionen kan lette samarbejdet. Stærke samarbejdskulturer findes ofte i mindre landdistriktsregioner, hvor aktører kender hinanden og har opbygget tillid og social kapital. **Proaktiv inddragelse** af alle relevante og interesserede stakeholders er afgørende. Inklusion af forskellige stemmer er afgørende for at undgå, at én aktør eller gruppe dominerer diskussioner eller bestemmer retningen for samarbejdet. Proaktiv inddragelse af stakeholder er også vigtig for at sikre, at samarbejder er baseret på lokal **viden og ekspertise**, der adresserer regionale udfordringer og opfylder borgernes behov. Regelmæssige interaktioner og klar kommunikation gennem forskellige værktøjer til stakeholderinddragelse (f.eks. fysiske møder, digitale møder, workshops, seminarer og konferencer) er essentielle for at opbygge tillid og social kapital mellem samarbejdspartnere.

- **Fordele ved samarbejdende regional ledelse:** Regelmæssigt samarbejde mellem offentlige og private stakeholders **styrker samarbejdet og opbygger netværk** på regionalt niveau. Identifikation af fælles udfordringer og muligheder samt deling af viden og ekspertise **skaber sammenhæng og synergi** mellem aktører og politikker, samtidig med at **tillid og social kapital** styrkes. Direkte involvering i samarbejdsaktiviteter kan fremme en mere **holistisk tankegang** blandt deltagerne og styrke kollektiv tænkning frem for individuelle interesser. Deltagelse i EU-finansierede samarbejdsaktiviteter kan hjælpe med at **øge synligheden** af deltagerne på lokalt, nationalt og EU-niveau. Deltagelse **opbygger stakeholders' kapacitet** ved at introducere ny viden, ideer og værktøjer, samtidig med at det **reducerer finansielle omkostninger** gennem deling af ressourcer. Regionale samarbejder letter identifikationen af **stedbaserede politiske løsninger**. Opbygningen af en kritisk masse af interessenter omkring en vigtig regionalpolitiks prioriteringsområde kan **øge den regionale indflydelse** i multi-level governance styringsprocesser domineret af nationale og EU-aktører. Endelig giver samarbejder ofte **positive resultater**, der hjælper regionale aktører med at nå deres fælles mål. Positive resultater kan bidrage til at opretholde samarbejder, da de motiverer aktører til at fortsætte med at investere deres tid og ressourcer. Samarbejder kan hurtigt opløses, hvis positive resultater ikke opnås. Fremhævelse af samarbejdets resultater er afgørende for langsigtede, bæredygtige samarbejder. Det er derfor afgørende, at regionale aktører effektivt kommunikerer og fremhæver vigtige samarbejdsresultater og -præstationer.

En vigtig overordnet konklusion fra projektet er, at langsigtede platforme er nødvendige for at fremme mere bæredygtige samarbejdende regionale ledelsesprocesser i Norden. Den sidste del af rapporten skitserer derfor en holistisk model for samarbejdende regional ledelse designet til at fremme samarbejde på forskellige stadier af den regionale politikprogramcyklus. Modellen er understøttet af praktiske anbefalinger rettet mod regionale offentlige og private institutioner samt stakeholders, så de kan opbygge vellykkede regionale samarbejder i fremtiden.



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Introduction

This report showcases key research findings from the Nordic Collaborative Regional Leadership Project. The project examined how regional institutions (e.g. regional and municipal authorities) and other public and private stakeholders (e.g. industries, businesses, universities, NGOs and societal groups) collaborate to drive policy change, overcome socio-economic challenges, and maximise opportunities at the regional level. The study of collaborative regional leadership is crucial as many current regional socio-economic problems require a collaborative multi-actor response. This requires an enhanced understanding of effective regional collaborative leadership processes and their role in developing targeted place-based solutions that address regional challenges and maximise local opportunities.

Across the Nordic Region, the ability of regional-level institutions and actors to deliver effective public policies and services is constrained due to a lack of capacity and resources (Slätmo & Bogason 2024; Slätmo et al. 2023). Within this context, it is imperative that regional public and private stakeholders work together, sharing knowledge, expertise and resources to help promote regional development, innovation and growth (Giacometti et al. 2024); deliver public services (Cedergren et al. 2021); overcome the socio-economic challenges of the pandemic (Bourdin et al. 2024); build regional resilience (Giacometti & Teräs 2019; Enestam 2021); and implement sustainable green, social and smart transitions (Norlén et al. 2022). Effective collaborative regional leadership is essential for Nordic regions to thrive and prosper. Further research is needed to shed more light on the different factors

that drive, challenge, and enable collaboration between different actors across the Nordic regions.

In recent years, the concept of regional leadership has grown in salience as effective regional leadership is considered a key variable for explaining why some regions grow and others lag behind (Rodríguez-Pose 2013). The concept explores how regional resources, competences and powers are mobilised to reach collective goals through collaborative group processes, behaviour and tools (Sotarauta and Beer 2021). Regional leadership emphasises that regional development and growth are dependent not on individuals but collective action: 'leadership for regional economic development will not be based on traditional hierarchical relationships; rather it will be a collaborative relationship between institutional actors encompassing the public, private and community sectors – and it will be based on mutual trust and co-operation.' (Stimson, Stough, & Roberts 2002: p. 279). The wide-ranging literature on regional leadership provides a conceptual lens through which to examine the nature and type of collaboration in different regions on a global scale, including in the Nordic countries.

Research Focus

The research examined the concept of regional leadership in a Nordic context. Throughout the research the term 'collaborative regional leadership' was used to emphasise that the focus of the study was not on individuals but on examining how different regional actors work together to develop and implement regional strategies, policies and projects. Recent studies have shown that the Nordics are a breeding ground for collaborative governance and consensus-based policy and decision-making at both a regional and organisational level (Lundgren et al. 2022; Cedergren et al. 2021; Andreasson & Lundqvist 2018). The project builds on this research by analysing the key ingredients that contribute to fostering effective collaborative regional leadership processes. The project focused on the following core research questions:

- What factors drive regional collaboration?
- What are the main challenges facing regional collaboration?
- What are the key enablers of regional collaboration?
- What examples are there of good practice in regional collaboration?
- Is there a model of collaborative regional leadership?

Research Methods and Data

In answering these core questions, a quantitative and qualitative research approach was applied. Firstly, a quantitative collaborative regional leadership survey was sent out to regional institutional actors and stakeholders across the Nordic Region. The survey allowed us to gauge stakeholder perceptions on the nature and key characteristics of collaboration across different Nordic regions. Secondly, a qualitative case study methodology was applied to allow for an in-depth descriptive and exploratory analysis of complex phenomena in their own contexts (Stake 1995; Yin 2003). Baxter and Jack (2008) note that case studies are a useful methodology for developing theory, evaluating programmes, and developing interventions. They also say that case studies can use multiple data sources which 'ensures that the issue is not explored through one lens, but rather a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood.' (Baxter & Jack 2008) For this reason, a case study methodology was the most effective research approach available for enhancing our understanding of collaborative regional leadership in a Nordic context.

Four good-practice qualitative case study examples of Nordic collaborative regional leadership were identified and selected with the help and support of Nordic Thematic Group C and B members, including:

1. **Danish Case: Coast to Coast Climate Challenge** – The Coast to Coast Climate Challenge was an EU-funded collaborative project that brought together Danish municipal authorities to help build their capacity to develop and implement climate adaptation plans in their respective areas.
2. **Finnish Case: Greenreality Network** – The Greenreality Network in South Karelia is a collective of companies operating in the energy and environment sector. Its primary purpose is to foster growth and create new business opportunities not only for its members but for the entire region.
3. **Åland Case: Grit:Lab** – public institutions and businesses in the Åland Islands worked together to produce an innovative computer education programme initiative targeting adults looking to learn new skills and create career opportunities in tech development.
4. **Icelandic Case: Telemedicine for healthcare accessibility in remote rural areas in Iceland** – a visionary midwife worked with municipalities to secure funds from local private companies and public actors in the Kirkjubæjarklaustur Region in South Iceland to invest in telemedicine healthcare equipment.

As part of the case studies, carried out between March and September 2024, semi-structured interviews were conducted with regional public and private stakeholders participating in each collaborative initiative. The interviews were designed to ascertain their views on what factors made these cooperations successful and/or challenging in practice. The interview questions were structured around the key dimensions and characteristics of the regional leadership concept as identified in the academic literature on the topic (Beer & Clower 2014; Sotarauta et al. 2017; Beer et al. 2019; and Sotarauta & Beer 2021).

Structure of the Report

The remainder of this report outlines the key findings and conclusions to emerge from the survey results and case studies. The report is structured as follows: Chapter 1 provides an overview of the regional leadership concept and its key tenets. This conceptual analysis is followed by an overview of the results of the Nordic collaborative regional leadership survey in Chapter 2. The key research findings from Nordic collaborative regional leadership case studies are then presented in Chapters 3 to 6. The final Chapter 7 synthesises the main findings and conclusions from the case studies and survey before suggesting a holistic model of collaborative regional leadership, including recommendations on how to implement this model effectively. The findings and conclusions are targeted at Nordic regional institutional actors and stakeholders involved in facilitating and participating in collaborative regional leadership initiatives. The conclusions are designed to enhance stakeholder awareness, knowledge and understanding of the essential factors that contribute to the design and implementation of effective collaborative regional leadership processes.

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Chapter 1. Establishing a Collaborative Regional Leadership Framework

Regional leadership is considered a key variable for explaining why some regions grow and others lag behind (Rodríguez-Pose 2013). As Collinge et al. (2010: 367) note, 'effective leadership is one of the factors that explains how and why some localities are able to adapt to and exploit the opportunities afforded by the complex and rapidly changing social and economic circumstances of the modern world.' Indeed, regional institutions and actors have a central role to play in pandemic recovery processes and identifying place-based, citizen-centred policy solutions to societal challenges, including climate change, energy transition, ageing, digitalisation, and education and training (Bourdin et al. 2024). Regional stakeholders are viewed as key drivers of regional growth, cultivating new policy development pathways, and promoting societal resilience. Consequently, interest in the concept of regional leadership has grown in recent years with academics attempting to define what constitutes effective leadership at both a conceptual level and in practice (Sotarauta & Beer 2021).

Regional leadership, or "place leadership", is about drawing attention to how regional resources, competences and powers are mobilised to reach collective goals through collaborative group processes, behaviours, and tools (Sotarauta and Beer

2021). Sotarauta and Beer (2021) view regional leadership as a collective process to set shared goals, promote learning, and achieve shared ambitions. Beer et al. (2019) point out that place leadership sheds an important light on the relationship between institutional structures and agents. More specifically, the concept examines the collaborative interplay between "formal leaders" or "assigned leaders" (e.g. those with a mandate or responsibility for promoting regional development including regional-level politicians and public authorities), and "informal leaders" or "non-assigned leaders" (e.g. those stakeholders without a formal mandate but in a position to drive regional socio-economic development, such as industries, business, universities, societal groups).

The regional leadership concept is grounded in notions of collaborative governance rather than hierarchical forms of government. This point is highlighted by Stimson, Stough, & Roberts (2002: 279), who argue that 'leadership for regional economic development will not be based on traditional hierarchical relationships; rather it will be a collaborative relationship between institutional actors encompassing the public, private and community sectors – and it will be based on mutual trust and co-operation.' Regional endogenous change is not driven by lone individuals, but through cross-sectoral and multi-stakeholder collaboration based on the pooling of resources, knowledge and capacities between multiple institutions, organisations, and actors (Beer et al. 2019). This is confirmed by Nicholds et al. (2017: 251), who note that place leadership is built on 'complex, large-scale social and economic co-production of activity comprising a range of power and resource-related, community and personal agendas and negotiations across organizations, disciplines and professions.'

While regional leadership is based on the ideas of stakeholder collaboration and consensus, the concept does recognise the important role of "place leaders", who are individuals or organisations skilled in facilitating cooperation between regional stakeholders. Beer et al. (2019:173) note that effective place leaders have the capacity to build 'pathways in collective action' and the ability to persuade and influence key regional stakeholders to look for common solutions to shared problems based on their position and expertise. Place leaders are highly effective at building interpersonal relationships based on trust by creating an environment in which all stakeholders feel valued (Beer & Clower 2014). An entrepreneurial spirit and willingness to be proactive are perceived as important character traits of place leaders. MacNeil & Steiner (2011) argue that place leaders can emerge from both the public and private sectors, with private actors having greater capacity to exert influence than individuals in public institutions who face political, capacity and resource constraints, including formal rules that restrict the mandate of civil servants.

Beer and Clower (2014) argue that the concept is based on the idea of transformational leadership rather than transactional leadership. In other words, leadership is not based on top-down compliance within vertical governance

structures, but on collaborative processes where power and influence are shared equally between stakeholders in horizontal governance structures. The transformational element of regional leadership is also linked to shared learning processes, working towards common goals, building social capital and trust between actors, identifying new development pathways and policy diversification (Grillitsch & Sotarauta 2019; Sotarauta & Suvinen 2019). Too much emphasis is placed on the transformational potential of regional leadership; the concept could also be useful for exploring whether more stakeholder collaboration makes policymaking more efficient and promotes effectiveness in thematic areas where regions are already strong.

Beer and Clover (2014: 13-14) note that 'there is no single style of leadership for places, nor a set of institutions or roles that invariably generate a cohort of leaders.' Indeed, regional context matters and there is no one-size-fits-all model of regional leadership, as different contexts shape the scope and capacity for effective regional leadership (Beer et al. 2019). The concept can be applied in different contexts across different levels of spatial analysis covering both urban and rural areas, including cities, towns, villages, and neighbourhoods (Beer et al. 2019). The all-encompassing nature of the concept can be seen as a strength, although some academics critique that the research has not gone far enough in its attempts to identify the key features of the concept at different territorial scales (Ayres 2014).

Sotarauta et al. (2017) recognises this weakness in the literature, noting that researchers are producing in-depth case studies of regional leadership but are unable to draw conclusions across a wider spatial scale, economic structures, time periods or systems of government. As Hu and Hassink (2017:225) states, 'despite valuable insights, research on place leadership is still in its infancy, conceptually vague and insufficient'. Despite this criticism, a survey of the literature identifies some key features of the concept which are outlined in Table 1 below.

Regional Leadership Dimension	Description
Place-based policymaking	Regional leadership is place-based, focusing on challenges and opportunities at sub-national level.
Place Leaders	Place leaders are key enablers of regional development as they have the capacity to facilitate collaboration between regional institutions and actors. All regional actors have the potential to act as place leaders, but public authorities often play this role as they have a formal mandate to coordinate policy activities.
Ad hoc and short-term	Most regional collaborations are ad hoc in nature and based around the development and implementation of overarching regional strategies or short-term projects.
Openness and Inclusive	All institutions, organisations and stakeholders have equal access and the chance to participate in regional collaboration activities.
Multi-actor/cross-sector collaboration	Regional leadership processes establish stronger connections, enhanced trust and social capital between institutions and stakeholders. Collaborations can help identify policy synergies and enhance integration across sectors and between actors.
Consensus-driven process	Stakeholders bring their own ideas, values and knowledge into open dialogue and discussions, but the policy outcomes reflect a consensus, and a shared vision supported by the participants involved.
Transformative policy change	Regional leadership promotes learning, knowledge and capacity building. This leads to the identification of new forward-thinking policy pathways and diversification within sectors.

Table 1. The Key Tenets of Regional Leadership.

Source. Authors own construction based on a synthesis of key literature on regional leadership, including Beer & Clower (2014); Sotarauta et al. (2017); Beer et al. (2019); and Sotarauta & Beer (2021).

The literature highlights several key enabling and constraining variables that can increase or decrease regional leadership potential; for example, regional leadership is more likely in countries with decentralised systems of governance, where substantial policy responsibilities and tasks are performed at sub-national levels (Sotarauta & Beer 2021). In contrast, regional leadership is less likely to emerge in countries with highly centralised systems of government where a lack of local-level competence and the dominance of central government act as a constraint on regional actors (Beer & Clower 2014). A recent study has shown, however, that effective regional leadership can create a critical mass of pressure capable of overcoming centralised national constraints (Vallence et al. 2019). Decentralised regional governance structures, an existing culture and custom of collaboration, economic stability, and high levels of social capital and trust between stakeholders are important variables that provide positive conditions for effective regional leadership. This is particularly the case in smaller rural regions where stakeholders know each other and are in regular contact. This is in contrast to larger metropolitan urban areas where bigger public and private actors often have the capacities and resources to work alone. Sotarauta and Suvinen (2019) point out the important role institutional and networking arrangements play in creating leadership conditions, particularly the strength of existing innovation ecosystems and industrial symbiosis networks that encompass a rich variety of stakeholders and knowledge. Moments of crisis are also viewed as a potential catalyst or window of opportunity for regional actors to instigate changes in collaborative governance processes and policy directions (Stimson et al. 2009).

At the sub-national level, constraints on effective regional leadership include competition and overlapping responsibilities, which can lead to gridlock in regional and local authority departments (Grillitsch 2016). Competing stakeholder ideas and interests also make it difficult to find common ground in relation to a future vision and shared goals (Sotarauta and Suvinen 2019). Limited time, capacity, and resources are also regarded as obstacles to regional leadership potential. Leadership deficits can also result from a lack of the time and financial resources required to build collaborations and engage in multi-stakeholder dialogues. Leadership deficits can occur if there is a lack of quality individuals in leadership roles or if leaders have narrow interests and lack the capacity to facilitate discussion and build social capital between different actors (Beer & Clower 2014).

The existing academic literature lays important foundations for enhancing our understanding of the key features of regional leadership and the impact various contextual variables on leadership capacities. However, the concept can be potentially challenged on the grounds of democratic legitimacy as collaborative regional leadership activities can include stakeholders with no democratic mandate (Ayres 2014). Nicholds et al. (2017) point out that certain regional actors have greater capacities and resources than others and these power asymmetries create unequal collaborative conditions and the potential for the collaboration to be dominated by a small group of powerful stakeholders. Sotarauta and Beer (2021)

also acknowledge conceptual weaknesses, noting that the field of regional leadership has been "under-theorised" meaning that it is difficult to link empirical descriptions of leadership to broader conceptual analyses.

The regional leadership concept outlined in this chapter provides the theoretical framework for examining practical examples of regional leadership in a Nordic context. It is important to note that the term 'collaborative regional leadership', rather than 'regional leadership', is used throughout the report to emphasise that the focus of the analysis is not on individual actors but on how multiple regional public and actors work together. The key dimensions of regional leadership outlined in Table 1 above have been used to structure the Nordic collaborative regional leadership survey questions and the semi-structured interview questions used as part of the four case studies. The following chapters highlight the key survey and case study findings.

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Chapter 2. Nordic Collaborative Regional Leadership Survey Results

The Nordic Collaborative Regional Leadership Survey was drawn up in spring 2023. The 16 questions are designed to gauge survey respondents' views on the nature and characteristics of collaboration across different Nordic regions. They address the key dimensions of regional leadership outlined in the previous chapter. The survey consisted of questions relating to the overall level of collaboration in a region, an assessment of which policy themes account for the closest collaboration, the frequency of collaboration between different actors, which actors are most involved in facilitating collaboration, different types of collaboration tools, and the main challenges, obstacles, and enablers of collaboration. The survey was sent out through Nordregio's Nordic contact base and social media channels (e.g. LinkedIn), consisting of a range of regional and local actors and stakeholders, including regional and municipal authority actors and representatives from industries, business, universities, NGOs and civil society organisations. This section of the report outlines the main results of the survey.

Overall, there were only 63 responses to the survey. A low survey response rate is not uncommon in research studies but has negative consequences for drawing conclusions because of the unrepresentative sample size. This section of the report, therefore, presents the results but recognises the limitations of drawing generalisable trends across the Nordic Region from the data.

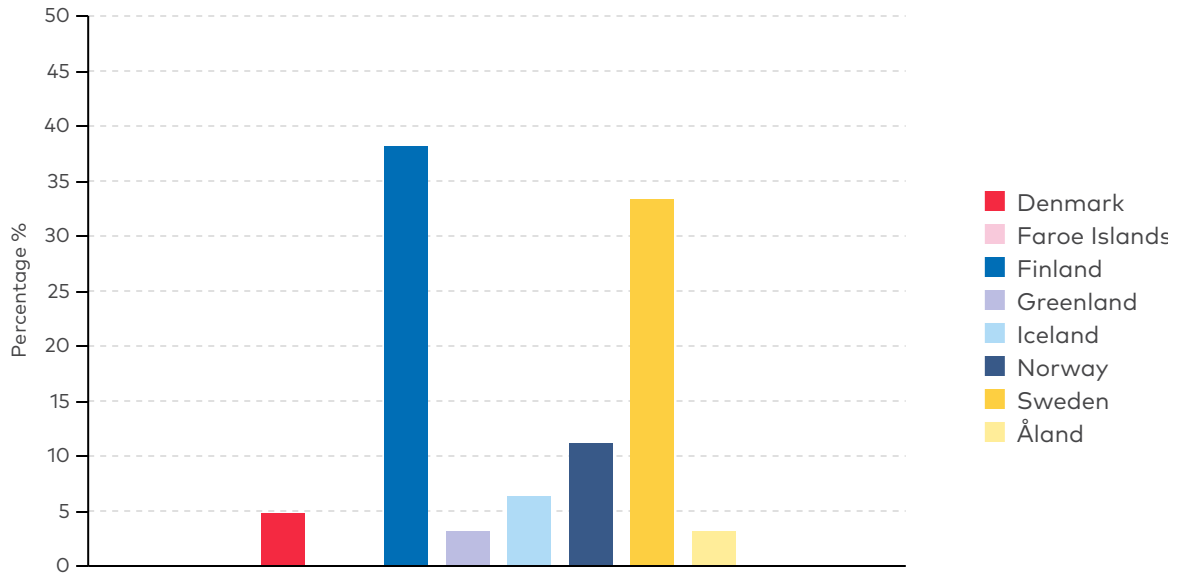


Figure 1. Nordic country.

Of the 63 respondents, 38% were Finnish, 33% Swedish, 11% Norwegian, 6% Icelandic, 4% Danish, with 3% from both Åland and Greenland; there were no responses from the Faroe Islands.

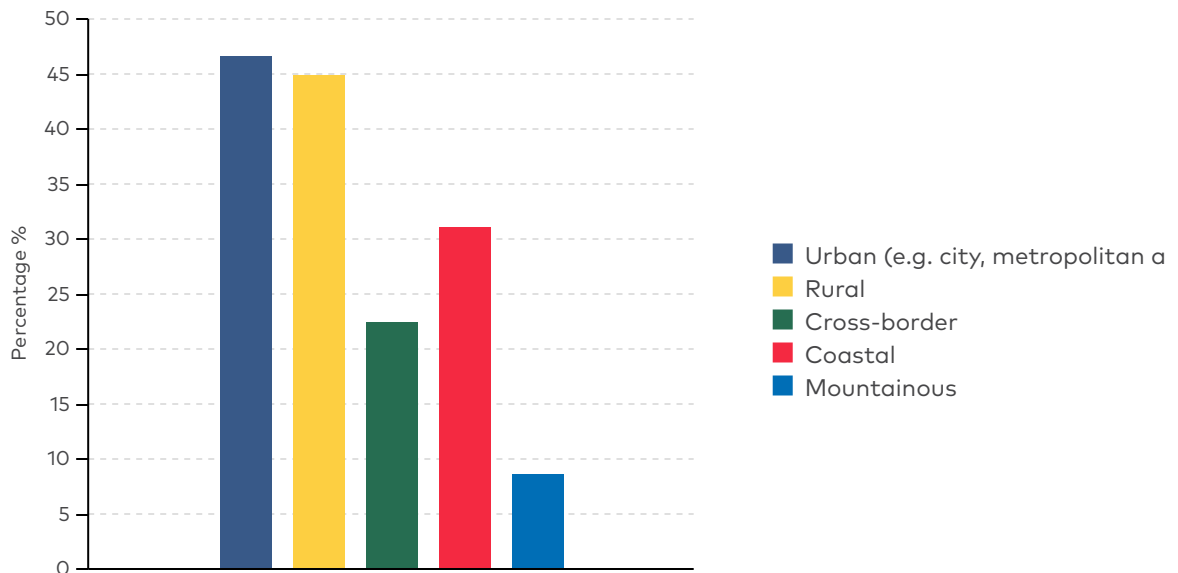


Figure 2. Type of region.

Respondents were permitted multiple response options to the question, "in what type of region are you based?" 46% of respondents came from urban regions and 44% from rural regions, while some respondents chose multiple options, denoting that they are based in urban and rural regions within coastal (31%), cross-border (22%), and mountainous (8%) areas.

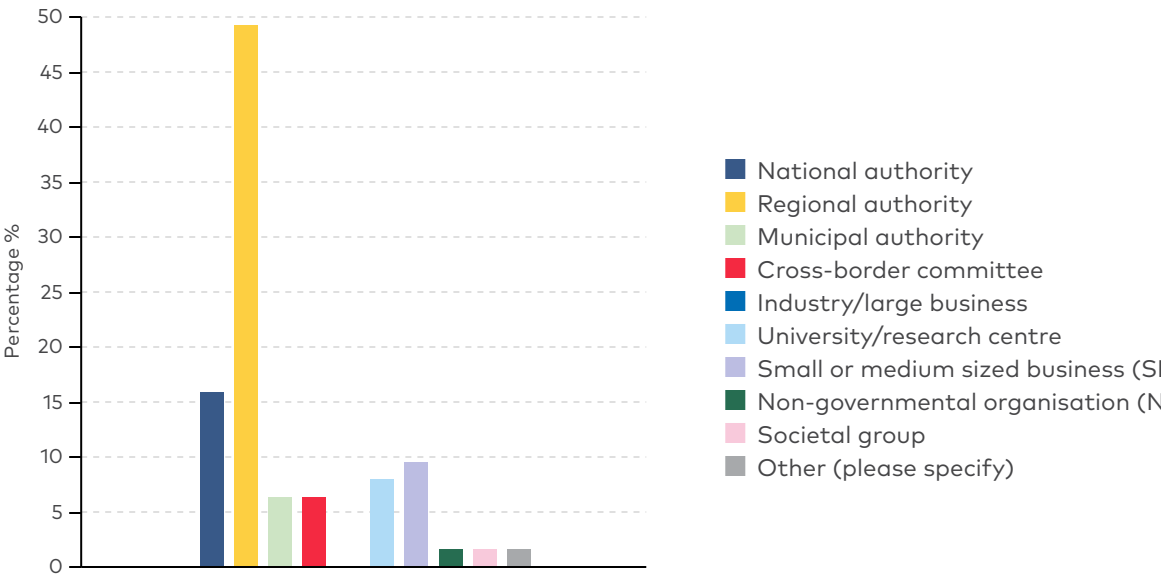


Figure 3. Type of organisation.

49% of respondents worked in regional authorities, 15% in national authorities, 6% municipal authorities, and 6% in cross-border committees. The remainder represented SMEs (9%), universities (6%), NGOs (1%), societal groups (1%) and unspecified others (1%).

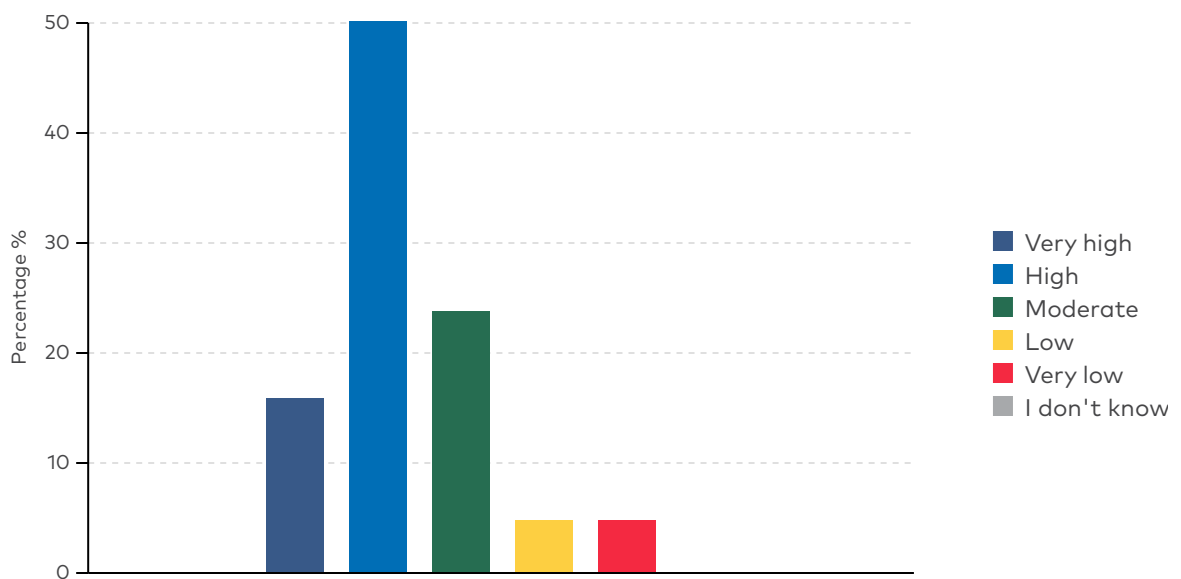


Figure 4. Overall levels of collaboration between stakeholders in your region.

The majority of respondents (65%) noted that levels of interaction between public and private stakeholders, including public authorities, industries, businesses, NGOs and civil society groups is very high (15%) or high (50%). These results suggest that there are overall very high levels of collaboration between regional stakeholders across the Nordic regions. Only a combined 8% of respondents indicated that collaboration is either low or very low in their regions. These results indicate that regional-level collaboration is a common phenomenon across the Nordic Region as a whole.

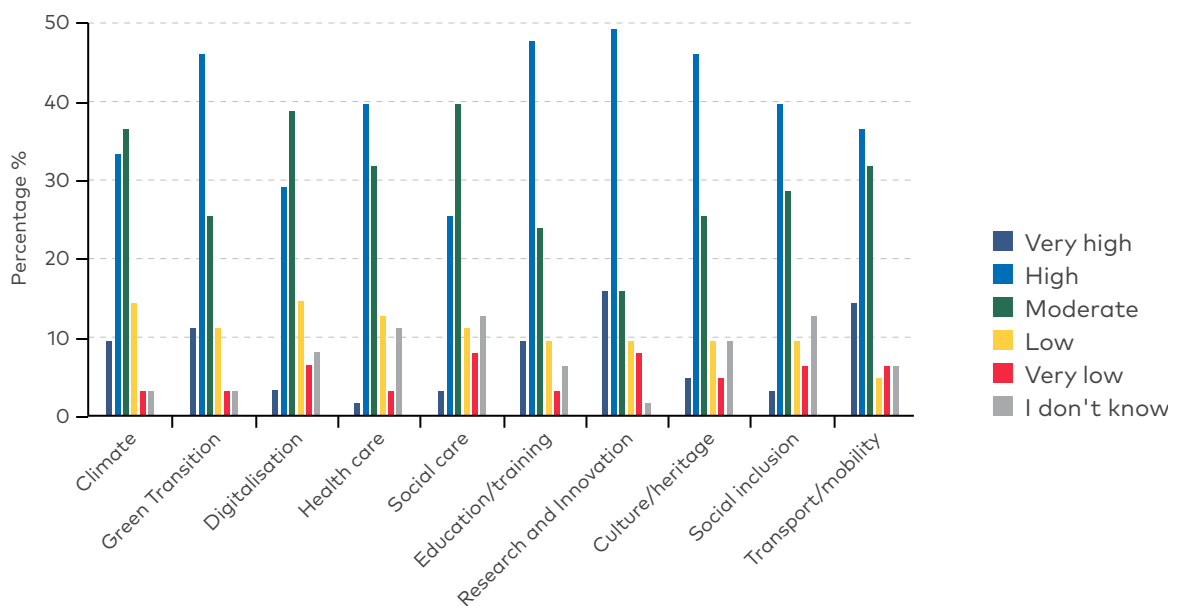


Figure 5. Overall levels of stakeholder collaboration in different policy thematic areas.

Respondents were given the opportunity to rank levels of collaboration on various policy themes from very high to very low. Overall, levels are high across the range of policy thematic areas outlined in the survey. By combining the response fields 'very high' and 'high', the results indicate that the highest levels of collaboration are in research and innovation (65%), green transition (57%), education and training (57%), culture and heritage (50%) and transport mobility (50%). Levels are slightly lower in climate (42%), social inclusion (42%), and healthcare (41%). Digitalisation (32%) and social care (28%) ranked lowest. High levels of collaboration in research and innovation is not unsurprising given the large number of higher education institutes, large industries and businesses across Nordic regions. Nordic countries also rank highly on the EU innovation scorecard, and a large amount of EU regional funding is dedicated to building innovation ecosystems. These results suggest that collaboration might also tend to focus on the globally significant policy issues such as climate change and just transitions, or policy thematic areas where regions have high levels of responsibility, such as transport and mobility, education and training, and culture and heritage. Lower levels of collaboration on policy themes like health and social care might be the result of a lack of a regional mandate or policy or funding gaps. Respondents also highlighted tourism, marine spatial planning, and crisis preparedness as policy themes on which collaboration is ongoing in Nordic regions.

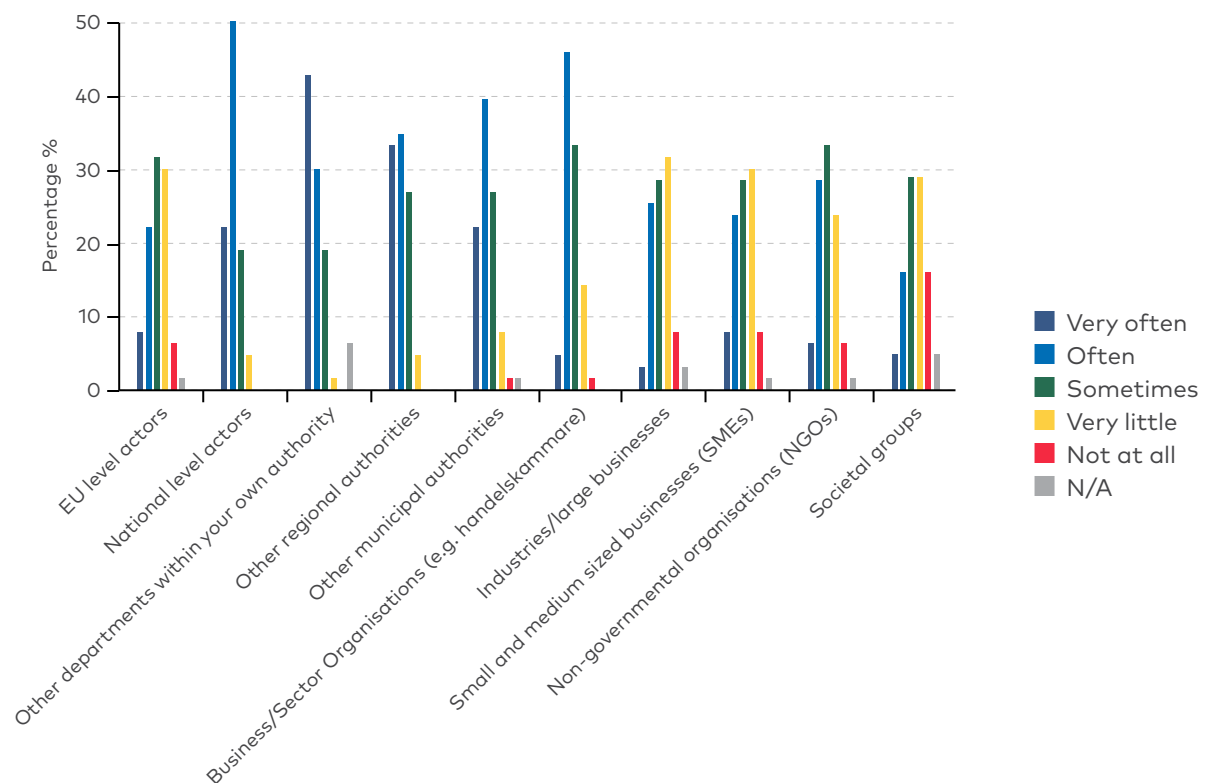


Figure 6. Levels of collaboration with different stakeholders.

When it comes to assessing which regional actors survey respondents collaborate with the most, the results indicate that levels of collaboration were highest between public authorities (i.e. national regional and municipal level authorities) and within public authorities (i.e. interdepartmental interaction). Combining the responses 'very often' and 'often' reveals that collaboration is most regular with national-level actors (74%), other departments within your own authority (73%), other regional authorities (68%), other municipal authorities (62%) and business sector organisations (e.g. chambers of commerce: 51%). The high levels of collaboration across public authorities at different levels of governance contrast with many written responses in the survey that indicate a lack of policy coherence and fragmentation between different governance levels. Combining the responses 'very little' and 'not at all' shows that respondents interact the least with societal groups (46%), large industries and businesses (40%), SMEs (38%), EU-level actors (36%), and NGOs (30%). These findings indicate room for improvement when it comes to engaging large businesses, SMEs, NGOs, and societal groups in collaborative activities.

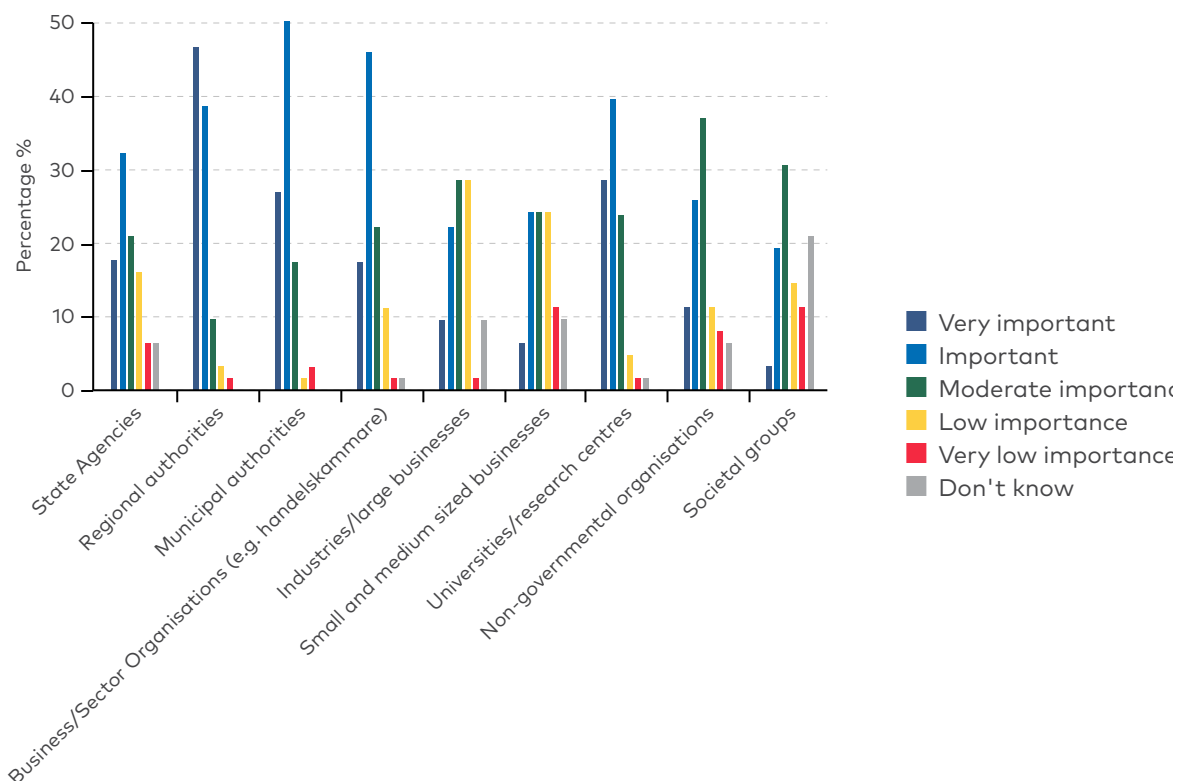


Figure 7. Actors facilitating stakeholder collaboration.

By combining the responses 'very important' and 'important', survey results reveal that regional authorities (85%) are considered the most important facilitators of collaboration at regional level, followed by universities (69%), municipal authorities (68%), and business sector organisations (64%). Combining the response fields 'moderate importance', 'low importance' and 'very low importance' indicates that NGOs (56%) and civil society groups (55%) are considered less important in facilitating regional collaborations, with SMEs (60%) and large industries/businesses (58%) identified as the least important collaboration facilitators at regional level. These results highlight the crucial role of regional authorities in bringing stakeholders together and building multi-sectoral partnerships. However, a greater role for public and private sector stakeholders might create a more dynamic and innovative collaboration environment, particularly in policy areas that require the expertise of industries, businesses, SMES, NGOs and societal groups.

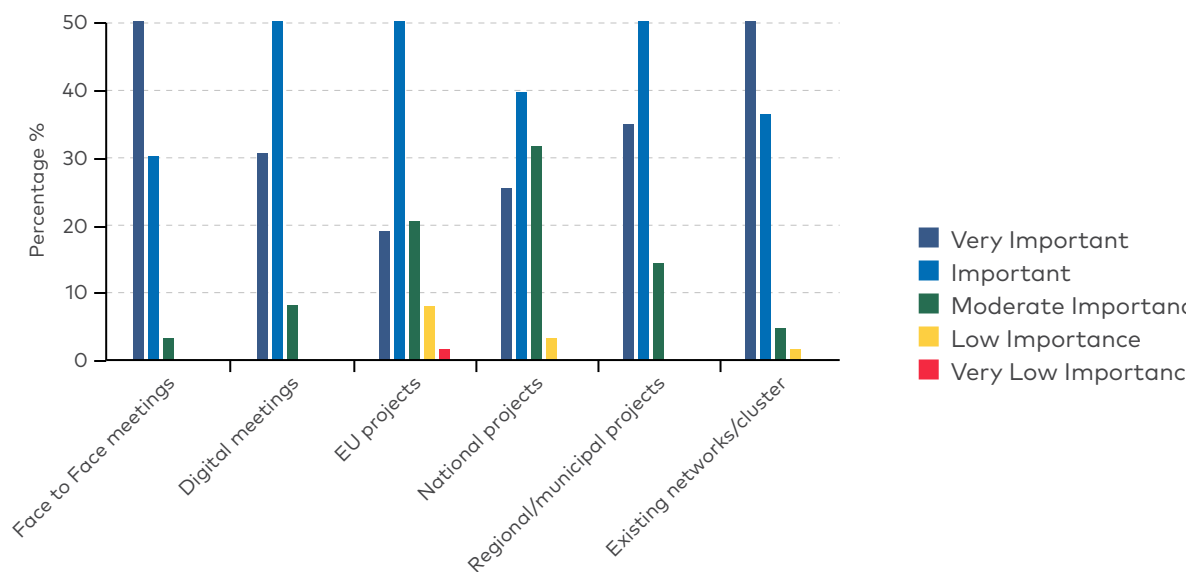


Figure 8. Forums and tools for collaboration.

96% of respondents noted that physical face-to-face meetings were very important or important for cultivating stakeholder collaboration. 93% of responses indicated that existing regional-level networks and clusters are also very important or important platforms for bringing stakeholders together, with digital meetings (90%) creating important new channels for enhancing interaction. 85% of respondents viewed regional and municipal level projects as key collaboration resources, with EU-level projects (70%) and national-level projects (65%) still important resources for fostering collaborations but slightly less significant than regional/municipal level projects.

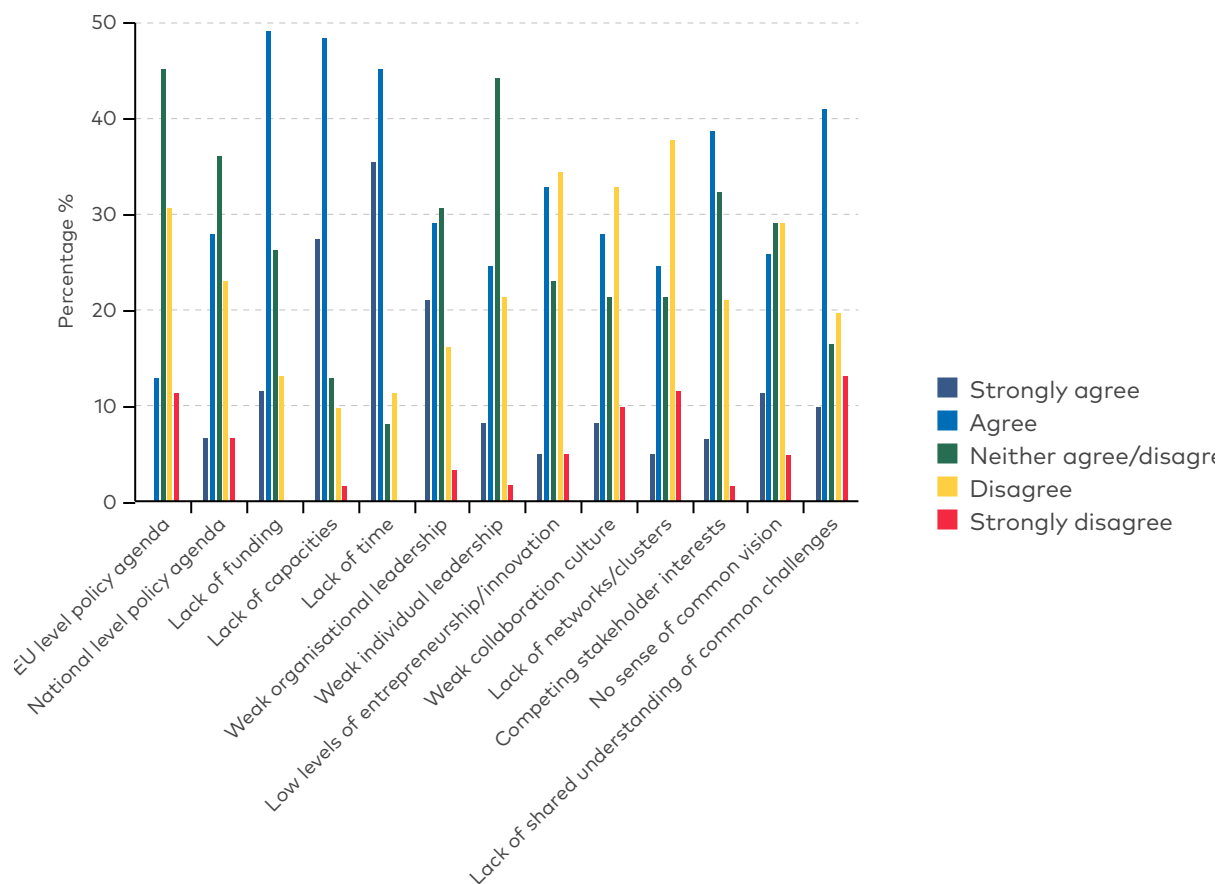


Figure 9. Obstacles for collaboration.

Survey respondents strongly agreed or agreed that a lack of time (80%), capacities (75%), and funding (60%) were the most significant obstacles to building regional collaborations. Closely interconnected to these factors is weak organisational leadership (50%), such as a lack of time, capacities, and resources, which reduces the ability of stakeholders to facilitate collaborative activities, particularly in public authorities. A lack of financial support undermines the long-term continuity of stakeholder collaboration, while weak leadership affects the alignment and effectiveness of joint efforts. Respondents also strongly agreed or agreed that a lack of shared understanding of common challenges (50%) and competing stakeholder interests (45%) created barriers to collaboration. A lack of shared understanding and competing stakeholder interests creates fragmentation, which underscores the need for a more structured and unified approach to regional collaboration. In contrast, respondents strongly disagreed or disagreed that a lack of networks/clusters (48%), weak collaboration culture (41%), and EU-level policy priorities (40%) present challenges to collaboration. This indicates that collaborative culture and networks are strong in Nordic regions, while EU-level policies and funding provide an important framework around which to build cooperation.

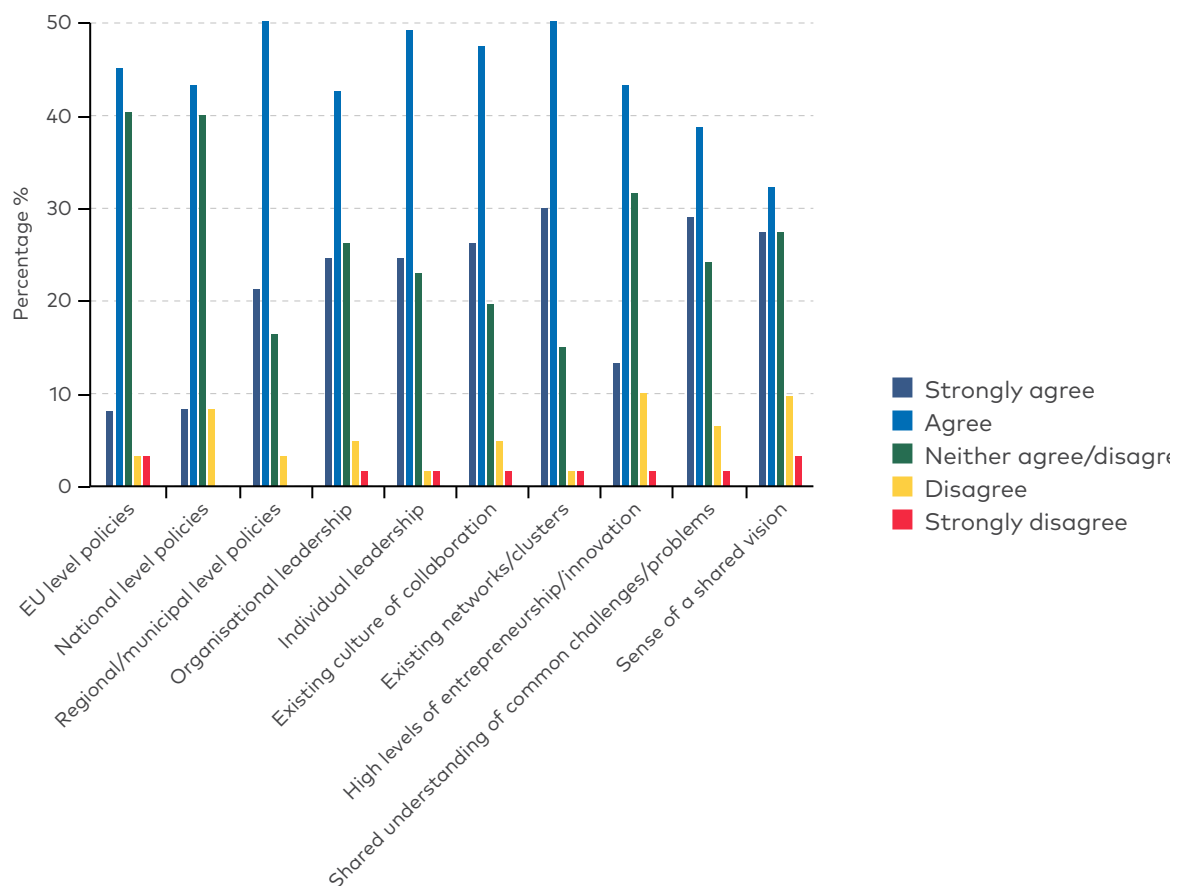


Figure 10. Factors enabling collaboration.

Combining the responses 'strongly agree' and 'agree' reveals that survey respondents regard existing networks/clusters (81%) and regional and municipal level policies (80%) as the most important factors enhancing regional collaboration. This suggests that existing networks and regional-level and municipal-level policy strategies and plans provide an important framework around which to build collaborations. An existing culture of collaboration (73%) is also considered an important factor for encouraging cooperation, as is individual leadership (74%), organisational leadership (67%), and a shared understanding of common challenges (68%). Both organisational and individual leadership are considered essential collaboration enablers, suggesting that management and leadership training programmes could help develop and fortify organisational collaborative leadership capacities. A shared understanding of common challenges and a shared vision also facilitate cooperation, highlighting the need for platforms, programmes, and projects that encourage multi-actor dialogue and transcend narrow public and private sector interests.

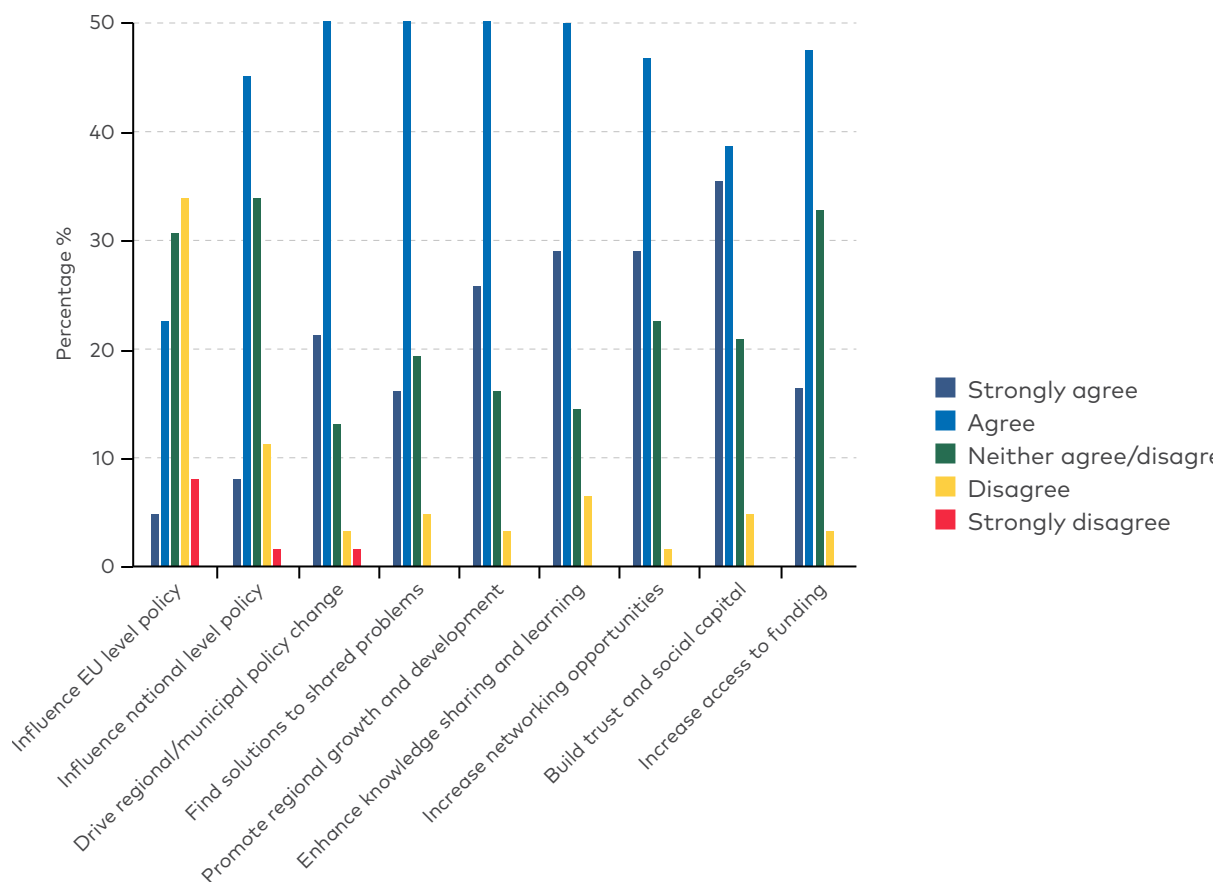


Figure 11. Benefits of collaboration.

81% of respondents strongly agreed or agreed that collaboration drives regional and municipal level policy change, whereas around 80% of respondents strongly agreed or agreed that cooperation promotes regional growth and enhances knowledge sharing and learning between stakeholders. Collaborative activities provide an opportunity for more networking (75%), finding solutions to shared problems (75%), and building trust and social capital between actors (73%). Participation in collaborative initiatives can also increase access to funding (63%). These results suggest that there are many positive benefits to emerge from stakeholder collaborations at the regional level. Respondents thought collaborations had less impact on influencing the direction policies take at the national level (53%) and EU-level (26%). These latter results support recent research showing that the sub-national level has a limited role and influence in multi-level governance policymaking processes dominated by national-level and EU-level actors (Moodie et al. 2022).

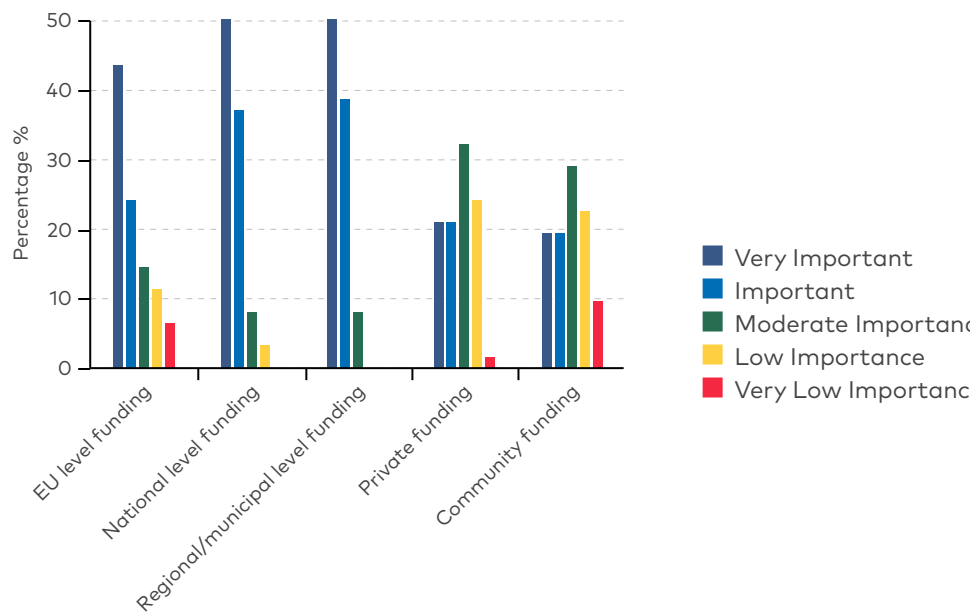


Figure 12. Funds facilitating collaboration.

91% of respondents highlight regional and municipal level funds as very important or important to facilitate collaboration. National-level (88%) and EU-level (67%) funding are also considered very important or important financial resources. In contrast, only 40% of respondents found private funding and 38% community funding very important or important revenue streams for stimulating collaborative activities. These latter results indicate a need for more public-sector and private financial resources to fund collaborative activities.

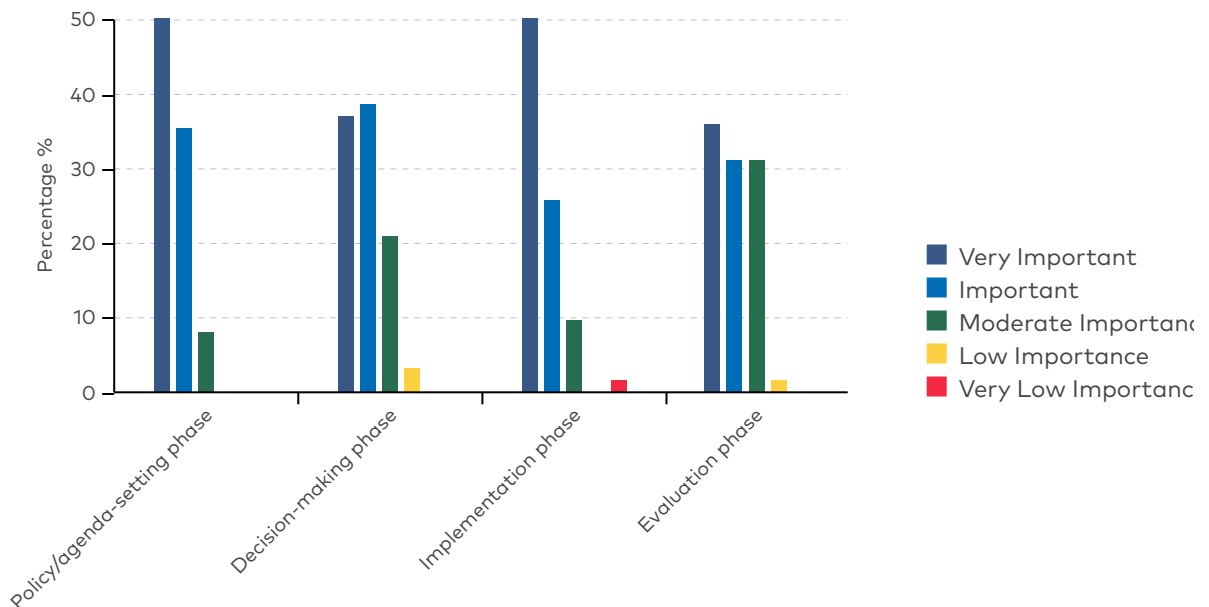


Figure 13. Collaboration at stages of the policymaking process.

Stakeholder collaboration is considered important at all stages of the policy process. The results highlight that collaboration is considered most important during the policy formulation (91%) and implementation (87%) phases. This indicates that respondents place a high value on early-stage engagement in policymaking to help set the policy agenda, as well as playing an important role in the practical implementation of policies and projects. Collaboration is also viewed as important at the decision-making (75%) and evaluation (67%) stages but marginally less important than during the other phases. Collaboration at the evaluation stage is considered less important, perhaps highlighting a gap in assessing the benefits and impacts of collaboration and a need for continuous improvement and evaluation mechanisms to extend the long-term sustainability of collaboration.

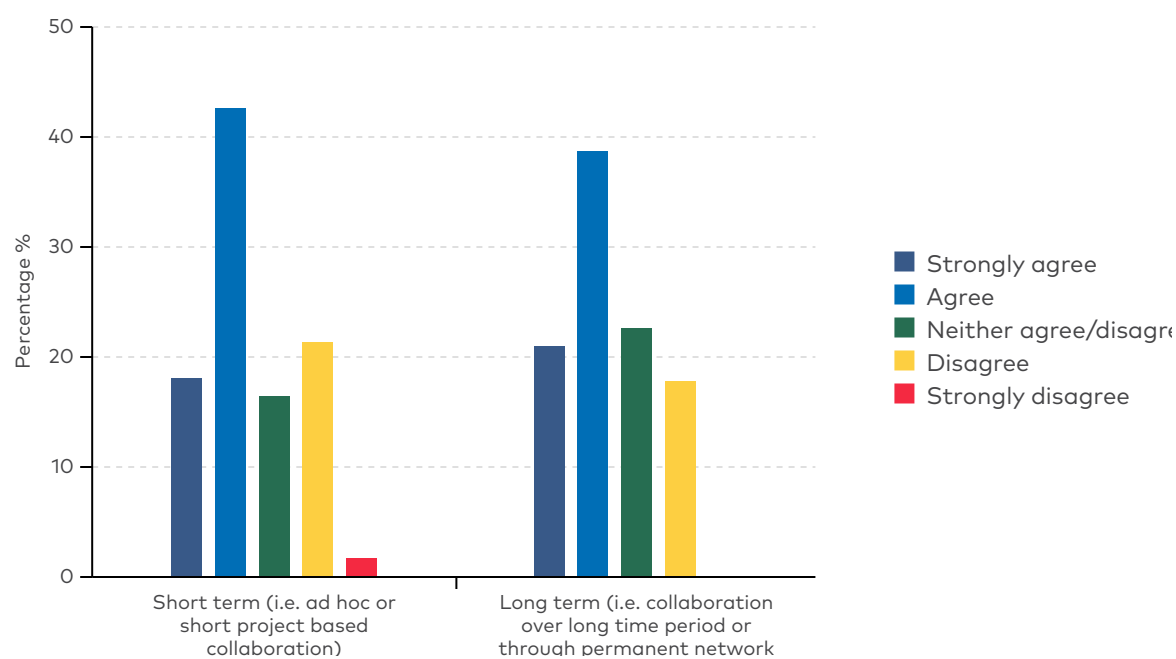


Figure 14. Short-term and long-term collaborations.

The survey results show that 60% of respondents strongly agreed or agreed that collaborations tend mainly to be short-term; similarly, 60% strongly agreed or agreed that they tend to be long-term. These results are relatively even, showing that at regional level in the Nordics there is a semblance of balance between temporary, ad hoc collaborations and long-term ones built around more permanent structures. These findings indicate that different regional challenges and opportunities require different types of collaborative responses. They also contrast with several written comments in response to the survey advocating for a more structured approach to regional collaboration and the need to transform ad hoc collaborations into long-term networks to ensure collaborative continuity and maximise stakeholder impact. Establishing long-term collaborative forums and networks could help strengthen regional collaboration and provide a platform for continuous stakeholder dialogue.

The results of the Collaborative Regional Leadership Survey provide an overview of the nature and characteristics of regional collaboration across the Nordic regions. The survey highlights that collaboration between public and private actors is commonplace. Regional and municipal authorities play a central role in supporting and facilitating collaborations, and cooperation is enabled by strong regional collaborative cultures, existing networks, and shared regional visions. However, obstacles to collaboration remain, including fragmented policy agendas, limited funding, and weak organisational leadership. The low response rate for the survey makes it very difficult to draw generalisable conclusions due to the limited representativeness of the sample. The limited sample size also makes a more fine-grained analysis of the survey findings of limited value. As a consequence, the following case-study analysis examines the inner workings of four examples of Nordic collaborative regional leadership in greater depth, enhancing our knowledge and understanding of the main factors that drive, challenge, and enable effective collaborative processes.



Photo: Christoffer Anias Sandager / visitdenmark.com

Chapter 3. Collaborative Regional Leadership Danish Case Study - Coast to Coast Climate Challenge

The Danish case examines the Coast to Coast Climate Challenge (C2C CC) project, which targeted municipalities and various partners across Region Midtjylland and beyond. Its goal was to develop collaborative solutions for climate adaptation tailored to specific local issues. The case study examines the C2C CC project through the lens of the concept of collaborative regional leadership, examining the key drivers, challenges and enablers of the collaboration. This case study has been conducted by carrying out six semi-structured online interviews with project stakeholders. When choosing interviewees, great attention was paid to their background, position in their institutions and their relation to the project, while trying to maintain diversity. They included employees of Region Midtjylland, various municipalities that participated in the project and water utility companies. To ensure the anonymity of the interviewees, they have been named Interviewee 1 to Interviewee 6 in this chapter. To complement what the interviewees said, elements from reports by C2C CC are included to provide a broader context.

3.1 Overview of key regional characteristics

The C2C CC project was led by Region Midtjylland, a politically governed, regional administrative body in the central part of the Jutland peninsula, which has the core responsibility for welfare and regional development (Region Midtjylland, n.d.-a).^[1] More precisely, Region Midtjylland is responsible for hospitals and health-related matters, social services for disadvantaged and disabled people, being a political force for promoting green transition, mobility, culture, education and sustainable regional development (Region Midtjylland, n.d.-a).

Midtjylland has a population of 1.3 million in 19 municipalities, Aarhus being the biggest city (Region Midtjylland, n.d.-b). The region is mostly rural with small cities and towns. Only municipal centres with populations ranging from 100,000 to 280,000 are considered as larger cities (Befolkningstal 2024).



Figure 1. Map of Midtjylland.

The sectors in Midtjylland that employ most people are public administration, education and health (214,000), followed by trade and transport (168,000) and industry, mining and utilities (98,000) (Danmarks Statistik 2024). The average wage is DKK 371,900 DKK p.a. before tax (Danmarks Statistik 2022). Nevertheless, since the region connects the North Sea on the western side and the Kattegat

1. There are five regions in Denmark.

strait on the eastern side, there are significant differences in population and culture. For example, in the eastern part of the region, 37.1% of the population has completed higher education, compared to only 26.7% in the western part. Population density is also significantly higher on the eastern side with 157 inhabitants per km² compared to 60 inhabitants per km² on the western side (Region Midtjylland, n.d.-a).

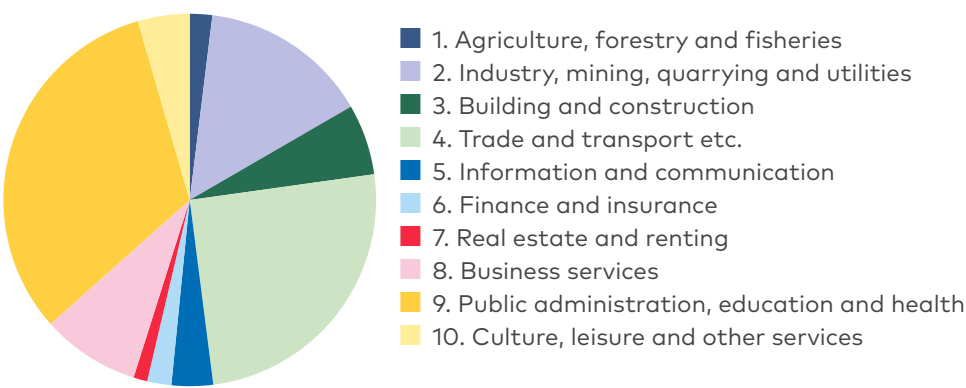


Figure 2. Employment by sector in Midtjylland, 2024 (Danmarks statistik 2024).

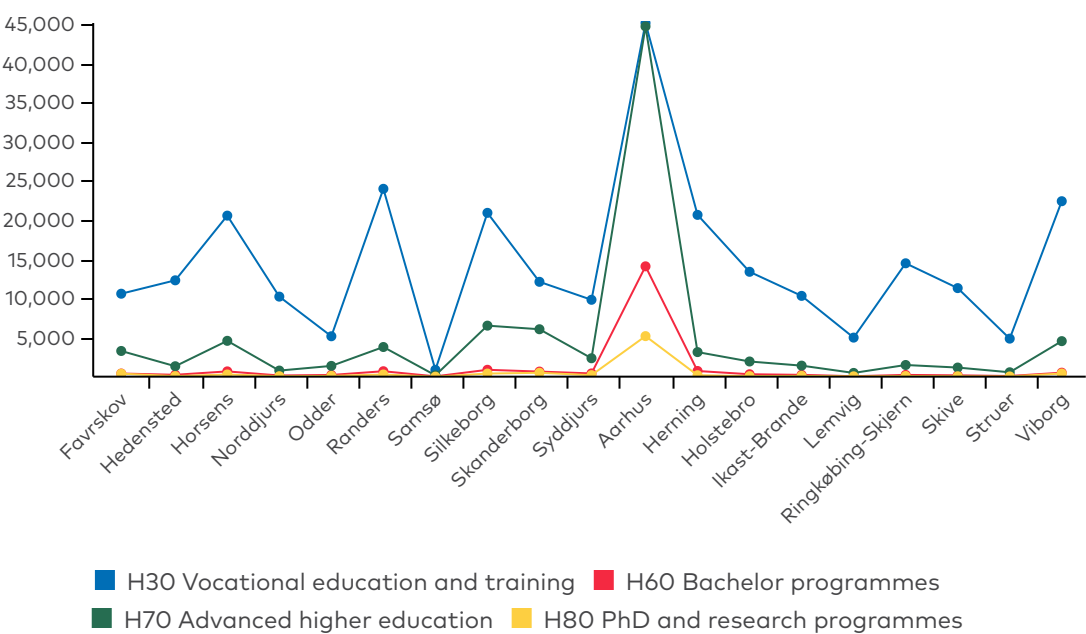


Figure 3. Residents' highest gained level of education by municipality in Region Midtjylland in 2022 (Danmarks statistik 2024).

The C2C CC project was built on the pre-existing collaboration between the municipalities and the region, firstly through the national requirement to draw up climate adaptation plans and secondly through a European innovation partnership called "Innovation Partnership on Water", which stimulated collaboration between authorities, research institutions and companies in the coastal area (Ørsted Nielsen and Wejs 2023). There are also several other platforms for collaboration in Midtjylland on varying topics. For example, the region is part of Klimaalliancen^[2] along with other regions and stakeholders (municipalities). KlimaMidt^[3] was also set up to organise Midtjylland's municipalities' participation and engagement, especially in developing climate adaptation plans (Region Midtjylland, n.d.-c). Kommunernes Landsforening (the National Association of Local Authorities of Denmark) is a national interest organisation. Before the C2C CC project, Region Midtjylland had a regional group (network), consisting of municipalities, utility company representatives and hand-picked people as well as experts, who met to discuss possibilities and the future direction of the C2C CC collaboration (Interviewee 1 2024).

3.2 Introduction to the case study

C2C CC was a six-year EU-funded LIFE IP programme project from 2017 until 2022 about climate change adaptation in Denmark (C2C CC, n.d.-a). The main aim was to show the potential and added value that climate change adaptation solutions can deliver (C2C CC, n.d.-a). Other objectives included: to formulate a joint long-term strategy among local stakeholders, implement climate adaptation plans in the municipalities, and to identify and improve the resources and capacities of local citizens, municipalities and other stakeholders (C2C CC, n.d.-a). The project had a total budget of DKK 90m, of which DKK 52m came from the LIFE IP programme.

The C2C CC project had four key phases. Phase 1 focused on developing tools. In Phase 2, partners collaborated to ensure the creation of holistic, implementable solutions. Phase 3 addressed the governance aspects of the project. The ongoing After Life phase aims to establish a national organisation dedicated to the ongoing implementation of sustainable solutions (C2C CC, n.d.-a).

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2. A Danish partnership to devise a common framework for municipal climate action plans. It is headed by Realdania, the National Association of Local Authorities of Denmark, the five Danish regions, CONCITO and C40 Cities.
 3. See chapter "Future directions of collaboration" for more information.

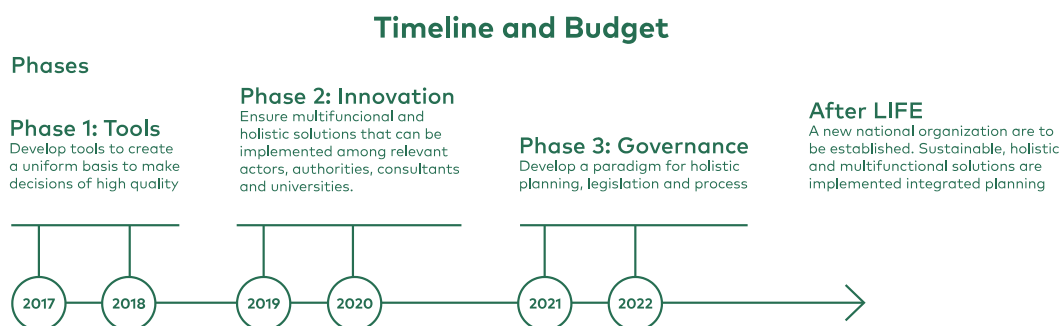


Figure 4. Phases of the C2C CC project (C2C CC, n.d.-a).

C2C CC was a brainwork project, which means that the outputs mainly consisted of plans for implementing the 24 subprojects. The C2C CC project was divided into 24 subprojects that were categorised into four groups – cross-cutting capacity building actions, projects in rural areas, projects in urban contexts, cross-cutting innovative actions (see the full list of projects below) (Interviewee 4 2024). The cross-cutting actions were regarded as overarching thematic projects, which sought to build synergies between the different subprojects addressing specific issues. The 24 subprojects were decided on during the project-application phase and formulated by the partners (municipalities, water utility companies, etc.). They were based on the municipal climate adaptation plans with which the municipalities thought they needed help (Ørsted Nielsen and Wejs 2023).

Cross-cutting capacity building actions:	Projects in rural areas:	Projects in urban contexts:	Cross-cutting innovative actions:
Sea and Fjords	Håb to Håb	Flood-proofing Horsens' City Centre	AquaGlobe
Rivers	The Thyborøn Channel and the Western Limfjord	Climate Change Adaption in Hedensted and Tørring	Climatorium
Groundwater	The River Grenaa Catchment	Randers Climate Ribbon	Permeable Coating
Rainwater	Randers Fjord	Thyborøn City and Harbour	Potentials for increased infiltration in new urban areas

Governance	Gudenåen	Citizen-driven Climate Change Adaption in Juelsminde	Climate history Culture history
Tools	Storåen	Sustainable Urban Drainage Systems	
Innovation			

Table 1. Coast to Coast Climate Challenge subprojects.

To illustrate how the different subprojects are interconnected, a matrix was developed (see below) (C2C CC 2022). Even though project partners focus on the whole matrix, each subproject has an assigned spot(s) in it. These can be found in the separate subproject descriptions on the project website.^[4] Nevertheless, competence and sustainability, as themes, are present in all subprojects. The different headings in the matrix correspond to the seven subprojects of cross-cutting capacity building actions group described above (C2C CC, n.d.-a).

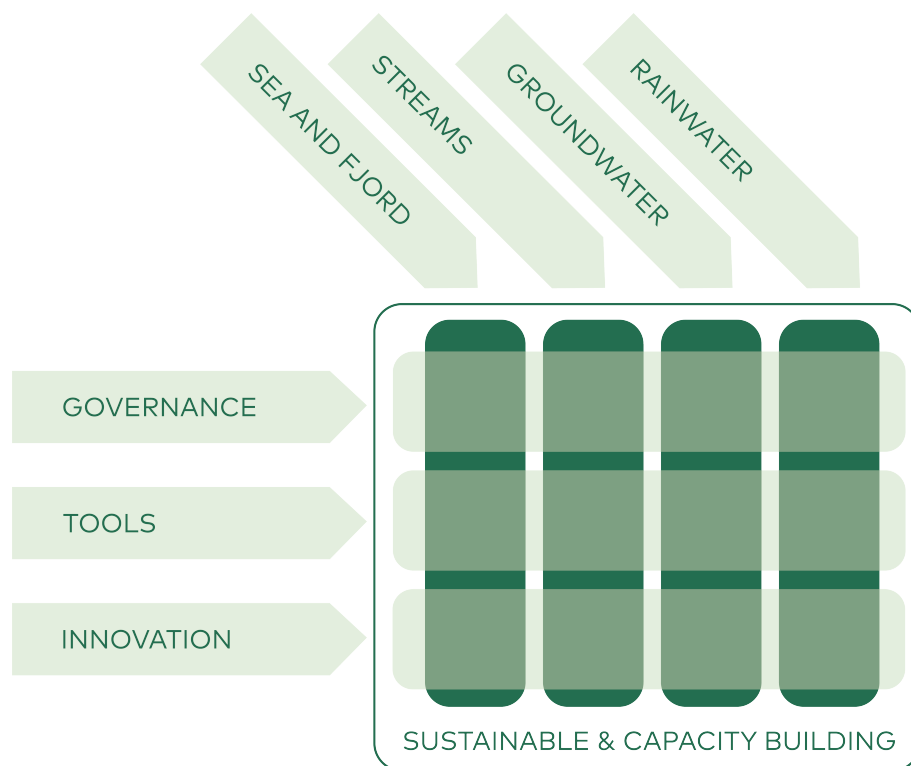


Figure 5. C2C CC subproject matrix (Wejs and Selmer 2022).

4. <https://www.c2ccc.eu/>

There were 31 project partners, most of them being municipalities in the Central Danish region. However, stakeholders such as the Central Denmark EU Office (CDEU), water utility companies and universities also participated. The project was led by Region Midtjylland, an experienced lead partner in similar projects, which made phone calls and organised coffee meetings to encourage stakeholders to participate in the project (C2C CC, n.d.-b; Ørsted Nielsen and Wejs 2023). As one partner recalls, *Region Midtjylland had the ability to draw the best out of us <...> I can't praise the region enough. What they did was so important. It was their characteristics, their crazy talented project managers, they could put themselves in our shoes. They weren't the authority, they were the glue between us all* (Interviewee 6 2024). It should be mentioned that not all municipalities in Midtjylland participated as full partners (e.g. Aarhus). Aarhus municipality was a supportive actor, meaning they did not have a budget or responsibilities but could still take part voluntarily in various activities and hence, gain knowledge. An interviewee speculated that Aarhus refused to participate because they regard themselves as a large municipality,^[5] which can take care of itself (Interviewee 4 2024). Nevertheless, three municipalities from Region Nordjylland decided to join the project because they were directly affected by the topics. The project had also 25 supportive partners, including the Danish Emergency Management Agency, Concito,^[6] the Confederation of Danish Industry, the Danish Coastal Authority, some municipalities and others. The project Secretariat was set up within Region Midtjylland and supported by the CDEU office (C2C CC 2019).

The steering committee played an advisory role for the overall project management. It was the leading body, where the chair took key decisions in steering the committee. The chairperson was an employee of Region Midtjylland's Regional Development department. The steering committee's remit consisted of setting the course and ensuring progress, providing assistance when needed and making key decisions (C2C CC, n.d.-c). The overall project management was done by the Secretariat, including management of funds, ensuring integration between subprojects, PR, etc. The Secretariat's staff consisted of employees from Region Midtjylland. The subprojects were run and managed by people from the municipalities or water utility companies that were directly involved in and responsible for the specific subproject. Finally, the advisory committee, consisting of university partners, advised the steering committee, providing feedback and knowledge (C2C CC, n.d.-c).

5. Aarhus is Denmark's second largest city.

6. Concito is the leading Danish green think tank.

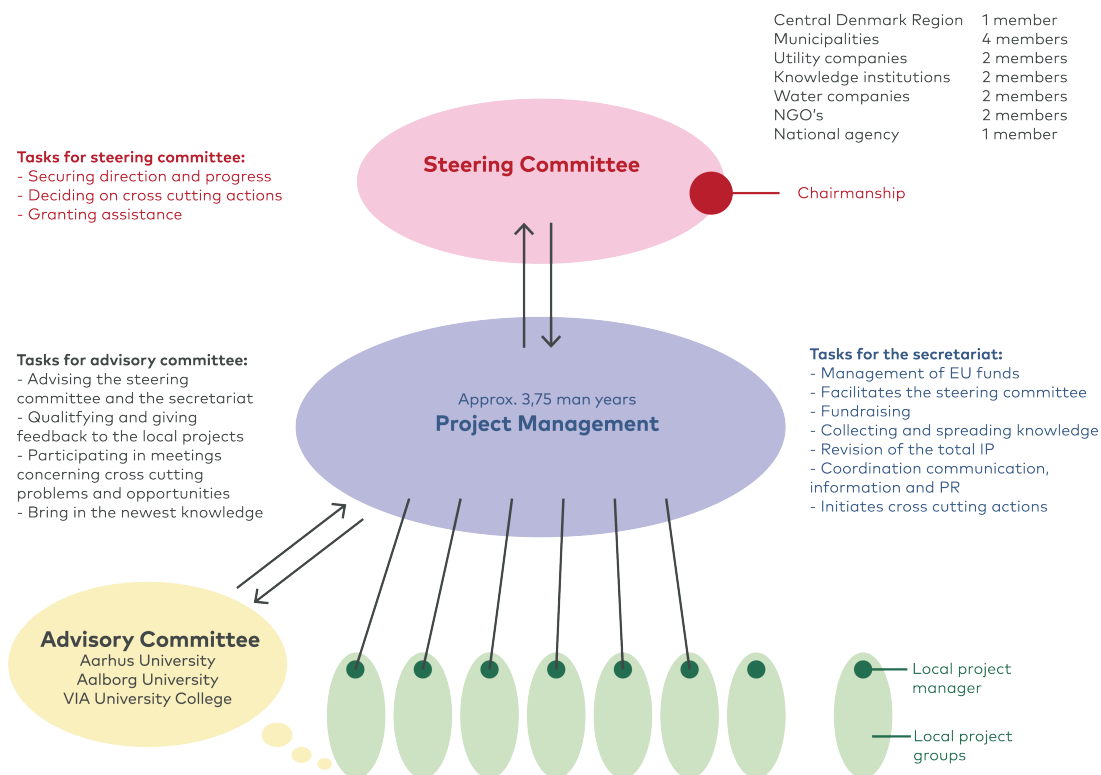


Figure 6. Organisation (C2C CC, n.d.-a).

3.3 Drivers

Since C2C CC was a relatively large project, multiple drivers fuelled it. Firstly, the project, as an idea, emerged from Brussels, where the CDEU office was in close contact with the EU Commission about large environmental and strategic projects. At the time, both the regions and the municipalities were the new outcome of the latest structural-administrative reforms in Denmark and were still in the process of learning how to work with each other, while consolidating themselves in an atmosphere of suspicion and lack of trust (Interviewee 3 2024). Nevertheless, at a conference in the early 2010s attended by the CDEU, the former Commissioner for the Environment stated that there were opportunities for large strategic projects. The CDEU office saw an opportunity because it believed Region Midtjylland had the necessary competences to run such major projects. The CDEU office saw a wide range of possibilities and opportunities and with the support of the Commission pitched the idea of a large-scale project to Region Midtjylland (Interviewee 3 2024). Afterwards, the CDEU, along with the municipalities and Region Midtjylland, began developing the ideas behind C2C CC at various workshops. This brief history of the project's origins shows that its initial roots stemmed from the EU's commitment to foster the implementation of the green transition at local level but that without the CDEU and Region Midtjylland's active engagement, the project would not have been run.

Once the requisite administrative procedures had been completed, contacting municipalities as potential partners began. The overall vision for C2C CC was formulated at a series of workshops. Region Midtjylland acted as the driving force behind the collaboration and as a key facilitator, which is important because EU projects require a leading actor (Interviewee 6 2024), not to mention the fact that the smaller municipalities did not have the capacity or experience to single-handedly manage such large-scale EU projects (Interviewee 3 2024). The fact some people in the municipalities and Region Midtjylland also had contacts in the various utility companies made it easier to identify and pinpoint the most acute issues (Interviewee 2 2024). It was also during the application phase that Region Midtjylland began facilitating the work of the various actors, in particular helping them write applications explaining their ideas and suggestions for subprojects (Interviewee 6 2024).

Municipalities were deeply involved in the initial stage and could also be considered as major drivers, since they were the actors that provided the project with tangible content by suggesting topics for subprojects (Interviewee 4 2024). Most of the specific goals and topics for the subprojects were set in a bottom-up fashion, because the municipalities had the best grasp of local climate issues (Interviewee 1 2024). This proved to be successful, since partners actively suggested what the subprojects should focus on based on their local experience and felt a sense of ownership over them (Ørsted Nielsen and Wejs 2023). Nevertheless, one interviewee stressed that the project was successful because of the balance between well considered ideas suggested by the experts and practitioners from the municipalities (bottom-up) and those from people in regulatory positions who were capable of taking key decisions (top-down) and agreed with the proposals (Interviewee 6 2024). Another project driver was a national regulatory requirement for municipalities to be involved in climate adaptation and draw up a climate adaptation plan by the end of 2013 (Interviewee 4 2024). As the municipalities lacked the necessary competences and resources to draw up the plans, this project was also used to support them and develop their capabilities in climate adaptation. The expectation that they would build competences and that networks involving sectors and municipalities would expand significantly encouraged the various actors to join the project (Interviewee 5 2024). On a formal level, by the time C2C CC began, the municipalities had drawn up their local climate adaptation plans, but now had to be carried out politically (Interviewee 3 2024). In principle, the adaptation plans were the basis for the different subprojects and their goals. In other words, the municipalities could suggest tasks and projects from the municipal climate adaptation plans that required additional resources and which they wanted to initiate as subprojects while also bearing in mind the cross-cutting dimension and why this specific subproject would be relevant for the wider region or the EU (Interviewee 5 2024). As such, even subprojects that involved multiple municipalities were set up in a bottom-up fashion, even though the idea for the project was top-down (from Region Midtjylland and the EU). The project was used as a platform to

formalise cooperation across municipal borders and attract additional resources (Interviewee 5 2024). One interviewee suggested that some subprojects were more readily accepted than others, possibly because project partners leveraged their contacts to convince Region Midtjylland to agree to certain suggestions. The formal positions and political influence of the subproject leaders also played a significant role in securing agreement on the topics for subprojects (Interviewee 6 2024). However, this is not to say that other project partners encountered serious problems when it came to having their subprojects approved.

Other key drivers for the project were the constant climate challenges felt in Denmark and globally (Interviewee 1 2024). According to the interviewees, the fact that neither the national government nor local politicians took all of the necessary steps to combat and adapt to the consequences of climate change meant that the project seemed like a good solution from the perspective of Region Midtjylland (Interviewee 1 2024), especially because the region did not have an official mandate to make key decisions on climate adaptation. The current situation became a crucial driver because there was a strong consensus among the project actors that climate challenges are serious and pose a tangible threat to the region. The timing was also good as the partners faced challenges in implementing their climate adaptation plans (Ørsted Nielsen and Wejs 2023). The project's overall goal of finding solutions to regional challenges with climate adaptation became a driving and a unifying factor in the collaboration.

Based on the interviews and reports published about the collaboration, the main institutional drivers behind the partnership are Region Midtjylland as a leading partner and the CDEU office as a facilitator in the early stages. The national requirement for municipalities to have climate adaptation plans was also a driver as the municipalities did not have the necessary resources to implement them. Climate change, lack of government action and the need for help with climate adaptation were equally important for the smooth running of the project.

3.4 How it all worked

The three main networking activities during C2C CC were coordination, knowledge sharing and training (Ørsted Nielsen and Wejs 2023). While the coordination was primarily done at the subproject level by guiding the various sub-initiatives towards their goals, knowledge sharing and training were anchored in the matrix with the seven dimensions mentioned above.

The original plan was that all of the municipalities in Midtjylland would take part. However, as mentioned above, two showed no interest, while three from Nordjylland joined in (Interviewee 4 2024). Representatives from Region Midtjylland met with officials from municipalities to discuss areas in need of special attention that the municipalities cannot cover on their own (Interviewee 1 2024). All knowledge institutions (universities) that wanted to be a part of C2C CC were also

welcome to participate. Some utility companies were invited when it made sense in relation to the municipal subprojects (Interviewee 4 2024).

EU funding meant a certain level of formality was required throughout the project. Certain governing, advisory, budgeting and other structures (the steering committee) had to be set up (Interviewee 3 2024). However, bearing in mind the amount of informal interaction during the project, the formal side (e.g. deadlines) was limited (Interviewee 6 2024). This was partly due to the leading partner, Region Midtjylland, which was also responsible for the administrative side of the collaboration and was good at balancing the formal side with the EU (documentation) and the informal side with the municipal partners and letting everybody know they were always ready to provide help and give advice (Interviewee 2 2024). In other words, when it came to the actual work, a highly informal environment emerged which proved to work well (Interviewee 1 2024).

The municipal teams responsible for the different subprojects tended to hold weekly meetings, a frequency that resulted in effective coordination. On the other hand, some partners considered weekly meetings too frequent and ended up holding ad hoc ones with handpicked participants later on in the subproject (Interviewee 2 2024). However, the whole collaboration had also regular meetings, which were mandated by the EU and took place approximately once a quarter (Interviewee 1 2024). Before the COVID-19 pandemic in 2020, these meetings were held in person and usually took the form of field trips to one of the subproject's municipalities. In other words, all of the partners came together to experience, get inspiration and learn from each other and the various subprojects (Interviewee 3 2024). The main point of these meetings was to discuss overarching issues that arose as the project progressed (Interviewee 1 2024). The partnership meetings were also used for capacity building and knowledge sharing (Interviewee 4 2024). The interviewees agree that this method was of great benefit to the partnership as it facilitated network building. This approach made key actors aware of the competences of individuals in other municipalities, enabling them to contact the appropriate people for assistance when needed (Interviewee 5 2024). As one interviewee puts it, "It was just the kind of thing you really look forward to going to" (Interviewee 6 2024).

Region Midtjylland did, however, experiment with other types of interaction methods, including workshops, master classes, seminars and international conferences, at which they presented their work to audiences abroad. During the pandemic, C2C CC switched to online meetings which did not cause too much harm to the quality of the collaboration as by that time all the partners knew each other well and had enough time to build a strong social capital and trust (Interviewee 1 2024). On the other hand, the lack of experience in organising online events did pose some challenges initially (Interviewee 4 2024).

Besides these meetings, C2C CC held three conferences at which it made presentations. The first one marked the beginning of the project. The second

midterm conference was held at the half-way stage three years into the project and focused on what had been accomplished and what still needed to be done. The third and final conference was used to conclude the project and discuss potential future initiatives, such as Life Act (see chapter Future direction) (Interviewee 3 2024). Region Midtjylland also held occasional thematic meetings with the different subprojects to discuss specific matters that needed to be addressed (Interviewee 1 2024).

A unique aspect of C2C CC was how few collective decisions had to be taken. Since it was an EU project, most of the decisions were taken when the proposal was drafted in the proposal-writing phase of the project, so it was clear what steps needed to be taken (Interviewee 5 2024). Even in the proposal stage, the actors were responsible and had relatively extensive freedom to formulate their proposals. However, when decisions did have to be made at partnership level, administrative issues were rarely raised because most of those decisions were made by subproject teams at municipal level (Interviewee 4 2024). Nevertheless, coordinating subprojects involving multiple municipalities can be challenging due to the larger number of partners involved (Interviewee 2 2024). This makes it imperative that projects have clear goals and guidelines before they start as well as the option to reevaluate decisions at a half-way point (Interviewee 4 2024). It additionally eliminates competition between partners because budgets are allocated in advance (Interviewee 5 2024). One outlier was a situation when Region Midtjylland took decisions as the project leader about the allocation of additional budgets and extra resources. The project partners did not criticise the move because the whole decision-making process was made as transparent as possible and they considered it fair (Interviewee 5 2024).

The collaboration was stressed to have created a truly effective and tight partnership between people, municipalities, knowledge institutions (universities) and the regional authority (Interviewee 1 2024). This resulted in various municipalities and even water supply companies working together to solve similar issues despite being over 100 km apart (Interviewee 6 2024). Since most of the region consists of small and rural municipalities, where budgets are strict and often only one member of staff works on climate adaptation, the ability to consult someone from another municipality can be very helpful when solving issues (Interviewee 1 2024). The municipalities also began using expert knowledge from universities when taking key decisions^[7] thanks to the developed networks between the employees from knowledge institutions and municipalities (Interviewee 1 2024). Interviewees from the municipalities expressed that they could always effectively take contact with Region Midtjylland regarding administrative and technical questions throughout the project period (Interviewee 5 2024). Moreover, when the National Association of Local Authorities of Denmark set up a task force to assist

7. Notably Aalborg University, Aarhus University and VIA College University.

all Danish municipalities with climate adaptation, it concluded that municipalities in central Denmark were notably further ahead than other municipalities due to the partnership and successful networking (Interviewee 1 2024). This should come as no surprise, since the collaboration lasted for six years and after such a long time, working in partnerships had become a new norm in the region (Interviewee 4 2024). Another crucial outcome was the developed ability of the municipalities to write and link new subproject proposals to climate adaptation in relation to the upcoming Life Act national project, which is regarded as a possible continuation of C2C CC (Interviewee 1 2024). In other words, the collaboration has effectively contributed to capacity building of the region's municipalities, particularly in relation to administrative tasks.

According to the collected data, C2C CC stands out with its focus on physical meetings between the actors. Further, the small number of collective decisions that needed to be made throughout the project, led to synergy-building and helped avoid disputes. Last but not least, a close network of connections within the partnership made it possible for people to receive advice or assistance easily and quickly whenever they needed it.

3.5 Challenges

According to the interviewees, the collaboration proceeded smoothly with relatively few challenges and no disputes. Although the study identified some obstacles, these were effectively overcome. This apparent contradiction highlights how positively project partners remember the collaboration. They reported effective communication, close cooperation, and mutual understanding, all of which made a significant contribution to the success of the project. The key player in minimising challenges of the collaboration was the regional authority Region Midtjylland, which was an effective facilitator every time there was a need for it (Interviewee 5 2024). When minor issues were encountered in the form of disagreements that arose in the different subprojects, Region Midtjylland would assist with some specialised input and help the subprojects move on. That said, on most occasions, the subproject leaders were able to handle the situation (Interviewee 2 2024).

Nevertheless, the few challenges that did become evident, were usually administrative or political (Interviewee 5 2024). When two or more municipalities had to work together but had slightly different outlooks, the regional authority would step in to help solve the problem. Examples of administrative disagreements included questions about the allocation of money within subprojects, whether the subproject complies with the administrative laws, whether everybody has done what they promised to do, and whether everything has been reported correctly and in enough detail (Interviewee 5 2024).

Another natural and common challenge relevant to most collaborative partnerships is staff turnover in various departments (Interviewee 2 2024). Due to a constant

labour market movement, it is not uncommon to lose partnerships over time. To avoid this, projects like C2C CC need to make sure that they do not become isolated, one-off endeavours. They need to be renewed or reimagined continuously in line with the circumstances (Interviewee 2 2024).

One example of a unique challenge involved two subprojects that ended up being water knowledge hubs – Aquaglobe (responsible for inland waters) and Klimatorium (responsible for coastal waters). The two subprojects were located on different sides of the Jutland peninsula but had relatively similar goals. According to interviewees, the similarities in their areas of interest led to a slight degree of competition at first due to increased pressure to deliver (Interviewee 6 2024). However, Region Midtjylland successfully stopped this from developing into an issue by allocating funds separately after the project was done, in order to incentivise utilising collaboration opportunities between the two subprojects (knowledge hubs) and minimise competition. The goals of the two subprojects were also described in greater detail to distinguish between them. In other words, they were pulled into the project as two, equal value-carrying partners, without one being favoured over the other (Interviewee 6 2024).

Another crucial element in most politically driven projects is the engagement of politicians. For the most part, it was the politicians on the regional and local levels that were the key to solving issues, but in some cases their political interests hindered collaboration (Interviewee 1 2024). As C2C CC involves climate adaptation, stakeholders such as businesses and farmers had an interest in its decisions. In one case, a mayor of a municipality was thought to have been pressured by local interest groups to halt and delay the project's implementation (Interviewee 2 2024). In another case, Region Midtjylland lost control of part of a subproject with seven partners when a local mayor (one of the partners) chose to act independently and ordered an allegedly illegal cutting of a ditch near a water stream (Interviewee 1 2024). These two cases were reported to the police and became a national case. In these situations, the project's mandate ended, as neither the project partners nor the region had the authority to override the municipality's decision if it wished to proceed differently (Interviewee 4 2024). In other words, political interests made it difficult for this subproject to find common ground for all of the partners to this subproject (Interviewee 3 2024).

Challenges were mostly not evident among project partners that worked on C2C CC but were more frequent on the level of political leadership, especially because there was no consensus, what exactly the region and the municipalities were supposed to have responsibility for. There were also mentions of municipal employees asking Region Midtjylland to help explain to politicians the benefits of the C2C CC project (Interviewee 1 2024). The regional authority tried to build knowledge by explaining to politicians why joint environmental policies are important and what kind of indicators it is relevant to follow (Interviewee 4 2024). However, it proved difficult to make decision-makers listen, as the issue was not at

the top of the agenda at that time. Since this C2C CC is a brainwork project, additional funding for the actual physical implementation of some subprojects is required. This was a challenge because the national level had little interest in forming a dialogue at that time,^[8] even though they were approached several times about climate adaptation (Interviewee 1 2024).

Participation by the universities also turned out to be a challenge. Originally, they were supposed to be full-fledged partners, but the project was not fully funded by the EU and so partners were expected to accept a degree of self-financing, which the universities could not afford due to budget constraints (Interviewee 3 2024). A partial solution was proposed. Region Midtjylland encouraged the universities to set up advisory knowledge groups, from which the project could buy services such as advice and analyses. According to the interviewees, the universities were still only partially involved, and their full potential not exploited (Interviewee 3 2024). They have, however, published reports about and analyses of C2C CC.

The interviews highlighted that everything worked smoothly with only minimal challenges. The issues that did arise were mainly connected to administrative or political matters, such as difference in funding, a single case of competition over resources, local politicians' political interests and engagement. The fact that the universities were not full partners was also a challenge.

3.6 Enablers

Several 'collaboration enablers' contributed strongly to the success of C2C CC. Firstly, the straightforward nature of this type of project means you have to determine the main financial details in advance, i.e. during the project application phase. As mentioned above, this eliminates any reason for competition and incentivises the collective pursuit of goals and close cooperation throughout the project (Interviewee 5 2024). Therefore, instead of focusing on how to secure as much funding as possible, partners can direct their attention to building a sustainable network. Something similar can be said about the subprojects' goals. All of the tasks and expected results were set in stone during the application phase, so there was no need to take pivotal decisions during the project period. All the details had already been laid out in dialogue with Region Midtjylland and the subproject leaders (municipalities, universities, etc.) (Interviewee 5 2024; Interviewee 1 2024).

Another key enabler of the collaboration was the project leader. Both the regional authority, Region Midtjylland in Denmark and its EU office CDEU in Brussels, were crucial to the project's startup and successful implementation (Interviewee 6 2024). The CDEU played the most important role at the very outset by engaging in

8. Both the EU Commission and the US White House invited project partners to present their work.

dialogue with the representatives of the EU Commission, while Region Midtjylland was responsible for the smooth running of the six-year project. As mentioned in the examples above, this primarily took the form of coordination, facilitation and hands-on assistance whenever needed. The project partners all agreed that Region Midtjylland's experience in such EU projects and high-level leadership skills proved decisive for the success of C2C CC (Interviewee 6 2024).

In general, the project partners had a great deal of respect for each other and considered each other equals. Their admiration for each other's work was a significant enabler and helped get the most out of the project. Region Midtjylland, which was considered a key element in the partnership, was held in particularly high esteem for its top-class skills in facilitation and problem-solving (Interviewee 6 2024). The exceptional links between the municipalities and the regional authority were not as evident before the C2C CC and are a direct result of it.

The final key enablers were the collective need for competence building, the challenges posed by climate adaptation and the project's goal of finding solutions for the region. As discussed in the section about the main drivers of the project, most of the actors in the region realise and notice the harsh consequences of climate change, especially during major storms and when streams and rivers overflow (Interviewee 2 2024). As climate adaptation was a completely unfamiliar subject, there was a collective understanding that a project like C2C CC was needed.

To recapitulate, the key collaboration enablers were a combination of the following: excellent leadership by Region Midtjylland, high demand for competence and network building in the field of climate adaptation and early decisions about project funding and goals. These three enablers ensured the project ran smoothly and engagement levels were high.

3.7 Achievements

Undoubtably the most important achievement of C2C CC was the creation of a truly tight network of municipalities and actors (horizontal relations). All of the interviewees agreed on the importance of fostering successful cooperative networks, which have facilitated communication between municipalities because people in different departments have learnt who to contact directly (Interviewee 5 2024). In addition, personal connections and a sense of collective identity make a positive contribution to lasting partnerships between municipalities. As one interviewee recalls, *'when you enter a meeting room, everybody knows who is who and each other, the atmosphere is just good'* (Interviewee 3 2024). By organising various events for members of the partnership, the project leader, Region Midtjylland, made a major contribution to these close links and played a key role in building trust among the participants (Ørsted Nielsen and Wejs 2023). To understand the importance of this partnership, it is relevant to look at the

administrative history of Denmark. The 2007 structural reform reduced the number of municipalities and replaced the 13 counties with five regions. The municipalities and politicians then allocated a lot of resources to staff and tried to get to know as many relevant people in the field as possible (Interviewee 3 2024). At the time, the newly formed regions and municipalities had to find out what their purpose and role were in the overall national structural system. While geographical proximity between the municipalities led to some dialogue across municipal borders, it was only when C2C CC was launched that the collaborative potential was fully revealed (Interviewee 3 2024).

Another important achievement of the collaboration was the successful completion of all 24 subprojects, all of which contributed to climate adaptation in one way or another. However, what is most important is that most of the subprojects did not end when C2C CC did. Based on what was done in C2C CC, the municipalities now have the ability and the tools to continue working together beyond what was initially envisaged. Some of the subprojects resulted in actual buildings, e.g. Aquaglobe and Klimatorium, run by two utility companies. Both of the centres have successfully exploited the momentum gained from C2C CC and developed into knowledge centres. The Klimatorium has positioned itself as a national climate centre and potential venue for climate-related meetings (Interviewee 4 2024), while Aquaglobe has partnered with the government to form a sort of national cooperation in water technology and climate adaptation (Interviewee 4 2024). These examples and other subprojects with further potential are discussed in a strategy and an After Life Plan published by the C2C CC project. The plan describes the main principles behind climate change adaptation that could be replicated in the future as well as next steps for the subprojects. Finally, it presents an action plan, which describes how long the different subprojects should be expected to function and what might grow out of them (Wejs and Selmer 2022). The After Life plan highlights the numerous possibilities and underscores the importance of ensuring the sustainable continuation of these types of projects.

C2C CC created a large collection of tools along the way. Many of them were further refined after the project ended and are now being implemented nationally (Interviewee 1 2024). One example is a uniform protection-level assessment tool spanning municipal boundaries, which makes it easier to pay closer attention to non-monetary effects instead of looking only at climate adaptation in financial terms. Another key aspect born out of tool development is a common language for climate adaptation. Drawing up a common strategy at the end of the project allowed the collaboration to show in practical terms that the partners are on the same page when discussing climate-related issues (Interviewee 1 2024). The strategy addresses the lessons learned during the six years, how to tackle climate adaptation effectively by providing five key takeaways and how to work with it on a day-to-day basis (Wejs and Selmer 2022). The C2C CC collaboration is also presenting the strategy nationally to other regions.

Finally, as mentioned previously, the collaboration has published useful reports and analyses about its own partnership and is aware that its good practices should and could be reproduced in other types of partnerships. In fact, since C2C CC was an EU-funded project, there have been several opportunities to convey the project's results to EU institutions. One of the partners identified contributions made by the partnership in the 2021 revision of the EU's climate adaptation strategy (Ørsted Nielsen and Wejs 2023). The analysis by Aarhus University, one of the partners supporting the project, led to a document explaining most of the partnership's aspects, successes and improvements (Ørsted Nielsen and Wejs 2023). Some of their insights are also discussed here to complement the interviews with experts.

The collaboration's key achievement is the network of like-minded specialists who benefit from each other's knowledge. Other important achievements included the successful completion of the subprojects, new tools and the publication of reports providing insight into the collaboration.

3.8 Benefits

In general, partnerships and collaborations help build knowledge and capacity and develop new norms (Ørsted Nielsen and Wejs 2023). Compared to conventional governance, they are expected to give rise to more wide-ranging and coherent climate policies and solutions to regional issues because the actors contribute to the collaboration with their own unique knowledge, interests and competences (Ørsted Nielsen and Wejs 2023; Bednar, Henstra, and McBean 2019; Bauer and Steurer 2014; Lee and Painter 2015). To be more specific, C2C CC has identified numerous benefits of large-scale project collaboration compared to working alone or engaging in bilateral cooperation. First and foremost, the main advantage is probably the ability to capitalise on the potential for regional integration by having a systemic and a holistic mindset when planning and running projects instead of having several separate goals (Interviewee 3 2024). This is reflected in the matrix described above (Figure 4), where cross-cutting topics are illustrated to help answer questions about how to create a good governance structure, how to steer these processes, how to create appropriate tools for this, etc. (Interviewee 3 2024). These indicators are not place-based as in most of the subprojects. However, these dimensions allow for a more nuanced means of integration to emerge. In short, the main benefit of such large collaborative projects is that the various partners are forced to think across boundaries instead of focusing on their own issues and geographical area. This is important because municipal borders, for example, are artificial constructs and natural processes and decisions related to them do not necessarily adhere to the municipal boundaries. A decision made in one municipality (or country) can have significant negative impacts in another area, which is why collaboration is crucial (Interviewee 4 2024).

An equally significant benefit is the opportunity for smaller actors to learn from the project leader how to effectively coordinate similar projects. Participation in major projects tends to foster a more positive attitude towards the project team among management and political leaders (Interviewee 6 2024). Another compelling reason to collaborate is to build cross-border connections and learn how various non-state actors, such as universities, can leverage their research departments to develop innovative solutions to address contemporary challenges (Interviewee 4 2024). Even though the collaboration began with a range of strict formalities, it ended with a very tight network of informal partnerships (even friendships) and developed trust between the actors across the region (Interviewee 3 2024).

A third benefit is related to economic optimisation (Interviewee 1 2024). It adds weight to project applications (especially in the EU) when a project leader combines with other partners. Larger projects can attract more funding, particularly if one of the participants in the collaboration is known to be reliable and has experience with similar projects (e.g. Region Midtjylland) (Interviewee 3 2024). It can also lead to a wider range of possibilities during the implementation phase and a greater chance of the project being a success. Lastly, the six-year timeframe gave municipalities a clear direction and enough time to work on their subprojects, whereas shorter and smaller projects can restrict and interrupt actors significantly more (Interviewee 5 2024).

3.9 Improvements

Despite good overall coordination, the collaboration could have benefited from even better integration of the partners, especially when it comes to the different leadership levels and the relationships with the political level. It was hoped that having the National Association of Local Authorities of Denmark as part of the organisation would clear up the debate about the division of labour between the regions and the municipalities (Interviewee 1 2024). Nevertheless, when the subsequent national Life Act project was discussed, the National Association backed out of the discussions, since it took too long to come to specific decisions. In a similar vein, municipalities and universities should also be better at cooperating and finding synergies. Even though the C2C CC partners had access to the knowledge centres at partner universities, the interviewees felt that not all of the opportunities were exploited (Interviewee 3 2024) due to unwillingness on the part of the municipalities to make contact with research institutions, as per the initial idea when the universities were invited to join the collaboration.

Another improvement that was raised was to involve local politicians at a higher level, which could have been achieved if the project had been built up in a way that better reflected their thoughts, needs and political agendas from the outset. C2C CC focused mainly on experts in the field, only inviting in politicians when necessary. Greater engagement by politicians from the very start would have meant a

stronger sense of ownership from their perspective and greater opportunities for all of the partners (Interviewee 4 2024). For example, if experts evaluate that a channel needs to be narrowed or rebuilt, the project may fail if the politicians fail to convince people it is necessary. Balancing political power and expertise is a constant battle (Interviewee 2 2024). It is especially important to keep the politicians updated after elections when there has been a change in political leadership, as the new incumbents may be misinformed or unaware of such initiatives, which can lead to problems. Young people and their voices have not been appropriately represented in C2C CC either, and this is expected to be improved on in future projects. One way of doing so is involving the universities to a great extent in the planning and execution phases of the project. It is crucial to involve young people such as university students in these activities as they have a different knowledge set, which can be really useful for the partnership (Interviewee 4 2024).

A final recommendation to emerge from C2C CC is the need to formalise or extend project structures (Interviewee 6 2024). In this case, the project did not stick to its original form and was upscaled to national level under the name 'Life Act'. One interviewee emphasised that discontinuing a network that has been carefully developed over six years would be a significant loss. Although the networks and former partners still exist, changes in personnel may have a detrimental effect on collaborations. Establishing a regular system for collaboration would mitigate the risk of losing valuable partnerships (Interviewee 6 2024). This is also why it is important to have a partnership structure where the same people are continuously and consistently participating in meetings and networking events (Interviewee 5 2024).

3.10 Future direction

The C2C CC project finished at the end of 2022. Even though the interviewees all agreed that the six-year endeavour was a success, the project revealed areas of the region in need of immediate attention due to constant climate change. While there are several examples of this in the Central Danish region, three of the most acute areas are the Gudenåen river, the Thyborøn Channel as well as the Western Limfjord (Interviewee 3 2024). Based on the conclusions of the C2C CC subprojects regarding the need for transformation in these areas, significant investments (e.g., from the EU) are anticipated. The first indications and rumours of such investments are already emerging (Interviewee 3 2024). Talks about advice and borrowing funds have already been held with the EU's Investment Bank, which has published the EU Climate Bank Roadmap to support climate-related initiatives (Interviewee 1 2024; Interviewee 3 2024). The Investment Bank was curious about the current situation in the region and did not preclude anything from future discussions.

Even though the KlimaMidt initiative started before C2C CC, it was further developed as a by-product of C2C CC with the capability of fostering collaboration

on a broader spectrum of topics (Interviewee 1 2024). KlimaMidt is a structure where Central Jutland municipalities can meet and develop partnerships within the framework of Klimaalliancen (Region Midtjylland, n.d.-c). As part of KlimaMidt, Region Midtjylland has assigned employees to work with representatives of the municipalities on identifying common issues that can be raised at Klimaalliancen (Interviewee 1 2024). The region north of Region Midtjylland, Region Nordjylland, has also been inspired by RegionMidt and set up a similar structure, which is a prime example of how important it is to share knowledge over regional and municipal borders. In a similar vein, competences that have been acquired during the six-year project are still being used, even though the collaboration has come to an end (Interviewee 4 2024; Interviewee 5 2024). A key example of this is how easily the small municipalities were able to write the application for the new Life Act project, thanks to their experience from the C2C CC initiative.

While C2C CC has not been revived in a version 2.0, Denmark applied for funding for a similar project under the EU Life programme, called Life Act (Action for Climate Transition). In summer 2024, it was confirmed that the application was successful and would receive funding for the next eight years. The project has a total budget of DKK 200 million, 60% of which will be covered by the Life programme (Life Act, n.d.). While the new Life Act project is not a direct continuation of C2C CC project, it will try to resemble the original one, albeit on a larger scale. Region Midtjylland will once again act as project leader due to its successful coordination of the previous EU project. The key difference between the first and the second initiatives is that Life Act will not be constrained by regional borders but will cover the whole of Denmark. In fact, the project will include all five of Denmark's regions, 27 municipalities^[9] and the Central Denmark EU Office (CDEU), which also participated in C2C CC (Life Act, n.d.). Moreover, while C2C CC focused on municipal plans for climate adaptation, Life Act will help implement the action plans drawn up by the DK2020 initiative^[10] (Interviewee 4 2024). The stakeholders expect that this will allow them to form new networks with other municipalities that were not part of the initial C2C CC project (Interviewee 2 2024).

Attitudes to the effectiveness of the new Life Act project vary between the interviewees, despite them all agreeing it is highly necessary and useful. While some are certain that the project will be as successful as C2C CC, others are more sceptical because of some underlying factors. Firstly, while it is welcomed that Life Act will be implemented nationwide, the move from a regional to a national setting runs the risk of being done too rapidly (Interviewee 6 2024). Additionally, the C2C CC links and networks might be lost due to the large number of actors (Interviewee 5 2024; Interviewee 6 2024). This concern is partly due to the fact that C2C CC is

9. There are 98 municipalities in Denmark.

10. DK2020 was a Danish initiative to help municipalities draw up climate action plans as per the Paris Agreement. The project was headed by Realdania, the National Association of Local Authorities of Denmark, the five Danish regions, CONCITO and C40 Cities.

not being continued, so everything is being built from the ground up under a new name.^[11] Another concern relates to the relatively large geographical area, i.e. the whole of Denmark. Interviewees highlight the importance of physical meetings when building collaborative networks. It is thought that longer travel distances will make meetings less accessible and that online meetings do not help people get to know each other to the same extent (Interviewee 2 2024). This could make the new collaboration less effective and differ significantly from the initial network-building methods that contributed to the C2C CC project's success (Interviewee 5 2024). In addition, as Life Act covers a broader range of topics than C2C CC, the interviewees believe it will be less clear what kind of specialists will participate and hence, might have less in common professionally, impacting the familiarity between the network participants (Interviewee 5 2024). On the other hand, Region Midtjylland could establish a regional substructure for the Life Act project and organise special meetings for regional experts to address the concerns above. Only when the project gains momentum will we know whether these concerns have been justified or not.

Another fear was voiced that has been related to a possible new structural reform in Denmark where the regions as structures would be removed or restructured (Interviewee 2 2024). This would be pivotal to the success of future collaborative projects like C2C CC or Life Act because of the crucial role the regions play in facilitating partnerships. On top of that, smaller entities, e.g. rural municipalities, would not have the resources to manage such large projects (Interviewee 2 2024). However, this too is an early concern, that is yet to be justified.

3.11 Conclusions and recommendations

C2C CC exemplifies a success story by demonstrating the benefits and potential of creating an integrated partnership. Before the C2C CC project, the municipalities in the region had fewer opportunities for interaction and collaboration. However, due to active networking during the C2C CC project, the stakeholder interviewees felt that there had been a significant increase in the number of partnerships, a trend they expect to continue (Interviewee 2 2024). C2C CC is, therefore, a good example of collaborative regional leadership in the Nordics. Several aspects of C2C CC deserve to be highlighted and taken into account by future partnerships. The circumstances need to be right before you set up a collaborative structure. For C2C CC, it was crucial that the municipalities in the region were all in a similar situation regarding climate adaptation, all of them were in need of assistance. Paradoxically, having national or regional (EU) requirements without the necessary resources can encourage the creation of collaborative partnerships. A common goal endorsed by all parties is equally important for a successful cooperation.

11. The interviewees may not have known about the exact objectives of the Life Act project at the time of their interviews.

When the proper conditions are in place, it is crucial to keep in mind that whatever the topic of the collaboration, the main byproduct of a successful topic-specific, project-type partnership will probably be network development. A tight network is highly beneficial in rural areas with few resources, since it accelerates processes and enables more to be done with fewer staff. The aforementioned analysis of the C2C CC partnership also provides a list of recommendations and suggestions based on experiences during the project. While the recommendations are similar to the analysis, it additionally suggests: (1) the need for such collaborative initiatives to be mandatory to follow through without abandoning it midway (as with EU projects), (2) holding regular meetings for municipalities and partners, not just for the subprojects, (3) ensuring full transparency and (4) setting up a secretariat (in this case within Region Midtjylland) (Ørsted Nielsen and Wejs 2023). Building on existing recommendations, our own interviews and findings, we emphasise several key aspects necessary for achieving successful regional collaboration:

- Firstly, make as many of the decisions as possible before the project starts in order to minimise confusion, conflict and competition between the partners and focus on implementation. In other words, it is imperative that as much as possible is considered during the application-writing phase (roles, financial details, responsibilities, ways of working, etc.). On the other hand, it is equally important to hold evaluation sessions, for example, at the half-way stage.
- Secondly, specific subprojects, goals and objectives should be considered in a bottom-up fashion. For the partnership to function flawlessly, support for the ideas from the bottom (municipal employees) has to be properly understood at the top (politicians and managers). In other words, a bottom-up approach with constructive feedback from the top is a good combination when setting the agenda. A middle manager with good connections in several organisations can play a key role at this stage by acting as a facilitator between the top and the bottom.
- Thirdly, a good project leader is essential. Region Midtjylland played an exceptional role in the C2C CC collaboration, and its experience in project management was key for the success of the partnership. A crucial characteristic of Region Midtjylland is that it was always available to provide assistance to partners at every step of the way during the project.
- Fourthly, inclusion of all of the available competent stakeholders capable of assisting with the collaboration at least partially is pivotal (especially knowledge institutions, politicians and young people). Sufficient funding for contingent partners needs to be secured, as they will not all be able to participate without it. Consider partners from outside the immediate

region or interest area as well, but be aware that too broad a spectrum of partners might reduce the effectiveness of the partnership. While local politicians need to be involved from the outset so that they have a sense of ownership of the project activities and are prepared to take big decisions whenever necessary, it is equally important to consider that their personal political ambitions could pose challenges to the collaboration.

- Fifthly, organise mandatory in-person meetings where the actors can get to know each other and understand each other's roles. This will facilitate knowledge sharing later on in the collaboration. Specific human characteristics, e.g. being talkative, outgoing and professional, can also have great positive impact at this stage.
- Sixthly, such kind of collaboration needs to be either recurring or formalised while maintaining a single topic or focus area. If such projects are carried out once and not repeated, over time the developed network will disappear due to people changing jobs. In other words, the created networks need to be nurtured and updated all the time. However, some interviewees fear that collaboration may not be as effective as expected if it becomes too broad.

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Photo: Julia Kivelä / Visit Finland

Chapter 4. Collaborative Regional Leadership. Case study: Greenreality Network, South Karelia, Finland

This case study explores the Greenreality Network: a well-established platform for multi-stakeholder collaboration in the green energy and environmental sectors in South Karelia, Finland. Originating from a small cluster of local start-ups, the network has expanded to include members from academia, public and private businesses, municipalities and the regional administration. Through an informal yet organised approach, the network demonstrates how broad collaboration can support innovation and growth in a regional economy.

The case study draws on six semi-structured expert interviews conducted between March and August 2024. The participants were selected because of the active role they played in the network, their responsibilities and the sectors they represented. During the interviews, they were asked to reflect on the network's drivers, achievements, challenges, opportunities and future directions. The findings of this case study provide insights into and recommendations for multi-stakeholder collaboration in the context of regional development.

Overview of key regional characteristics

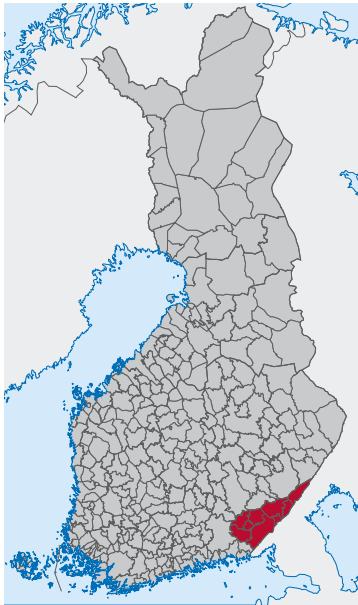
South Karelia is a rural region in southeastern Finland, bordering the regions of South Savo, North Karelia and Kymenlaakso, as well as Russia. Two of the nine municipalities in the region have city status: Lappeenranta and Imatra. The surrounding areas consist of smaller towns, villages, and extensive natural environments, including forests, lakes, and agricultural land. Lappeenranta serves as the regional capital and as the main driver of economic and cultural growth in the region.

The population of South Karelia is relatively small, approximately 125,000 (Statistics Finland, 2023). It is also notably ageing, with 29% aged 65+, reflecting broader demographic trends seen across rural areas in the Nordic countries. The two cities in the region have a somewhat younger and more diverse demographic, in particular Lappeenranta, which is home to the Lappeenranta-Lahti University of Technology (LUT), and a campus for the LAB University of Applied Sciences.

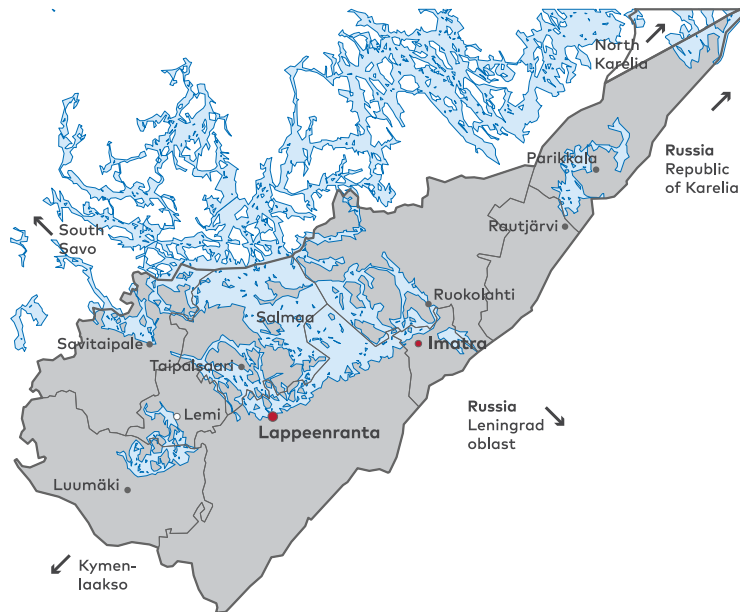
Governance in South Karelia consists of municipal councils responsible for local administration, public services and planning, and the Regional Council of South Karelia, which coordinates regional development and works with the municipalities, businesses, and educational institutions to implement regional strategies and oversee the implementation of national policies.

Economically, the region has prominent roots in industrial sectors such as forestry, paper, and metal. Tourism is also important, with Lake Saimaa, Finland's largest lake, and various historical sites attracting visitors. However, the geopolitical situation has put a strain on economic activities in recent years, particularly since the Russian invasion of Ukraine and the ensuing closure of the Finno-Russian border, which has halted tourism, cross-border trade, and economic cooperation with Russia.

Over the last decade, the region has fostered an expanding knowledge-based economy, with a focus on education, research, and technology-driven enterprises, and has made particular advances in green energy production and sustainable industries. A unique feature of South Karelia is its pronounced culture of stakeholder collaboration. The region benefits from active partnerships between public authorities, private enterprises, and academic institutions. The collaborative approach to innovation is exemplified by this case study, which explores the Greenreality Network – a business-oriented network which has evolved from a local group of entrepreneurs to a wide network of stakeholders across sectors, within and outside of South Karelia.



Map 1. Map of South Karelia



Introduction to the Greenreality Network

The [Greenreality Network](#) is a business-oriented network focusing on actors in the energy and environmental sectors based in South Karelia. When the network was founded in 2012, its primary goal was to act as a showcase and discussion forum for green energy start-ups in Lappeenranta, as there was an absence of a dedicated platform for this growing sector in the region. Initially, the network's activities were highly local, focusing on creating connections and familiarising members with one another, but without a distinct vision for the future. Over time, it has expanded into a regional collaboration with [50 members](#), including private and public companies, the LUT-University, municipalities and the regional council (see Fig. 1). The businesses in the network range from technology start-ups to established corporations operating in global markets.

The City of Lappeenranta plays a central role as the coordinator of the network, while the LUT-university provides a link to on-going opportunities for research and collaboration, bridging the gap between academia and industry. The objective of the network is to increase local and regional investments, promote the member companies, encourage networking and knowledge sharing, and provide a shared platform for innovation. By facilitating the pooling of resources and increasing visibility, the network also aims to position South Karelia as a centre for green innovation in Finland, leveraging the region's green profile. While most members are still in the green energy sector, the network also includes other industries in the environmental sector organised into thematic sub-groups for sectors such as real estate, transportation and solar energy.

The governance structure of the Greenreality Network follows an informal approach within a more organised framework and is designed to encourage

collaboration and strengthen trust between members. As the network coordinator, the City of Lappeenranta manages operations: organising events, seminars, and regular meetings; creating marketing campaigns; supporting members in raising funds; and facilitating collaboration in general. To provide strategic direction and allocate resources, the network has a steering group consisting of representatives from the regional council, the City of Lappeenranta, and member organisations. The steering group has a chairperson and a vice-chairperson, often from well-known corporations, who actively lead on its agenda. While the network operates with these elements akin to formal organisations, it retains a flexible structure, ensuring that decision-making power resides with its members. Maintaining a low threshold for participation is also a central feature of the network, with the annual membership fee kept at a modest rate.



Figure 1. Greenreality Network members.

Drivers

An important driving force throughout the network's history has been its ability to offer a channel for direct discussions with representatives from the city of Lappeenranta on various issues. The network has facilitated discussions on topics such as zoning issues, permits and public funding, providing a direct link to the city leadership, as well as the LUT-University. Sharing tacit knowledge between industry actors, such as technological discussions and industry indicators, in a way not possible through formal routes, is another key aspect driving collaboration (Interviewee 5, 2024). As cooperation with new partners has strengthened and the Network has joined other national and international networks, its scope has expanded organically.

External factors have also played a role in driving collaboration in the Greenreality Network. Socio-economic challenges, particularly those arising from global and regional crises, have underscored the importance of sustainability and green technologies. The closure of the border with Russia and the subsequent cessation of all cross-border networking activities has further heightened the need for energy self-sufficiency, economic resilience and new business avenues in the region. This context has made the network's goals of promoting green technology and sustainable practices even more relevant and urgent while also increasing a sense of shared responsibility for the vitality of the region (Interviewee 3; Interviewee 6, 2024).

Lastly, the broader mainstreaming of green energy and the rise of green tech industries have provided a favourable external environment (Interviewee 2, 2024). While the network initially represented a niche industry, the last decade has seen a growing recognition of the importance of green technologies, in Finland and internationally. This shift has heightened interest and increased support for initiatives like the Greenreality Network, facilitating its expansion and attracting new members and partnerships outside South Karelia.

How it all works

The Greenreality Network is characterised by regular and varied interactions. Members have the opportunity to meet several times a year at both formal and informal gatherings. Networking meetings are held four times a year, typically hosted by a member company. During these meetings, different workshops and brainstorming sessions are held to collectively discuss and develop Research, Development, and Innovation (RDI) activities and update members on relevant activities in the region. A general meeting is also organised annually, at which major decisions are voted on, ensuring all members have a say. In addition to these structured events, the network also organises more casual interactions, including social gatherings such as lunches and dinners, which help build personal connections and trust.

Close collaboration between members and the City of Lappeenranta is also prioritised. A key part of its role as the network facilitator is staying updated on the status of each company, such as their growth or pressing obstacles, so their needs are better understood. To do this, structured one-to-one meetings are held once or twice a year, at which members provide input and feedback on network activities and raise emerging concerns, such as advocacy-related issues, land and zoning questions, or their views on collaboration with LUT University (Interviewee 3, 2024).

The collaboration with LUT University also strikes a balance between formal and informal interactions, which allows for flexibility in project organisation and for experimentation. While financial investment in this partnership is not substantial, numerous theses have been written highlighting its impact (Interviewee 4, 2024).

The collaboration between members and LUT University is designed to be multidirectional, so the university can present ideas to companies and vice versa. The city also plays an integral role in supporting this collaboration by maintaining an overview and empowering interactions (Interviewee 6, 2024).

While in-person meetings are valued for their effectiveness in fostering relationships, the network also uses digital tools for communication and collaboration. Regular newsletters keep members informed about ongoing projects, upcoming events, and other relevant updates. Digital surveys are used to gather feedback and collect ideas for potential projects. The network consciously avoids overly complex digital platforms, preferring simpler methods, such as emails and Teams, to maintain an informal and accessible communication environment (Interviewee 1, 2024).

Challenges

While the Greenreality Network has not been marred by any notable disputes, challenges and discussions do arise about practical issues and strategic direction. These discussions usually arise from the differing priorities of the diverse membership (Interviewee 4, 2024). With the varied backgrounds and objectives of the stakeholders—including large corporations, small startups, educational institutions, and municipalities—some friction is to be expected. For instance, energy-related issues often dominate the agenda due to the significant number of members from the energy sector, sometimes overshadowing other environmental themes (Interviewee 2, 2024).

Regarding strategy, there has been debate within the network about the level of formalisation needed. While the informal structure is seen as a key asset, some members have raised concerns about the efficiency and long-term sustainability of this approach. The ad-hoc allocation of city resources has been questioned, for example, with suggestions of adopting a more structured and strategic model for resource allocation. However, moving towards a more formal organisational structure could put at risk the flexibility and member-driven nature that currently defines the network (Interviewee 1; Interviewee 2; Interviewee 5, 2024).

To address financial concerns, the membership fee has also been discussed. Increasing the relatively low fee to secure more stable funding has been considered but has been resisted by corporate members because higher fees could potentially exclude smaller businesses or make the membership the first item on the agenda if the need for budget cuts arises (Interviewee 2; Interviewee 5, 2024).

On the practical side, competing interests can occur when prioritising and selecting participants for collaborative projects, especially those involving EU funding. With multiple potential partners vying for limited spots, choosing who to include can be difficult. This challenge is further complicated by concerns over intellectual property

rights and competition among businesses. To address these concerns, non-disclosure agreements and one-on-one meetings have been brought in as part of the grant writing process (Interviewee 6, 2024). The network has also taken steps to train members to apply for research funding themselves.

Lastly, growth and new interest in the network raises questions about how it should adapt to change. With activities extending outside the region and new industries emerging in the green economy, discussion about the defining elements of the network—both geographically and thematically—are increasingly topical. While navigating these questions can be challenging, the network focuses on keeping discussions open, accepting compromise and empowering its members to make decisions by voting on them. Addressing these challenges is part of the network's ongoing efforts to ensure that it serves a purpose and adds value for its members.

Enablers

The Greenreality Network's ability to thrive is supported by several enabling factors, including a culture of collaboration in the region, effective leadership on the steering committee, and the supportive role played by the City of Lappeenranta.

South Karelia has a longstanding culture of collaboration, the modest size of the region facilitating communication and relationships between stakeholders. The informal and regular network gatherings have further strengthened trust between actors through open discussions (Interviewee 1, 2024). In addition, both public and private actors recognise the financial and demographic strains faced by the region as a challenge for them all, and they share an interest in boosting the region's vitality and a collective sense of urgency and solidarity (Interviewee 3, 2024).

Good leadership also plays a significant role in the network's success. The steering committee has been central to the strategic work, with leaders from large corporations serving as chairpersons and bringing dedication and drive to the network. The active engagement of the chairs has been highlighted as a key factor in fostering a culture of trust and commitment among members (Interviewee 3, 2024). The City of Lappeenranta's supporting role in the entrepreneurial ecosystem around green technologies is also notable. In 2021, the city created a fixed-term position (2021-2027) for a grant writer to help secure project funding and grants, a resource priority rare in Finnish municipalities. The post was set up under the Green Electrification Ecosystem Agreement (2021–2027), a national collaborative project to facilitate green electrification in a range of sectors, and pursues the agreement's objective of attracting EU funding for local companies (Interviewee 6). The presence of a dedicated project coordinator for funding applications has significantly enhanced the network's capacity to attract resources for collaborative projects involving public-sector stakeholders, LUT University, and corporate stakeholders. More and more cities are now considering creating a "grant writer" position.

Benefits

Interviewees considered the informal encounters that enable the participants to discover shared challenges and opportunities to be the most significant benefit of the network. Members report that the network fosters trust and open discussion and that regular interactions provide a platform for generating new ideas and sustaining collaboration. Global companies with outposts in the region reported that the network has also helped them become more visible locally, as they may not have had direct connections to individual actors or public authorities before joining (Interviewee 5, 2024). The success of the network is also rooted in the mutual trust among members and the shared visions for the region's development.

The impact on the regional innovation ecosystem is also a notable benefit, with the network heralded as a role model for collaboration. For instance, the South Karelia Innovation Strategy 2022–2025 states that "new business-driven thematic networks are to be created according to the model of the Greenreality Network" (Regional Council of South Karelia, n.d.). By collaborating with the regional council, the network has taken a strategic role in influencing policies and plans for regional development, advocating for policies that support green technologies and sustainable development. However, as participating in hearings and influencing specific policies is not a core task due to the broad diversity of its members and their interests, the network seeks to ensure broad consensus before engaging in policy discussions (Interviewee 2, 2024).

The active involvement of the LUT University in the network also provides mutual benefits for the institution, students and corporate members. Student organisations and several faculties are actively involved in the operations, and while financial contributions and the scope of involvement may vary, several projects and theses have been commissioned via the collaboration. In addition, collaboration with the university is an advantage when it comes to company recruitment processes, as students are introduced to potential employers before they graduate. The outcome is considered a win-win situation for the stakeholders, and ultimately also benefits the region by stimulating financial growth and helping to retain talent. LUT University, the city, and local companies also use the framework of EU-funded projects to train university students, e.g. writing their master's thesis and/or gaining work experience (Interviewee 6).

Another benefit of the network has been the marketing advantages it provides. For instance, members attended trade fairs together for the first time in 2024, sharing stands, marketing materials and publications. This tangible example of collaboration helped reduce costs significantly and is an activity that the network will continue exploring in the future (Interviewee 4, 2024). The network has also organised two successful conferences on clean energy and business development (the second one in September 2024). Going forward, the aim is to host an annual conference.

Benefits:

- **Greater trust and open discussions** through regular, informal interactions among diverse stakeholders.
- **Generating new ideas and sustaining collaboration** by providing a platform for knowledge sharing and joint innovation.
- **Greater local visibility for local and global companies**, helping them establish connections with public authorities and LUT-university.
- **Influencing regional policies and plans**, collaborating with the Regional Council to support green technologies and sustainable development.
- **Supporting talent recruitment** by facilitating collaboration between businesses and academia, introducing students to potential employers prior to graduation.
- **Providing marketing advantages**, such as attending trade fairs together, reducing costs and improving collective visibility.

Securing partnerships and funding, particularly through centralised grant writing, which has connected members with European partners.

Achievements

The network has effectively enhanced the visibility of its members both locally and abroad, securing partnerships and funding from outside the region. The dedicated resources for grant writing have been particularly crucial in achieving this, connecting members with partners across Europe. For instance, projects covering smart mobility, energy efficiency, climate adaptation and new material, ICT-solutions, innovation (heat storage) have received funding from EU programmes including Horizon, Interreg and Net Zero Cities. Different thematic research groups have emerged organically, for instance dedicated groups for green hydrogen, urban planning, transport, and building smart energy management. In total, the city has secured funding for seven research projects from the Horizon Europe programme (including Mission Cities) (Interviewee 6, 2024). Bridging the gap between academia and businesses in the region is one of the network's most notable achievements.

The network has also brought about a significant shift in the mindset of Lappeenranta's city administration, which now focuses on what benefits the whole region rather than just the city. As well as facilitating the Greenreality Network, the municipality has also started organising a diverse set of initiatives that encourage local people and SMEs to commit to sustainable choices and climate-friendly actions.^[12], ^[13] Although these "Greenreality Lappeenranta activities" are separate from the Greenreality Network, the wider use of the Greenreality name helps strengthen public awareness of the municipal and regional efforts to become a frontrunner in the green transition.

Improvements

While all interviewees considered collaboration in the Greenreality network to be well-developed and functional, improvement is an ongoing priority. A more formal structuring of the collaboration, such as registering the network as a legal entity, has been discussed as one possible avenue for improvement. However, changing the operational model might jeopardise the flexibility and sense of informality that members value. A delicate balance needs to be maintained to enhance the network's effectiveness without compromising these key characteristics. Ultimately, any changes will depend on the members, who share the collective responsibility for decision-making.

The interviewees from the region considered that a more systematic approach, with clearly defined focus areas and greater resources for active project management would be advantageous, especially as the network is expanding to include more members and thematic areas (Interviewee 2, 2024). Such efforts could also help stimulate greater involvement by the more passive members, ensuring that all participants derive value from being part of the network, while removing tension about perceived "free riders" (Interviewee 4, 2024).

Expanding the network within and outside the region and building stronger ties with other innovation hubs—e.g. in Imatra, Joensuu, and Kouvola—could also bring significant benefits (Interviewee 6, 2024). However, these improvements would require additional resources beyond what is currently available, highlighting the need for strategic planning and the fact that in securing more base funding is a challenge.

Future direction

In 2023, the network refreshed its strategy. Led by the network coordinator from the city of Lappeenranta, the process involved close collaboration with the

12. <https://www.greenreality.fi/en/greenreality-lappeenranta>
13. <https://www.greenreality.fi/en/greenreality-lappeenranta/projects>

chairperson and vice-chairperson to outline main directions, with input and feedback gathered from the steering committee and network members in an attempt to reflect the needs of the latter. The strategy states general objectives and outlines tangible measures for the future.

One key strategic priority is to offer members more practical support, especially to enhance their knowledge of corporate responsibility and sustainability reporting. These areas are particularly important as funding bodies increasingly consider such aspects when making investment decisions and many of the members also want to stand out as industry leaders. Besides increasing funding and investment opportunities, members consider it valuable to be prepared for stricter requirements in the future.

Another key strategic focus is to ramp up efforts to increase the visibility of the members, particularly strengthening their digital presence. Some voluntary initiatives and social media campaigns have already been launched, including short [videos](#) in which members discuss the benefits of the network and provide insights into their companies. As mentioned earlier, attending industry events together has also provided a marketing advantage.

While there have been slight strategic adjustments over the years, the network's core principles remain focused on open collaboration between businesses and public entities in the energy and environmental sectors (interviewee 3). Although tangible outcomes are difficult to predict, interviewees considered that the members' senses of shared responsibility and commitment to find collaborative solutions for the region have been heightened, especially in light of the recent border closures. As such, the benefits and achievements of the network might become even more evident in the future.

In summary, the network will continue to strengthen the ways in which it collaborates by responding to the needs of its corporate members, while opening itself up to further geographic and thematic expansion. By doing so, the network aims to create a resilient and dynamic environment for collaboration that will be capable of adapting to changing circumstances and support the sustainable growth of its members.

Best practices

The Greenreality Network demonstrates the power of bringing together diverse stakeholders, including businesses, academia, municipalities, and public organisations. By creating a platform where different actors can collaborate, exchange knowledge, and pool resources, the network has been able to drive innovation and economic growth in the green energy sector. Key takeaways from this case study are highlighted below:

It is best to build trust and commitment organically, over time and on the basis of what members of a network view as meaningful actions. Once this base has been established, it should not be taken for granted but nurtured.

- Sometimes more funding opportunities are available to small organisations and municipalities than they have resources to apply for: collaboration models such as setting up a grant writer position for a larger network can make attracting funding more efficient.
- The new hybrid reality of work and living enables us to understand regions in a more flexible and broader way, transcending traditional administrative borders. Collaborative networks can tap into this to extend their outreach.

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Photo: Erik Kuhlefelt / Visit Åland

Chapter 5. Collaborative Regional Leadership, Case Study: Grit:lab, Åland

The Grit:lab initiative is a two-year coding programme launched in 2022 for individuals aged 18+ seeking new skills and career opportunities in tech and development. The main objective of the programme and collaboration is to benefit Åland by attracting new talent and growing the region's tech and startup scene (Grit:lab, 2024). To succeed, close collaboration was required among key actors including the tech and gaming company Paf, Åland's Yrkesgymnasium and the Åland government. This case study is based on five semi-structured interviews with involved parties between May and August 2024 and anonymised as Interviewees 1-5.

Overview of key regional characteristics

Åland is a self-governing and monolingual Swedish-speaking province of Finland in the Baltic Sea region. The province includes 6,757 islands larger than 0.25 hectares of which 60 are inhabited and home to a population of approximately 30,000, primarily on the main island and capital of Mariehamn. Mariehamn is considered the only town and has a population of roughly 11,700. Åland also has fifteen rural and archipelago municipalities and 20,000 more islands of less than 0.25 hectares (ÅSUB, Facts about Åland; Visit Åland, Åland in a brief, 2024).

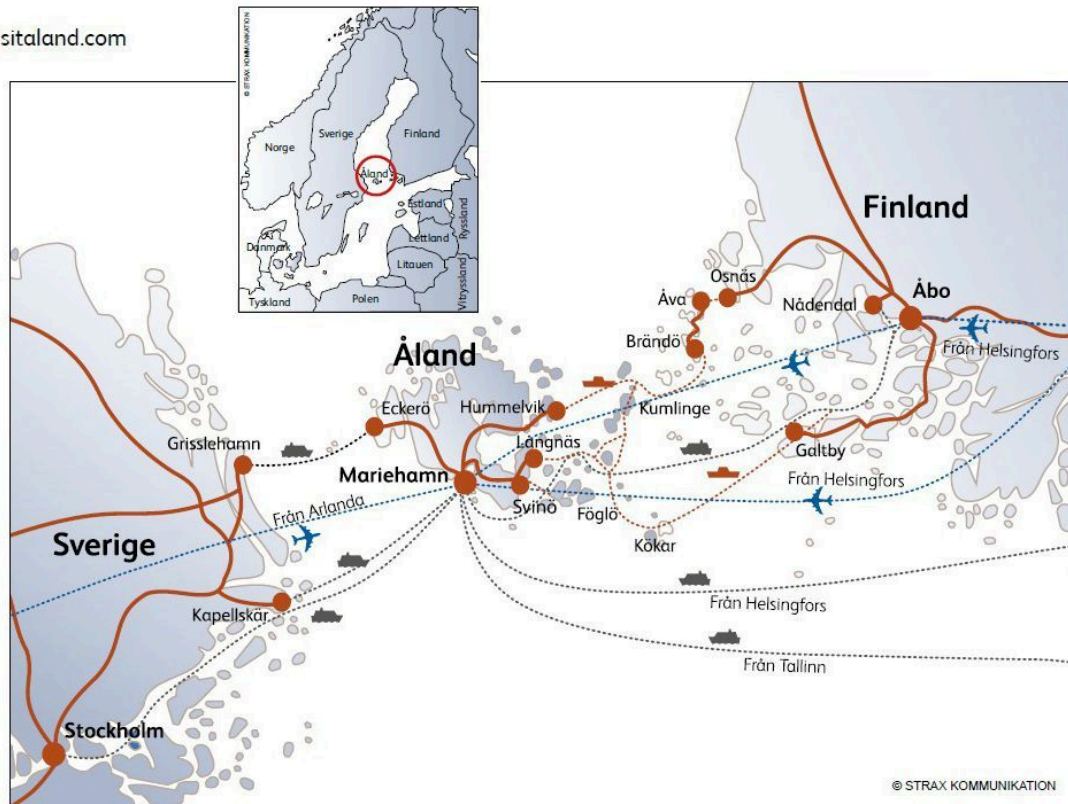


Figure 1. Map of Åland, Visit Åland.

(<https://visitaland.wntr.io/uploads/2022/04/kommunikationskarta.jpg>)

The Åland Islands became self-governing in 1921, allowing the islanders to legislate, decide on internal affairs and control their own budget. Anybody born in Åland or who has lived there for five years without interruption is entitled to the right to domicile, a precondition to own land, conduct business, vote and stand for election to the Åland parliament. General elections to the parliament are held every four years and the parliament then appoints a candidate tasked with forming a provincial government. It governs by proposing amendments or new legislation and implementing the decisions of parliament. To assist in its work, it has various departments that are part of the general administration and several other authorities with responsibilities within the province's areas of competence (Info Norden, 2024a; Regeringen, 2024a).

Labour market and economy

The population of Åland has grown steadily over the last decade, increasing 7.6% in the period 2010–2020. The employment rate has grown slightly faster than the population. Since the fertility rate in Åland is only 1.6, the population increase can be attributed to migration. The majority of the people who moved to Åland during the same time period were born outside of Finland, and most of them are aged 20–39. This has led to Åland having a younger population, and the labour force has grown (ÅSUB, Education and Labour Market 2035).

The labour market on Åland is relatively segregated, with women dominating the healthcare, social care and education sectors, and men dominating the construction and water, electricity and waste management sectors. The service sector plays a crucial role in the Ålandic economy, and a big part of the private sector on the island is dependent on tourism, which led to Åland suffering more severe consequences than the rest of Finland during the COVID-19 pandemic. Since the economy is sensitive to shocks to the service sector, there is a need for diversification (ÅSUB, Education and Labour Market 2035).

The Åland government has drawn up three potential scenarios for the economy and demography. They highlight globalisation and digitalisation as megatrends to which the local economy will have to adapt if it is to face future challenges. In the most optimistic scenario, a successful digital transition by companies and Åland as a whole and attracting skilled workers from abroad are regarded as key prerequisites for a swift recovery from the pandemic and a rise in productivity (ÅSUB, Education and Labour Market 2035).

Education system

The education system on Åland consists of three main levels: primary, secondary and higher, with primary and lower secondary school compulsory. After completing the third year of lower secondary education, students can continue to upper secondary at Ålands Gymnasium. Upper secondary education is divided into pre-vocational and university preparatory studies. The option available for higher education is the Åland University of Applied Sciences, and many choose to move to the Finnish or Swedish mainland to continue their studies after secondary school. Swedish is the language of instruction at all schools and levels (Info Norden, 2024b; Regeringen, 2024b).

The Ålandic education system has a special focus on lifelong learning, which means learning at all ages and for both professional and personal reasons. A high-functioning system for lifelong learning means the labour market can respond more rapidly to changes in the demand for competences. The Åland government's educational policy programme for the period 2015–2025 (Utbildningspolitiskt program för landskapet Åland Kompetens 2025) emphasises the importance of a flexible system that responds and adapts quickly to the rapid pace of change in modern society. Digitalisation is seen as the single factor with the greatest impact on change and the government policy aims to help the education system keep up with digitalisation in the rest of society. Another goal is to give Ålandic education a more international profile and keep up with the accelerating pace of globalisation (Utbildningspolitiskt program för landskapet Åland Kompetens 2025, ÅSUB, Education and Labour Market 2035).

Introduction to Grit:lab

Grit:lab is a collaboration that aims to attract people to move to Åland, develop skills that match industry needs and contribute to the digitalisation and transformation of the islands. The goal is to boost Åland's position as a 'tech hub' and increase growth at the local level by attracting new competences (Interviewee 1; Interviewee 2; Interviewee 3; Interviewee 4; Interviewee 5, 2024). The programme stands out from traditional adult education in Åland. It is completely project-based, based on peer-to-peer learning without teachers, in English and provided by a "gamified" digital learning platform (Figure 3) (Interviewee 1, 2024).

Grit:lab requires no prior education or experience; instead, applicants do cognitive tests in an online gaming environment designed to test their independent problem-solving skills, creativity and logical thinking. The 150 highest-scoring applicants from the online tests are invited to Åland for the second phase of takeouts and a four-week introduction to coding and training, via for example, "raids", "quests", and "hackathons". During this stage, a total of 70 participants are selected to start the programme in Mariehamn (Interviewee 1, 2024).

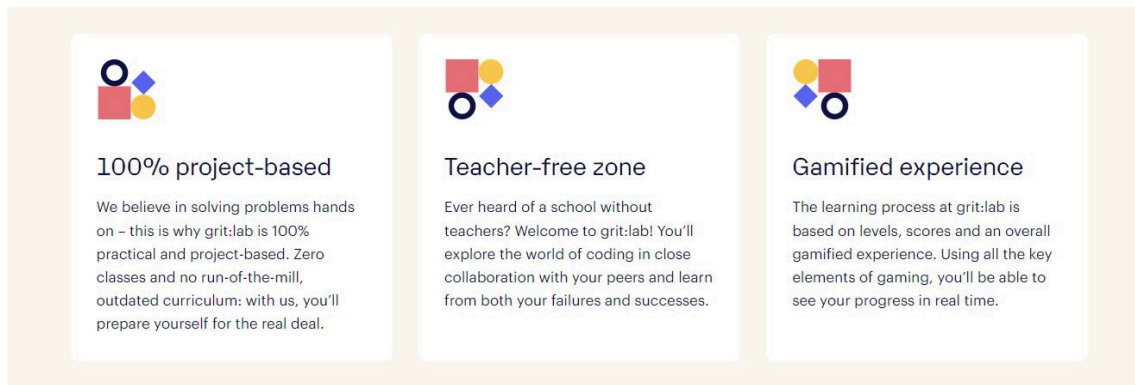


Figure 2. The three pillars of the Grit:lab concept, shared presentation slide, 2024.

The programme is run by the company Paf and Åland's Yrkesgymnasium. The latter offers vocational training in around ten different fields as well as adult education (Ålands Gymnasium, 2024). Paf is a government-owned gaming company set up in 1966 by founding parties including Folkhälsan, Rädga Barnen Åland, and Rödä Korset Åland. Its mission is to generate and allocate gaming funds to socially beneficial projects and organisations (Paf, 2024).

Grit:lab officially started in 2022, a year after the concept was devised and the collaboration commenced. Roughly 2,300 individuals from 80 countries applied for its second round, in the admission period between December 2023 and January 2024, of whom 30% were women and the median age was 33 (Interviewee 1, 2024).

Drivers

The collaboration behind the Grit:lab case study resulted from a combination of driving forces, including **shared challenges** due to skills shortages in the tech industry and the desire to make Åland more attractive. The interviews describe the lack of creative developers, especially in systems development, as an important driver (Interviewee 1; Interviewee 3; Interviewee 4, 2024). Many larger IT companies established offices outside of Åland due to this shortage. According to the interviewees, traditional education is not perceived as keeping pace with the rapid pace of development in the sector, hence the need for new competence-supply solutions.

Against this backdrop, **political support** proved a critical catalyst for Grit:lab, offering links between business and education, e.g. by facilitating the dialogue that drove the involvement of Ålands Yrkesgymnasium (Interviewee 3; Interviewee 1, 2024). Another key driver mentioned in the interviews was the COVID-19 pandemic, which was an **exogenous shock** to Åland. The pandemic's effects on working life, with the rapid adaptation to new work-life norms of remote and hybrid work, demonstrated the investment value in tech and its creative and adaptive workforce. The pandemic's effects also had direct business implications, e.g. creating vacant premises at Paf's headquarters in Mariehamn and driving the ideation process for alternative uses of the empty space – ultimately transforming it into a campus for Grit:lab students (Interviewee 1; Interviewee 2, 2024).

This also points to a third driving factor highlighted in the interviews: Paf's **entrepreneurial spirit** and industry knowledge. An entrepreneurial spirit is evident in both the public and private stakeholders, but with its industry knowledge, position and particular mission for the region, the gaming company played a key role as driver and catalyst (Interviewee 1; Interviewee 2; Interviewee 3, 2024). For example, the interviews highlight that Paf found inspiration for Grit:lab in educational models developed in other countries (Interviewee 1; Interviewee 2, 2024). In pitching the concept and activating stakeholders, Paf's management was also able to make a compelling case to its board that secured funding to initiate the programme (Interviewee 3, 2024).

How it all works

The Åland government formally commissioned Paf and Ålands Yrkesgymnasium to run Grit:lab, along with a steering group meeting twice yearly (Interviewee 2, 2024). Paf manages the programme, coordinates its partners, and ensures funds and resources such as the campus premises (Interviewee 1; Interviewee 2, 2024). Ålands Yrkesgymnasium functions as the official educational provider and administrative body, which enables students who complete Grit:lab to receive a formal degree from Åland (Interviewee 1, 2024). The Åland government and the ministries for

education and economic affairs support the collaboration with funding, advocacy, policy and administrative assistance so that Grit:lab fits into the regional regulatory frameworks (Interviewee 3, 2024).

Beyond formal assignments, much of the communication and coordination takes place through informal contacts and networks. Additional stakeholders are called "Grit:lab supporters" (Figure 3). They do not have formal commitments but support Grit:lab due to a shared vision for the region (Interviewee 1; Interviewee 4, 2024). They include Ålands Näringsliv which represents roughly 500 businesses and maintains close contact with both the ministry for economic affairs and with Paf on the committee for IT matters, "IKT-utskottet" (Ålands Näringsliv, 2024). In the initiation phase, the committee was approached to assess the need for and interest in Grit:lab: "Although the idea did not originate from the business sector, it gained traction and led to further discussions with committee representatives" (Interviewee 4, 2024).



Figure 3. The Grit:lab supporters, About Grit:lab, 2024 <https://gritlab.ax/about>.

The programme also invited Åland tech companies to collaborate as "Grit:lab partners" (Figure 4), to enable a match-making process for students and future employers by offering internships, networking, visits and career fairs during the programme period (Interviewee 1, 2024). The cooperation with partner companies is described as flexible in the sense that the companies contribute based on resources and interest: "Those who are involved pay with commitment, and the more they are involved and visible, the more they get back in employer branding" (Interviewee 1, 2024). Thus, the level of commitment is up to the individual company, while Grit:lab serves as a facilitating forum for potential employers to meet and match with students and potential employees.



Figure 4. The Grit:lab partners, shared presentation slide, 2024.

Challenges

Challenges, however big or small, are part of any collaborative process. In this case, the **capacities and resources of stakeholders** to participate sometimes proved challenging. For example, one company that was initially very enthusiastic about the project had to scale back its operations and was no longer able to contribute as much (Interviewee 4, 2024). One interview also noted that there were initial challenges in **getting certain stakeholders on board**, e.g. Åland University in the early stages (Interviewee 3, 2024). Åland's Yrkesgymnasium would be the educational provider instead, offering the openness and willingness needed to administrate an unconventional educational format. In addition, the **educational policy frameworks** posed a hindrance to implementation, requiring policy adjustments from the government during the start-up phase (Interviewee 3, 2024).

Another challenge was **supporting the integration of Grit:lab students into the Åland community**. Åland's small size and the influx of students from diverse cultures created a need for greater integration efforts, which includes addressing issues such as housing, language support, and access to information about life on Åland (Interviewee 5; Interviewee 3; 2024)

Sustainability and longevity of the collaboration were also identified as challenging aspects. Interviewees noted that it can be difficult to keep motivation up over time, anchor decisions internally and at the highest level, as well as anticipate the level of engagement in a new collaborative context (Interviewee 3; Interviewee 4, 2024). They also emphasised the need for long-term work, close coordination and activation (Interviewee 1; Interviewee 2; Interviewee 4, 2024). As described by one of the interviewees, it can be difficult to collaborate when everyone is busy with their normal business (Interviewee 1, 2024). After finishing only one programme period,

they highlighted that it is still a learning process for all parties involved. While it can be hard to maintain active engagement over time, flexible and voluntary partnership structures have been necessary for the process to align with a collaboration culture based on trust and mutual understanding (Interviewee 4; Interviewee 2, 2024)

Enablers

While "drivers" refer to factors that act as catalysts or initiators of collaborations, "enablers" points to the elements that contribute to their ability to function effectively. The small community with close contacts and short decision-making paths is described as having had significant advantages in this regard (Interviewee 3; Interviewee 1, Interviewee 4, 2024). **A culture of collaboration and existing networks** are identified as enabling factors to Grit:lab, e.g. close relationships between the Åland government, Paf and Åland's Näringsliv representing businesses on the islands (Interviewee 4, 2024). One interviewee also stated that throughout the process of Grit:lab, it has been easy to bring together relevant stakeholders, discuss and receive information because "everyone is just a phone call away" (Interviewee 1, 2024).

The political level also played a central role in getting things in place both quickly and smoothly, from funding to administration. The interviews highlight the active support and ambassadorship of political representatives as enablers, actively engaging stakeholders and the public for Grit:lab's cause (Interviewee 2; Interviewee 3; Interviewee 4, 2024). **Political will and support** from the Åland government made it possible to adapt the programme and/or policy and regulatory frameworks. For example, the political level enabled the programme to be offered in English, making changes to the Swedish requirement for education on Åland, which was critical for Grit:lab's ability to accept international applicants (Interviewee 3, 2024).

A number of formal and informal **place leaders** from both Paf and the government were also crucial to realising Grit:lab. The interviewees emphasise the key role of specific individuals in facilitating collaboration with government officials and civil society actors to accommodate not just the Grit:lab applicants but their families with housing, work opportunities, language courses and other arenas for integration into Åland society (Interviewee 2; Interviewee 3; Interviewee 4, 2025). For example, arranging a tailored-made Swedish language class to be taught at the Grit:lab campus, and mobilising Åland citizens and civil society to help accommodate the international students (Interviewee 3, 2024).

One of Grit:lab's biggest responsibilities was the integration of incoming students. However, they were also aided by a huge collaborative effort by everyone from government to individual citizens due to the **common vision** and **strong commitment** to the Grit:lab cause. As highlighted by one interviewee: "You need to

work together to involve the whole of society and create the conditions for the integration of new students. It's a lot about finding the people who believe in the idea, say let's do it and help solve problems little by little when they arise" (Interviewee 3, 2024).

Achievements

As the programme has only just finalised its first programme cycle in 2024, the collaboration achievements are rather short-term so far. Nonetheless, the collaboration behind Grit:lab has helped increase the pool of skilled IT developers and provide local companies with access to talent that was previously unavailable. In this regard, Grit:lab has succeeded in building **a new talent pool** in Åland (Interviewee 3, 2024). Several students from the first class to graduate were taken on by Paf and other tech companies before finishing their final semester, 18 of 20 by Åland-based companies (Interviewee 1; Interviewee 2, 2024).

Since the start of Grit:lab, Åland's Näringsliv and IKT-utskottet also applied for EU funding for projects in order to **further develop Åland as an IT cluster**. As emphasised in the interviews: "Grit:lab became a starting point to understand that together we can do more." (Interviewee 4, 2024). Internationally and at the Nordic ministerial level, government representatives and Grit:lab stakeholders have also conveyed the concept behind the programme to the Nordic education ministers (Interviewee 3, 2024).

Benefits

The Grit:lab collaboration and initiative has **strengthened connections** between various stakeholders, from IT companies to education providers and government departments. As highlighted in the case interviews, before Grit:lab, Åland tech companies lacked a natural forum for cooperation on the common challenges they faced in attracting skilled and creative developers (Interviewee 4; Interviewee 2; Interviewee 1, 2024). The collaboration provided a platform for this and created a vibrant environment at Paf's headquarters where this shared space enabled a natural exchange between students, Paf staff and partner companies (Interviewee 2, 2024). In addition, the efforts to integrate Grit:lab students into the Åland community also led to closer collaborations between public, private, and civil society actors (Interviewee 5, 2024).

The collaboration has also **demonstrated the potential for innovative education models** tailored to the needs of the local economy (Interviewee 4, 2024). It has inspired creativity and practical elements in Åland schools and particularly in adult education where, for example, teaching and learning can benefit from hosting students outside traditional school premises, according to one interview (Interviewee 3, 2024).

In addition, the initiative has **enhanced the visibility of Åland as a tech hub**. Grit:lab has garnered significant attention from local to international media and stakeholders, promoting Åland as a place for innovative tech education and employment (Interviewee 2, 2024). The campus at Paf's headquarters has hosted many visits during Grit:lab's first programme period 2022–2024 and the interest has had positive branding effects – for Grit:lab, Åland and in the long run for the associated companies in helping raise the profile of the Åland tech sector (Interviewee 1; Interviewee 2, 2024).

On top of all that, the programme provides graduates with the skills and connections necessary to pursue entrepreneurial endeavours, contributing to the development of a **vibrant tech ecosystem** on Åland (Interviewee 4; Interviewee 5, 2024).

Improvements

While Grit:lab has been successful in attracting students to Åland, interviews highlight the need for **more strategic recruitment planning** by companies who often have short-term recruitment needs. The informal nature of the local job market and lack of clear recruitment channels risk creating barriers for international students in finding employment on the islands, as highlighted by one interviewee: "Not all companies are listed on those big search engines, and if you're new to Åland you wouldn't know exactly which ones operate here or where to look. Then you might think there are no jobs, but it's easy for someone from here to say: 'But there's this company, that company, and the other one.'" (Interviewee 4, 2024).

The collaboration has also led to a recognition that more can be done overall to **support the integration of Grit:lab students** and their families into the Åland community and make it easier for them to stay and contribute (Interviewee 4; Interviewee 5, 2024).

Future direction and recommendations

Looking to the future, one of the shared goals and long-term aspirations behind the Grit:lab initiative is for international graduates to stay, work, integrate and contribute to the business and tech ecosystem in Åland (Interviewee 1; Interviewee 3; Interviewee 5, 2024). Grit:lab fosters an environment that encourages graduates to not only seek employment but also consider starting their own businesses (Interviewee 4; Interviewee 5, 2024). Based on the interviews, here are some suggestions for future directions and recommendations:

- **Utilise university innovation hubs:** This opportunity would be available to Grit:lab students who wish to continue studying and develop their skills on

Åland (Interviewee 1, 2024). Among the future visions for collaboration, utilising innovation hubs could offer one way to support graduates and harness the creative potential of Grit:lab students.

- **Establish a business incubator:** One of the government's goals and long-term visions is to support graduates who wish to start their own companies. One future direction could be establishing a business incubator on Åland to provide resources and mentorship for graduates who aspire to launch their own tech startups (Interviewee 5, 2024).
- **Enhance support for students and families:** Providing further assistance to students' families to find their feet in Åland is key for both attracting and retaining graduates on the islands (Interviewee 3, Interviewee 5), e.g. expanding language training and supporting networking opportunities.
- **Strengthen existing channels:** Another suggestion for the future is to leverage stakeholder networks and communication platforms to further enhance coordination and resource sharing, e.g. a shared platform for creative knowledge sharing, joint marketing efforts, and showcasing job opportunities within tech in Åland (Interviewee 4, 2024).
- **Improve recruitment pathways and address market fluctuations:** Collaboration would benefit from support for recruitment planning and proactive stakeholder engagement, particularly in times of economic instability (Interviewee 4, 2024).
- **Develop a formal IT cluster project:** Grit:lab has inspired future collaborative efforts, such as the pursuit of EU-funded projects to establish an IT cluster on the islands (Interviewee 4, 2024). This might entail a level of formalisation to describe the initiatives and define responsibilities.
- **Strike a balance between formality and flexibility:** It is also important to maintain the collaborative spirit and responsiveness to evolving needs (Interviewee 1, 2024). Due to the informal collaboration culture on Åland, acknowledging local needs and ensuring a place-based approach are recommended if more formalised structures were to become relevant for addressing challenges.
- **Promote Åland as a destination for remote working:** Addressing challenges related to cross-border work and attracting remote workers could be a potential route for Åland tech (Interviewee 5, 2024). This would call for

collaborative government efforts to remove barriers to working from other countries or regions.

- **Build a model for future educational initiatives:** Grit:lab's multi-stakeholder structure enables a holistic approach to problem solving, drawing upon diverse perspectives and expertise (Interviewee 1; Interviewee 2, 2024). This collaborative approach and focus on practical skills could benefit other education initiatives on the islands and beyond (Interviewee 3; Interviewee 4, 2024).

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Chapter 6. Collaborative Regional Leadership – Icelandic Case Study – Development of Telemedicine in Rural Regions

The Icelandic case study looks at how a single healthcare employee in a small and rural municipality started a local initiative to develop and invest in telemedicine equipment to improve access to specialised care and how that initiative has since developed into national policy. The collaboration involved local healthcare professionals, private companies, and non-profit organisations, while municipal and national authorities gave the collaboration their blessing and joined at later stages. The use of digital solutions in the form of telemedicine equipment quickly proved to have positive effects. Since the initial introduction of telemedicine equipment in the town of Kirkjubæjarklaustur, the long-distance healthcare solution has found its way into national health policy and will form an important feature of the future development of the health service in the more rural parts of Iceland (Heilbrigðisráðuneytið, 2019). National health policy now prioritises the use of distance care in order to ensure, among other things, equitable access to health services for all, particularly people in sparsely populated areas. The health policy recognises the importance of leveraging technology and organised transport

solutions to bridge geographical barriers and improve the quality and safety of healthcare services across the entire country, drawing inspiration from successful implementation in other Nordic nations (Heilbrigðisráðuneytið, 2019; 2021). The case study is based on qualitative interviews and document analyses. The interviewees were key stakeholders at national, regional and local level, while the documents analysed included policy documents, reports, and public evaluations.

Overview of key regional characteristics

The population of Skaftárhreppur is only 620 (Samband, 2024), but it is one of the biggest municipalities in Iceland, spanning almost 7,000 km² (Skaftárhreppur, 2024). The municipality and surrounding regions are characterised by diverse landscape. Tourism, agriculture, and public services form the economic backbone of the region. A portion of the municipality lies within the western boundary of Vatnajökull National Park, home to renowned geological features like Lakagígar, Eldgjá, and Langisjór. Kirkjubæjarklaustur is the only urban settlement in Skaftárhreppur.

Recognising the challenges faced by rural communities, Skaftárhreppur actively participated in the *Brotthættar byggðir* (e. fragile communities) project from 2015 to 2017, an initiative spearheaded by the Icelandic Rural Development Agency. This programme targeted areas facing vulnerabilities in terms of population and regional development (Samband, 2024). As a result of this participation, some positive transformation has taken place in Skaftárhreppur, including the expansion of fibre optic networks and job creation, which has led to mild population growth. The enhanced transportation infrastructure, along with the availability of three-phase electricity in most towns, has also enhanced regional competitiveness (interviews; Skaftárhreppur, 2024). These advancements have contributed to a somewhat revitalised Skaftárhreppur, fostering growth, prosperity and optimism in the community.

This case study concentrates on local collaborative initiatives in healthcare. Iceland's healthcare is planned and organised at the state level, and the country is divided into seven different health regions (Heilbrigðisráðuneyti, 2020; Lög um heilbrigðisþjónustu, 2007). The national health service is universal, mainly state-funded, but has a partially integrated purchaser-provider relationship. Health insurance is funded by the annual national budget. The governance structure of Iceland, combined with its small population of just over 400,000 dispersed across a vast area exceeding 100,000 km² and the considerable distances between major settlements, contribute to a rather centralised healthcare system. Iceland has only two levels of governance: the national government and the municipal authorities. Although there are no administrative regions, as mentioned earlier, the country is divided into seven distinct health regions. The government, specifically the Ministry of Health, is responsible for providing both specialised and primary health services

in these regions. Specialised healthcare is primarily delivered at the major hospitals located in Reykjavík and Akureyri. Additionally, the Ministry of Social Affairs and the Ministry of Transport and Local Government are tasked with overseeing home care and social support in the health regions. The organisation and budgets for the health service are set nationally, but the management of primary care centres has been decentralised to the regional level. For example, regions are now encouraged to support the development of health centre networks in rural and isolated communities to improve after-hours services (Lundgren, et al. 2020).

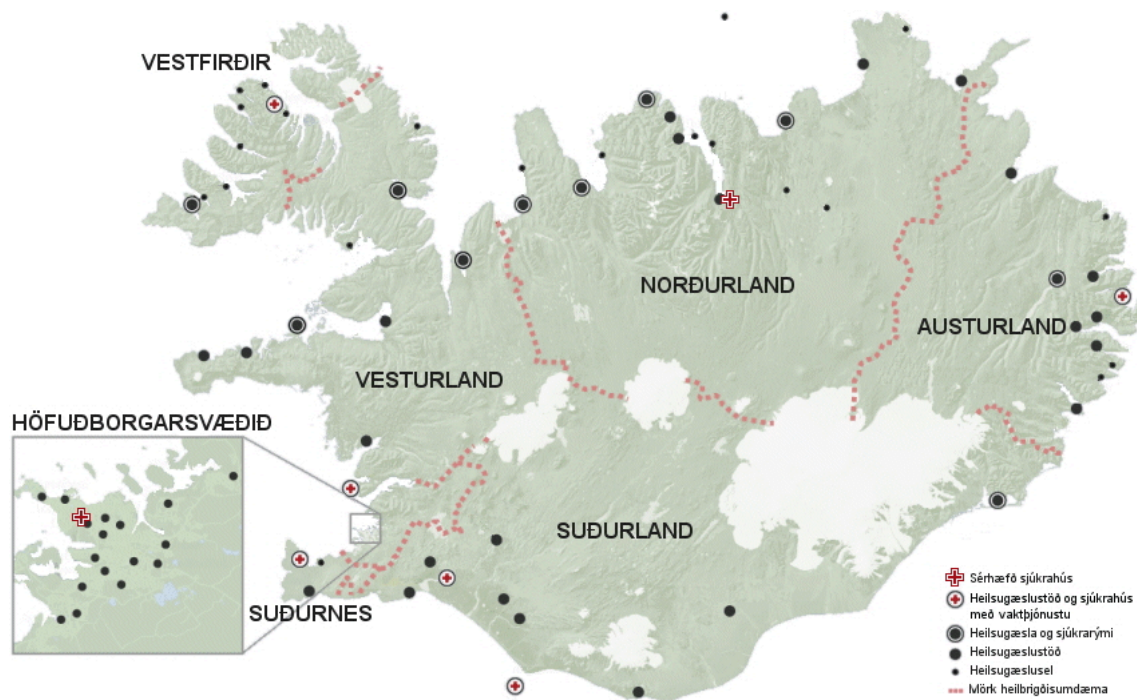


Figure 1. Geographical health regions in Iceland. Skaftárhreppur is part of the Suðurland-health region, the southernmost part of Iceland. The region is vast, large parts consist of highlands and glaciers. The south region has many second homes and is the largest tourism region outside the capital.

Introduction to the collaboration case study

The collaboration in Skaftárhreppur, Iceland, represents a case of regional collaborative innovation aimed at enhancing healthcare services by introducing telemedicine. The primary objective was to invest in telemedicine equipment to facilitate remote medical examinations, thereby improving healthcare accessibility and quality. The collaboration was developed in response to the common challenge of providing adequate healthcare in a vast and sparsely populated area and involved local healthcare professionals, municipal authorities, private companies, and non-profit organisations.

Skaftárhreppur is part of the south health region, which spans a large area, with long distances between healthcare centres and hospitals (Heilbrigðisstofnun Suðurlands, 2024). For example, from Skaftárhreppur it is around a 2½-hour drive to the nearest emergency hospital located in Selfoss and around 3½ hours to the national hospital in Reykjavík. In the sparsely populated areas of Iceland, basic healthcare is often the only available form of health provision in a relatively close proximity. This limited access is largely determined by the difficulty of attracting qualified staff to rural areas.

When the local initiative to invest in telecommunication healthcare emerged, the town of Skaftárhreppur only had a part-time doctor working in the region and a nurse. Due to the long distances, on-call personnel could take up to an hour to arrive at the scene of emergencies. Personnel conducting checkups also had a limited scope to make decisions on whether a patient needed to be sent to a hospital for further treatment. Limited access to healthcare before the telemedicine concept was introduced was summed up by one interviewee: "It was, and still is, very difficult to fill a medical position in many rural municipalities in Iceland, and short-term measures proved to be very expensive for us. The arrangement before we introduced telemedicine equipment was that a nurse worked full-time during the day while a doctor was on call throughout the year, but when he was on leave, there was no on-site emergency facility no emergency room on site. If there were accidents or emergencies after four o'clock, you had to wait for help from the nearest region, which is 70–130 kilometres away, depending on location." (Interview 2024) The local nursing management was pivotal in introducing distance healthcare solutions in Iceland and noted that this situation was not sustainable and required a solution to deliver better healthcare provision: "In the beginning, something needed to be done to make progress. There was a doctor working part-time in the region, but that was unstable and unsustainable because the area covered was vast and very isolated. We needed better solutions to provide better healthcare in the region and municipality. Information about digital medicine solutions in Greenland had come to my attention." (Interview 2024)

After looking more closely into that and conducting further investigations, the local nurse and a doctor working in the region pitched the idea to relevant authorities. Their goal was to conduct trials with telemedicine equipment in the health region, especially in Skaftárhreppur. "That way, we would be able to take certain measurements, do tests in the field and get a professional readout of the data from a qualified person who could be located elsewhere. This would provide more accurate decisions and shorten waiting and response times," the nurse added (Interview 2024). At the time, in 2010, Iceland had no experience, laws or regulations concerning telemedicine. The government is responsible for the national health service in Iceland and funding was not available so shortly after the 2008/09 financial crisis, which hit Iceland particularly hard.

Despite the difficult legal and financial context, there was political support for the idea. As one interviewee noted: "But the ministry was positive, supported the idea and allowed us to experiment with telemedicine equipment as long as we provided the gadgets." (Interview 2024) At this point, the people of Skaftárhreppur started working together to fund the purchase of the first telemedicine equipment used in Iceland. The collaboration brought together key regional stakeholders, including local healthcare professionals, municipal authorities, private companies, and non-profit organisations. Local healthcare professionals, such as the nurse and doctor who initiated the project, played a crucial role in identifying the need for telemedicine and advocating for its implementation. Municipal authorities facilitated discussions and coordinated efforts, ensuring the project was aligned with regional development goals. Private companies contributed financial support and technological expertise, which were essential for the acquisition and installation of the equipment. Non-profit organisations and community groups were instrumental in fundraising and building community support, fostering a sense of ownership and collective responsibility among local people. This multi-stakeholder collaboration was pivotal in addressing the healthcare challenges faced by the region and ensuring the successful introduction of telemedicine services.

Drivers

The initial driver behind the collaboration was a local midwife's entrepreneurial idea. Recognising the pressing need for improved healthcare services in the rural and isolated region of Skaftárhreppur, a midwife took the initiative to explore innovative solutions. She was inspired by digital healthcare solutions in Greenland and saw the potential for telemedicine in her community. Her determination and leadership were pivotal in mobilising local support and advocating for the introduction of telemedicine equipment. "To our surprise, the ideas were met with positivity. After we introduced them and explained what it would entail, that it would not become a substitute for traditional healthcare but rather an added service, people were highly supportive," adds the nursing manager who initially introduced the idea (Interview 2024). This entrepreneurial spirit served as the foundation for the collaborative efforts that followed.

The second driver was the regional challenge of overcoming long distances to access healthcare and the collective will to address that issue. Skaftárhreppur, part of the south health region, faced significant geographical barriers, with long distances between healthcare centres and hospitals. The local healthcare system was under strain, with limited resources and personnel, making it difficult to provide timely and effective care. Soon, the idea of local fundraising emerged. Non-profit organisations in the area picked up the ball from there, with individuals and companies alike also contributing. The shared vision and collective will of the various local stakeholders were pivotal in addressing the healthcare crisis and improving service delivery, according to an elected official in Skaftárhreppur

reminiscing on how the collaboration to fund the telemedicine equipment started: "The people of the region often had to travel long distances to access specialised medical services, which was not only time-consuming but also posed risks during emergencies. This situation underscored the urgent need for a solution that could bridge the gap between patients and healthcare providers." (Interview 2024) The community, including local authorities, private companies and ordinary people, all recognised the severity of the healthcare situation and came together with a shared vision to leverage technology to improve healthcare accessibility and quality. This collective effort was crucial in addressing the challenge at hand.

The third driver was the national support for the idea, despite the lack of initial funding. The Ministry of Health and other relevant authorities were supportive of the telemedicine initiative and provided the necessary approvals and goodwill to proceed with the project. Although government funding was not available at the time due to the financial crisis of 2008/09, the positive reception from the national authorities was instrumental in legitimising the project and encouraging local stakeholders to pursue alternative funding sources. This support highlighted the importance of telemedicine in national health policy and underscored the potential for innovative solutions to enhance healthcare services in rural areas.

How it all worked

The way the collaboration worked can be understood through the intricate interplay of various stakeholders and resources. The nurse's initial leadership was pivotal in mobilising local support and the local healthcare workers' advocacy was instrumental in persuading the Ministry of Health and the National Hospital to support the initiative. The collaboration established an ad-hoc operational framework in which healthcare professionals oversaw the professional part and led the process in the initial stages. They also oversaw communication with the relevant authorities and investigated technical medical aspects. Their leadership was crucial in navigating the early stages of the project and securing the necessary approvals and support from relevant authorities.

The collaboration was characterised by active and continuous interaction between all of the stakeholders. Informal meetings and conversations to discuss progress, address challenges and share knowledge complemented regular meetings that facilitated open communication and ensured everybody knew the project goals. The ad hoc nature of the collaboration meant that tasks were addressed as they arose, requiring flexibility and adaptability from all involved. Effective communication was essential in coordinating efforts and maintaining momentum throughout the project.

The success of the collaboration relied heavily on the diverse expertise of the stakeholders. Healthcare professionals provided the medical knowledge and identified the specific needs and potential benefits of telemedicine. The

collaboration also benefited from the goodwill of the American company that produced and sold the equipment. The company not only provided it at a favourable price but sent a team to Iceland to set it up and train the local healthcare staff. This hands-on support was crucial in ensuring that the telemedicine services were effectively implemented and that the local healthcare staff were proficient in using the new technology. The company's involvement demonstrated the importance of public-private partnerships in driving healthcare innovation and improving healthcare accessibility. The National Hospital in Reykjavík, one of the partners in the collaboration, also provided medical expertise and conducted some of the remote consultations. Specialists from the National Hospital were able to examine patients in Skaftárhreppur and other remote areas, ensuring they received better specialised medical care from a distance. It is also worth mentioning that the involvement of local NGOs and community groups brought in additional expertise in fundraising and community engagement. This was vital for building support and resources for the initiative, while ongoing communication by local healthcare workers after the initial installation of the equipment ensured policy support from the Ministry of Health, which was crucial for the sustainability of the initiative.

Financing the initiative was a significant challenge, given the lack of formal state funding. The collaboration relied on a community-driven approach to raise the necessary funds. Local NGOs and community groups played a pivotal role in organising fundraising efforts, which included contributions from individuals, private companies, and non-profit organisations. Over a period of 16 months, more than ISK 13 million was collected, demonstrating the strength of the community support. This financial backing was crucial for purchasing the telemedicine equipment and ensuring the project's sustainability. In other words, civil engagement was a cornerstone of the collaboration, and this community-driven effort not only provided the necessary funds but also fostered a sense of ownership and collective responsibility among the local population.

Challenges

Despite the success of the telemedicine initiative, several challenges were encountered both within the collaboration and from external factors, including:

Interaction between the collaboration partners: Internally, the interaction between partners sometimes encountered difficulties. The ad hoc nature of the collaboration meant that roles and responsibilities were not always clearly defined, leading to occasional misunderstandings and delays. Coordination among the various stakeholders, including healthcare professionals, technical experts and community groups, required continuous effort to ensure alignment and effective communication.

Existing health legislation and regulations: Externally, the collaboration faced significant obstacles related to laws, regulations, and billing procedures. When the initiative started, Iceland had no laws and regulations governing the use of telemedicine equipment, which led to uncertainties regarding the legal and ethical aspects of remote medical consultations. Privacy concerns were paramount, even though this was before the introduction of the General Data Protection Regulation (GDPR) in the European Union. Ensuring the security and confidentiality of patient data during telemedicine consultations became a critical issue. The collaboration had to navigate these privacy concerns without clear legal guidelines, which added complexity to the implementation process.

The lack of established billing procedures for telemedicine consultations also posed a challenge. Existing healthcare billing systems were designed for in-person consultations, and there were no provisions for charging for telemedicine services. This situation created difficulties in determining how to secure correct payments from the state to the health centre for the remote consultations it conducted. In many cases, it was impossible to charge for a "doctor's visit" unless the doctor was physically present, which undermined the financial sustainability of the telemedicine services. The collaboration had to advocate for changes in healthcare billing regulations to accommodate telemedicine services. This problem has still not been fully resolved.

Resistance to change was another challenge faced by the collaboration. Some healthcare professionals and patients were initially sceptical about the effectiveness of telemedicine. More conservative healthcare workers were particularly hesitant to adopt new technologies, preferring traditional face-to-face consultations. This scepticism was compounded by the lack of formal training and the additional workload associated with learning to use the new equipment. Patients, too, had reservations about the quality of care they would receive through telemedicine, fearing that remote consultations might not be as thorough as in-person visits.

Existing healthcare structures: The collaboration also faced challenges related to the integration of telemedicine services into the existing healthcare system. Ensuring the interoperability of telemedicine equipment with other medical devices and systems was crucial for the seamless delivery of healthcare services. There were concerns about the compatibility of telemedicine equipment with the existing IT infrastructure, which required continuous monitoring and technical support. Establishing clear protocols and guidelines for telemedicine consultations, including procedures for handling emergencies and ensuring the continuity of care, was essential but challenging without established regulatory frameworks.

Funding: The lack of state funding also meant that the collaboration had to rely heavily on community support and private donations. While this demonstrated strong community engagement, it also led to financial uncertainty. During the early years of its use, the collaboration had to seek funding to maintain and upgrade the

equipment, which was a time-consuming process with no guarantee of success. The reliance on community donations also meant that the financial sustainability of the initiative was vulnerable to changes in the level of community support and economic conditions.

Healthcare training: The lack of state funding also meant no dedicated resources were allocated to training healthcare professionals to use the equipment. They had to train during already busy working days or in their free time, a situation that placed additional strain on their already heavy workloads. The lack of formal training after the initial introduction by the manufacturer of the equipment also meant the learning process was less structured and more reliant on the individual efforts of healthcare staff.

Enablers

The success of the telemedicine initiative in Skaftárhreppur can be attributed to several key enablers, primarily the dedication and vision of local healthcare professionals, the high level of social trust within the community, and the collaborative spirit of the various stakeholders.

Visionary Leadership and Expertise: The initiative was spearheaded by a place leader in the form of a visionary nurse along with a local doctor who recognised the pressing need for improved healthcare services in their rural community. Their determination and leadership were instrumental in mobilising support and resources. The nurse's ability to engage with local people, who then engaged local companies, public actors, and individuals to secure funding for the telemedicine equipment was a testament to her commitment to enhancing healthcare accessibility. The local doctor's support and collaboration were also crucial, as they provided medical expertise and credibility to the advocacy for the initiative.

Social Trust and Community Engagement: Trust was a key enabler in the success of the telemedicine initiative. In Iceland, the small population and close-knit communities foster a strong sense of trust among local people and between the public and institutions. This trust was evident in the willingness of local people and businesses to contribute funds and support the initiative. The community's collective effort in raising the necessary funds demonstrated their commitment to improving healthcare services for everyone. This social trust extended to the healthcare professionals, who were trusted by the community to deliver high-quality care through the new telemedicine services. Local NGOs and community groups played a vital role in supporting the initiative. The charity founded to service the initiative was instrumental in raising funds and building community support. These organisations facilitated community engagement and fostered a sense of ownership and collective responsibility among the local population. The involvement of local NGOs also helped bridge the gap between the community and the healthcare professionals, ensuring that the initiative was responsive to community needs and priorities.

Collaboration and Partnerships: The collaboration also benefited from trust and cooperation among healthcare professionals at various levels, which epitomised the stakeholders' collaborative spirit. Despite the lack of legislation and regulations governing telemedicine at the time, healthcare professionals in Skaftárhreppur, the regional health authorities, and the Ministry of Health worked together to ensure the initiative's success. The small size of the population in Iceland and the close connections between healthcare professionals facilitated open communication and collaboration. This environment of trust and cooperation was crucial in overcoming the initial challenges and uncertainties associated with implementing telemedicine services. The involvement of the American company that produced and sold the equipment was another critical enabler. This public-private partnership was also an enabler of expertise and knowledge, as the company's willingness to contribute to the initiative and ensure its success was evident in their decision to provide the equipment at a favourable price and send a team to Iceland to set it up and train the local healthcare staff. This hands-on support was invaluable in ensuring that the telemedicine services were effectively implemented and that local staff were proficient in the use of the new technology. The company's commitment to the initiative demonstrated the importance of public-private partnerships in driving healthcare innovation.

Determination and Collective Effort: Determined individuals, a resourceful and trusting population, and the collaborative efforts of the private and public sectors were key enablers of the telemedicine initiative. The rural will and regional determination of the people in Skaftárhreppur to improve their community's healthcare services were evident in their collective efforts and unwavering support for the initiative. This combination of factors created a conducive environment for the successful implementation and sustainability of the services, ultimately enhancing the accessibility and quality of healthcare in the region.

Achievements

The telemedicine initiative in Skaftárhreppur achieved several significant outcomes that extended beyond the initial aim of improving access to local healthcare.

Enhanced Decision-Making Processes: One of the most notable achievements of the collaboration was the enhancement of decision-making processes for healthcare professionals. The telemedicine equipment made faster and more accurate diagnoses possible, allowing healthcare providers to make informed decisions rapidly. This capability was particularly crucial in emergencies, when the ability to quickly determine the severity of a patient's condition can make the difference between life and death, e.g. deciding on the spot whether to send a patient to a hospital via ambulance or call for a helicopter, thereby ensuring timely and appropriate medical intervention.

Improved Communication Pathways: The telemedicine services also significantly shortened communication pathways between local healthcare providers and specialists in Reykjavík and Akureyri. This improvement in communication facilitated better coordination and collaboration, leading to more efficient and effective patient care. In some cases, the enhanced diagnostic capabilities provided by the telemedicine equipment meant patients did not need to be sent to hospital. For example, a patient presenting with chest pain could be accurately diagnosed as having routine chest pain rather than a heart attack, thereby avoiding unnecessary hospital visits. This not only saved time and resources but also reduced stress and inconvenience for patients.

Financial Savings: The financial benefits of the telemedicine initiative were substantial. By reducing the number of unnecessary hospital visits and optimising the use of medical resources, the initiative resulted in cost savings for the healthcare system. These savings benefited taxpayers, as the reduced demand for emergency services and hospital admissions lowered overall healthcare costs. Healthcare professionals also benefited from this increased efficiency, as they could allocate their time and resources more effectively. Patients, too, experienced financial savings by avoiding unnecessary travel and time in hospital, which also contributed to their overall well-being.

Community Engagement and Empowerment: The initiative also had a profound impact on community engagement and empowerment. The involvement of local people and businesses in the telemedicine initiative fostered a sense of ownership and collective responsibility. The community's active participation in fundraising and supporting the initiative demonstrated their commitment to improving healthcare services for all. This sense of ownership was further reinforced by the positive outcomes of the services, which validated the community's efforts and investment.

Model for Other Regions: The success of the telemedicine initiative in Skaftárhreppur served as a model for other regions in Iceland. The pilot project's achievements prompted the government to take action, drawing up the requisite legislation and policies to support telemedicine. The state recognised the potential of telemedicine to enhance the accessibility and quality of healthcare, particularly in rural areas and began to fund similar initiatives in other regions. This policy shift marked a significant step towards achieving healthcare equality and ensuring that residents in rural areas had access to the same quality of care as those in urban centres (Lög um heilbrigðisþjónustu nr. 40/2007; Alþingi, 2024).

Benefits

The telemedicine initiative in Skaftárhreppur brought many benefits that extended well beyond the immediate improvements in healthcare accessibility, including:

Strengthened Community Ties: One of the most profound benefits was the strengthened sense of community and collective effort. The involvement of local people and businesses in the initiative fostered a deep sense of ownership and collective responsibility. This collective effort not only facilitated the successful implementation of the telemedicine services but also strengthened social ties within the community. The collective goal of improving healthcare services brought people together, enhancing community cohesion and solidarity.

Policy Changes and Broader Implementation: The initiative also served as a model for healthcare provision, demonstrating the potential of telemedicine to address healthcare challenges in rural areas. The success of the pilot project in Skaftárhreppur prompted the government to update legislation and policies to support the broader introduction of telemedicine services. This policy shift marked a significant step towards achieving healthcare equality, ensuring that current policy stipulates that people in rural areas will have access to better care through distance solutions. The updated policies and legislation provided a framework for the expansion of telemedicine services into other regions, further improving access to healthcare throughout the country (Lög um heilbrigðisþjónustu nr. 40/2007; Alþingi, 2024; Stjórnarráð, 2024).

Increased Safety and Efficiency: The telemedicine initiative enhanced safety as improved diagnostic tools allowed for accurate and quick decision-making, which is crucial in emergencies, thereby improving patient outcomes and safety. By improving resource allocation, healthcare professionals also increased the overall efficiency of the health system.

Recruitment and Retention of Healthcare Staff: The initiative also had a positive impact on the recruitment and retention of skilled healthcare staff in the area. Rural areas often face challenges in attracting and retaining healthcare professionals due to the perceived isolation and lack of resources. The introduction of advanced telemedicine services made Skaftárhreppur a more attractive place for healthcare professionals to work. The opportunity to work with cutting-edge technology and be part of an innovative healthcare initiative appealed to some healthcare professionals, which helped to address the staffing challenges in the region.

Environmental Benefits: The environmental benefits of the telemedicine initiative were also noteworthy. By reducing the need for patients to travel long distances, the initiative helped cut carbon emissions, which is also in line with broader sustainability goals. The initiative demonstrated that innovative healthcare

solutions can contribute to environmental sustainability while improving the accessibility and quality of healthcare.

Catalyst for Policy Changes: The success of the telemedicine initiative in Skaftárhreppur had effects that extended far beyond the region. The initiative served as a catalyst for changes at national level, leading to new policies and legislation that supported the wider implementation of telemedicine services. By improving healthcare services in rural areas, the initiative contributed to the overall well-being and quality of life of the rural population. This improvement in healthcare accessibility made rural areas more attractive places to live, potentially reversing depopulation trends. Telemedicine is now also a substantial part of Iceland's rural development plan (Alpingi, 2024). The initiative demonstrated that innovative solutions can address the unique challenges faced by rural communities, thereby promoting sustainable rural development. The initiative inspired the government to adopt similar approaches for the rural regions in general, contributing to a more equitable healthcare system across the country. The positive outcomes of the initiative highlighted the importance of community involvement, innovative solutions, and collaborative efforts in addressing healthcare challenges and improving the quality of life for people in rural areas. As stated in the new telemedicine legislation, these services enhance resource utilisation, institutional cooperation and efficiency, make specialised healthcare more accessible regardless of location and foster innovation. The legislation also states that successful implementation provides undeniable benefits for patients, healthcare providers, institutions, and society by providing greater and equal access to health services (Stjórnarráð, 2024).

Improvements

While the telemedicine initiative in Skaftárhreppur was a local success, there are several areas where improvements could be made to ensure its long-term sustainability and effectiveness.

Sustainable Funding Models: The reliance on community donations and private contributions led to financial uncertainty. The initial implementation of the telemedicine services was largely driven by community donations and private contributions. However, for the initiative to remain viable, there needs to be a consistent and reliable source of funding. Developing sustainable funding models, such as securing government grants, public-private partnerships, or long-term funding commitments from stakeholders, would ensure financial stability.

Clearer Structure and Defined Roles: One of the main challenges faced by the collaboration was the ad hoc nature of its structure. On one hand, the flexibility and adaptability of the stakeholders allowed them to overcome numerous challenges and achieve their goals. On the other hand, the lack of a formal structure or management framework meant that many aspects of the initiative were handled on a day-to-day basis without a clear long-term strategy. Future initiatives would

benefit from a more formalised structure with clearly defined roles and responsibilities for all stakeholders. Establishing a steering committee or a project management team could coordinate efforts more effectively and ensure all tasks are addressed in a timely manner. This formal structure would also facilitate greater accountability and transparency throughout projects.

Training and Capacity Building: Another area for improvement is addressing the perceived conservatism within the healthcare industry. Many healthcare professionals had doubts about the effectiveness of telemedicine and were hesitant to adopt the new technology. The initial scepticism from some professionals and patients highlighted the need for comprehensive training and capacity building. Future initiatives should include formal training programmes for healthcare professionals to ensure they are comfortable and proficient with the new technology. Emphasising that telemedicine is not intended to replace traditional healthcare services but to complement them by improving precision, decision-making and safety would also help alleviate concerns. Public awareness campaigns would be one way of educating patients about the benefits of telemedicine and addressing any concerns they may have. Providing ongoing support and resources for both healthcare professionals and patients would facilitate smoother adoption and integration of telemedicine services.

Enhanced Communication and Coordination: The collaboration aspect of the initiative was one of its greatest strengths, but there is room for improvement in forging stronger links between local and national institutions. While the collaboration benefited from active stakeholder interaction, misunderstandings and delays cropped up occasionally due to the lack of formal communication channels. Regular, structured communication channels would improve coordination and ensure that all stakeholders are kept informed of developments. The coordination and communication between different authorities and institutions would have been beneficial. Establishing formal partnerships between local healthcare providers, regional health authorities, and state institutions would create a more cohesive and supportive framework for telemedicine services.

Legal and Regulatory Framework: The lack of specific regulations for telemedicine posed significant challenges for the initiative. Future collaborations would benefit from a clear legal and regulatory framework that addresses the use of telemedicine, including privacy and data security concerns. Establishing guidelines for telemedicine consultations, billing procedures, and patient consent would provide clarity and ensure compliance with legal and ethical standards. Although this issue has since partially been resolved, further advocacy for policy changes at the national level could help create a supportive environment for telemedicine initiatives, as not all of the gaps in the system have been closed yet.

Continuous Evaluation and Implementation: Assessing the impact and effectiveness of the telemedicine initiative is another area for improvement. Continuous monitoring and evaluation are essential to determine whether the initiative is meeting its goals and to identify areas for further improvement. Regular

assessments of the project's impact, including patient outcomes, cost savings, and user satisfaction, would provide valuable insights and inform future improvements. These assessments can also inform future policy and practice, ensuring that the initiative remains responsive to the needs of the community and adapts to changing circumstances.

Future Direction

The future direction of telemedicine collaboration in Iceland is likely to involve a more structured and coordinated approach at both national and regional levels. An expansion of telemedicine services has already begun, with telemedicine now encompassing various fields of medicine. The initial local initiative in Skaftárhreppur, which focused on securing and implementing telemedicine equipment, formally ended once the equipment was in place. The main point of the collaboration among local actors was to ensure successful implementation. After achieving this goal, the local healthcare service centre took the lead in using and managing the equipment. As telemedicine becomes an integral part of national health policy, it is essential to consider how governance structures and key actors will shape its continued development and use.

National and Regional-level Governance: The state has drawn up policies and legislation to address the unique challenges and opportunities presented by telemedicine. These regulations ensure that services are delivered safely, securely and effectively, protecting patient privacy and data security. Drafting the legislation was a necessary step to support the broader implementation of telemedicine services and to provide a clear framework for healthcare providers and patients. National-level governance will continue to play a crucial role in standardising telemedicine practices across the country. The Ministry of Health and other relevant authorities must continue to establish clear regulations and guidelines to ensure the consistent and effective use of telemedicine services. National policies should also provide a framework for funding and resource allocation to support telemedicine initiatives, ensuring that all regions have access to the necessary technology and infrastructure. At the regional level, governance structures should focus on tailoring telemedicine services to meet the specific needs of local communities. Regional health authorities will need to work closely with local healthcare providers, technical experts, and community organisations to implement telemedicine solutions that address the unique challenges in their areas. This collaborative approach will ensure that telemedicine services are responsive to the needs of patients and healthcare professionals in different regions.

Key Actors in the Collaboration Process: The continued success of telemedicine initiatives will depend on the active involvement of several key actors, including:

1. **Healthcare Professionals:** Doctors, nurses, and other healthcare providers will remain at the forefront of telemedicine services. Their expertise and commitment to patient care are essential for the effective use of telemedicine technology. Ongoing training and support will be necessary to ensure that healthcare professionals are proficient in using telemedicine tools and can provide high-quality remote care.
2. **Technical Experts:** The role of technical experts will be critical in maintaining and advancing telemedicine technology. This includes ensuring the interoperability of telemedicine equipment with existing healthcare systems, providing technical support, and developing new innovations to enhance telemedicine services. Collaboration between healthcare professionals and technical experts will be vital for addressing technical challenges and improving the overall effectiveness of telemedicine.
3. **Policymakers and Regulators:** Policymakers and regulators at both national and regional levels will need to create a supportive environment for telemedicine. This includes policies that facilitate the integration of telemedicine into the healthcare system, addressing regulatory barriers, and ensuring that telemedicine services are accessible to all patients, regardless of their location.
4. **Community Organisations and NGOs:** Community organisations and non-governmental organisations will continue to play a significant role in supporting telemedicine initiatives. Their involvement in fundraising, community engagement, and advocacy will be essential for sustaining telemedicine services and ensuring that they meet the needs of local populations.

Impact of the National-level Shift on Regional Initiatives: The shift to national-level governance of telemedicine, which in the Icelandic case is the governance level responsible for healthcare, could have both positive and negative impacts on regional initiatives. On the positive side, national policies and funding can provide the resources and support needed to expand telemedicine services throughout the country. Standardised regulations and guidelines can also ensure consistency and quality in telemedicine practices. However, there is a risk that a top-down approach could overlook the specific needs and challenges of individual regions. It is essential that national policies are flexible enough to allow for regional adaptations and that regional stakeholders are actively involved in the decision-making process. Ensuring that regional voices are heard and local expertise utilised will be crucial for the continued success of telemedicine initiatives. As such, the future direction of telemedicine collaboration in Iceland will require a balanced approach that combines national-level governance with regional adaptability. By involving key

actors from healthcare, technology, policy and local communities, and by addressing both national and regional needs, telemedicine can continue to improve healthcare accessibility and quality across the country.

Conclusions and recommendations

The telemedicine initiative in Skaftárhreppur, Iceland, serves as an example of how regional collaboration can drive healthcare innovation and improve accessibility. The collaboration process can be summarised in three key stages:

1. **Initiation and Visionary Leadership:** The initiative was sparked by the entrepreneurial vision of a community leader, a local midwife, who identified the potential of telemedicine to address the healthcare challenges in her community. Her leadership, backed by a local doctor, was crucial in mobilising local support and resources. This stage highlights the importance of visionary leadership and the ability to inspire and engage stakeholders.
2. **Collaborative Effort and Community Engagement:** The collaboration brought together a diverse group of stakeholders, including healthcare professionals, municipal authorities, state institutions, private companies, and non-profit organisations. The high level of social trust and community engagement was instrumental in raising funds and garnering support for the initiative. This stage underscores the value of community involvement and the collective effort required to overcome regional challenges.
3. **Implementation and Integration:** The successful implementation of telemedicine services involved close collaboration between the relevant authorities, healthcare professionals and technical experts. Despite challenges related to legal and regulatory frameworks, the initiative demonstrated the potential of telemedicine to enhance the accessibility and quality of healthcare. This stage emphasises the need for political support, technical expertise, effective communication, and continuous evaluation to ensure the sustainability of telemedicine services.

Based on the case study, the following recommendations are proposed to enhance future telemedicine collaborations:

Establish Clear Governance Structures: Future initiatives should adopt a more formalised structure with clearly defined roles and responsibilities. A steering committee or project management team may improve coordination and accountability, ensuring that all tasks are addressed efficiently.

Enhance Communication and Coordination: Implementing regular, structured communication channels, such as scheduled meetings and centralised communication platforms, can improve coordination between stakeholders. This approach will help prevent misunderstandings and ensure that all parties are kept informed of developments.

Invest in Training and Capacity Building: Comprehensive training programmes for healthcare professionals and public awareness campaigns for patients are essential for the successful adoption of telemedicine. Providing ongoing support and resources will facilitate smoother integration and acceptance of telemedicine services.

Develop Legal and Regulatory Frameworks: Establishing clear guidelines for telemedicine, including privacy, data security, and billing procedures, is crucial. Advocacy for policy changes at the national level can create a supportive environment for telemedicine initiatives and ensure compliance with legal and ethical standards.

Secure Sustainable Funding: Developing sustainable funding models, such as government grants, public-private partnerships, or innovative funding mechanisms, will ensure the financial stability of initiatives. Exploring diverse funding sources can provide additional resources and support.

Ensure Integration with Existing Healthcare Systems: Focusing on the interoperability of telemedicine equipment with existing healthcare systems is essential. Establishing clear protocols and guidelines for telemedicine consultations will enhance the effectiveness and reliability of services.

Promote Continuous Evaluation and Improvement: Introducing a system for regular assessment of the project's impact, including patient outcomes and user satisfaction, will provide valuable insights for future improvements. Engaging stakeholders in the evaluation process will ensure that the initiative remains responsive to community needs.

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List of interviewees

A project manager at the Centre for Digital Solutions at the national Directorate of Health (state institution)

A project manager at the Association of Municipalities in Southern-Iceland (a "regional", or rather inter-municipal, organisation)

The director of the nursing department at Southern Health Institute in Iceland (state institution)

Elected official in Skaftárhreppur municipality



Photo: Friluftsbyn Höga Kusten / imagebank.sweden.se

Chapter 7. Collaborative Regional Leadership – Conclusions

This study shows that collaborative regional leadership is commonplace and widespread across the Nordic Region, with collaborations occurring in heterogeneous forms in various types of regions and policy spheres. The findings identify both structured collaboration platforms and temporary, ad hoc, project-based cooperation, the former being the exception. The research also indicates that collaboration is perceived as a necessity in smaller rural regions, where collaboration is easier to initiate as there are strong existing networks, trust, and social capital between public and private institutions and stakeholders. This confirms findings from recent research highlighting the importance of regional and municipal collaboration in the delivery of public services in rural areas (Slätmo and Bogason 2024; Slätmo et al 2023; Cedergren et al 2021).

In contrast, the findings also suggest that collaboration in larger urban areas can be more difficult as public and private actors have the capacities and resources to work alone, making it less imperative to work together. This urban-rural distinction should not be overstated, however, as further in-depth research is needed to compare and contrast collaborative initiatives in rural and urban regions and municipalities. In addition, the challenges, obstacles, enablers, and drivers of collaboration identified in the research remain the same and are relevant across all

regions, irrespective of territorial type (e.g. urban, rural, mountainous, coastal and cross-border).

This final section of the report synthesises the main conclusions to emerge from the survey and case-study findings, highlighting the key drivers, enablers, challenges, and benefits of regional collaborative leadership identified across the Nordic Region. Based on these findings, the study has drawn up and visualised a model for collaborative regional leadership. It provides a holistic governance structure for sustainable collaborations at the regional level throughout the full regional policy-programme cycle. The model is supplemented with targeted recommendations designed to support public and private institutions and actors develop and implement effective collaborative regional leadership initiatives.

Drivers of Collaborative Regional Leadership

The case studies reveal that different factors can act as core drivers of collaborative regional leadership. In the context of this study, the term “drivers” refers to something that acts as a catalyst, spark, or initiator of collaborations between institutions and other stakeholders at the regional level. The following drivers have been identified through the case-study research and survey:

- **Exogenous shocks:** Exogenous shocks caused by both natural (e.g. climate change, earthquakes, volcano eruptions, landslides, flooding, forest fires) and human phenomena (e.g. pandemics, financial crashes, geopolitical tensions, new technology, terrorism) can act as facilitators for collaboration. The Finnish case study shows how rapid technological progress in green tech industries provided a platform for the Greenreality Network. In addition, the closure of the Russian border with Finland due to the ongoing Russia-Ukraine war, has proven a catalyst for further collaboration within the Greenreality Network, as the need for energy self-sufficiency and sustainability has become more acute. One survey respondent from Åland noted that the COVID-19 pandemic acted as a catalyst for collaboration, pointing out that ‘in handling the Corona pandemic, the collaboration between actors worked very well. The common, extensive challenge strengthened the bonds.’ This perspective was also confirmed in the Åland case study where the rise in digitalisation and home working during the pandemic provided a platform for the development of online computer courses as part of the Grit:lab initiative. These observations confirm recent research from Bourdin et al. (2024) that exogenous shocks, like the pandemic, can present a “window of opportunity” for regional actors to instigate new collaborative governance processes and policy changes.

- **Changes in the political, policy and funding climate:** Changes in the political climate driven by elections, referendums, and new directions for EU and national policy and funding can present opportunities for developing collaborations at the regional level. Here, the Danish case is a good example, where the EU-level commitment to delivering climate and environmental goals in the EU Green Deal served as a spark for the C2C CC project, which provided a forum for municipalities and other actors to share knowledge and ideas on developing climate strategies and policies. The metaphor 'window of opportunity', popularised by the political scientist John Kingdon (1984), describes whether conditions for a particular policy or policy change are favourable or not. When problems, politics and policies align, 'policy entrepreneurs can actively try to induce policy change (Kingdon 1984). The "window of opportunity" metaphor highlights the importance of having individuals within regional public and private institutions and organisations who are attuned to political change and policy and funding developments and the opportunities they present for building new collaborations. In this regard, the Grit:lab initiative took advantage of growing political support for greater digitalisation throughout Åland and finding digital solutions to local challenges.
- **Shared challenges/opportunities:** All of the case studies highlight the identification of common challenges and opportunities as a key driver of regional collaboration. The need to identify solutions to a broad range of local climate and energy challenges was the catalyst for the C2C CC project and Greenreality Network; whereas the two other cases were driven by single local issues related to the need for adult computer learning in Åland and telemedicine healthcare provision for pregnant women in Iceland. This indicates the importance of providing regional institutions and stakeholders with discussion platforms focused on identifying shared challenges and opportunities as a first step in facilitating stakeholder dialogue and building collaborations.
- **Entrepreneurial ideas:** Innovative and entrepreneurial thinking, often stimulated by exogenous shocks, political change, or new challenges and opportunities, is an essential driver of regional collaboration. The case studies have shown that entrepreneurial ideas can come from both top down and from the bottom up sources. The idea for promoting climate-based policy collaboration between Danish municipalities was a top-down initiative. The project concept came from actors working at the Central Denmark EU Office, responding to the EU Commissioner for the Environment's request for large-scale strategic projects to deliver EU climate goals and targets. In contrast, the Greenreality Network was the

brainchild of a group of local entrepreneurs working in the Lappeenranta energy sector. Similarly, the Grit:lab initiative was the vision of tech companies who recognised their crucial role in providing computer skills and education to people in Åland. The Icelandic case also shows that collaborative regional leadership can be driven by the vision of one person bringing together regional actors to support the idea of using telemedicine to provide midwife screening services to pregnant women in isolated locations. The cases reveal that it is not important whether entrepreneurial ideas for collaboration come from the top or bottom; what is more significant is that regional institutions and stakeholders are supportive of the idea and collaboration and that they engaged fully in the development and implementation of the policy, project, strategy, or plan.

The collaborative regional leadership drivers outlined above can occur separately or simultaneously and combined; for example, on their own, exogenous shocks and changes in the political, policy and funding climate can foster new collaborations, but they can also present new challenges and opportunities that bring stakeholders together and/or require entrepreneurial ideas and solutions. This suggests that there is a dynamic interactive relationship between the different drivers of regional collaborative leadership. Public and private actors attuned to these drivers can maximise the opportunities for new collaborations.

Collaborative Regional Leadership Challenges

The case studies and survey data identify several collaborative regional leadership challenges. Some of these obstacles relate to the overarching governance structures in regions, which can potentially inhibit cooperation, while other obstacles focus on the challenges that can arise during collaborative activities. The challenges and obstacles include:

- **Institutional lack of capacities and resources:** Regional and local authorities often play a key role in facilitating collaboration between stakeholders. A lack of capacities and resources at regional and municipal level authorities can, therefore, present significant obstacles for collaborative regional leadership initiatives, including: 1) limited mandate or responsibility in a specific policy sphere; 2) a lack of experience and competences in managing large-scale multi-actor collaborations; 3) limited knowledge and understanding of specific policy topics and the political climate; and 4) insufficient time and funding. Taking a broad perspective, one survey respondent from Örebro Region in Sweden argued that

municipalities lack knowledge and understanding of the role and impact of developments in national and international policy on municipalities: 'Municipalities are deeply preoccupied with day-to-day tasks. There is also a limited understanding within municipal administration and policymaking of the strategic implications to municipal affairs of global and national developments.' Other survey respondents took a narrower viewpoint, suggesting authorities often lack knowledge and competences in specific policy fields, with the climate and environment regularly highlighted as areas where capacities are limited. One survey respondent from Viken region noted that 'authorities, politicians and bureaucrats do not have sufficient knowledge and education to understand more complicated issues, like the environment.' This point was supported by another respondent from Oulu municipality in Finland, who argued that 'there seems to be a huge lack of understanding among local politicians about the urgency and means of tackling climate change, nature loss, etc.' Regional and municipal authorities often play a key leadership role in facilitating collaborations, so limited capacities, knowledge, and resources can have a negative impact on their capacity to cope with a leadership position. A lack of knowledge can be easily overcome by bringing relevant expert stakeholders into a collaboration. This was evident in the Åland case, where computer tech companies were needed to plan and execute Grit:lab computer coding courses. Similarly, telemedicine experts were required to develop the technology needed to implement telemedicine consultations for pregnant women in Iceland. Limited management competences can have more serious implications for the overall collaborative process, as smooth cooperation requires good facilitators who understand the participants' interests. Lack of time and funding also have negative effects on the long-term sustainability of collaborations.

- **Institutional Fragmentation:** Institutional fragmentation, both internally and between public bodies, can make it challenging to build regional collaborations. One survey respondent from Iceland Norðurþing (Húsavík) region noted that collaboration exists between regions in Iceland, but there is a lack of cohesion: 'there is interaction but lack of coordination of strategies.' Similarly, one respondent from Åland pointed out that a 'fragmented administrative structure with many small municipalities' is an obstacle to collaboration in Åland. This fragmentation highlights a lack of a systemic and holistic approach to collaboration both within and between public authorities at regional and local level. There is a need to establish where it is feasible to coordinate strategies and policies between departments and across authorities by providing platforms to identify

common challenges and opportunities. Enhanced cooperation and coordination can potentially lead to greater policy cohesion and make the overall use of capacities and resources more efficient.

- **Policy and regulatory frameworks:** Policies and regulations provide a mandate and legal framework which includes formal and informal rules that can hamper cooperation and stakeholder participation in collaborative activities. In the Icelandic case study, a significant challenge was the absence of comprehensive legislation and regulations governing the use of telemedicine equipment. At the time the initiative started, there were no specific regulations addressing the use of telemedicine, which led to uncertainties regarding the legal and ethical aspects of remote medical consultations. In the Åland case, vital support and assistance was also needed from the ministries for education and economic affairs to ensure that the Grit:lab initiative format would fit into Åland's policy and regulatory frameworks. In both these cases, support at the political level led to changes to the regulatory framework that enabled the collaborations to move forward.
- **Institutions and actors with different priorities:** While actors are driven to collaborate by shared challenges and opportunities, differences in ideas, opinions, priorities, and values can potentially create tension and obstacles within a collaboration. In the Finnish case study, some participants argued that there was too great a focus on energy issues as many members came from the energy sector. The City of Lappeenranta, therefore, took a close look at each member's interests to establish where there were commonalities and overlaps in priorities. A shared vision and sense of direction are important elements of collaboration which help to build trust and social capital between participants. An environment of consensus is difficult to create and maintain if stakeholder priorities and interests are too divergent. Place leaders may need to play a conciliatory role if disagreements arise, showing patience and empathy to help build connections between actors and find solutions that participants can support and implement even if differences in opinions remain. For example, in the Danish case, Region Midtjylland would step in to address challenges or disagreements as and when they arose. As the Danish and Finnish cases both indicate, ensuring open and inclusive communication channels from the outset of the collaboration can reduce the potential for disputes between participants.

- **Weak collaboration culture:** Recent academic studies have shown that collaboration culture is often weaker in larger cities and urban areas, which makes it harder to initiate collaborative activities; for example, developing a collaborative multi-actor smart specialisation strategy in the Stockholm Region has proved difficult (Giacometti & Wøien Meijer 2021). This challenge was also reflected in the Danish case study, where Aarhus municipality, the largest municipality in the Midtjylland Region, declined to play a full part in the C2C CC project, choosing only to participate in an advisory and observational role. Case study interviewees speculated that collaboration is not a necessity for Aarhus municipality in the same way it is for smaller municipalities in the region, as public and private actors in Aarhus have the resources and capacities to work alone. A weak collaboration culture also has ramifications for building trust and social capital between regional actors. One survey respondent from the Finnish South Ostrobothnia Region noted that 'there are tensions and problems in collaboration between the region centre and other municipalities creating a lack of trust and common understanding.' Another respondent from Östergötland Region in Sweden pointed out that building trust takes time and requires long-term collaboration: 'Planning is long-term and requires long-term collaboration. We try to build trust and social capital by step-by-step deepening and broadening of the area in which we collaborate.'
- **Political Involvement:** Ensuring the direct involvement of regional and local politicians in collaborations is a common challenge. A lack of political engagement often stems from politicians' limited awareness of collaborative activities and their capacities or knowledge in relation to the policy topic concerned. Efforts should be made to engage politicians at the outset of the collaboration because political-level involvement can lead to high levels of support, visibility and credibility for the policy/project, while also potentially adding important local knowledge to the process. At the same time, however, too much political involvement can be an unwanted hindrance and obstacle. In the Danish case, some politicians were pressured by local businesses and farmers to halt or delay the implementation of the C2C CC project. In any collaboration, the power relationships between participants can be asymmetric. It is vital that place leaders are aware of these power dynamics and ensure all voices are heard equally to prevent certain actors from exerting undue dominance or influence over the process.
- **Limited stakeholder engagement:** Limited stakeholder engagement can be a challenge in two different ways: 1) key stakeholders are not involved in the collaboration; and 2) those actors that are involved are not fully

engaged and committed to the process. On point one, successful collaborations require a mix of actors from different backgrounds, but participation is often restricted for certain groups due to a lack of time, capacity and financial resources. As the Finnish case study shows, universities and civil society groups did not feel they could participate in the C2C CC project as funding was limited, and they could not allocate internal funds to cover the additional costs involved. University involvement was also a challenge in the Åland case as Åland University was not interested in participating until Ålands Yrkesgymnasium joined the collaboration, the latter being Åland's main institution for vocational training. Regarding point two, participating actors might not be fully engaged or deliver on tasks assigned to them. In these circumstances, place leaders have an important role to play in inspiring partners and maintaining their enthusiasm for the collaboration. This situation can also be avoided by ensuring that all partners are fully aware of their roles and responsibilities in relation to specific tasks at the outset of the collaboration.

- **Sustainability:** Regional strategy planning involving regional stakeholders is legislated for and enacted in all of the Nordic countries and regions. In most cases, however, this planning is ad hoc and temporary. Permanent regional collaborative leadership platforms that meet after the preparatory planning phase are the exception rather than the norm; consequently, there is very little long-term sustainable collaboration between regional-level actors. Many regional collaborations are ad hoc and built around projects with temporary funding, which means the collaboration is often discontinued at the end of a project. As one survey respondent from the Swedish Strömstad Region commented, 'there is collaboration, but it is project-driven, and not sustainable after the project is finished.' The long-term sustainability of a collaboration needs to be considered and evaluated at both the start and the end of the initial period. Of course, each collaboration must be judged on its own merits, achievements, and future potential. If participants think a collaboration has achieved its aim and objectives, then there might be little value in continuation, but if further collaboration brings added value, then continuation might be desirable. In the latter scenario, participants can: 1) explore the possibilities of setting up a permanent regional-level collaboration platform; 2) extend the initial period of the collaboration by finding additional financial resources from funding bodies, or consider a small membership fee like the Greenreality Network in the Finnish case study; 3) persuade members to continue collaborative activities by

advertising and accentuating the benefits and added value; and 4) assess whether the work and members of the collaboration can be integrated into existing networks in the region.

Collaborative Regional Leadership Enablers

The term “enablers” is used throughout the report to refer to the various key elements and factors that help collaborative regional leadership processes work well during both the set-up and implementation phases. The case studies reveal the following essential enablers:

- **Place leaders:** The academic literature on regional leadership emphasises the vital role that “place leaders” both formal (i.e. public authorities) and informal (i.e. industries, businesses, universities, NGOs, and societal groups) play in fostering collaborations (Sotarauta and Beer 2021). In all of the case studies, formal and informal place leaders have emerged in the form of public authorities, businesses, universities, and individuals. The case studies support the academic literature in revealing that place leaders possess certain characteristics that enable them to effectively assist collaborative initiatives, including: 1) strong local network connections; 2) management experience; 3) empathy and the ability to facilitate dialogue between different stakeholders; 4) they are politically savvy; 5) boldness, with high levels of enthusiasm and inspiration; 6) they have a mandate to make things happen; 7) they possess knowledge and expertise in the field (Broadhurst et al. 2021). One individual or organisation might not possess all these qualities, so collaborations may require multiple place leaders, or a leadership group with roles moving between organisations and individuals at different stages of the collaboration. For example, the Icelandic case required technical telemedicine experts and healthcare professionals to work closely in the development and implementation of telemedicine consultations. Similarly, computer tech companies and education institutions were both needed to effectively implement computer courses as part of the Grit:lab initiative in Åland. The Finnish case is a good example of place leadership shifting throughout the collaborative process, with energy organisations showing leadership with the initial idea and during the set-up phase of the Greenreality Network before organisational leadership moved to the City of Lappeenranta to grow the network and facilitate interaction and the administration. In all of the cases, place leaders were highlighted as essential for the development and implementation of effective

collaboration. The importance of place leaders was also confirmed by one survey respondent from the Swedish Örebro Region, who noted that 'trusted individuals with a high degree of personal capacity are instrumental to further development and cooperation.' (Survey Respondent 2023) This was clear in the Danish case, where Region Midtjylland was made the lead partner due to its experience in managing large-scale EU projects and its extensive networks throughout the region.

- **Strategic Planning:** Academic literature on regional leadership argues that the development of a joint regional strategy or plan helps to build stakeholder collaboration around a common vision (Broadhurst et al. 2021). Stakeholder survey results indicate that widespread stakeholder involvement in the preparation of a regional strategy or plan is an important foundation for building collaborations. In other words, collaboration is not just a potential outcome of a regional strategy and vision but is cultivated through direct stakeholder involvement in the process of preparing a regional strategy or plan. A survey respondent from South-West Finland Region noted that 'our cooperation based on the regional strategy is quite successful in building trust and connections between people and organisations.' Another from Oulu municipality in Finland pointed out that 'collaboration with big businesses, public authorities and society groups is extensive, for example, during land-use planning. The larger the plan, the more collaboration and discussion.' These points indicate that proactive stakeholder engagement during the overall regional strategy and planning phase is essential for effective collaborative regional leadership. This suggests that long-term structured multi-actor planning platforms are needed that provide a forum for stakeholders to identify regional challenges and opportunities within the framework of a strategic regional vision.
- **Targeted Thematic Focus:** The case studies and survey results suggest that collaborations are most effective if they are built around policy themes or key issues outlined within the framework of overall regional strategies or targeted regional plans. Several survey respondents highlighted the importance of a policy-sectoral or thematic approach to building collaborations. One survey respondent from South-West Finland Region noted that they 'have several working groups and networks discussing and implementing joint objectives (for example, based on the regional strategy).' Another survey respondent from the Finnish North Karelia Region highlighted the role of the regional authority in creating partnerships around key thematic areas: 'the Regional Council facilitates several cooperation forums, some dedicated to cooperation between

municipalities, some drafting, implementing and evaluating regional strategic programmes, some specific theme forums (like climate change, lifelong inclusion, etc.) and also forums for projects working on the same theme no matter what the funding source is.' A thematic approach was also advocated by a respondent from the Swedish Örebro Region, who noted that 'collaborations are established in various sectors.' Other survey respondents pointed to specific thematic platforms as best practice examples of regional collaboration, such as the Krafttak for Grønn Vekst collaboration between private businesses and the public sector to speed up green transition for SMEs in the Gudbrandsdalen Region in Norway, or the network platform Bärkraft in Åland, which promotes inter-sectoral collaboration on issues concerning sustainable development. A respondent gave the example from the Swedish Dalarna Region where they are trying to create a collaborative dialogue around key regional policy topics and issues: 'As a regional public authority, we try to have stakeholder dialogue on all important issues. Examples include dialogue on energy-efficient housing (Byggdialog Dalarna), on public procurement (Upphandlingsdialog Dalarna), on wildlife management (Rådjursförvaltningen), on producing sustainable wind power (Vindkraftsdialogen).' Building up thematic working groups that include relevant and interested stakeholders is vital for drawing up targeted knowledge-based policies and projects around the key themes in overarching regional strategies and plans.

- **Clear roles and responsibilities:** The Danish case study attributed the smooth functioning of the C2C CC collaboration to the clear allocation of roles and responsibilities between partners at the outset of the project. The roles and responsibilities of participants need to be carefully considered in relation to 1) the collaboration's governance and administrative structures; and 2) the implementation stage of a policy, plan, strategy, or project being conducted in a collaborative framework. The Danish case emphasised that assigning structured roles in relation to specific tasks at the outset of the project created an environment that provided participants with clear instructions and expectations regarding their positions in the collaboration. This served to reduce the potential for disputes between partners during the implementation phase.
- **Proactive stakeholder engagement:** The proactive engagement and full commitment of collaborative partners are crucial elements of effective collaborations. Here, the role of place leaders is vital in inspiring and encouraging active partner involvement throughout the duration of the collaboration and showing diplomacy skills and empathy to address potential disputes and challenges as they arise. The Finnish case study

highlighted the important role that business leaders and universities played in driving activities in the Greenreality Network. Public and private sector actors provided crucial funding for the telemedicine scheme in the Icelandic case study. The proactive engagement and commitment of stakeholders are, however, often largely determined by actors seeing the potential for positive results and benefits of participation. The Åland and Iceland cases also highlighted the importance of having political-level involvement and support for the collaboration, which in both cases helped to overcome regulatory challenges.

- **Culture of collaboration:** An existing culture of collaboration between regional institutions and stakeholders can form an essential foundation for building and implementing collaborative activities. Several survey respondents indicated that there tends to be a stronger collaboration culture in rural areas and smaller regions and municipalities. One survey respondent from the Finnish South Karelia Region noted that 'we are a relatively small region and the various parties are familiar with each other.' Another respondent noted that Blekinge Region in Sweden is a 'small region, with few stakeholders, so it is easy to know people.' One respondent from the Swedish Island of Gotland in the Baltic Sea pointed out that Gotland is 'a small region where people, companies and organisations are close together, which facilitates cooperation. The fact that we are an island underlines the need to cooperate.' This notion of collaboration as a necessity was confirmed by one survey respondent from North Karelia Region in Finland, who argued that they are a 'small region in number of population (land area large), with good existing cooperation structures. There is a real need to cooperate or famish.' Many respondents from cross-border committees also highlighted a long tradition of collaboration in cross-border areas. A respondent from the Swedish Norrbotten Region noted that 'the region has a long history of inter-regional cooperation also across national borders. The cooperation includes authorities, industries and business.' These insights support the academic literature on regional leadership, which argues that new collaborations will arise more easily where there is a strong culture of collaboration, as high levels of trust and social capital already exist between actors (Broadhurst et al. 2021). Collaboration is more of a necessity in smaller regions and island contexts where actors must pool resources to get things done.
- **Knowledge/Expertise:** Survey respondents noted that regional and municipal authorities often lack knowledge and expertise in various policy themes, especially areas related to climate and environmental policies

(Survey Respondents 2023). For collaborations to function effectively, it is important that they are based on expert knowledge by including stakeholders with relevant knowledge and expertise of both the policy area and the local context. Technical expertise was essential in the Åland and Iceland cases, where computer and telemedicine experts were needed to provide technical support in the implementation of telemedicine consultations (Iceland) and online computer courses (Åland). An understanding of the local circumstances is also crucial for ensuring that collaborative activities are focused on addressing regional and local challenges and opportunities that meet citizen needs. Expertise is needed throughout collaborative processes, at both the policymaking and implementation stages. The challenge, however, is to ensure that all information and expertise is considered without one individual or group dominating the discussion.

- **Regular and varied interactions and communication:** Regular and varied interaction and communication between partners is an important collaboration enabler. Here, place leaders play a pivotal role in bringing stakeholders together regularly enough to facilitate dialogue and the sharing of information while at the same time being careful not to trigger collaboration fatigue through meeting overload. In the Danish case study, the lead partner experimented with different interactive tools and methods, including online and physical meetings, workshops, masterclasses, seminars, and conferences, which were viewed as essential for coordinating project activities. It is crucial that collaboration leaders find and apply the most relevant and effective communication depending on the aims and objectives of the meeting. The Finnish case noted that the Greenreality Network was effective at using digital communication tools to share information both internally between network partners and externally to enhance the network's visibility locally, nationally, and internationally. These findings indicate that regular interactions and communication based on equality and openness facilitate networking and the sharing of knowledge and information, which helps to build trust and social capital between collaborative partners.

Benefits of Collaborative Regional Leadership

The case study and survey results highlight multiple benefits of participating in regional collaborative leadership activities and initiatives, including:

- **Increased collaboration and networking:** Working together enhances collaboration both internally and between organisations and actors at regional level, including increased interdepartmental, inter-institutional, and public-private cooperation. Collaborative activities provide a platform for more networking between different types of stakeholders. Interviewees noted that an important outcome of the C2C CC project (Danish case study) was closer connections between public authorities and sectors working in the climate and energy industries. The Greenreality Network in the Finnish case study built stronger connections between the industries and businesses in the energy sector and the worlds of academia and research. In this case, the local university worked closely with industries and businesses to ensure that climate and energy research courses and training focused on the needs and requirements of local industries and businesses. In the Icelandic case, links between telemedicine experts and healthcare professionals were strengthened, whereas the Grit:Lab initiative in the Åland case enhanced cooperation between computer experts and education institutions. In all of these case studies, public authorities played an important role in facilitating enhanced collaboration between a range of public-private actors.
- **Influencing policy:** The role and influence of regional-level actors is largely constrained in multi-level governance policymaking processes dominated by national and/or EU levels. Policy frameworks predetermined at the EU/national level often do not adequately address regional challenges and the needs of local people. In response, it is essential that sub-national actors build strong collaborations on policy themes vital to regional interests. Large-scale collaborations involving key regional and local actors can potentially build a critical mass of stakeholders capable of influencing EU and national governance levels to integrate sub-national priorities and needs into new policy frameworks. For example, interviewees in the Danish case study noted that the results of the C2C CC project influenced the 2021 revision of the EU Climate Adaptation Strategy. The Greenreality Network in the Finnish case-study region has also been influential in developing the regional innovation ecosystem in South Karelia Region, contributing significantly to the regional development plans for green technologies. The network can use its sub-national level strength and

influence to try and impact the direction of national policies for green technology and sustainable development. The Åland and Iceland cases also show the potential of regional stakeholders to induce policy-regulatory change when the ideas behind collaborative initiatives align with or influence the thinking of politicians and policymakers.

- **Achieving results:** Many of today's regional socio-economic challenges require a collaborative response, and recent research has shown that cooperation between public and private stakeholders in Nordic regions can lead to positive solutions and results (Lundgren et 2022). The four cases at the heart of this study support these findings as each collaboration achieved positive practical outcomes and their main aims and objectives. The telemedicine scheme in Iceland improved public healthcare access for people in remote rural areas and increased the overall number of pregnancy screenings. The Grit:Lab initiative in Åland raised education levels among the students on the online courses, which improved their chances of finding employment. The Greenreality Network (Finland) and C2C CC project (Denmark) both enhanced the participants' networks and learning while also increasing the visibility of regions at national and EU levels. Of course, not all collaborative activities will yield successful results and outcomes, and there is much to be learned from the different factors that contribute to unsuccessful ones. Positive results are, however, imperative for the longevity of collaborations, making it more likely that participants will continue their involvement and participate in future partnerships if they see the benefits of working together.
- **Collaborative mindset:** Collaborations can help foster a holistic mindset at both an individual and organisational level. Regular participation in collaborative activities influences stakeholders to start thinking about regional policy challenges and opportunities from a collaborative perspective rather than from a position of individual interests. For example, the Greenreality Network at the centre of the Finnish case study has helped cultivate an innovation ecosystem that focuses on identifying shared regional challenges and opportunities related to green technologies and sustainable development. Cultivating holistic thinking underlines the complementarity and interdependence of policy areas and actors at regional level.
- **Building policy coherence:** Collaborations help identify common regional challenges and opportunities, which forms an important basis for creating synergies and coherence across strategies and policies at regional level. For example, the collaborative work conducted within the Greenreality

Network (Finnish case study) has contributed directly to the content of the regional development strategy. Similarly, the C2C CC project (Danish case study) has enhanced policy coherence in the region as different municipalities have added to their knowledge and understanding of their interests in relation to regional climate and environmental issues. The premise behind and structure of the C2C CC project will also be upscaled to become a national-level platform and create opportunities for greater multi-level policy coherence.

- **Place-based policy solutions:** The local knowledge and expertise provided by collaboration partners are integral to ensuring that collaborative policies/projects are carefully tailored to meet the needs of stakeholders and people in the region. Collaborations provide a platform for identifying shared local challenges and opportunities, which can inform the development and implementation of effective place-based solutions. The Iceland case is a prime example of this, as different stakeholders came together to find a place-based solution to problems related to a lack of access to healthcare facilities in remote rural areas of the country. Low levels of computer literacy in Åland also led to the Grit:Lab initiative, which provided a place-based solution to this territorial-specific challenge.
- **Capacity building:** Collaborations can build the capacities of participants in several different ways, including: 1) increased awareness, understanding, and learning; 2) improved management skills; 3) enhanced knowledge of funding processes. The collaborative framework creates the conditions for actors to learn about the policy interests and priorities of the other participants, which promotes awareness and understanding. This was evident in the Danish case, where participants increased their knowledge and understanding of different regional and local climate and environment policies. The Danish case study also highlights that collaborative partners can improve their own management skills by learning from place leaders how to effectively structure and manage collaborations. Finally, involvement in the EU project-application process for the C2C CC project has significantly increased participants' capacities, knowledge and understanding of EU funding processes.
- **Social capital and trust:** Participation in collaborative activities helps to enhance social capital and trust between different stakeholders, which strengthens the collaboration culture at regional level. Interviewees participating in the Greenreality Network (Finnish case study) pointed out that regular interactions promote trust, which creates a firm foundation for long-term sustainable collaboration between partners, which is reflected in the longevity of the Network.

- **Visibility:** The effective communication of collaborative regional leadership activities can help enhance the visibility of the region and collaboration partners at regional, national and international levels. The Greenreality Network (Finnish case study) has been very effective at enhancing the network's visibility via various communication channels. Actively communicating and showcasing collaborative activities and achievements has led to securing new partnerships across Europe and enhanced the participation of regional actors in other EU-level projects. The C2C CC project also gained national visibility and was subsequently upscaled to a nationwide initiative involving regions across the whole of Denmark. The telemedicine scheme developed in the Icelandic case was also upscaled to the national level after the successful pilot at the regional level.
- **New knowledge and practical tools:** New knowledge and practical tools will emerge through collaborative discussions and activities. While collaborative networks may dissolve, new knowledge and tools have longevity and sustainability, potentially contributing to the development and implementation of future policies. The C2C CC project developed a wide range of practical tools, including a climate-adaptation lexicon and a tool for assessing climate-protection levels, which have continued to be used at regional and national level after the completion of the project. The Icelandic case introduced a new way of delivering health services through telemedicine in one region that has now been transferred to other regions throughout the country, and the Åland case introduced new online teaching tools and courses, which have now become a permanent feature in the Åland education system. This highlights the importance of effectively communicating and showcasing the results, outcomes, and achievements of collaborations. Only through effective dissemination can collaboration outputs gain visibility and be used by others.
- **Finances:** The pooling of financial resources is an important potential benefit of collaboration, especially during challenging economic periods when regional budgets are being cut. Sharing financial resources and spreading funding can help reduce the overall costs in the development and implementation of policies, projects and joint future applications for funding. The C2C CC project in the Danish case study would not have emerged without EU funding, which is often an important resource for initiating collaborative activities. In the Finnish case, members of the Greenreality Network are willing to pay a small membership fee to finance network activities as they see the benefits of participation. The Icelandic case also reveals that private and public organisations are prepared to invest in and share the costs of collaboration when they see that the proposed activities address important regional socio-economic challenges.

- **Spinoffs:** Collaborative activities can lead to the development of new spinoff networks and policies. Two sub-activities within the larger C2C CC project (Danish case study) have developed into knowledge-sharing networks. The Aquaglobe has partnered with the national government to form a national-level cooperation in water technology and climate adaptation, and the Klimatorium has become a national forum that brings stakeholders together to discuss climate-related issues. In the Finnish case, the City of Lappeenranta has introduced policy initiatives that emerged from the Greenreality Network, such as a policy initiative to raise public awareness and encourage local people and businesses to commit to sustainable and climate-friendly choices and actions. In the Icelandic case, what began as a small idea by dedicated healthcare workers in Skaftárhreppur has grown into a national policy and one of the cornerstones of rural development in Iceland. The state, through its health authorities, has now taken over the development and expansion of digital and distance healthcare.

Collaborative Regional Leadership – The Model

Collaboration is commonplace in Nordic regions, but several survey respondents commented that collaboration in their own regions requires a more structured approach. One survey respondent from the Swedish Östergötland Region noted that collaboration occurs regularly, but it could be better organised: 'there is a high degree of cooperation, but it could be more operative.' (Survey Respondent 2023) This point was echoed by a respondent from Sormland Region in Sweden who wrote that 'we don't collaborate in a systematic way, and that makes it hard.' Other survey respondents noted that new forums were needed which provide platforms for collaboration. One respondent from the Swedish Västerbotten Region argued that 'there is a need for new forums. Collaboration is not the "go to" solution, existing networks are not well known, awareness of possibilities not widespread.' (Survey Respondent 2023) A respondent from Iceland Westfjords Region made a similar point: 'Unfortunately, we do not have too many formal meetings or platforms. In terms of research and collaboration, this is key.' (Survey Respondent 2023) Another respondent from Nuuk in Greenland argued that 'as we are not that many people living in Greenland, we have an overall moderate level of collaboration between stakeholders in order to make changes and "have enough hands". We can, however, do better and improve how we collaborate with stakeholders (methods, activities, communication).' These comments from the survey suggest that a certain degree of formalisation is essential for cultivating regional collaborative leadership and raising stakeholder awareness of cooperation opportunities and benefits.

Similar conclusions were drawn in the Finnish Greenreality case study, which highlighted that a "formalised informality" is needed to facilitate effective collaborative regional leadership; i.e. regional collaboration should be conducted within a formalised governance structure, but this formal collaborative platform should be adaptable and flexible enough to facilitate an informal dialogue and networking that leads to the development of productive and successful joint ventures. In the Åland, Danish, and Iceland cases, what started as ad hoc temporary collaborations have now become permanent, long-term cooperations, which have been upscaled to the national level in the Danish and Icelandic cases.

In response to these case-study and survey findings, a holistic collaborative regional leadership model is proposed. The model is designed as a practical guide to support regional-level public and private stakeholders in the development and implementation of collaborative regional leadership partnerships. The collaborative regional leadership model focuses on providing effective governance and policymaking structures for long-term sustainable collaboration between actors at the regional level. The model, outlined in Figure 1 below, builds on our research findings, along with elements of Broadhurst et al. (2021) place leadership model and smart specialisation processes (Foray & Goenga 2013).

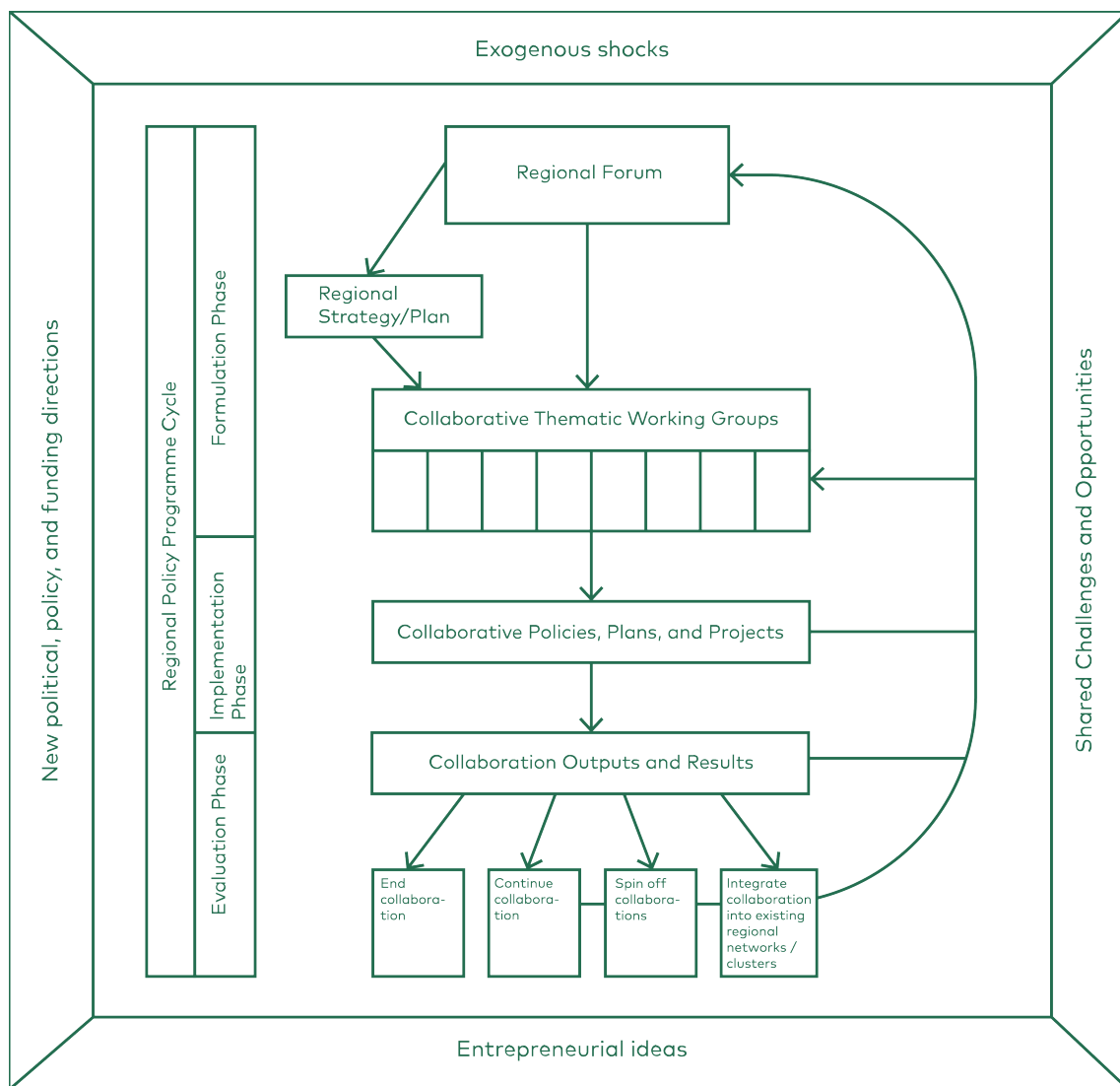


Figure 1. Collaborative Regional Leadership Model.

The model in Figure 1 showcases a regional-level governance and policymaking structure for developing and implementing a collaborative regional leadership approach to 1) the formulation of overarching regional strategies/plans; 2) the development and delivery of targeted thematic collaborative policies and projects; and 3) collaborative evaluation to cultivate long-term sustainable collaborations. The model outlines the important interrelationship between broad regional strategies/plans and targeted thematic cooperation for cultivating long-term sustainable collaborative policy and planning structures.

Firstly, the model recognises that regional collaborations do not take place in a vacuum, and different factors play an important role in driving collaborative activities. The regional collaborative leadership model is, therefore, surrounded by key drivers that can act as a catalyst, spark, or initiator for collaborations, including exogenous shocks, new political, policy and funding directions, entrepreneurial

ideas, and common challenges and opportunities. Secondly, the model recognises that regional-level collaborations occur within the frame of a regional policy programme cycle. As a result, the model builds collaborative regional leadership structures around the three key phases of the policy cycle: 1) formulation; 2) implementation; and 3) evaluation. Each policy phase builds on key collaborative regional leadership structures and enablers to emerge from the study, as outlined below:

- **Formulation Phase:** The first stage of the model is to establish a long-term Regional Forum for stakeholder engagement. The Regional Forum acts as a platform for bringing together essential regional public and private actors (i.e. regional authorities, municipal authorities, universities, industries, businesses, NGOs, civil society groups, etc.) in a dialogue to identify shared challenges and opportunities around the key policy themes most relevant to the region. The outputs of collaborative discussions within the Regional Forum act as a basis for the development of an overarching regional strategy/plan, which outlines key thematic focus areas for regional policy for a defined period of a regional policy programme. The public authorities responsible for developing overarching regional strategies and plans should set up and organise the Regional Forum. At this stage, place leaders in the public authorities play a crucial role in using their own regional networks to encourage and organise participation in the Regional Forum. This requires place leaders with a broad knowledge of the regional policy context, who also possess the ability to inspire participants and facilitate discussions between stakeholders with different ideas and interests. Most Regional Forum meetings will evolve around drawing up the regional strategy; however, annual or bi-annual meetings are recommended during the remainder of the regional-policy programme period as this will allow stakeholders to reassess and reevaluate the strategy's core policy themes in light of newly emerging regional challenges and opportunities. The Regional Forum should serve as an open-access platform for stakeholder consultation and dialogue. The Forum provides regional public and private actors with a stake in policy formulation, which enhances their awareness and support for regional strategies. Early-stage stakeholder engagement and dialogue in the forum will also help build regional networks and social capital between actors, laying the foundations for effective collaboration at the strategy/plan and implementation stages.

Following the initial stakeholder collaboration work conducted in the Regional Forum, the second stage of the model is the development of collaborative thematic working groups. Like the entrepreneurial discovery process used in smart specialisation processes, the thematic working groups are designed to facilitate focused collaborative stakeholder discussions about each theme in the overarching regional strategy/plan

developed by the Regional Forum. The role of the thematic working groups is to develop detailed policies and projects for each key theme. Each thematic group is led by an appointed place leader with strong networks, knowledge, and expertise of the thematic area and local context. This could be a person from a relevant public authority department or an individual from another public-private organisation. Key actors involved in the Regional Forum should be invited to participate in the thematic working groups, as well as stakeholders with essential knowledge and expertise or interests in the topic who were not involved in Regional Forum activities or the development of the initial strategy. A collaborative stakeholder workshop format is recommended for the working groups, which will allow for a detailed exchange of knowledge, ideas, and interests before reaching agreement on focused policies and projects. This stage is an essential part of the process as broad themes in the strategy need to be broken down into implementable policies or projects. Stakeholder collaboration in the thematic working groups can initiate the process of identifying potential networks and partners that can work together during the policy/project implementation process.

It is important to note that while the model is built around a policy-cycle process, the model can also accommodate periods of crisis or the emergence of sudden challenges and opportunities that require an immediate collaborative response. A collaborative thematic working group can be established at short notice around any spontaneous and critical regional challenges or opportunities that emerge after the official strategy/plan has been finalised. Key public and private actors can be brought together quickly in a thematic working group setting when expert dialogue and speedy decisions are required.

- **Implementation Phase:** The implementation of the policy and project ideas developed by the thematic working groups will require coordinated collaboration between a range of regional public and private actors. Policy and project implementation can be structured around the collaborative networks of actors that participated in the Regional Forum and thematic working groups, in addition to other relevant and interested stakeholders. Place leaders with experience of multi-actor collaboration management should be placed in policy/project administration and organisation positions. They can use their experience to establish clear roles and responsibilities for different collaborative partners in the development of the policy/project plan, which will help ensure partner support and smooth implementation. At this stage, collaboration leaders play an essential role in facilitating dialogue between participants to help identify and overcome potential conflicts and ensure the proactive and committed engagement

of actors throughout the whole of the implementation process. Holding regular interactive meetings is crucial for providing a forum for collaborative partners to share knowledge and ideas and build trust and social capital. Collaboration leaders can choose from a range of stakeholder interaction tools (e.g. physical/online meetings, seminars, workshops, conferences, field visits, etc.) to create regular dialogue between partners, with the selection of different interactive collaboration tools determined on the basis of the meetings' objectives. The regular use of internal and external communication tools is also important for raising awareness and strengthening connections between collaborative partners and other networks outside the collaboration.

- **Evaluation Phase:** The evaluation phase should focus on four main elements; firstly, an overall assessment of the key collaboration results and achievements that can be disseminated regionally, nationally, and at the EU level. Secondly, an evaluation of the workings of the collaboration to establish cooperation challenges and enablers. Thirdly, discuss and identify the main benefits of collaboration for participants to encourage them to participate in future partnerships. Fourthly, the evaluation phase should also include an assessment of the long-term sustainability of the collaboration, including potential means and mechanisms for its continuation. The four elements of this evaluation could lead to four potential outcomes: 1) end the collaboration 2); continue the existing collaboration; 3) new spin-off collaborations/networks; or 4) the integration of the collaboration into other existing regional networks. The results/outcomes of the evaluation phase and the continued activities of existing collaborative partnerships or new collaborations will feed back into the work of the Regional Forum and thematic working groups, creating a continuous collaboration cycle and contributing to the development of new collaborative regional strategies plans, policies and projects.

Overall, the model takes a comprehensive, holistic approach to collaborative regional leadership throughout the full policymaking cycle. The model is largely focused on building collaboration between key regional public and private actors and stakeholders; however, a role for individual citizens could also be explored, as the emergence of digital and non-digital citizen engagement tools caters for enhanced citizen involvement, especially at the policy formulation stage (Moodie et al. 2022). Here, a citizen consultation and deliberation could be integrated into the work of the Regional Forum, as citizens could play an active role in identifying regional challenges and opportunities and contribute to the overall direction of regional strategies and plans. Citizen engagement might be more difficult in the

thematic working groups and during the implementation phase when knowledge and expertise of the policy topic are required for policy/project development and delivery.

Collaborative Regional Leadership – Recommendations

The final section of this report outlines key collaborative regional leadership recommendations to emerge from the research survey and case-study findings. The recommendations are closely linked to the model of collaborative regional leadership outlined above and should be carefully considered in relation to this proposed structure. The recommendations are targeted at public and private institutions and stakeholders that are crucial for developing and implementing collaborative regional policies, projects, and other cooperation initiatives.

Collaborative Regional Leadership Drivers – Recommendations

- **Utilise exogenous shocks as a potential driver for new collaborations:** Exogenous shocks can act as a catalyst for collaboration and present a window of opportunity to take regional policies in new directions. For example, the COVID-19 pandemic strengthened collaborations between regional and municipal authorities and, in some cases, led to the creation of new collaborative governance structures (Bourdin et al. 2023). The uncertainty generated by shocks can create conditions under which regional public and private stakeholders are more willing to work together. Place leaders can take advantage of a more cooperative environment to build new collaborations or improve existing networks.
- **Be reactive and proactive in using new EU-level and national-level policy and funding priorities as a catalyst for fostering regional-level collaborations:** Multi-level governance and policymaking structures mean that regions must work within the confines and parameters of policy and funding frameworks developed at national and EU levels. Public authorities need to be alert to changes in the policy climate and the emergence of new EU and national policy directions; whenever possible, they should also attempt to influence the direction of EU and national policy changes (see strategic recommendation below). Being reactive and proactive to changes in the political and policy climate creates opportunities to establish collaborative networks around newly emerging policy and funding themes.
- **Identify shared regional challenges and opportunities to overcome institutional and stakeholder fragmentation and promote holistic thinking:**

The identification of shared challenges and opportunities is a key driver of regional collaborative leadership activities. Creating a platform that brings together regional public and private actors is an important first step for developing a shared vision and regional strategy. Stakeholders will bring their own interests and priorities to the table, but in an open discussion, actors need to think holistically across departments, sectors, and individual interests to identify common regional challenges and opportunities around which to build collaborations. This process can help to reduce fragmentation between institutions and stakeholders, cultivating a holistic mindset amongst the participants so that they start to consider regional issues from a collective outlook rather than an individual perspective.

- **Be open to entrepreneurial ideas from a range of different actors:** The case studies in this research have shown that entrepreneurial ideas are a key driver of collaborative regional leadership. Collaborative ideas can come from heterogeneous sources, including EU and national mandates, or ideas from industries, businesses and individuals. It is essential, therefore, that regional public authorities create an equal-access environment by using open platforms designed to receive and consider ideas about policy and collaboration from a range of stakeholders. It is not important whether the initial collaborative idea is top-down or bottom-up; what is more significant is that the idea addresses shared regional challenges and opportunities and that regional stakeholders are prepared to support the concept and collaborate in its implementation.

Collaborative Regional Leadership Structure - Recommendations

- **Develop a formalised long-term regional collaboration platform to facilitate stakeholder involvement in the formulation of overall regional strategies/plans:** Structured long-term regional collaboration platforms are needed to provide a forum for regional actors to openly discuss and identify shared regional collaborative policy and planning challenges and opportunities. Survey respondents highlight that it is essential to build collaboration around long-term policy and planning strategies developed through open dialogue in structured regional stakeholder platforms. Best-practice examples of these platforms include Cooperation Councils set up as part of national legislation in various Finnish regions, the Smart Specialisation Academy in Värmland Region in Sweden, Trøndelagsmøtet in the Norwegian Trøndelag Region, and the Bärkraft Network in Åland. Giving regional actors the opportunity to participate in such forums provides them with a stake in the formulation of overall regional

strategies, which creates firm foundations for building future collaborations and enhancing stakeholder support and acceptance of policies.

- **Take a policy-thematic approach for building collaborations:** Collaborative policy thematic working groups should be established that focus on the development of detailed policies and projects under each policy theme in the overarching regional strategy/plan. A thematic approach can also be taken in relation to emerging mission-orientated approaches in regional development and innovation policy. These thematic working groups will bring together relevant stakeholders who possess both expert and practical knowledge in the thematic policy area and a good understanding of the regional context, challenges, and opportunities. Relevant and interested stakeholder involvement in these thematic groups is essential for ensuring that policies and projects address regional needs and opportunities. The thematic groups can also form the foundational network of actors required to implement the targeted policies and projects proposed.

Collaborative Regional Leadership Process – Recommendations

- **Appoint the right people in key leadership and facilitatory positions:** Appointing place leaders in key facilitatory positions is crucial for ensuring smooth, collaborative regional leadership processes. Using the regional leadership model outlined above, place leaders have an important role in facilitating the activities of the regional platform/forum, the thematic groups, and leading the networks implementing policies and projects. Place leaders with different skill sets will be required for these different positions. It is important to appoint leaders with large regional networks who possess the skills to facilitate dialogue and cooperation between a range of different actors. Management experience is essential –perhaps more so than in-depth knowledge and expertise of the policy topic – but place leaders will also need a good understanding of the regional context, culture, and the different positions of the actors involved. One leader might not possess all the key place leader characteristics outlined above, so a leadership group might be required to ensure the smooth implementation of collaborative activities.
- **Develop the aims and objectives of the collaborative activity together:** Once the initial collaborative idea has been agreed, participants should work together to establish the main goals, objectives, activities, and

outputs of the collaboration. Participant ownership, acceptance, and support for the collaboration depend on inclusive involvement in the preparation and implementation of activities. From the outset, a flat organisational structure can help foster a sense of openness, equality and inclusion in which all voices and ideas can be heard. A collective bottom-up approach is crucial to ensure that no single sector or individual dominates discussions and the direction of the collaborative activities.

- **Establish clear roles and responsibilities:** Smooth-running collaborations are dependent on assigning clear roles for participants at the start of the process. It is vital that each actor knows and understands their responsibilities in relation to specific tasks. For this reason, it is worth taking time to establish a clear work and implementation plan at the start of the collaboration, assigning specific tasks to different actors. Preparation at the start reduces the potential for confusion and tension later in the process, as all participants know what is required of them. Sometimes, however, a degree of participant flexibility and adaptability is needed if complications arise and the initial plans and assignment of roles do not work out as planned. Under these circumstances, place leaders play an important role in re-assigning tasks or potentially bringing new actors in to help complete unfinished ones.
- **Ensure all relevant stakeholders are included:** All relevant and interested stakeholders need to be included in collaborative activities. This is vital to ensure that different voices and perspectives are heard and that policies and projects are based on pertinent local knowledge and expertise. Place leaders play a significant role in making sure that no important stakeholder groups are underrepresented, particularly the least socially engaged communities. Special consideration should also be given to accommodating stakeholders who traditionally lack time and resources to participate, including SMEs, NGOs, and civil society groups.
- **Engage local politicians at the outset:** The early-stage involvement and engagement of regional and local politicians can add value to collaborations. Their involvement can strengthen the link between collaboration goals and political priorities, bring new knowledge and expertise to discussions, and increase awareness and visibility of collaboration activities. Regional and local politicians already play an active and positive role in existing regional collaborative structures, such as cross-border committees and the Finnish regional Cooperation Councils. At the same time, however, politicians should not dominate collaborations and use networks as a vehicle for pushing political agendas or for political

cronyism. While certain policy themes have a strong political dimension, collaborations usually focus on practical and functional tasks, which depoliticises the process and reduces the potential for political manipulation.

- **Use a range of the available interactive stakeholder engagement tools:** The case studies highlight the importance of promoting proactive stakeholder engagement through the use of interactive tools, such as workshops, seminars, online and in-person meetings, and conferences. These tools bring participants together, promote stakeholder dialogue and help boost knowledge sharing and learning. Interactive engagement tools are vital for building social capital between actors; however, collaboration leaders also need to avoid too many meetings to reduce the chances of participation fatigue and of overloading the actors.
- **Use digital tools to promote effective internal and external communication:** Regular internal communication is essential for exchanging information and building trust between partners. Collaboration leaders can make use of digital tools to create dialogue and connections between partners, while keeping participants updated on key collaborative activities and deadlines. Social media channels are also an important tool for disseminating information about collaboration activities and achievements to the outside world. The effective use of social media can help to enhance the visibility of the collaboration to other regional stakeholders and citizens, as well as other actors at the national and EU levels.

Collaborative Regional Leadership Sustainability – Recommendations

- **Evaluate the potential for continuing cooperation or establishing new spin-off collaborations:** Many regional collaborations are ad hoc and fixed-term, dissolving when projects come end or the funding runs out. Evaluations should be built into collaboration tasks to establish whether continuation is necessary and feasible. Continuation could be required if: 1) the aims and objectives of the collaboration have not yet been achieved; 2) the ongoing focus and work of the collaboration are beneficial to the region and stakeholders; and 3) there are newly emerging policies or future regional needs towards which the collaboration can contribute. Sometimes, continuation in the current form is not possible, so the potential for spin-off collaborations should also be explored, whether or not they include

different actors and/or focus on different regional policies and issues.

- **Accentuate the benefits and added value:** Proactive involvement in collaborative activities takes up time and resources, so participants need an incentive to continue working together. It is, therefore, vital to market and advertise the main outcomes and achievements of the collaboration to participants in order to encourage continued engagement.
- **Identify and secure additional funding:** A lack of funding is the primary reason many collaborations dissolve, so it is important to keep track of EU, national, and regional funding opportunities to provide the financial base for continuing collaborations. Another possibility, as shown in the Finnish Greenreality Network case study, is to charge a small membership fee. Participants are potentially willing to pay membership fees if they see the benefits of their involvement. Public and private organisations might also be willing to provide financial backing, as shown in the Icelandic case.
- **Create synergies with existing regional networks/clusters which can accommodate the ideas, tools, and stakeholders from new collaborations:** Limited financial resources, time, and capacities can have an impact on the overall longevity of new collaborations, restricting cooperation to short periods of time. These restrictions make it crucial for new collaborations to identify and build synergies with existing regional networks and clusters that have similar focuses and interests. These links can become a source of sustainability and longevity when collaborations are discontinued, as the ideas, tools, and stakeholders from collaborations can potentially be integrated into existing networks and clusters where there are overlaps and potential benefits of merging together.
- **Recognise the potential dangers of upscaling to national or EU level:** The success of the C2C CC project in the Danish case study has seen the collaboration upscaled to the national level to include regions and municipalities across the whole of Denmark. Some interviewees expressed concerns about upscaling the collaboration and the impact it would have on developing effective place-based climate policies. One consequence of upscaling to the national or EU level could be a loss of detailed focus on regional and local climate and environmental issues. It is, therefore, important to keep sustainable long-term regional collaborations going within the broader national/EU multi-level context. This is vital to ensure the delivery of detailed territorial policy data and information relevant to regional requirements and citizens' needs.

Collaborative Regional Leadership Strategic – Recommendations

- **Influence the direction of national and EU policies by building large-scale stakeholder collaborations in areas of strategic regional importance:**
Regional institutions and actors should focus on building large-scale collaborations around policy areas of key strategic regional importance. This is essential for influencing multi-level governance policy processes in which the sub-national level is often constrained by dominant national and EU actors. Building a critical mass of key stakeholder support around a specific regional policy area or territorial challenge can help exert additional pressure on national and EU actors. This is an important step towards ensuring that regional actors are listened to and that regional needs are both addressed and integrated into the national and EU policy frameworks.

Collaborative Regional Leadership – Moving Forward

This research and the academic literature on regional leadership mainly focus on collaboration between key regional public and private stakeholders; in other words, the usual suspects who regularly participate in regional-level policy and project activities, including public authorities, municipalities, universities, industries, businesses, NGOs, and civil society groups. A significant weakness in this research field is that the role of citizens in collaborative regional leadership processes is largely neglected and underexplored. This is a significant oversight as citizens can bring important local knowledge and expertise into collaborative policymaking processes. The main challenge is, therefore, assessing at what stage of collaborative regional leadership processes citizens can be proactively involved and engaged.

Recent research by Moodie et al. (2022) argues that citizen engagement at the policy-formulation stage is both desirable and feasible, as policies need to adequately address citizen requirements if they are to gain support and acceptance. From this perspective, the ideal time to involve people in the regional collaborative leadership model outlined above would be to include them in the permanent Regional Forum where key regional policy challenges and opportunities are identified and discussed. Citizen engagement in the thematic working groups and implementation stages in the model might be more challenging as expertise in policy themes is required, but citizens can and should participate in determining the overall direction of overarching regional policy and funding priorities to ensure that they address regional challenges and citizens' needs.

The emergence of a range of new digital and non-digital citizen-engagement tools

should make citizen involvement in collaborative regional leadership activities a realistic possibility and target (Moodie et al. 2022). Further research is needed on how collaborative regional leadership models and citizen-engagement tools can be integrated to facilitate citizen involvement. Ultimately, the proactive engagement of citizens in collaborative regional leadership activities is essential for rebuilding trust in policymaking. This is vital for overcoming growing geographies of discontent, particularly in regions that have been left behind by the forces of modernity and the new knowledge-based economy.

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