Group Discussion I – Discussion of the "AS-IS" situation
Group 1 - Transition at the universities

- **Quick reaction** – It is unprecedented that the educational system has reacted so quickly. Online teaching was quickly established, and everyone transitioned quickly.

- **Education has come into focus** – The leadership has been and should be more focused on the well-being of staff and students – and less focused on the research looking forward.

- **Advising the government** – In the public there has been a lot of professionals and doctors giving their point of view – might seem confusing for the public, but it is a (new) way of educating the public

- **Universities have a new place in society** – The universities have acted and helped with whatever they can. The collaboration with, and the place of, the universities in society has changed for the better.

- **Different directions across borders** – Some countries go in different directions – which can be both good and bad – but it makes it difficult for the universities to collaborate across borders.

- **Well-being as a concern** – University is a place where students and staff meet, and we don't really have that environment currently. So we are not really a university, but a teaching institution

- **Much better in only learning** – Older professors manage to learn how to work with Zoom, but there is a general concern that some of the students, especially international students, feel lonely.

- **Communication** – Communication is a big challenge – a lot of learning to do there still, especially across disciplines

Group Discussion II – "TO-BE" Analysis
Group 1 - Transition at the universities

1. **Ensure interaction and high quality at universities** – A need to provide high quality education that combines online elements, but make it more interactive – so we keep the universities' purpose. Take the best of the current model and work with how to integrate the digital interaction. Combine and preserve the idea of the universities where people meet physically.

2. **Use universities as the knowledge institutions they are** – The universities have to be knowledge institutions, so we can use that knowledge in unprecedented times – but at the same time being better in integrating the knowledge across the disciplines and to society.

3. **We have to fight for the Nordic Model** – To have a say in the future. Education and research-based knowledge are public goods.

4. **Mobility can't be virtual** – There needs to be a place to meet. What should we bring back to normal, and what should we keep from the current situation?

5. **Management at the universities – what can we learn from each other?** – Practicalities are managed online, but the informal communication is gone. Next step is to work with the communication.

AS-IS Analysis
Group 2: The Impact Agenda

- In Denmark the quick mobilization has also created an expectation that research and innovation is 'a tap that can be turned on'.

- We might be overfocusing on a specific disease and overfunding a narrow research field.

- There is an increased interest to interact with academia, which opens up new opportunities.

- This is a transformative period with huge uncertainty – we are in the eye of the hurricane and can't see the impact. We are systematically underestimating the general changes in our society on long term.

- The pandemic has shown that science is able to adapt quickly. This can also be applied in other areas like the climate crisis.

- There is an interest in fact-based decision-making, but there are still big questions to address.

- Some places there have been debate where individual scientists have given very definitive answers that turned out to be wrong. This confuses the citizens.

- Impact through students.

TO-BE Analysis: what should be changed?
Group 2: The Impact Agenda

1. Investment in value-based education and research

This is an international perspective, but in the Nordic countries we have a good opportunity to develop this. The values of the projects that are funded need to include this.

We require a political commitment to the Nordic initiative.

2. Improve mission-driven innovation and cooperation driven by the SDG

We need mission-driven innovation *policy* in a broad view (horizontally: industrial, environmental, agriculture…).

3. Need for documentation: how do we document and measure impact?

Documentation of impact from both results, educated people and cooperation.

Group 3

AS-IS: What is the next great challenge/crisis/transition after Covid-19?

1. **Future challenges are hard to determine but they will be connected, and we must incorporate that perspective in how we are dealing with them.**

   - We cannot just solve future challenges technically – **we need more holistic solutions.**
   - Example: Linked to the climate crisis we also have a migrant crises, which we will be facing more harshly in the future – we can't solve them separately
   - We should be able to discuss the Covid-crisis in connection with the future crises that we will be facing, such as the climate crisis – **separating the different crises won't help us on a long term.**
   - Intercultural competences are important in terms of being able to deal with the different challenges and in order to connect them.
   - **Perhaps we won't be able to come back to "normal",** and that's a mindset that we need to take seriously and incorporate in the way we are dealing with a crisis like the Pandemic.

1. **Mobility is a huge issue that connects many of the challenges we are, and will be, facing.**

   - **What seems to link the current pandemic crisis, the climate crisis and the migrant crisis is mobility** – we seem to suffer from lacking the possibility to move in general, when we are dealing with these challenges.
   - We are used to having high mobility. But **with the mobility being threatened, the sense of coherence is also threatened, which is a problem in terms of solving challenges.** Coherence is a prerequisite in terms of better collaboration and the ability to act as needed in general.
   - We are struggling in keeping up with this challenge – mentally especially. We must prepare for longer terms and not just 4-6 months. This is linked to the possibility of not going back to "normal".
   - Maybe we are also facing a "sensemaking-crisis" – how shall we make sense of it all when future challenges are threatening our most fundamental principles as human beings?

Group 3

TO-BE: What is the next great challenge/crisis/transition after Covid-19?

We have a built-in risk-aversion: we must take more risk if we want to be able to deal with future challenges
- How can we incentivize risk-taking in academia?
- High risk are beneficial in more than one way – there are many derivative effects

We need to provide research funding that encourage more risk; we are not failing enough, which suggests that we are not taking the necessary risk.

We have a culture of doing things right – being within the frame and not daring to take risky steps, because we might be afraid of hurting our career.

Let's stop the the current research game (see next slide) – we have an unnecessary formalization within most of academia.
- And this leads back to our risk-aversion

We need to have a brave and bold leadership in the future that takes responsibility.
- We need to rethink leadership: We will continue to work remotely also in the future, and that will be a huge challenge for future leadership.

Research-education connection is needed, but also life-long education.
- Online education should be free – it's part of the Scandinavian model

Open innovation competences.
- We need more competences when it comes to innovation - within organizations but also across organizations.

Horizon Europe – EU's next framework program

Working with societal missions that the research-, education- and innovation system should deliver on. What is currently happening in the Nordic countries and our organizations to prepare for this?

- **Short-term vs. Long-term focus / solutions**
  - Short-term measures have kept a lot of companies alive and thus, jobs.
  - The value of long-term research is unquestionable. But we should not balance fundamental research and innovation-driven research.
  - For the upcoming budget year, the increase is positive towards contributing to solving the societal problems that we are facing.
  - Cross-sectional parts are important to keep, but how well have these worked during the crisis?

- **The role of experts – the role of citizens**
  - The need for involving and trusting citizens is important in terms of handling the pandemic. There is a tendency of riots, which show that we need a connection between the policy goals and the citizens.
  - Research institutions play an important role in creating a more innovative society
  - The citizens are the ones who have the solutions to COVID in the years to come, and also in terms of the green transitions. We should ask the citizens much more for where the solutions are.

- **Curiosity driven research vs. applied research**
  - Curiosity driven research: make it more informative.
  - Bottom-up curiosity research is of importance. There was indeed room for coming up with missions, i.e. the five missions in the HE-program, but we do need to have the curiosity-driven research as well. The pandemic shows the importance of long-term-oriented curiosity driven research.

- **Solving the Covid-crisis in itself is a mission**
  - Looking at applied knowledge to solve the crisis, the phase of research vs. quick policy-making is something we ought to discuss.

Horizon Europe – EU's next framework program

Working with societal missions that the research-, education- and innovation system should deliver on. What is currently happening in the Nordic countries and our organizations to prepare for this?

1. **A window of opportunity to but R&I as a key-driver to change**
   - Create jobs and solve challenges
   - Obligate researchers to interfere more in public debates
     - Prioritizing research and funding may be used to communicate how much research really means.

2. **Research and education should be the engine for transformation for societal changes with respect to different crises**
   - We need to empower our young people to be the entrepreneurial part.
   - We need to focus on big societal needs, creating jobs.
   - Legislation burdens. Adjust the mandates for entrepreneurial activities.

3. **We adapt our systems to be agile in order to focus on the big societal challenges**
   - Three levels/mechanisms to foster this:
     - Cross-national
     - Cross-sectorial
     - Cross-disciplinary

Horizon Europe – shifting the balance

Shifting the balance between fundamental science, applied research and innovation

- Need for both bottom up- *and* strategic research funding.

- Potential for portfolio management for both funding streams.

- Possibility for the research community when politicians ask for a knowledge base for their decision-making. Capacity for being flexible is necessary - for both politicians and researchers.

- Researchers show genuine motivation to be relevant and contribute to society (mission-orientation)

- High quality and frontier research (both applied and basic) are key to sustain the acceptance and trust from society.

- Competitive funding is key to preserve high quality. Needs to be a balance between competitive and institutional funding.

- Competition between (expanding) research institutions is reducing success rates for applications. A problem area that needs to be addressed nationally and internationally.

Horizon Europe – what should we do?

Shifting the balance between fundamental science, applied research and innovation

1) Increase 'missions' understanding

- We need to understand and unfold the missions in a Nordic setting.
- Joint effort to promote the Nordic region by increasing the dialogue on a political level. Institutions as Nordforsk, Nordic Innovation, Nord HORCS and Nordic Benchmark have potential to increase Nordic collaboration.
- The Nordic register data has a potential at a European level.

2) Handle threats for public trust and willingness to invest in science

- We need more/better communication from researchers to sustain public trust in science and scientific evidence. Fake news are building mistrust e.g. towards vaccines.

3) Promote open science and international scientific collaboration

- We need to develop more efficient collaboration. National and European leadership and a platform for collaboration is needed.

Group 6 – The current transition in the private sector

- **Large need for collaboration between businesses, researchers and government**
  - Some innovation are getting kept inside businesses for them to keep themselves alive, resulting in little collaboration throughout industries.

- **Companies and nations are increasingly introspective rather than collaborative**
  - Protectionism is on the rise, there is an opportunity to collaborate and start new initiatives starting a transition. However, people are increasingly risk averse because of the situation which leads to the opposite.

- **A lot of changes, creating the need for risk analysis in the supply chain for manufacturing companies**
  - A need to secure the supply chain in a potential worst-case scenario. The risk of traveling is rising too.

- **Companies are more purpose-driven**
  - Needs for more protective equipment, or other medical equipment is met by the large companies trying to help society. The green and digital transition is a large business opportunity.

- **Society tries to rescue the companies and companies try to change their products in order to adapt or help with the pandemic**
  - There is a mutual understanding and need for each other which both people and companies are conscious of.

- **The problem of making strategy with an uncertain time frame and complex external environment**
  - How will Covid-19 change the markets in the long run, and how long will the pandemic last? Companies therefore have to deal with a lot of uncertain variables.

- **New optimism following disruption**
  - Creates new industries and opportunities. Some companies are shifting their core business and reinventing themselves, however, this is not done easily.

- **Large companies should/can include SMEs**
  - Small and medium size companies are in "survival mode"

- **Companies are reliant on the internet to change or approach new markets**

Group 6 – The current transition in the private sector

1. **Promote collaboration**
   - Where should we cooperate and compete on a national and Nordic level?
   - Addressing the transition through collaboration.

2. **Long-term perspective supporting R&D and change**
   - Visionary long-term perspective for the green transition or other transitions
   - Public-private partnerships
   - Support from stakeholders, get funding for R&D initiatives
   - Long term on risk, ambitions, purpose
   - Leverage the EU recovery package to create new private R&D initiatives

3. **Encourage the private and public sector to make scenarios in collaboration**
   - Broad scenarios with long term time horizon
   - We are keeping certain companies in the private sector alive artificially through government funding
   - EU recovery and stimulus package
   - Scenarios with public-private partnerships
   - The pandemic might create huge shifts in industries

4. **Initiatives for digitalization and automatization in a Nordic context**
   - Make the Nordics a stronger and more coherent region
   - Digitalization can make the manufacturing companies more agile
   - Automate production and manufacturing to move from production to relation