

# **Synergies between Nordic studies** on resilience, digitalisation, smart specialisation and skills development

Jukka Teräs & Alberto Giacometti

NORDREGIO WORKING PAPER 2020:9





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*Nordic Thematic Group for Innovative and Resilient Regions 2017-2020*

## **Synergies between Nordic studies on resilience, digitalisation, smart specialisation and skills development**

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### **Nordregio**

is a leading Nordic and European research centre for regional development and planning, established by the Nordic Council of Ministers in 1997. We conduct solution-oriented and applied research, addressing current issues from both a research perspective and the viewpoint of policymakers and practitioners. Operating at the international, national, regional and local levels, Nordregio's research covers a wide geographic scope, with an emphasis on the Nordic and Baltic Sea Regions, Europe and the Arctic.

### **The Nordic co-operation**

*Nordic co-operation* is one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, and the Faroe Islands, Greenland, and Åland. *Nordic co-operation* has firm traditions in politics, the economy, and culture. It plays an important role in European and international collaboration, and aims at creating a strong Nordic community in a strong Europe. *Nordic co-operation* seeks to safeguard Nordic and regional interests and principles in the global community. Common Nordic values help the region solidify its position as one of the world's most innovative and competitive.

### **The Nordic Council of Ministers**

is a forum of co-operation between the Nordic governments. The Nordic Council of Ministers implements Nordic co-operation. The prime ministers have the overall responsibility. Its activities are co-ordinated by the Nordic ministers for co-operation, the Nordic Committee for co-operation and portfolio ministers. Founded in 1971.

### **The Nordic Council**

is a forum for co-operation between the Nordic parliaments and governments. The Council consists of 87 parliamentarians from the Nordic countries. The Nordic Council takes policy initiatives and monitors Nordic co-operation. Founded in 1952.

Stockholm, Sweden, 2020

# Contents

<b>Foreword</b> .....	6
<b>Introduction</b> .....	7
Why the synergy study? .....	8
The process 2019-2020 .....	8
Synergies and interrelatedness in a broader international context.....	9
Epilogue: Synergy study revisited in 2020.....	9
<b>Final remarks</b> .....	11
<b>Appendix</b> .....	12
Synergy work on resilient and innovative regions.....	13

# Foreword

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This report is based on research undertaken by Nordregio on behalf of the Nordic Thematic Group for Innovative and Resilient Regions 2017–20201 under the Nordic Council of Ministers' Committee of Senior Officials for Regional Policy. This report explores the synergies and interlinkages between the major study themes of the Thematic Group.

The work programme for the Nordic Thematic Group for Innovative and Resilient Regions 2017–2020 started with three themes that create a foundation to understand the factors that support the creation of innovative and resilient regions across the Nordic countries: economic resilience, smart specialisation and digitalisation. In 2018, the Thematic Group added the theme of Nordic Skills and Competences as the fourth major study. The four themes are closely interlinked from a regional development perspective; therefore, their commonalities and synergies deserve specific analysis. The synergy study was carried out in two major phases in 2019: 1) to identify and discuss the synergies and interlinkages of the major themes within the Thematic Group, followed by 2) concluding phase in October–November, 2020, to summarise the findings with outlook to future, too.

The thematic group and its secretariat are grateful for the time and effort by regional and national actors in providing relevant information and enabling the empirical research for the study. The report has also benefitted from the editorial and administrative tasks undertaken by the Nordregio research team and communication advisors. Many thanks to Gaia Consulting for moderating the Synergy project workshop and the workshop reporting, and to Vinko Muštra, Associate Professor and head of department for economics at the University of Split, Croatia, for providing reflections and a wider European perspective on the Synergy project workshop and invited international expert.



Kjell Nilsson  
Director of Nordregio

# Introduction

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The Nordic Thematic Group on innovative and resilient regions 2017-2020 (TG2) was established by the Nordic Council of Ministers to focus on the regional policy dimension of the development in the Nordic regions, and to contribute to public policy development with a particular focus on innovation and resilience in the Nordic countries. Besides the Nordic Council of Ministers, the primary target group of the Thematic Group includes the Nordic ministries, regions and stakeholders with an interest in innovative and resilient regions. *The Nordic thematic group for innovative and resilient regions (TG2)* is a part of the Nordic Co-operation Programme for Regional Development and Planning 2017-2020.

The TG2 aimed at investigating some of the most relevant topics for regional development in the Nordic countries and producing accessible material to stimulate discussion on regional actions and policy development. Specifically, the TG2 focused in 2017-2020 on the following major topics: **1) social and economic resilience, 2) smart specialisation, 3) digitalisation, and 4) skills development.** Studies covered all the Nordic countries and delved into specific regional case studies. Additional studies were carried to cover the Bothnian Arc and Svinesund border regions. Finally, by the end of the four-year programme, the TG devoted attention to study the impacts of the measures implemented to battle the **Covid-19 pandemic.**

The **"Regional Economic and Social Resilience – An exploratory in-depth study in the Nordic countries"** study mapped the risk landscape (different types of risks) of the Nordic regions' economies and societies. Risks were indicated, including both abrupt shocks and so-called slow-burn cases due to long-term accumulated stress. Both scenarios represent real threats to the long-term development paths of Nordic regions. The study identified reactive and proactive measures to deal with regional resilience in the Nordic regions.

**"The status, characteristics, and potential of smart specialisation in Nordic regions"** study identified a rich variety of Nordic national and regional approaches and interesting cases of smart specialisation. The report found out that the nature of the Nordic innovation systems has contributed to the implementation S3 strategy processes through the systems' absorption capacities. The size and complexity of the regional economic structure may play a role in the adoption of S3.

The **"Governing the digital transition in Nordic Regions: The human element"** study highlighted the regional aspects of digitalisation - with cases ranging from bigger Nordic cities to more peripheral regions. The study identified different approaches and digitalisation priorities in Nordic regions. It stated e.g. that digitalisation is not only technical process but also human process.

The **"Skills policies - Building capacities for Innovative and resilient regions"** study aimed to increase knowledge and open up for a discussion on skills and how Nordic regions work with skills in order to promote joint learning. The final report was published in November 2020

In addition to these major studies, complementary studies were carried in the cross-border regions of Svinesund (between Sweden and Norway) and Bothnian Arc (between Finland and Sweden). The studies revisited the topics of resilience and skills development addressing the specific contexts and challenges of border regions. Finally, a joint study was carried in both border regions in 2020 to identify and map **the effects of the Covid-19 pandemic**, particularly from a social and economic perspective, as well as its impacts on collaboration itself.

## WHY THE SYNERGY STUDY?

All the major themes studied within the TG2 programme involve a high degree of complexity and thus are worth studying as such. However, they are all touching on different but interlinked perspectives of regional development. Therefore, the studies need to be looked together when designing regional actions and strategies that address both the global trends (e.g. geopolitics, climate adaptation, industrial renewal), and the local contexts (e.g. economic structure, demographic trends, social cohesion). Therefore, the TG2 members found appropriate to identify ways in which different perspectives can be jointly addressed. For instance, digitalisation is seen as a trend - a threat or opportunity - within resilience thinking. Digitalisation can be a tool or a strategy for ensuring adaptation, developing skills, increasing productivity, and reducing environmental impacts. Likewise, the concept of resilience can help integrate systems thinking into the design of regional strategies to minimise risks and strengthen adaptation.

As a result of this exercise, cross-cutting visualisations (graphs) were produced to assist decision-makers to integrate the different themes of regional development.

## THE PROCESS 2019-2020

A background study of synergies and interrelatedness was implemented in 2019 with the expert assistance by the Finnish consultancy Gaia Consulting was hired to support the TG members and Nordregio researchers in **identifying and analysing interrelatedness and synergies between the key themes studied in 2018-2019**. The background study focused on four key tasks:

- Identification and analysis of the interlinkages between the four major themes.
- Organisation and moderation of a Workshop with the TG2 members, Nordregio researchers, and invited guests to discuss the preliminary findings.
- Preparation of visual material to be presented at Nordregio Forum 2019.
- Preparation of the final report of the background study, including recommendations for the TG2 work on synergies and interrelatedness in 2019-2020.

The **background study** analysed the synergies and interlinkages of the work done by the Nordic thematic group for innovative and resilient regions 2017-2020 (TG2). The work included a desk study of the material produced by Nordregio and TG2, and a desk study of global megatrends in regional development by the Gaia Consulting. The desk study was followed by a full day workshop in November 2019 with Nordregio experts, TG2 members and an external advisor, Vinko Muštra, associate professor and head of department for economics at the university of Split, Croatia. The workshop helped the TG2 to discuss the preliminary findings of the study and deepen the understanding of the synergies between the four major themes as well as the challenges of building resilient Nordic regions. Based on the workshop, the findings of the study were refined, presented and discussed at the Nordregio Forum 27-28 November 2019 in Reykjavik, Iceland.

The background study report with findings and recommendations is presented in the Appendix. Figure 1 illustrates the framework that was developed by the TG2 and Gaia Consulting during the background study. The framework demonstrates how skills development, smart specialisation and digitalisation can reinforce resilience.



*Figure 1: Skills development, smart specialisation and digitalisation reinforce resilience.*

## SYNERGIES AND INTERRELATEDNESS IN A BROADER INTERNATIONAL CONTEXT

The major findings and recommendations of the synergy study have been described in detail the Background report (see Attachment). Figure 2 summarises the TG2 work with the Gaia Consulting and puts the analysis in a broader international context.

The exercise was extremely useful in guiding the TG in synthesising the findings of the first half of the programme and finding converging points between major themes studied. The expert work also helped revising further steps in the programme, both in terms of research questions and in making the work relevant and accessible for policy discussions in the different Nordic countries.

For instance, the results of the studies on resilience, smart specialisation and digitalisation converged on the need for securing the right skills to secure the future development and social well-being in regions. This finding reinforced the work carried in the study on skills policies and the study on skills supply in the Bothnian Arc border region.

## EPILOGUE: SYNERGY STUDY REVISITED IN 2020

The Synergy study was re-visited by Nordregio researchers in late 2020 to include the new perspectives gained through the findings of skills study which shed additional light on how different regions in the Nordic countries work with skills development, particularly skills assessment, mismatch between the supply and demand and governance. Emphasis was put on identifying the key actors working with skills at the regional level, and what are the enabling and hampering factors to strengthening skills development. Moreover, the cross-border studies provided additional study perspectives.

### The skills study

Skills supply is only partly about education, while demographic trends, cross-border mobility, and collaboration amongst actors within the region and beyond the immediate boundaries of the region, play an important role. When discussing resilience in border regions, practitioners and stakeholders in the field pointed out numerous risks and

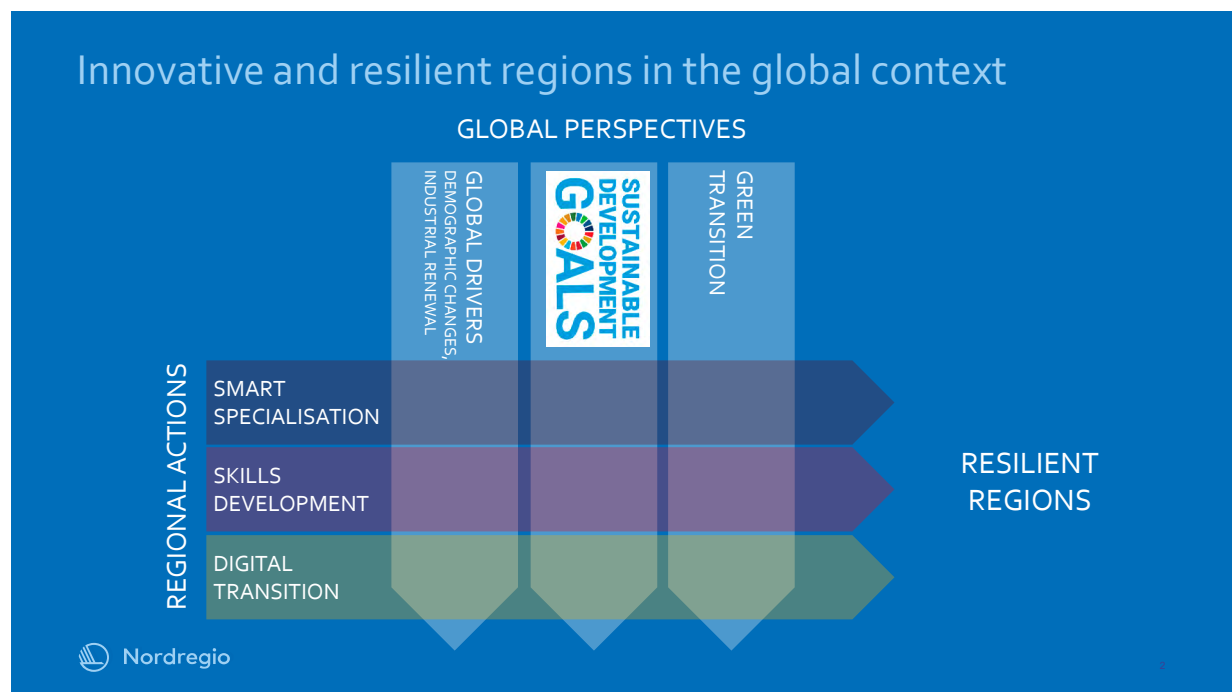


Figure 2: Innovative and resilient regions in the global context.

stress factors connected to what happens outside the formal borders of their administrative regions. Risks varied from bottlenecks in supply-chains, immigration or the lack of it, industrial disasters in neighbouring regions, climate change, rural-urban migration, and the lack of skilled labour. Skills needed are not always matching the skills present in the region, therefore skills adaptation and acquisition of digital competences were signalled to be key factors in strengthening the regional resilience. However, the availability of labour generally appears to be a huge challenge for many regions that have experienced negative demographic trends for an extended period of time. In such cases, skills supply is not only about adaptation, but a general social problem that needs to be addressed with regional strategies, cross-border cooperation and other actions, such as boosting labour mobility across borders.

The reality, however, is that regional strategies are normally inward-looking rather than considering the regions' co-dependence with neighbouring regions and countries, and the opportunities to increase collaboration. They are actively competing for attracting labour but putting little effort in collaborating in labour supply. This proves on the one hand the weak position they are put in a national perspective when it comes to attractiveness, but also the lack of strategic thinking beyond the boundaries of administrative units. Close cooperation, however, is identified at a municipal level, with associations of municipalities within the regions and across borders. Such as the Bothnian Arc and Svinesund committees.

These different constellations established for cross-border collaboration represent a somewhat less formal form of governance to promote the joint interests, in the context of an administrative divide both with national and subnational borders. However, the common interests across borders and integrated society and labour markets have brought the need for close collaboration. This has significantly strengthened resilience in border communities, even in the context of the covid-19 pandemic.

The covid-19 pandemic has revealed the sensitivity of border communities to top-down national decision-making. In times of crises, national governments make use of the 'emergency laws' in which national authorities take precedence over subnational authorities. This means that, at least for a period of time subnational administrations are impeded to act on their decentralised responsibilities as freely as they could otherwise. Border communities suffered the impacts of this more vividly as other regions due to the discrepancies between measures taken at either side of the national border.

Despite the dire situation, cross-border collaboration did not stop. Municipalities and actors at a local level doubled their efforts to secure the availability of basic goods and services, and often lobbied national authorities to allow the crossing of frontier workers. The high degree of co-dependence in the Bothnian Arc region was a key reason for the Finnish authorities to apply exceptions for border communities to cross more easily to the Swedish side. Moreover, information delivered by the Freedom of Movement Secretariat at the Nordic Council of Ministers in a joint effort with several border committees to the competent national authorities played a significant role in taking decisions to solve critical issues.

The scenario that emerged as a consequence of the covid-19 crisis proves, on the one hand, that the resilience of border communities is threatened by the weak institutional structures supporting their joint strategies and actions. On the other hand, the high impact to border closures made it urgent to ease the regulations and to act fast to allow frontier workers to commute and families to re-unite, which forced the national authorities acknowledge the high level of integration and co-dependency of border communities. This therefore shows the importance of integration to secure such communities resilience.

# Final remarks

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The previous work done with resilience, smart specialisation, and digitalisation, was particularly useful to assess the emerging impacts of the covid-19 crisis. Border communities' resilience revealed a huge weakness amid the pandemic. The need for strengthening governance structures in border regions became particularly evident. Border committees' capacity to react upon this crisis was limited, but extremely important. Despite national authorities used the emergency laws to take precedence over any other sub-national authority and cross-national collaboration, the role of actors in border areas was pivotal to enable trade, commuting and reuniting families.

Ensuring the availability of skills and competences appear more important than ever to ensure regional resilience and adapt towards the new digital era and green transition. However, skills

governance needs to be understood beyond education, securing skills requires active work in attracting labour, promoting labour mobility across borders and across municipalities and increased collaboration between regional actors to follow trends in the market, assess the needs and develop new job opportunities.

Digitalisation is both a goal and the means to extending access to services, improve governance, skills supply, and boost the green transition. Smart Specialisation Strategies (S3) can serve as a tool to integrate resilience perspectives and systems thinking, including the actions to address skills development. However, these should consider region's co-dependency with neighboring regions and countries. Border communities are caught in the middle between governance regimes, therefore, S3 need to consider them closely.

# Appendix

**APPENDIX:**

# *Synergy work on resilient and innovative regions*

**BACKGROUND STUDY FOR THE NORDIC  
THEMATIC GROUP FOR INNOVATIVE AND  
RESILIENT REGIONS 2017-2020**

**18.12.2019**

*Susanna Sepponen, Päivi Luoma, Ulla Värre and Ringa Sirppiniemi  
Gaia Consulting Ltd.*

# TABLE OF CONTENTS

<b>1</b>	<b><u>Background, aims and methodology</u></b> .....	<b>2</b>
1.1	<u>Background and aims</u> .....	2
1.2	<u>Methodology</u> .....	3
<b>2</b>	<b><u>Synergies of the major themes</u></b> .....	<b>4</b>
2.1	<u>Resilient regions as a result of global trends and regional action</u> .....	4
2.2	<u>Smart specialisation as an innovative tool for resilient regions</u> .....	6
2.3	<u>Skills policies providing a foundation for resilient regions</u> .....	7
2.4	<u>Digital transition as a driver for regional development</u> .....	7
<b>3</b>	<b><u>Measures towards Nordic resilient and innovative regions</u></b> .....	<b>9</b>
<b>4</b>	<b><u>Conclusions and recommendations</u></b> .....	<b>11</b>
4.1	<u>Conclusions to take forward in the synergy work</u> .....	11
4.2	<u>Recommendations for Nordic collaboration</u> .....	12
	<b><u>References</u></b> .....	<b>13</b>
	<b><u>Appendix 1: Report from the workshop 6 November 2019</u></b> .....	<b>14</b>

# Background, aims and methodology

## Background and aims

**The Nordic thematic group for innovative and resilient regions 2017-2020 (TG2)** works with helping regions build capacities to become more resilient on various social and economic aspects, by developing policy recommendations for regional and national authorities. The working group focuses on the regional policy dimension of potentials for innovation and entrepreneurship. The work of the group has focused on four major themes coordinated by Nordregio: **1) regional economic and social resilience in Nordic countries 2) smart specialisation in Nordic regions, 3) digital transition in Nordic regions, and 4) skills policies for building capacities for innovative and resilient Nordic regions.**

These themes are highly topical as economic, social and socio-ecological resilience as a cross-cutting topic of Agenda 2030 is gaining increased focus in regional development policies. The concept of green transition supporting resilience builds strongly upon the work done by the previous Nordic working group on green growth in Nordic regions, while it highlights important global trends of today, including digitalisation, the transformation of work, urbanisation and the urban-rural divide. It supports the vision of the Nordic region becoming the most sustainable and integrated region in the world in 2030 (Nordic Council of Ministers, 2019<sup>1</sup>) – a vision based on the importance of **green transition** to carbon neutrality and a bio- and circular economy, **competitiveness through green growth** based on knowledge, innovation, mobility and digital integration, and **social sustainability** of an inclusive, equal and interconnected region.

This background study has been produced by Gaia Consulting in support of the concluding phase of TG2 that **aims to identify synergies between the four major themes**, and place these in a broader regional development context. The synergy work builds on the four sub-studies produced by Nordregio for TG2.<sup>2</sup>

## Methodology

This work analyses the synergies of the work done by the Nordic thematic group for innovative and resilient regions 2017-2020 (TG2). The work was made in close dialogue with Nordregio

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<sup>1</sup> <https://www.norden.org/en/our-vision-2030> (visited 12.12.2019)

<sup>2</sup> Giacometti, A. & Teräs J. (2019) on regional economic and social resilience; Wøien, M., Kristensen I., & Teräs, J. (2019) on smart specialisation; Randall, L. & Berlina, A. (2019) on digital transition; and Cuadrado, A., Lundgren, A., Wøien, M. & Teräs, J. (2019) on skills policies.

and focused on analysing the synergies of the four major themes of the thematic group. The work included a desk study of the material produced by Nordregio and TG2, a desk study of global megatrends in regional development, and a full day workshop and discussions with Nordregio experts, TG2 members and an external advisor. At the workshop held at Nordregio on 6 November 2019, TG2 members and Nordregio researchers discussed the preliminary findings of the study and deepened the understanding of the synergies between the four major themes as well as the challenges of building resilient Nordic regions. Based on the workshop the findings of the study were refined and presented and discussed at the Nordregio Forum 27-28 November 2019. The study was made in October – December 2019.

This final report of the work contains in **section 2** a brief overview of the main synergies of the major themes, focusing on a Nordic level reflected towards global drivers; in **section 3** a brief overview of actions for strengthening innovative and resilient regions, based on the analysis of the sub-studies and foremost on the discussions and conclusions of the workshop 6 November 2019, and in **section 4** conclusions and recommendations for Nordic cooperation and TG2.



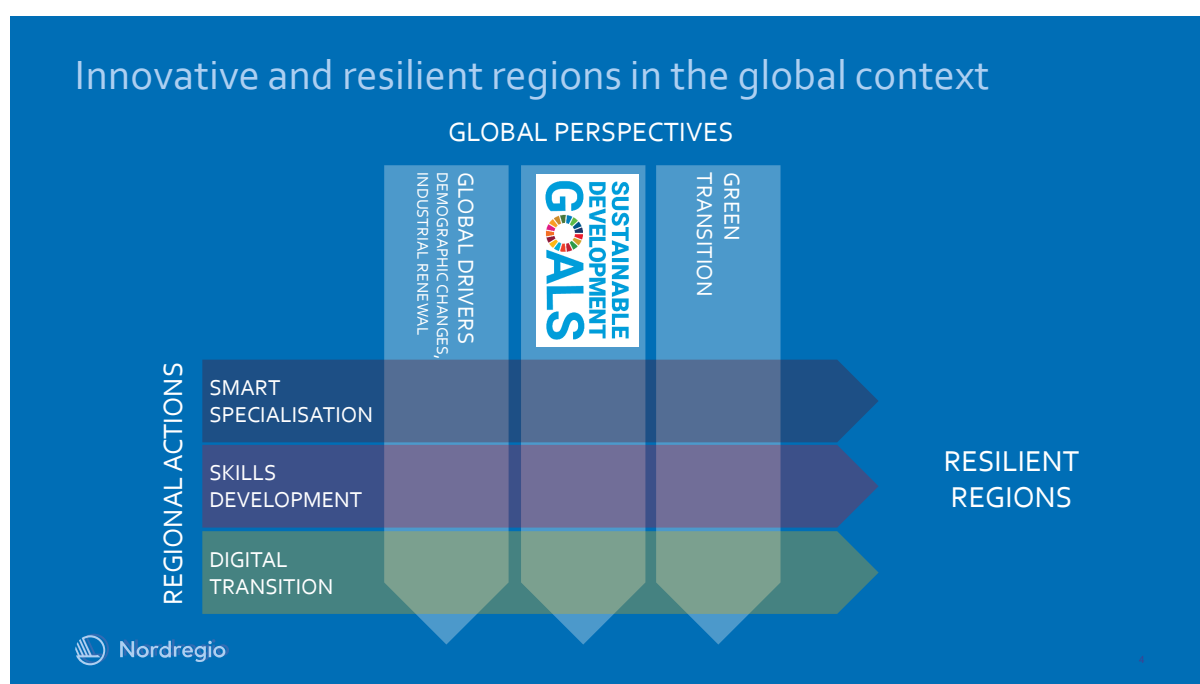
**Figure 1.** Overview of the TG 2 sub-studies

## Synergies of the major themes

### Resilient regions as a result of global trends and regional action

Regional (economic and social) resilience determines how capable the regional economies are to cope with change (negative or positive shocks or stress) and continue to develop. **Regional resilience is achieved through regional actions that turn global perspectives into strengths and opportunities (Figure 2).** Generally speaking, regional resilience is a desirable place to be in, and this should be supported by all different policies and regional actions.

Rather than being an end result, regional resilience should be seen as a continuous effort of addressing and adapting to global trends and other developments that may threaten the economy and social wellbeing. **Global drivers such as demographic trends and industrial changes, sustainable development, and green transition** (vertical arrows in Fig. 2), **need to be met in Nordic regions through place-based actions** (horizontal arrows in Fig. 2). **Smart specialisation strategies, skills development, and actions supporting the digital transition** are examples of place-based actions that strengthen regional resilience. This dynamic state of being reflects the Nordic Vision 2030 of a green, competitive and socially sustainable Nordic region<sup>3</sup>.



**Figure 2.** Innovative and resilient regions in the global context

<sup>3</sup> <https://www.norden.org/en/our-vision-2030> (visited 12.12.2019)

This framework, illustrated in Figure 2, has been built bearing in mind that Nordic regions are different and e.g. not every region has an explicit smart specialisation strategy. The framework can be applied to different regions by considering the specific features of the region, such as the specific prerequisites, challenges and possibilities.

The global perspectives impacting the development of Nordic regions are manifold. The selective presentation in Text box 1 is based on a review of recent international trend reports<sup>4</sup>. The review focuses on the following perspectives: **major global demographic and industrial megatrends**, the increasing urgency of achieving the **2030 Sustainable Development Goals**, and the ongoing **green transition**. It serves as inspiration when framing the TG2 work in a broader regional development framework.

#### **Text box 1. GLOBAL PERSPECTIVES AFFECTING REGIONAL RESILIENCE**

- **Demographic trends related to population and age structure**, such as declining birth rates and aging populations, pose economic and social challenges especially on vulnerable regions. **Global mass migration patterns**, especially integration and employment of immigrants, require specific policy measures both on national and regional levels. **Urbanisation** as a global trend is also reflected in Nordic urban-rural areas. All these megatrends affect resilience in Nordic regions and need to be met by actions focusing on place-based policies and capacity building.
- **Industrial renewal results from the globalisation of value chains and the 4<sup>th</sup> industrial revolution**. It brings new opportunities and challenges to Nordic regions, including aspects of platform economy, new ways of understanding value chains, and political and financial incentives for regional growth. Industry 4.0 and the new digital solutions brought by automation, robotization, and artificial intelligence change the way we work, and the skills we need.
- **The sustainable development goals** and framework of Agenda 2030 create a new global paradigm for sustainable development, increasingly focusing on the world's most developed regions. It also emphasizes the **growing role of regions in the global development** and an enhanced awareness of the importance of regions – and regional cooperation - in tackling the big challenges of People, Planet, Prosperity and Partnerships.
- **The green transition** induced by climate change and an enhanced understanding of the planetary boundaries, brakes traditional industrial and sectorial barriers. It requires new ways of cooperation and dissemination of innovation. It encourages the coupling of “hard investments” (infrastructure) with “soft investments” (competences). Green transition is also closely bound to place-based circular economy solutions and emphasizes the role of identifying strengths, challenges and synergies on the local and regional levels.

The different global developments described in Text box 1 need to be addressed through 'regional actions' that take into account place specificities and strengths. Following the Framework in Figure 2, the TG2 work proposes three main actions - **smart**

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<sup>4</sup> The overview of global perspectives is based on: Cohen, C. (2019). Gómez Prieto, J., Demblans, A., Palazuelos Martínez, M. (2019). Hazelkorn, E and Edwards, J (2019). OECD (2019), OECD (2018), OECD (2018b), OECD (2016). See the References section for full references and links.

**specialisation, skills development, and digital transition** – that are elaborated in the following sections.

### Smart specialisation as an innovative tool for resilient regions

Smart specialisation strategies (S3) stem from a European aspiration to strengthen its position as a meta-region in relation to its global competitors. On a global scale, smart specialisation is becoming a source of inspiration for countries all over the world as a tool for SDG implementation.<sup>5</sup> S3 in Nordic regions include the concretization of regional visions and goals, governance structure and communication, mobilization of industries and regional research institutes.<sup>6</sup> Around half of the Nordic regions have S3 strategies, mainly linked to EU policy and funding requirements, but in many regions S3 has been found to meet real needs and leading to increased prosperity of the region.

Table 1 outlines the main synergies between S3 and the other TG2 major themes focusing on prerequisites (strengths) and seizing arising opportunities, rather than on challenges or threats. In conclusion, smart specialisation strategies can boost business development opportunities related to digital solutions and innovative capacities that all strengthen the resilience of Nordic regions.

*Table 1. Synergies of smart specialisation with other TG 2 major themes*

Smart Specialisation	Link to TG 2 major themes	Regional prerequisites for successful S3	Regional opportunities that S3 brings
	<b>Resilience</b>	<ul style="list-style-type: none"> <li>• mapping risks and opportunities of the region</li> <li>• mobilising regional and national actors</li> <li>• building strategies for smart transformation</li> </ul>	<ul style="list-style-type: none"> <li>• finding new business development opportunities</li> <li>• supporting the renewal and diversification of existing business</li> <li>• supporting extended ecosystems around key business and industry</li> </ul>
	<b>Digital transition</b>	<ul style="list-style-type: none"> <li>• supporting flexible governance structures</li> <li>• adopting digital solutions</li> </ul>	<ul style="list-style-type: none"> <li>• employing digital technologies that strengthen business development (e.g. in bio- and circular economy)</li> <li>• developing platforms connecting business, regional and national actors</li> </ul>
	<b>Skills development</b>	<ul style="list-style-type: none"> <li>• anticipating skills needs and developing skills linked to S3</li> <li>• supporting S3 strategies at (higher) education institutions</li> </ul>	<ul style="list-style-type: none"> <li>• developing innovative capacities such as entrepreneurship skills or novel matching of existing knowledge</li> <li>• fostering partnerships between business and (higher) education institutions</li> <li>• building social capital</li> </ul>

<sup>5</sup> Gómez Prieto, J., Demblans, A., Palazuelos Martínez, M. (2019)

<sup>6</sup> Wøien, M., Kristensen I., & Teräs, J. (2019)

## Skills policies providing a foundation for resilient regions

Systematic skills development and supply is needed both on national and regional levels, to secure the availability of labour force and skills needed, particularly in a context of transforming labour markets. Supply and demand is changing as a result of e.g. demographic changes (population decline or growth, aging, migration) or transformation of work (because of structural change, automation or digitalization), but also because of new requirements on e.g. sustainability or welfare. Skills development in Nordic regions involves skills anticipation, skills policies and priorities, and skills governance<sup>7</sup>.

Table 2 outlines the main synergies between skills development and the other TG2 major themes. In conclusion, skills policies and systematic skills development creates the base for innovative and resilient regions, and S3 strategies and the digital development can be harnessed to utilize this base in better ways.

*Table 2. Synergies of skills development with other TG 2 major themes*

Skills Development	Link to TG 2 major themes	Regional prerequisites for successful skills development	Regional opportunities of skills development
	Resilience	<ul style="list-style-type: none"><li>including skills anticipation and policies in resilience strategies</li><li>coordinating regional foresight and anticipation across governance levels</li></ul>	<ul style="list-style-type: none"><li>ensuring skilled work force, entrepreneurial skills and flexible (re-) education</li><li>reducing skills mismatch</li><li>influencing national policies and priorities in governance networks</li><li>investing in (non-formal) training opportunities</li></ul>
	Digital transition	<ul style="list-style-type: none"><li>considering the new demands brought by the “4th industrial revolution”</li><li>bridging gaps within and between regions</li></ul>	<ul style="list-style-type: none"><li>building capacities and tools for digital transition including human capacities</li><li>developing digital platforms for flexible education schemes and life-long learning</li></ul>
	S3	<ul style="list-style-type: none"><li>providing opportunities to engage in applied research, entrepreneurship and innovation</li></ul>	<ul style="list-style-type: none"><li>developing regional innovation platforms for cross-sectoral cooperation of business, education, research, main cities and regional government</li></ul>

## Digital transition as a driver for regional development

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<sup>7</sup> Cuadrado, A., Lundgren, A., Wøien, M. & Teräs, J. (2019)

The digital transition stems from the new possibilities and requirements coming from the global megatrend of digitalisation. The economies and markets are turning increasingly digital (e.g. the platform economy), but also the demand for digital transition in the public sector is increasing as a means to bridge geographic gaps and increase access to public services. Digital transition in the Nordic regions covers a broad range of topics, from the digitalisation of public services to digital transformation of the business sector and building digital competencies and skills.<sup>8</sup>

Table 3 outlines the main synergies between digital transition and the other TG2 major themes. In conclusion, digitalisation is both a global driver for change and a tool for building innovative and resilient regions.

*Table 3. Synergies of digital transition and other TG 2 major themes*

<b>Digital transition</b>	<b>Link to TG 2 major themes</b>	<b>Regional prerequisites for successful digital transition</b>	<b>Regional opportunities of digital transition</b>
	Resilience	<ul style="list-style-type: none"> <li>bridge the digitalisation gap within and between population groups and regions</li> </ul>	<ul style="list-style-type: none"> <li>enhancing access to digitised government services</li> <li>developing digital infrastructures and strengthening connectivity</li> <li>digitalizing specific services e.g., eHealth, transportation systems</li> </ul>
	Skills development	<ul style="list-style-type: none"> <li>systematically consider what skills are needed in the digital era</li> <li>develop change management competencies</li> </ul>	<ul style="list-style-type: none"> <li>providing digital competences for all</li> <li>providing new ways of organising education and training by digital tools and platforms</li> </ul>
	S3	<ul style="list-style-type: none"> <li>systematically consider how digitalisation and other disruptive technologies reshape the economies and societies</li> </ul>	<ul style="list-style-type: none"> <li>strengthening participation in the platform economy</li> <li>developing concepts for smart cities and villages</li> <li>promoting business renewal, new business models, platforms for local business, and greener solutions</li> </ul>

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<sup>8</sup> Randall, L. & Berlina, A. (2019)

## Measures towards Nordic resilient and innovative regions

In addition to synergies between the major themes, the study also revealed topics of high common relevance for all themes of the TG2 work. These relate to the importance of bridging across governance levels and sectors and finding new models for leadership and engagement. This section explores the more general regional development measures needed to support the development towards innovative and resilient regions.<sup>9</sup>

### ✓ **Proactively approach opportunities and risks**

Identify the opportunities and risks of the region through a strategic mindset, a joint knowledge base from key stakeholders and continuous monitoring of the ‘state of things’ and transformative trends. The role of regions as active agents and the importance of dialogue and coordination between different levels and actors needs to be considered. Taking a proactive approach can include building a joint knowledge-base, developing processes for continuous monitoring, and ensuring that institutions have open-minded, inclusive and flexible structures and practices.

### ✓ **Influence skills development**

Skills development is complex, as the governance responsibility and ownership are scattered across many levels and policy areas. Nevertheless, regions can influence skills development in many ways: through coordination, policies, anticipation, platforms, public and private cooperation and sharing good practices. An important first step is to identify these means to generate an impact and proactively prepare for future needs. The ways to work on skills development may be many. Possible measures include mapping out the structures of skills governance, enhancing agile action to battle skills mismatch (where national-level skills anticipation is too slow), promoting cooperation e.g. with companies in the region and facilitating the development of regional development platforms and educational programmes for secondary and higher education.

### ✓ **Empower the region**

Empowering the region means mobilising key stakeholders and the social capital by creating arenas for co-creation and participate in inclusive goal setting processes. Main stepping stones towards empowering the regions include identifying “legitimate” (formal or informal) regional leaders to drive the processes, mobilising the key stakeholders (and ultimately the communities) by inclusive goal setting and a sense of urgency, creating arenas for co-creation,

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<sup>9</sup> This section is based on the desk study of TG2 reports and especially on the results of the workshop 6 November 2019, see Appendix 1.

and nurturing a culture of inclusiveness (introducing initiatives that span the regional economy as a whole).

✓ **Build trust and a culture of collaboration**

Building trust in formal and informal networks as well as through inclusive planning processes is a key success factor. The main issue is how to foster dialogue and build commitment. Important factors are: building inclusive processes (starting from strategy processes) but with clear leadership, and fostering dialogue and good communication, as well as trust (formal and informal relationships, a positive collaborative culture with tolerance for different views). Inclusive planning processes can use digital tools and smart specialisation strategies to catalyse forward-looking dialogue based on common visions, rather than taking reactive measures when encountering shocks.

✓ **Facilitate cooperation**

Cooperation is needed between levels of governance, across cities, regions and rural areas that face similar challenges, to avoid duplication of efforts, and promote learning and exchange of good practices. Transferability and scaling-up good practices and solutions can be supported, as well as cooperation on standards and systems. Cross-border and transnational cooperation between regions that face similar opportunities can be of great value. Sub-national knowledge transfer, collaboration and promotion of success stories can be supported by e.g. establishing fora for regional discussion and collaboration. Especially in this area, Nordic cooperation, and specifically Nordregio and TG2 can have a strong role in sharing policies and practices and taking concrete action.

A key factor for successfully supporting all the mentioned measures is **defining the “regional leadership” in a broad sense**, which often means that regional development is driven by multiple and also informal “leaders”.

**Multi-level governance models** are explored world-wide, as new and better ways are needed to manage regional development policy and public investment and tackle the economic, social and ecological challenges that countries and regions are facing. (OECD 2019).

## Conclusions and recommendations

### Conclusions to take forward in the synergy work

As the TG2 studies point out, economic and social resilience defines how capable the regional economies are to cope with change (negative or positive shocks or stress) and continue to develop. The interesting question is what factors strengthen the resilience of Nordic regions, especially what factors can help turn the so called ‘slow burn’ development to a more positive one. **The work done demonstrates how skills development, smart specialisation and digitalisation can reinforce resilience (Figure 3).**



**Figure 3.** Skills development, smart specialisation and digitalisation reinforce resilience.

**Smart specialisation** can provide an “innovation tool” to develop regional strengths, business, and skills, when embedded in real needs and prerequisites of the region. Best practice cases show how some Nordic regions have managed to use smart specialisation strategies as efficient tools and these examples can provide good lessons learned for other regions that may not have succeeded as well in their S3 approach.

**Skills development** and regional skills policies are an essential tool when coping with skills mismatch in regions. As skills needs and skills policies are defined on many different levels (national, regional, local, private), regional skills development requires good collaboration between actors on different levels and across sectors.

**Digitalisation** can bring both new opportunities and new challenges to both public administration and private sector transformation. Digital transition can be a true driver for change in many sectors, if it is embedded in local and regional strategies.

### **Recommendations for Nordic collaboration**

As part of the vision of a sustainable and integrated Nordic region 2030, the Nordic cooperation is recommended to take action on the following:

1. **Sharing knowledge** on good practices, case studies and other insight with regions that share similar opportunities and challenges should be enhanced on a Nordic level
2. **Orchestrating** joint Nordic meetings for regional actors to share experience and learn from each other is one way of sharing knowledge and developing better approaches to tackle regional challenges
3. **Facilitating mutual learning** for regional developers can also be made through exchange programmes between Nordic countries and peer review activities that are provided in the European framework
4. **Coordinating action** that brings up regions' views on policy development on national, European and global level can bring synergy benefits, if the issues and needs correspond between regions in different Nordic countries
5. **Launching joint Nordic initiatives** on relevant themes of life-long learning, innovation and business environments, smart specialisation, digitalisation, and circular economy. There are already some initiatives available that can be utilised also for working on regional perspectives and in the longer run, new initiatives should be forwarded in cooperation with Nordic Innovation and NordForsk.

As part of the synergy work, TG2 is recommended to consider the following actions in 2020.

1. **Exploring and refining the identified framework** of innovative and resilient Nordic regions by applying it to 1-2 case regions and analysing the results.
2. **Exploring the meaning of regional leadership** (in a broad sense) in different Nordic regions, and how this kind of new leadership can be supported.
3. **Organising a dialogue forum** for invited regional actors to develop a follow up action plan of the synergy work (can be done e.g. in connection with the road shows).

## References

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Wøien, M., Kristensen I., & Teräs, J. (2019) The status, characteristics and potential of smart specialisation in Nordic regions. Mari Wøien, Iryna Kristensen and Jukka Teräs. Nordregio report 2019:3.

### **The presentation of global megatrends in section 2 is based on the following material:**

Cohen, C. (2019) Implementing Smart Specialisation: An analysis of practices across Europe. Publications Office of the European Union 2019.

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OECD (2016), *OECD Regional Outlook 2016: Productive Regions for Inclusive Societies*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264260245-en>.

## Appendix 1: Report from the workshop 6 November 2019

The workshop gathered Nordregio researchers and members of the Thematic Working Group on innovative and resilient regions (TG2) to discuss the synergies of the work done so far. The workshop was facilitated by Gaia Consulting. The agenda of the workshop, and the list of participants is listed at the end of the report.

### 10:00 Opening and welcome

Alberto Giacometti, project manager of the TG2 synergy work at Nordregio, welcomed the participants and presented the aims of the workshop: to identify and discuss synergies between the focus areas of the TG2 work, as expressed in the Nordregio studies. Further, the aim is to discuss how to wrap up the work in 2020 and create relevant policy recommendations for Nordic regional cooperation.



### 10:15 Session 1: Synergies of the focus areas


After a brief presentation round of the participants, Susanna Sepponen/Gaia Consulting presented the preliminary findings of the background study on synergies in TG2 work that Gaia had been working on in September and October.

The four focus area studies of Nordregio are:

- *Regional Economic and Social Resiliency: An exploratory in-depth study in the Nordic countries*
- *The status, characteristics and potential of smart specialisation in Nordic regions*
- *Governing the digital transition in Nordic regions: the human element*
- *Skills Policies – Building capacities for innovative and resilient Nordic regions*

The main synergies found between the focus areas are found in the table.

	<p><b>Smart specialisation</b> provides concrete strategies for building resilience of regions</p> <p><b>Digital transition</b> creates both risks and opportunities and can bridge gaps within and between regions (especially sparsely populated regions)</p> <p><b>Skills development</b> is an integral part of resilience strategies as regions need skilled work force in a transforming economy</p>
	<p><b>Resilience</b> is aim also of smart specialisation strategies</p> <p><b>Digital transition</b> can provide flexible tools needed for implementing S3 strategies</p> <p><b>Skills development</b> and e.g. the availability of regional educational institutions strengthens S3 strategies</p>

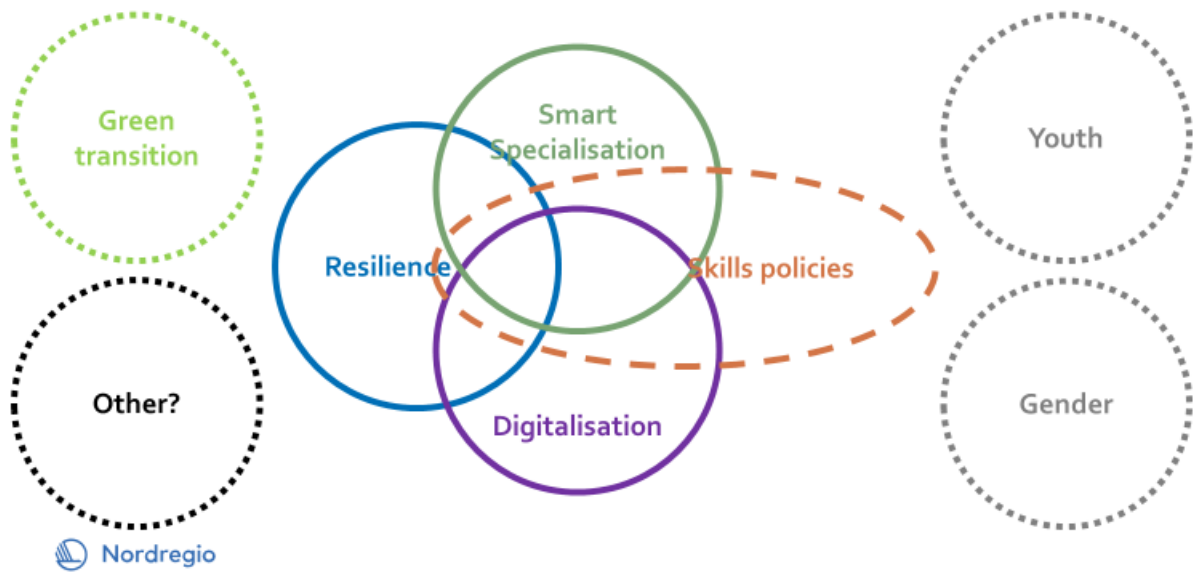
	<p><b>Resilience</b> can be both threatened and strengthened by digitalisation, as digitalisation, automation, and other disruptive technologies reshape economies and societies</p> <p><b>Smart specialisation</b> is often dependent on new tools, solutions and human capital shaped by digital transition</p> <p><b>Skills development</b> is impacted by digital transition in many ways, from new skills needs to new ways of providing training</p>
	<p><b>Resilience</b> is dependent on finding strategies and capacities of dealing with skills mismatch through policies, anticipation and skills development measures</p> <p><b>Digitalisation</b> as a megatrend is both a driver for skills development but can also provide new tools and solutions</p> <p><b>Smart specialization</b> is boosted by platforms that provide regional opportunities for education, applied research, entrepreneurship and innovation</p>

Päivi Luoma/Gaia Consulting facilitated a discussion (in pairs and jointly) on synergies and potential gaps of the TG2. The following key points were brought up:

- While the studies have made their choices on how to deal with the focus areas, the aim of the synergy work is to look for **synergies (and gaps) between the focus areas, in a regional context**
- The four focus areas are closely linked and overlapping in the regional context, but the **concepts of the focus areas are broad and they operate on different levels.**
  - For example, the capacities needed for innovation encompass also social capital (not only skills in a traditional sense)
  - To identify all main synergies and relations, the topics would need to be further **broken down into smaller components**
- **Resilience of the regions is seen as an ultimate aim**, while the other focus areas provide different aspects into how to build innovative and resilient regions.
  - E.g. Digitalisation can provide flexible tools for skills development that is key to securing competences needed both for smart specialisation and for resilient and innovative regions

The discussion was continued by placing the focus areas into the broader regional development picture.

## Innovative and resilient regions (Draft)



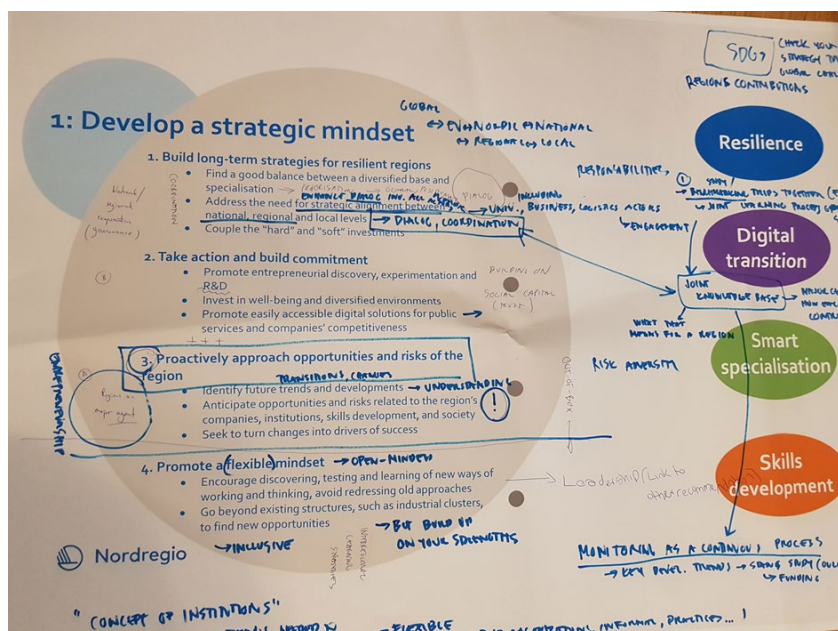
The following aspects were highlighted in the discussion:

- **Global megatrends and the big societal challenges**, such as climate change, aging, migration, digitalisation affect the regional development in different ways
- **The Sustainable Development Goals (SDGs)** guide much of the work in the regions and are dependent on regional work
- **Gender and age as cross-cutting perspectives** (e.g. older people, youth) impact on development in all four focus areas
- **Natural resources and infrastructures** of the region impact on all four areas and on green transition
- **Social perspectives and well-being of the region** is also closely linked to the resilience and could be further highlighted
- **The time perspective** is important to keep in mind when developing policy recommendations, as the work of TG2 stresses acceleration and transformation
- **Both similarities and differences between Nordic regions** are important to highlight, as the challenges and the solutions may differ, but can also be shared and learned from

Gaia introduced the topic. As a tool to prioritising joint actions for innovative and resilient regions, all conclusions and recommendations in the TG2 studies have been merged and regrouped into five cross-cutting themes, which were further discussed and refined through group work. The key outcomes of the discussions are summed up in the following.

### 1. Developing a strategic mindset

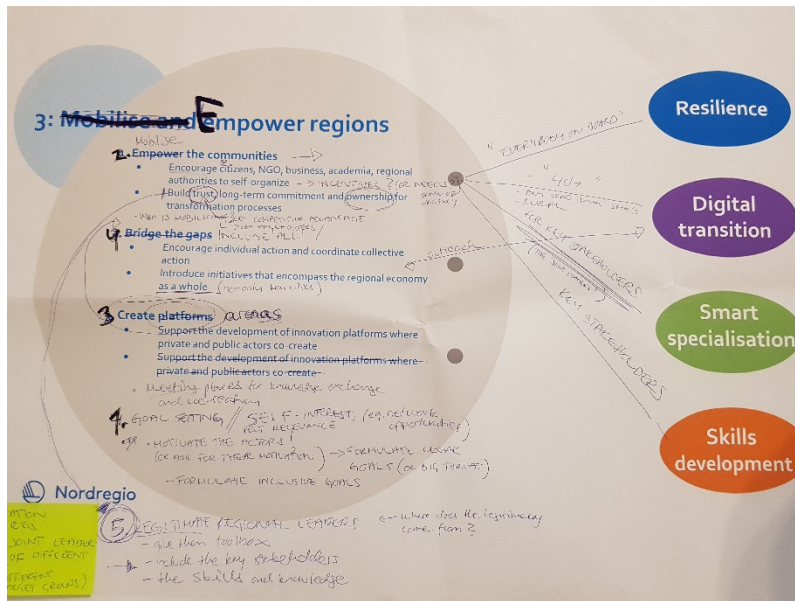
The role of regions as active agents and the importance of dialogue and coordination between different levels and actors were stressed. Taking a proactive approach towards opportunities and risks of the regions can include building a joint knowledge-base, monitoring as a continuous process, and ensuring that institutions have open-minded, inclusive and flexible structures, processes and practices.



### 2. Supporting skills for innovation and growth

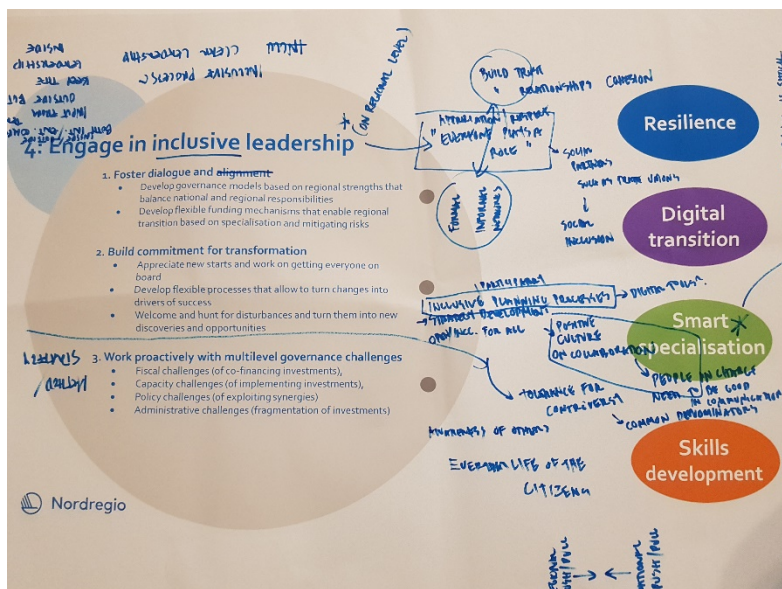
The main finding concerned the importance of identifying the various ways in which the regional level can impact on skills policies and development and proactively prepare for future needs. The ways to work on skills development may be various, especially on the levels where the governance responsibility and ownership of education does not lie within the regions. Possible measures include to map out the complex structures of skills governance, enhance agile action to battle skills mismatch where national skills anticipation is too slow, promote cooperation e.g. with companies in the region and facilitate the development of regional platforms and educational programmes for secondary and further education, etc





#### 4. Engaging in inclusive leadership on the regional level

The discussion focused on how to foster dialogue and build commitment. Key findings included the importance of having inclusive processes (starting from strategy processes) but clear leadership, the importance of dialogue and good communication, as well as trust (formal and informal relationships, a positive collaborative culture with tolerance for different views). Inclusive planning processes can harness digital tools, and smart specialisation strategies could be used to catalyse dialogue based on common goals “instead of shocks”.



**5. Facilitating cooperation within and between regions** was discussed in the final session with focus on the role of Nordic cooperation and TG2.

On a general note, it was brought forward that while compiling the recommendations on a more general level helps debating the links between the focus areas, there is also a risk of raising the discussion to a too general level, thus losing the specifics of the topics studied. Also the amount of topics and recommendations extracted from the studies was a challenge for the discussion. It was agreed to strive to comprise the topics into a few key recommendations in the next step of the work.

**14:00 Joint discussion on main findings and recommendations of TG2 work**

The final joint discussion focused on how to facilitate cooperation, specifically on a Nordic level and the role of TG2 and Nordregio in this work.

The discussion highlighted the need of recognising the different character of Nordic regions, and their role in a Nordic context.



Ways to support cooperation and cocreation on a Nordic level were discussed and the following stepping stones were identified. Some of these are possible to start implementing on the short term while others require some further consideration and preparation.

- a) **Sharing knowledge** on case studies with other Nordic regions that share similar challenges, transferring and scaling the policy impact of cases and anchoring ideas for adaptation on the regional and national levels (e.g. through roadshows and other communication activities)

- b) **Orchestrating joint Nordic meetings** for regional representatives and other actors, where e.g. the case studies can be used as background material for choosing themes and participants; creating a “win-win” platform for exchange and learning
- c) **Facilitating mutual learning** through exchange programmes for regional developers and other actors, or peer review activities regarding, for example, smart specialisation.
- d) **Coordinate action** like input and statements to European and global development, where relevant; exchanging ideas when giving input e.g. to the European Structural Funds’ instruments
- e) **Take joint action** by recommending Nordic programmes and projects, based on a vision of innovative and resilient Nordic regions. Recommended actions could include e.g. educational opportunities for life-long learning, common approaches to digitalisation, or public-private partnerships for innovation and smart specialisation

#### **14:30          Summing up the discussions, next steps**

Key take-aways from the discussions were summed up by each participant.

It was concluded that TG2 has a window of opportunity right now, as the group is moving into the final year of the current cooperation programme for Nordic regional development. There are a few central processes going on, including writing the new Nordic cooperation programme for regional development, formulating the action plan for Our Vision 2030 (the new vision for Nordic cooperation), and writing the EU Structural Funds programmes.

Bringing the TG2 focus areas to the table for discussing synergies and planning joint actions is very valuable in this process. However, the workshop also showed on the challenges remaining with pinpointing a few most important topics within the rich material. While positioning the topics into the broader regional development concept is necessary, one also runs the risk of losing the specific features of the studies made, when synchronising and generalising the discussion. A possibility that could be further used, is to increase the use of case studies in communication, to help increase dialogue and peer learning across Nordic regions. This and other potential joint actions will be further looked into, when summing up the 4-year work in 2020.

## Workshop participants

### TG2 members:

- Birgitte Wohl Sem (Chair of TG2), Ministry of Local Government and Modernisation, Norway
- Mikko Huuskonen (Vice-chair of TG2), Head of Innovation Policy Division, Ministry of Economic Affairs and Employment (TEM), Finland
- Örjan Hag, Senior Advisor at Ministry of Enterprise and Innovation, Sweden
- Anders Olsson, Manager of Research and Innovation at Värmland Region, Sweden

**Nordregio researchers :** Alex Cuadrado, Alberto Giacometti, Anna Lundgren, Linda Randall, and Jukka Teräs

**External expert:** Vinko Muštra, associate professor and head of department for economics at Split University

**Facilitators:** Päivi Luoma and Susanna Sepponen, Gaia Consulting

## Workshop agenda

- 10:00 Opening and welcome
- 10:15 Session 1: Synergies of the focus areas
  - Introduction by Gaia
  - Work on synergies and potential gaps (work in pairs and joint discussion)
- 11:10 Short break
- 11:15 Session 2: Synthesis of conclusions and recommendations
  - Introduction by Gaia
  - Work on cross-cutting topics identified and questions specific to them (group work)
- 12:00 Lunch
- 12:45 Session 2 continues
  - Work on cross-cutting topics identified and questions specific to them continues (group work)
  - Summing up the discussions
- 13:50 Short break
- 14:00 Joint discussion on main findings and recommendations of TG2 work
  - Work on cross-cutting topic "facilitate cooperation" (joint discussion)
- 14:30 Summing up the discussions, next steps





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