FOR AN AMBITIOUS EU ARCTIC AND NORTHERN POLICY

Memorandum to European Commission President Jean-Claude Juncker

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Introductory Summary

The European Union should better recognize the growing importance of the Arctic and assume the role of a global power in the region. An ambitious EU Arctic policy is needed, covering the European North and connecting it with Central and Southern Europe. The policy should be operative enough to strengthen EU presence in the region. Otherwise EU influence in the region will diminish and opportunities to benefit from Northern economic activity, to play a full role in combating climate change and to support positive political development in the region would be lost.

Coastal Arctic states (USA, Canada, Russia, Norway, Denmark, Russia) have raised their profiles: the United States is taking a leadership role by setting ambitious climate change goals for its Chairmanship of the Arctic Council 2015-2017, particularly to reduce Black Carbon emissions; Russia is building up its military presence in the Arctic and making new territorial claims in the Arctic continental shelf; Denmark has announced claims to extend its part of the continental shelf; Canada has asserted its right to exploit Arctic resources; Norway is maintaining a huge, both on- and off-shore, investment activity in its Arctic region.

The coastal states have tended to cooperate with each other, f. ex. by a joint proposal in July 2015 to declare a moratorium on commercial fishing in the Arctic Ocean beyond their national jurisdiction. The Non-Coastal Iceland, Sweden and Finland would rather keep all Arctic cooperation within the Arctic Council (AC).

Sweden and Finland have made the Arctic a new frontier in their economic and environmental policies. They have pledged with Norway to increase Nordic Arctic cooperation (see Annex 1 for the report “Growth from the North”).

Arctic natural resources and the perspective of opening the North-Eastern sea route from the Barents Sea to the Pacific have drawn China to establish a presence in the Arctic, notably in Iceland, Greenland and Russia. Japan, South-Korea, Singapore and India are increasingly interested in Arctic economic opportunities and Arctic logistics. The first Chinese icebreaker, “Xue Long” (“Snow Dragon”), sailed to the North Pole in 2010 and five vessels of the Chinese navy appeared off the coast of Alaska during the Arctic conference organized by USA in Anchorage in August 2015.

It is high time for the EU to secure its logistic access to the Arctic Ocean by launching a TNT-T Core PCI project for a rail-road connection from Southern Finland to Kirkenes, Norway, the last “missing link” in EU South-North traffic network.

The EU has been mainly occupied with the Ukrainian crisis in the East and the Greek crisis in the South, now very much with the refugee problem in the Mediterranean area. While efforts to solve these crises need to be intensified, it is time to pay more attention to the European North for a win-win policy that would benefit the whole Union, North and South. In a way, the refugee crisis concerns every Member State and thus connects the North and the South in an unprecedented manner.

We are dealing with a genuine refugee crisis, originating in the Syrian and other conflicts, but in the longer term, the new migration from the Mediterranean area and Africa to Europe, a population shift northwards, is likely. The population of Africa is growing at a high rate, equaling Asia by the end of the Century. The EU needs a more effective African policy for economic and social development and cooperation to put checks on migration.
Climate change is drying the South and making the European North more habitable (prediction of Prof. Lawrence Smith). The plentiful Northern resources, fresh water and space, will become globally precious towards the end of the 21st Century. On the other hand, unchecked climate change and melting of the Polar ice sheet might change Northern European geography by inundating coastal areas.

Many EU Member States outside the Arctic region have an active Arctic policy (Annex 2: Non-paper of Germany). All Member States participate in Northern Dimension (ND) Cooperation (EU, Russia, Norway, Iceland are ND partners). Germany, France, Poland and the Netherlands are observer members of AC. France will publish an Arctic Road Map later this year. Southern European Member States have great energy, marine technology and fishing interests in the North. European Financial institutions – EBRD, EIB, NIB and NEFCO – are actively involved in the Arctic.

The EU should develop a Northern Policy, covering the whole Northern Dimension area from Greenland to North-West Russia to Northern Germany and Poland. Such a policy should cover all Northern European international institutions: Arctic Council, Barents Euro-Arctic Council, Council of Baltic Sea States, Nordic Council and Council of Ministers and Northern Dimension Cooperation. EU coordination of Member States Northern policies would be needed for maximum effect. Setting up a special Arctic and Northern coordinating unit in the European External Service should be considered. Overall coordinating responsibility should lie at the level of Commission Vice-President. EU presence can also be strengthened by high-level participation in important meetings, f. ex at the Barents Euro-Arctic Council Ministerial in Finland in October 2015.
Arctic administrative areas

Source: Arctic Council / Winfried K. Dallmann, Norwegian Polar Institute
The role of geopolitics: Keep Arctic cooperation going

The conflict between Russia and the West over Ukraine has increased tension in the Arctic region, too. The Russian military build-up in the Arctic must be carefully monitored and analyzed. Part of it is “constabulary”, e.g. protecting Russia’s most important natural resources and logistics centers. On the other hand, Russia is reasserting itself as a global military super power also in the Arctic. Notably, some of the new Russian bases in the Far Eastern Arctic may be directed towards China.

Western sanctions have banned the sale of technology to Russian oil and gas exploration. Russia needs partners to develop its Arctic resources and is now increasingly aligning with China in exploiting the Yamal gas fields. CNPC company is involved and other Chinese companies are building four heavy-lift vessels and 12 LNG carriers. According to the most recent announcement, China will participate in a major port development project in Archangelsk, raising its capacity to 45 million tons per year. China will build a 1000 km rail connection (Belkomur) from Archangelsk to mining sites in the Urals, a 8-11 billion euro project. A Chinese company will take overall project and financial responsibility to construct a pulp mill in Solombolo, exploiting the vast forest resources in the Archangelsk region. The Chinese shipping company Cosco is interested in starting summer traffic along the North-Eastern Sea Route and the Chinese government is actively promoting opening of the route.

Russian Arctic gas resources are very important for EU energy supply. The announcement on 4 September 2015 to build two more pipelines from Russia to Germany over the Baltic Sea underlines the interdependency between Russia and the EU.

The need to engage Russia in environmental cooperation is greater than ever. Pragmatic solutions should be sought to achieve results by cooperation (see p. x).

It seems that major coastal states, USA and Russia, like most other AC Member States, too, want to protect the Arctic Council from East-West tension in order to safeguard the Arctic as a special global commons with its very sensitive environment. A geopolitical race for sovereignty in the Arctic must be avoided. The Arctic Council or a forum connected with AC could discuss and develop confidence building measures to maintain the special nature of the Arctic as a region for international cooperation.

Following the Norwegian example practical cooperation with Russia should be continued “in areas of common interest, such as management of shared fish stocks, search and rescue, environmental protection and nuclear safety” (Non-Paper of Norway).

Significant progress has been made in the Arctic Council by two agreements: The Agreement on Cooperation in Aeronautical and Maritime Search and Rescue and the Agreement on Marine Oil Pollution, Preparedness and Response in the Arctic, signed in 2013. The EU should support strengthening of the AC as a regulatory Arctic body to be further institutionalized for rules-based governance. The varying national regulations of individual states have been a real problem in the Arctic. The EU should encourage USA to ratify the United Nations Convention on the Law of the Seas (UNCLOS) to top its AC chairmanship.

Adoption of the mandatory Polar Code by the International Maritime Organization (IMO) in 2014 was an important milestone for Arctic governance. Cooperation is needed to ensure its swift and harmonized implementation.
Cooperation within the framework of the Barents Euro-Arctic Council has played an important role in building trust and mutual understanding in the North, allowing, in a unique way, counties and regional entities in Northern regions in Norway, Sweden, Finland and Northwestern Russia to cooperate. From the EU point of view, this is a well functioning forum for cross-border cooperation with Russia.

For EU Arctic influence, observer status in the AC would be desirable, but even without it the EU can wield real influence by cooperating with EU Member States of the Arctic Council and using its membership on other forums. The TTIP negotiations are very important for the Arctic where the best technology is needed for maximum positive environmental effect.

EU Member States and their companies could benefit from the new Arctic Economic Council (AEC), established during the Canadian Chairmanship of the Arctic Council in 2013-2015. European companies are encouraged to participate in its activities.

The relative importance of Norway for the EU in the Arctic has grown as investment activity in the Norwegian High-North is proceeding at a rapid rate, whereas the investment perspective in the Russian Arctic has been weakened by the slump in commodity prices. Norway holds one third of known Arctic fossil resources.

It would make sense for the EU to develop a closer economic and environmental Arctic alliance with Norway. Norway, having huge off-shore resources, is a stable partner, pursuing a balanced High-North policy for sustainable development. With its pragmatic approach Norway has also successfully managed its relations with Russia. An example: Norway and Russia administer together one of the world’s richest areas for cod and other marine species in the Barents Sea.

The US presidency of the Arctic Council 2015-2017 offers a good opportunity for the EU to cooperate with the US to achieve concrete results in combating climate change, particularly to reduce Black Carbon emissions in the Arctic. The Paris Climate Summit in December 2015 should pay special attention to this question (see below). The Barents Euro-Arctic Council Foreign Ministers’ meeting in Oulu 14-15 October 2015 is important from the EU point of view. Another forum where the EU can make Arctic cooperation initiatives is G7. Improving Arctic governance and enhancing biodiversity in the Arctic are examples of proper issues to be discussed at G7.

The Finnish presidency of the Arctic Council 2017-2019 should be used to bring European ideas and initiatives to the work of AC. Finland is promoting a stronger economic agenda for Arctic cooperation, trying to influence the US presidency to take up economic issues. Finland and USA have agreed to develop AC presidency cooperation to ensure continuity in AC work.

Finland’s Northern geopolitical position is unique between Scandinavia, the Arctic, the Baltic countries, Russia and Central Europe, with the fastest air connection to Asia and North America from the Western European continent (see p. x below).
EU growth from the North: Arctic minerals, oil and gas, marine harvesting

The economic importance of the Arctic is increasing at a time when most of Europe continues to struggle with sluggish growth and the threat of a global recession is real. The Arctic region contains 17 per cent of the world’s known mineral reserves and over 25 per cent of global oil and gas reserves. Its mineral deposits (iron, copper, nickel, zinc, gold, rare earth) are among the richest in the world. The Fennoscandian mineral shield from Kola Peninsula to Northern Norway is comparable to Canadian, Western Australian and Southern American shields. Finland is rated by Fisher institute as the best mining investment country in the world.

Paradoxically, the EU consumes 20 per cent of the world’s ore and minerals, but produces only 3-4 per cent of them. By investing in Northern mining and logistics the EU could largely eliminate this gap.

Fish production in the Norwegian High-North is growing at a rapid rate to satisfy Asian markets and EU demand, making up to 50 per cent of fish consumed in the EU. Growing food and mining on the Arctic seabed is becoming globally important as well.

The forest area of the Barents region equals 70 per cent of the forest area of EU27 and climate change increases forest productivity giving higher volumes per hectare.

The five Nordic countries have a combined population of 26 million (400 000 in the Arctic) and constitute together the 10th biggest economy in the world with a total GDP of 1400 billion euros. The biggest investment growth driver in Europe is in the Norwegian and Swedish Arctic, where already announced on-shore investment plans amount to 192 billion euro in 2015-2025. Nine new fields out of ten on the Norwegian Economic Zone are to be opened for prospecting and production, three of them by 2025, with 10 billion euro investment each.

Norway is investing 56 billion and Sweden 60 billion euro in infrastructure projects in the North: roads, railways, ports, airports by 2023. On top of that Norway will spend 16,4 billion and Sweden 13,9 billion euro for wind power investment by 2025. On-shore investment in Northern Norway (including housing, hospitals, schools etc.) is continuing at a high rate: Tender invitations in September 2015 alone amounted to 680 million euro. Total monthly tenders in Northern Norway, Sweden and Finland exceed one billion euro.

These investment opportunities are open to competition to European companies. Over 40 oil/gas companies are looking for opportunities to participate in the exploitation of the new Norwegian off-shore fields. German industry is turning its interest towards the Arctic. The region offers challenges to develop new technologies for mankind, e.g. to better operate in cold conditions or grow food on the sea bed.

Abundant energy resources of the Nordic Countries, including water and nuclear power, are major European assets. EU funding should be sought to develop the electricity grid in the North to increase transmission capacity, important for the development of renewable energy.

Ice and cold solutions is one of the four spearheads suggested for Nordic Arctic cooperation in the “Growth from the North” report to the Prime Ministers of Finland, Norway and Sweden in 2015. Greener mining is spearheaded by Sweden, LNG and renewable energy by Norway. All the four spearheads, including tourism, with Finnish leadership, aim at sustainable development of the Arctic.
The Nordic Investment Bank has announced an allocation of 500 million euro to facilitate investment in the High-North to the energy sector, transport and SMEs (Arctic Financing Facility).

Five Northern Universities (Oulu, Rovaniemi, Umeå, Luleå and Tromsø), a high level of education of the labor force and good service infrastructure in Finland, Norway and Sweden are strong European assets. The University of the Arctic is a network of North-American, European and Russian universities.
A global logistics and communications hub in the Arctic: The Missing link

A new logistical hub of global significance is gradually developing in the Arctic. Traffic volumes are not massive yet, but potential for growth is great. Mining activity in Norwegian High-North, Northern Sweden and Finland is continuing and the minerals potential f. ex. in Finnish Lapland is promising. Fish is transported by lorries from Northern Norway to the Helsinki Airport and further to Asia – a multi-billion business growing rapidly. Exploitation of the new Norwegian and Yamal fields will raise traffic to a new level, concentrating to a large extent in and around the Kirkenes ice free harbor on the Barents Sea (present loading capacity for 100 000 dwt vessels, plans to increase to 170 000 dwt), “The Northern Rotterdam”.

The Northern Sea Route might offer a revolutionary new perspective for global sea transports. The Chinese shipping company Cosco is interested in starting summer traffic along the route and China has taken a high political profile in promoting the route. However, according to most estimates the North-Eastern route will not be navigable for year-round bulk traffic before 2040-50. Investment in harbor facilities on the Russian coast is needed along the route and the Search and Rescue cooperation agreement must be fully implemented to make it safe.

Norway is rapidly developing its infrastructure in the High North: airports, roads, railroads, harbors. Sweden is completing the South-North rail connection to the Finnish border in Lapland, the Bothnia Corridor. The railroad from Kiruna in Northern Sweden to the Port of Narvik on the Norwegian Atlantic coast - of vital importance for iron ore exports – is being upgraded. Finland is developing its road links to Tromsa and Kirkenes.

The present TEN-T level South-North EU traffic connections are the Scandinavian-Mediterranean Corridor and the North-Sea Baltic Corridor (The Motorway of the Baltic Sea). A core TEN-T level connection (rail, road) goes via Southern Finland to the Russian border, where there are the only core level road (Vaalimaa) and rail (Vainikkala) crossing points between EU and Russia.

No core level corridor has been envisaged yet through Finland to the Swedish Lapland border and further to the Arctic seas. Traffic volumes are considered too low. Road traffic dominates. The 810 km rail from Helsinki to Tornio (Lapland, Swedish border) and the corresponding 730 km road E4 are being improved, with the aim of shifting cargo traffic to rails.

The traffic volume between Helsinki and Tallinn – the twin cities – is high: 8 million ferry passengers and 3 million tons of cargo per year, both increasing. The Via Baltica road is the main transport route to Central Europe.

From the European perspective, it is time to close the last remaining “missing link” in EU traffic infrastructure by extending the railway from Rovaniemi in Finnish Lapland to Kirkenes, a 2-3 billion euro project. It would be similar to the Oresund bridge between Copenhagen and Malmö by creating infrastructure around which economic activity would develop in a major way. Infrastructure can play a decisive role as catalyst for economic development.
The Arctic Railway would also be comparable to Rail Baltica, EU Project of Common Interest No 27, that is deemed a strategic investment (see below). From the Finnish point of view, after the Fehrman bridge has been constructed, with major EU financing, Finland remains the only continental EU member transport “island”, without land connection to Central Europe (100 million tons of exports from sea ports). The Helsinki-Tallinn tunnel project would be as strategic as the Baltic States, Arctic and Danish connections.

An Arctic Railway would open an opportunity to transport LNG by rail to mines and industry in Northern Finland and Sweden and further to the Baltic countries and Poland. In this “gas meets ore” vision, developed at the Norwegian University of Science and Technology, minerals would be refined “on site” to semi-processed status, thus saving the environment by considerably reducing CO2 emissions and increasing income in the region. The vision is a self-sustaining Arctic Industrial Corridor.

Closing the last European “missing link” would finally establish a connection between the Arctic and the Mediterranean. Along the route Rail Baltica from Tallinn to Warsaw (950 km, cost 3.87 billion euro) should be completed on schedule by 2027. Ferries can handle the Helsinki-Tallinn link until a tunnel will be built under the Gulf of Finland, a distant but possible perspective. Global economic recovery would make these projects even more feasible.

Russia has developed the St. Petersburg rail connection to Moscow and is planning to build a high speed rail from Moscow to Beijing via Kazakhstan. Such connections would have great potential for trade and economic cooperation between the EU, China and other Asian countries.

New Northern rail links would stimulate the economies of the Baltic States and improve access to Northern and Russian markets for Baltic, Central and Southern European companies. Access to Turkish and Middle Eastern markets from North-Eastern Europe would be improved.

China has shown interest in investing in Kirkenes Port development. Both China and Japan have suggested readiness to build the railway from Kirkenes to Rovaniemi, which would give better access to European markets.

It is urgent for the Arctic Rail project that Finland, Sweden and Norway agree on the Kirkenes route alternative and start the process of planning, approving and financing with the EU, to be identified as a core Project of Common interest. New forms of public-private financing should be explored for this project.

The Baltic Sea Cable connection from Germany to Southern Finland should be extended to the Norwegian Barents coast and further to Asia through a Polar route - Arctic Connect Cable - making it a European project for rapid and safe global communications. The Arctic Cable would reduce the present EU-Asia latency from 247 ms to 153 ms. A communications and data hub could be developed in the North around the cable, taking advantage of cheap electricity and cold conditions.

The most important East-West infrastructure project in the Arctic is completion of the rail connection between Murmansk and the Gulf of Bothnia, included in The Joint Barents Transport Plan developed by the BEATA working group under the NDPTL. The plan will be discussed at the BEAC Foreign Ministers conference in Oulu 14-15 October 2015, ending the Finnish Chairmanship of BEAC 2013-2015. The NDPTL Support Fund could play an important role in implementing BEAC decisions.
Arctic Railway Rovaniemi – Kirkenes
The Northern Data Hub for Arctic Connect

- For enabling major investments into Finland it is crucial to invest into the development of the Northern Finland backbone fiber network from Helsinki to Oulu and up north to the Norwegian border, in addition to Baltic Sea -cable, to create the Arctic Connect.

- The Arctic Connect combined with the Baltic Sea -cable under deployment would create the shortest direct route from Asia to mainland Europe.

- City of Oulu is investing into attracting major international datacenter investments into region, and is very well positioned to be key Data Hub for datacenters.

- Investment needed for creating the “missing link” from Helsinki to Oulu and to the Norwegian border, with redundant routing, approximately 25M€.
Climate Change: Where’s the beef?

Combating climate change and protecting biodiversity in the Arctic is the most important and most difficult challenge for the EU, its Member States and Members of the Arctic Council. The Polar ice sheet has been receding at a rapid rate, in recent years by double the size of Germany. The US initiative to prioritize the environment during its presidency of the Arctic Council 2015-2017 offers a welcome opportunity to achieve concrete results.

The most acute climate change and Arctic environmental problem is Black Carbon emissions. These powerful short-lived greenhouse gas particles from power plants, traffic and flaring descend on Polar Ice, making it melt at a rapid rate. In the short run, reducing such emissions would be much more cost-effective than reducing CO2.

The US Presidency has named reduction of Black Carbon emissions the single most important climate change task in the Arctic. The Arctic Council has agreed on an Enhanced Black Carbon and Methane Emissions Reductions Framework for Action, aiming at adopting “an ambitious, aspirational and quantitative collective goal on black carbon; and to consider additional goals, by the next Arctic Council Ministerial meeting in 2017”.

The Anchorage GLACIER conference 31 August 2015, organized by the US Chairmanship of Arctic Council, issued a joint statement, encouraging “all oil and gas firms headquartered or operating within our borders to join the Climate and Clean Air Coalition’s Oil and Gas Methane Partnership”.

The global Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) is working on the Black Carbon problem, with a secretariat hosted by UNEP.

While there is a shared commitment by Arctic Council Member States to reduce Black Carbon emissions, progress in reaching concrete results has been too slow. In the final analysis, reaching reduction goals remains a national prerogative. The Paris Climate negotiations in December 2015 should take up the Black Carbon question and set global goals for emission reductions.

The Arctic Black Carbon problem is too urgent to wait for years for practical results. “Where’s the beef”, one can ask amid so much rhetoric. Results can only be achieved by tackling the problem with pragmatic action, in cooperation with Russia, using existing and possibly new financing instruments.

In the Barents Region of the Russian Federation alone there are more than 1800 power plants of various sizes that use coal and heavy oil, operating at very low efficiency, emitting Black Carbon. The worst Black Carbon emitters are local heat plants, using heavy oil (“masu”), about 16 000 of them in Russia (a Reachlaw study). Traffic and flaring are also major Black Carbon emitters.

No real program to tackle the Black Carbon problem is in sight in Russia. Cooperation with the EU and EU Member States could encourage Russia to shift its energy policy away from inefficient use of gas and heavy oil f. ex. toward developing local heat/power generation by wood (pellets). This would create jobs and, make billions worth new investment in grids and refurbishing of pipelines unnecessary.

The European Union should take a pro-active role in the Black Carbon question by providing instruments for cross-border cooperation with Russia. Germany strongly recommends to the EU to coordinate its Arctic policy and the Northern Dimension (ND) policy, which includes an “Arctic Window”. Quote from the
German Non-Paper: “It should be assessed to what extent the Northern Dimension Environmental Partnership (NDEP) can be used to more strongly promote projects in the Arctic region”.

In principle, NDEP cooperation would be the most effective instrument for concrete environmental results in the Arctic. Its Arctic window is functioning by financial contributions from several EU Member States, Norway and Canada, with projects to handle nuclear waste, amounting to 1.5 billion euro. In the environmental window of NDEP ca. 1.4 billion euro has been invested in waste-water treatment plants in North-Western Russia, now also in Belarus. These activities have been operated efficiently by EBRD and its small team in St. Petersburg and London.

NDEP project financing is based on IFI loans complemented by a grant, usually up to 10 per cent of the total cost. The NDEP Environmental Fund includes contributions from Russia, EU, EU Member States, Norway and Belarus. With the present available fund resource of 80 million euro ca. 800 million euro of environmental investment could be financed, a record high leverage. Notably, although Russia receives loans from EBRD, EIB and NIB, it finances the projects in the end by more than 90 per cent while contributing to the NDEP fund.

As the NDEP program to refurbish existing and build new waste-water plants in North-Western Russia is maturing (the Kaliningrad plant still to be completed), the next phase was planned to turn additional focus to energy-efficiency, mainly investing in heating plants emitting Black Carbon. Unfortunately, this important shift has been stopped by EU sanctions on financing new projects in NDEP.

NDEP cooperation is due to expire in 2017. An early decision by the four partners (EU, Russia, Norway and Iceland) to extend it by 10-20 years must be made as soon as possible to secure completion of on-going projects and planning of new ones. Northern Dimension Cooperation should be reviewed for new impetus and coordination with Eastern Partnership, now under review. Ideas for new cross-border instruments in the Arctic are also needed.

It should be noted that NEDP projects the Northern Dimension area are all located within EU-Russia cross-border cooperation regions. The environmental impacts arising from the implemented programs benefit the EU especially in the Baltic Sea region. Similarly, any projects in the Barents Sea region will have immediate impacts in the Arctic.

The Nordic Investment Bank, with the new Arctic Financing Facility, can participate in financing NDEP (environmental) and NDPTL (transport and logistics) projects in North-Western Arctic Russia.

The Paris Climate Summit in December 2015 should consider setting up a special Black Carbon Fund to facilitate Arctic countries´ environmental investment in the Arctic. EBRD and EIB should review their facilities for environmental investment in Northern Europe.
Redouble EU Arctic R&D funding

The Arctic is still largely unexplored and research is needed on a broad front from natural to social and humanistic studies. EU-Norway pioneering research work on bacteria and DNA in the Arctic seabed is an example of globally important Arctic science cooperation.

Arctic research is a major focus in many EU Member States, concerning a.o. climate change, biodiversity, oceanography, geology and human development. An International Arctic Science Committee (IASC) is based in Potsdam, Germany. The European Polar Board (EPB) is advising on Arctic research.

Freedom of research in the Arctic region must be protected from littoral states attempting to extend their Arctic territories and limit movement in the Arctic. Research results should be available to the public.

The EU has been a major financier of Arctic research f. ex. by its Horizon 2020 program. Allocation of funding from Horizon to Arctic research should be increased substantially already for the work program period 2018-2020 in a strengthened, concise and coherent manner.

The EU should encourage the establishment of an International Arctic Marine Testing, Training and Research Centre (ArcMaTe) facilitated by Finland. The centre will offer frame, platform and equipment for testing, training and consultation services in real and simulated conditions to ensure safe navigation in ice-covered sea areas, including recovery of oil and chemicals in cold and extreme conditions.

Several major car manufacturers have testing and training facilities for cold conditions in Arctic Finland and Sweden.

Because of its safe and secluded location, cold climate and relatively high R&D activities, the Nordic Arctic could be at the forefront for developing leading ICT solutions, cloud services and green data center services for the rest of the world.

Developing satellite-based infrastructure in the Arctic, now inadequate, is important for safer navigation in Arctic waters, better communication to cover the Arctic sea routes without any zero signal zones, search and rescue operations and other maritime activities.
Indigenous peoples: An Arctic treasure

Arctic states have become increasingly aware of the importance of securing the rights of indigenous peoples. Their traditional way of life, including habitat for their livelihood, must be protected. A share of the income from exploiting Arctic resources belongs to the indigenous peoples.

The European Union should (quote from the Non-Paper of Finland):

- highlight the promotion of health and well-being of the Arctic communities and in particular of indigenous peoples
- consult indigenous peoples about policies that affect them
- emphasize the importance of participation of the Saami in the decision making in matters that concern them