



# Northern Dimension Partnership on Transport and Logistics

Oddgeir Danielsen

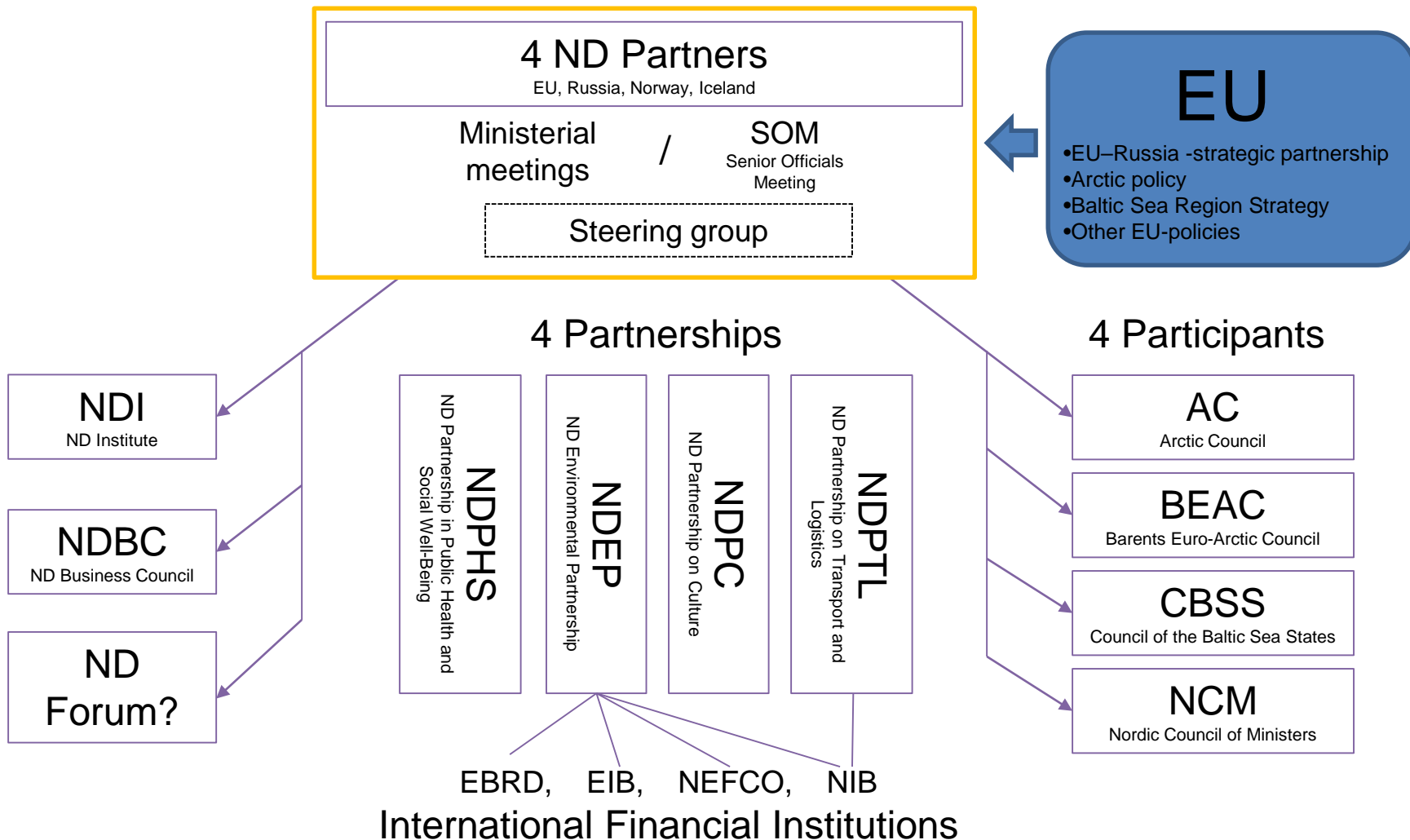
[www.ndptl.org](http://www.ndptl.org)

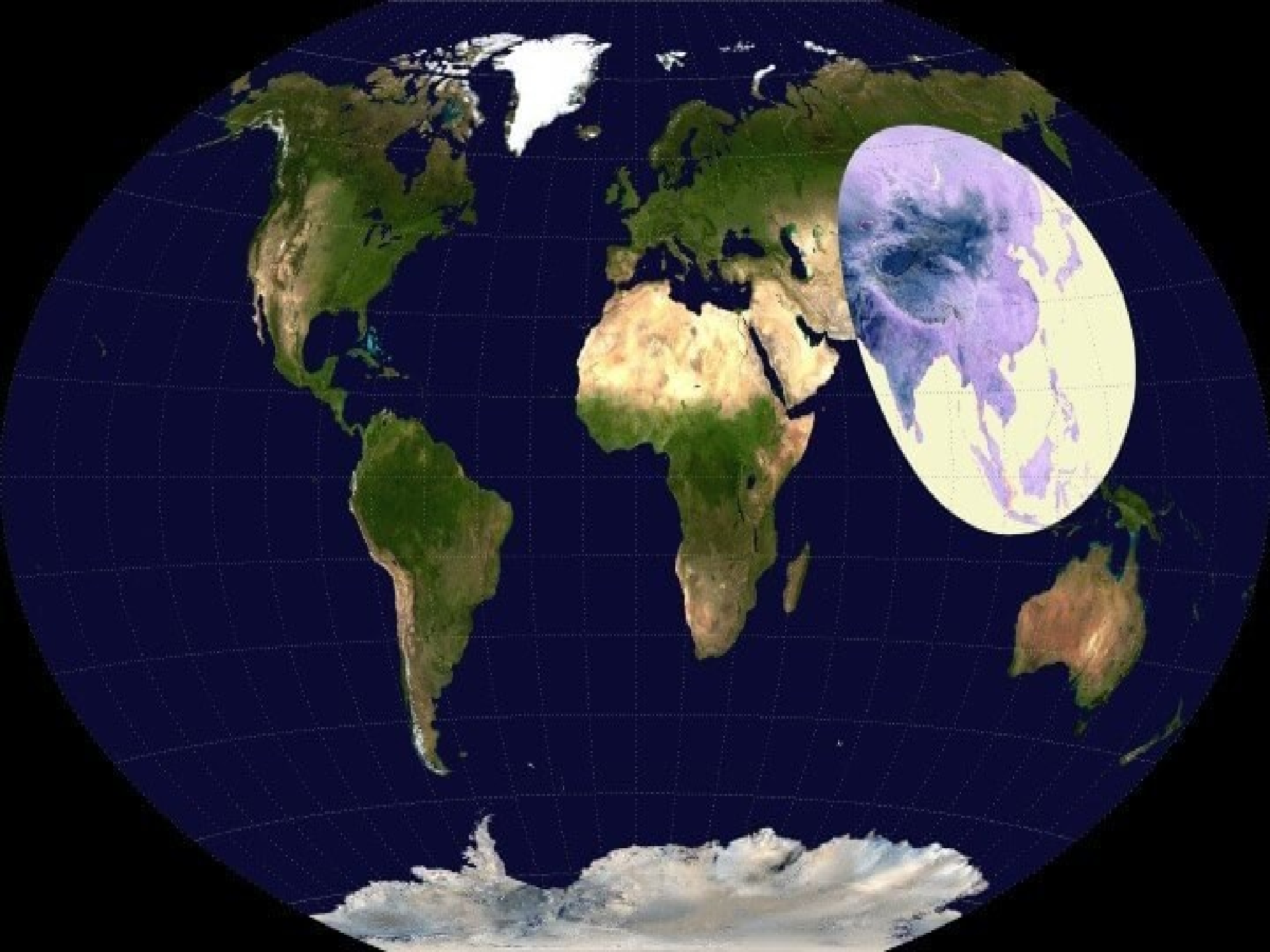
# The Northern Dimension Structure

Non-governmental level

Governmental Level

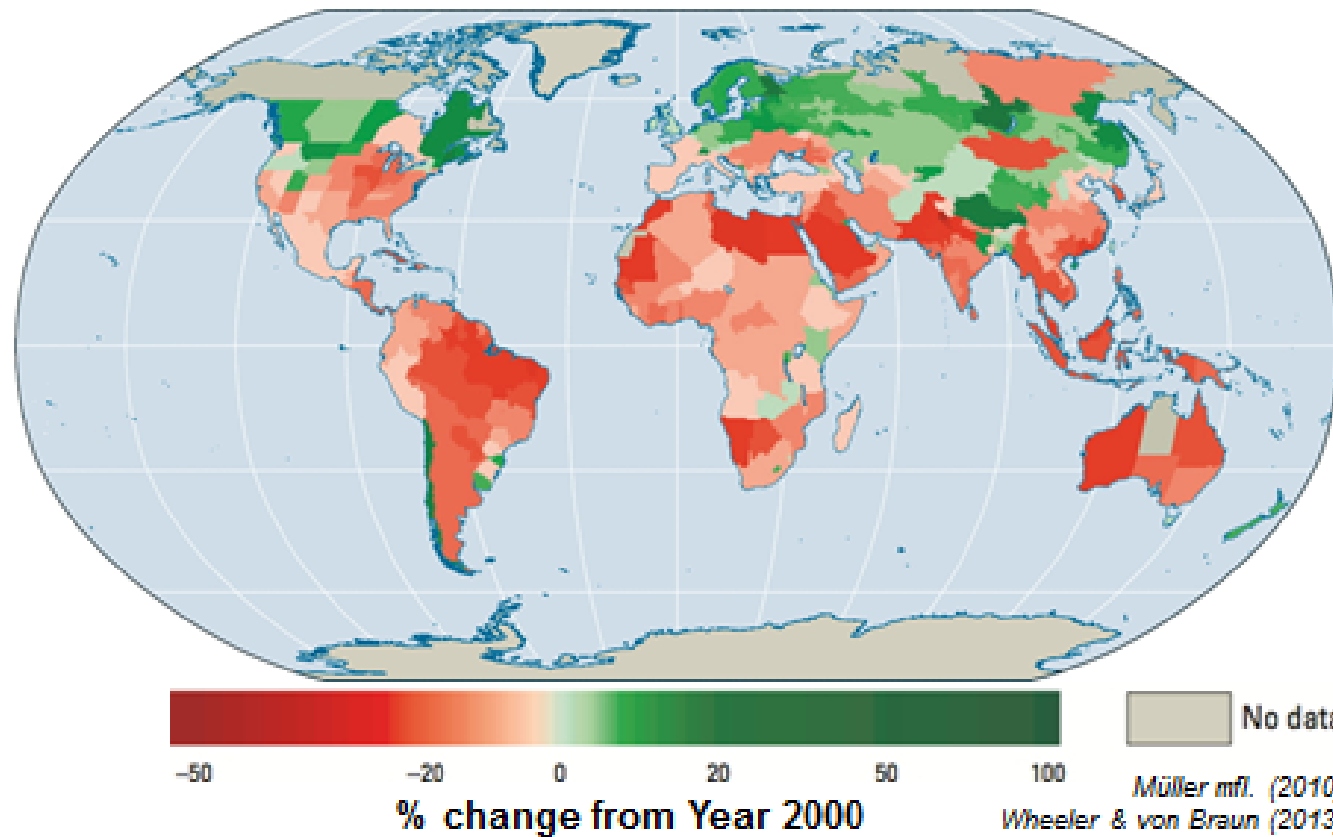
Participants



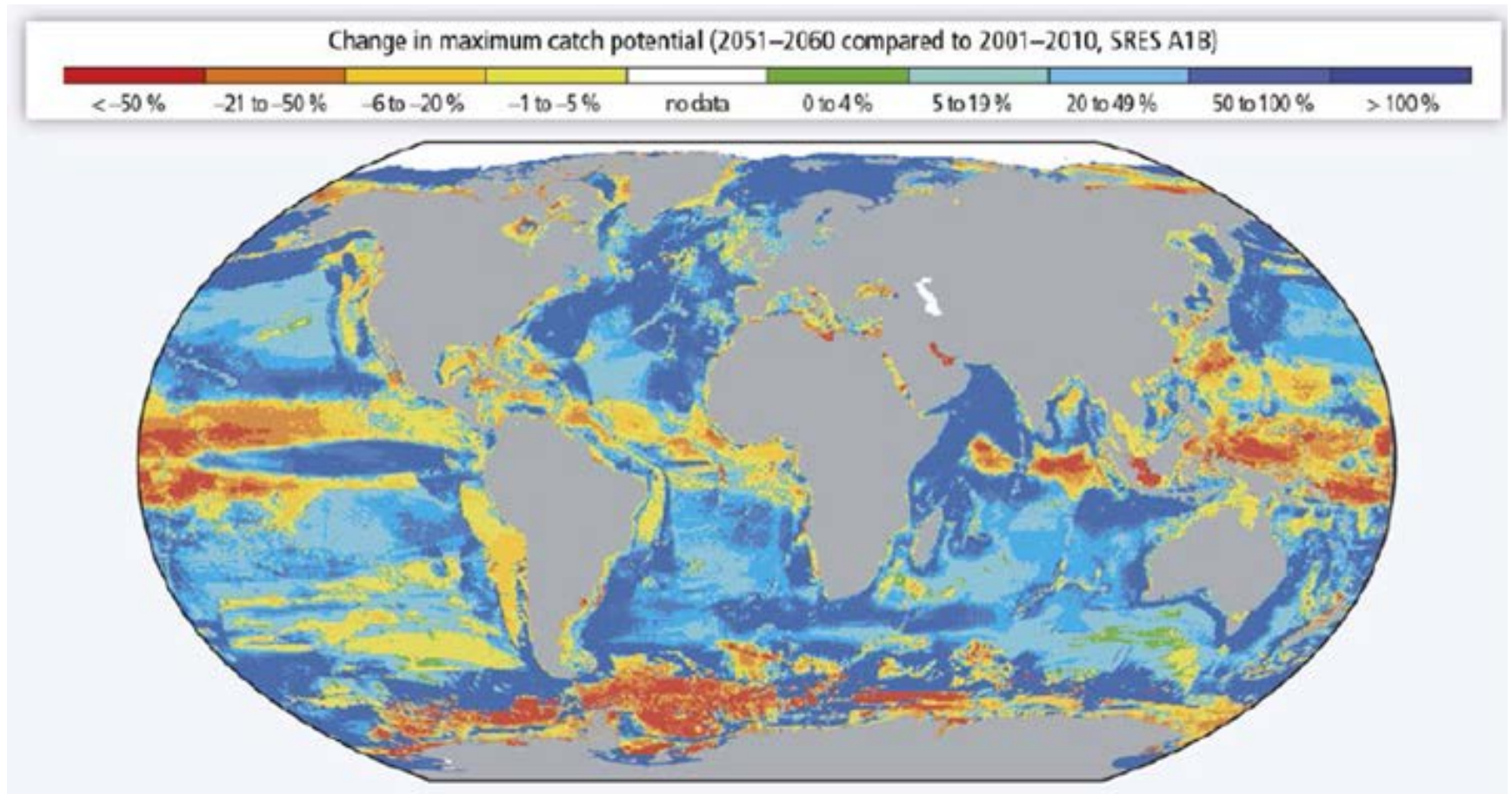


# Agriculture

## Modeled changes in food production in 2050 due to changes in temperature and precipitation



# Marine biomass





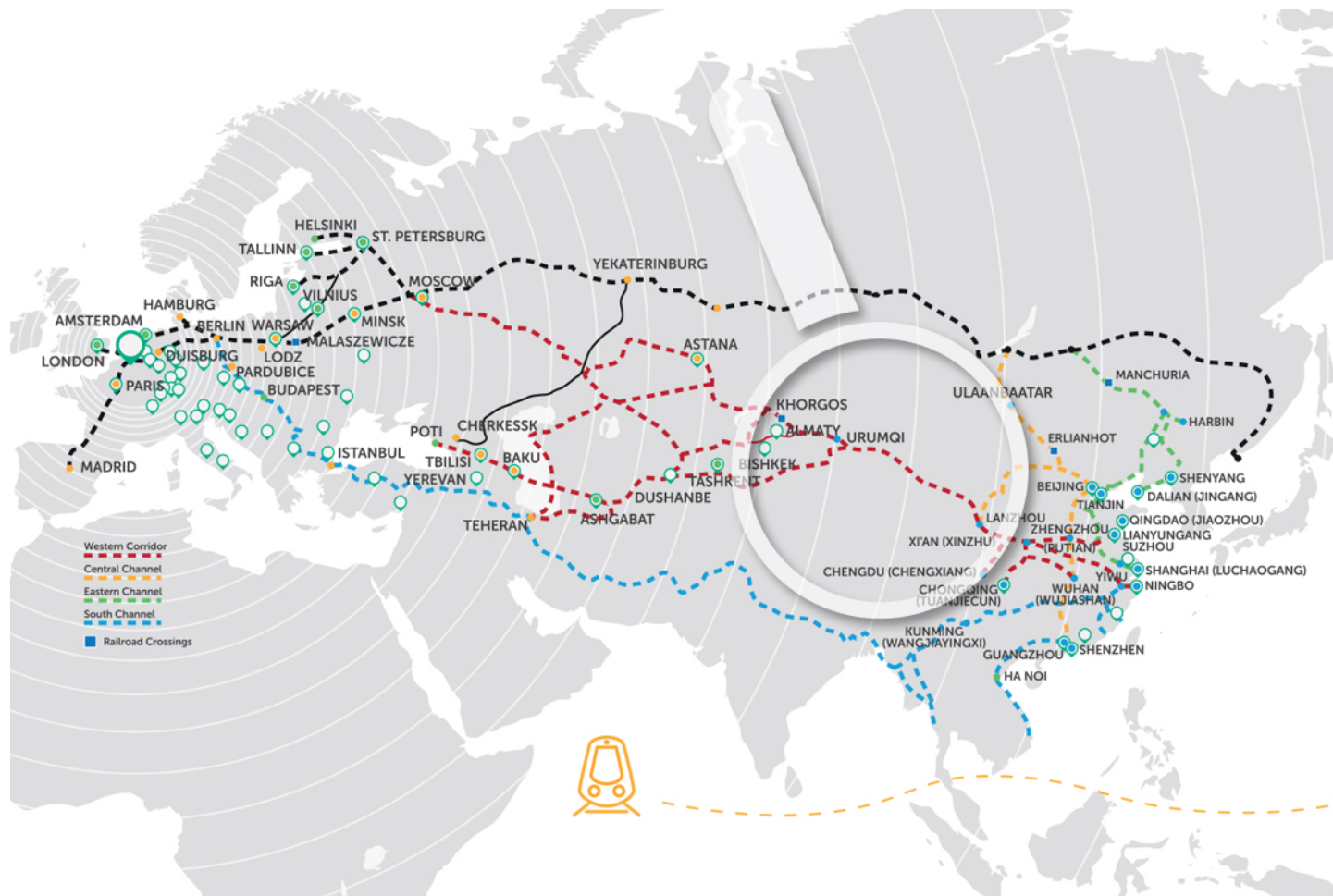
# The Chinese perspective



# Belt and Road Initiative (BRI)



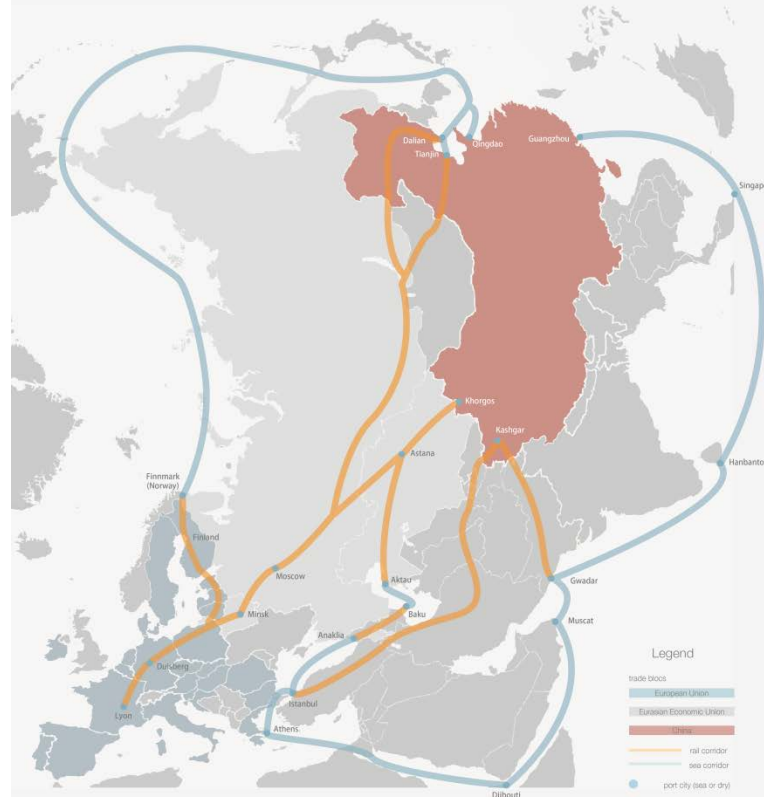
# BRI - Railroads





# One Belt, Road and Ring

## One Belt, Road and Ring 一带一路一环



SOURCE: National Development and Reform Commission of the People's Republic of China

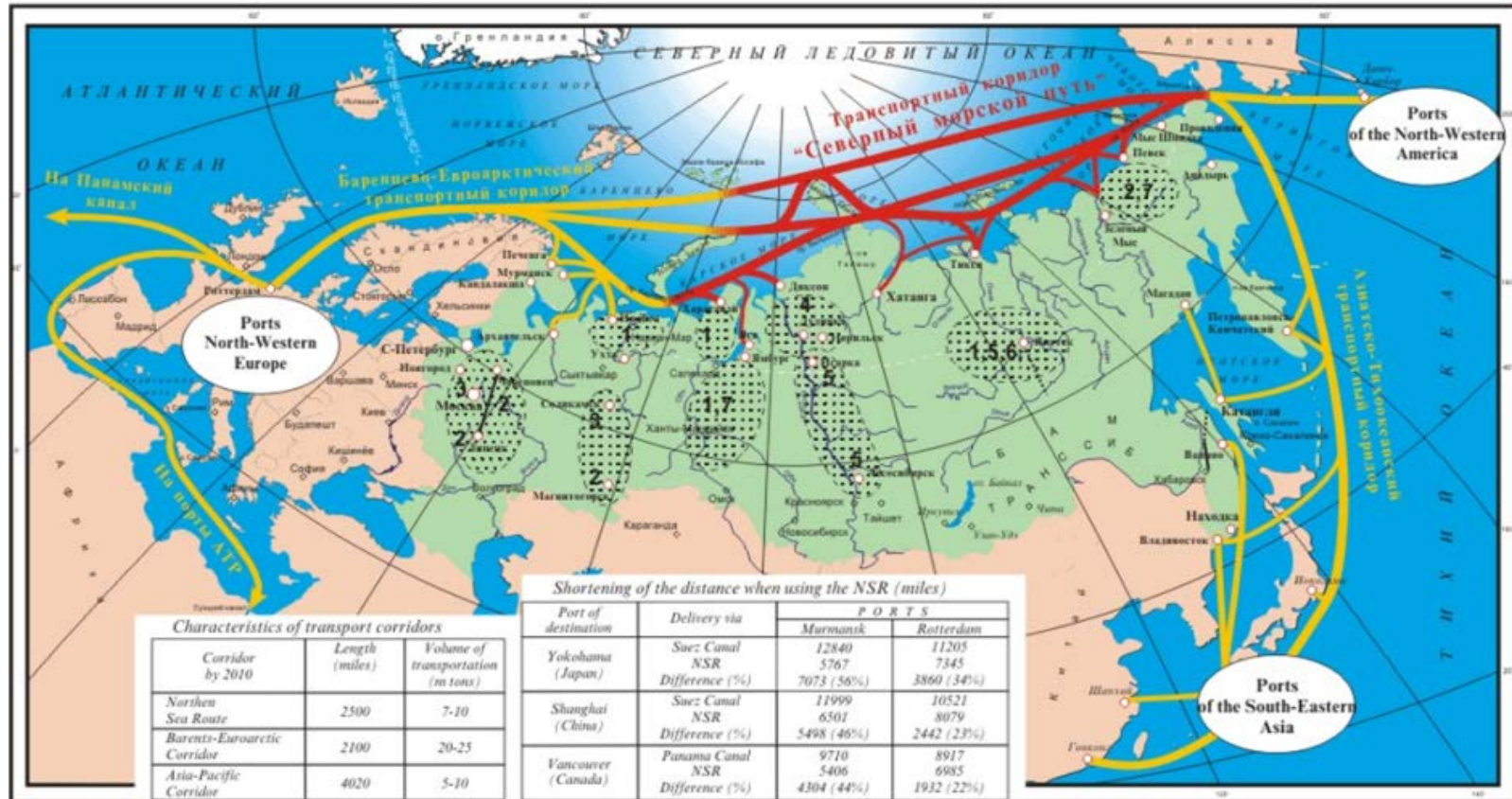
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# The Northern Sea Route

## RUSSIAN TRANSPORT CORRIDOR "NORTHERN SEA ROUTE" within the system of international transport corridors West-East-West



### Symbols:

- Sea transport corridor
- Railways.
- Railways to be constructed.

Export: 1 - hydrocarbons, 2 - metals, 3 - mineral fertilizers, 4 - products of the Norilsk Mining and Metallurgical Integrated Works, 5 - timber, 6 - coal.  
Import: 7 - products (goods).



..... River shipping lines.  
Area of the formation of cargo  
Sources for the Northern Sea Route.



# Venta Maersk

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# The China effect

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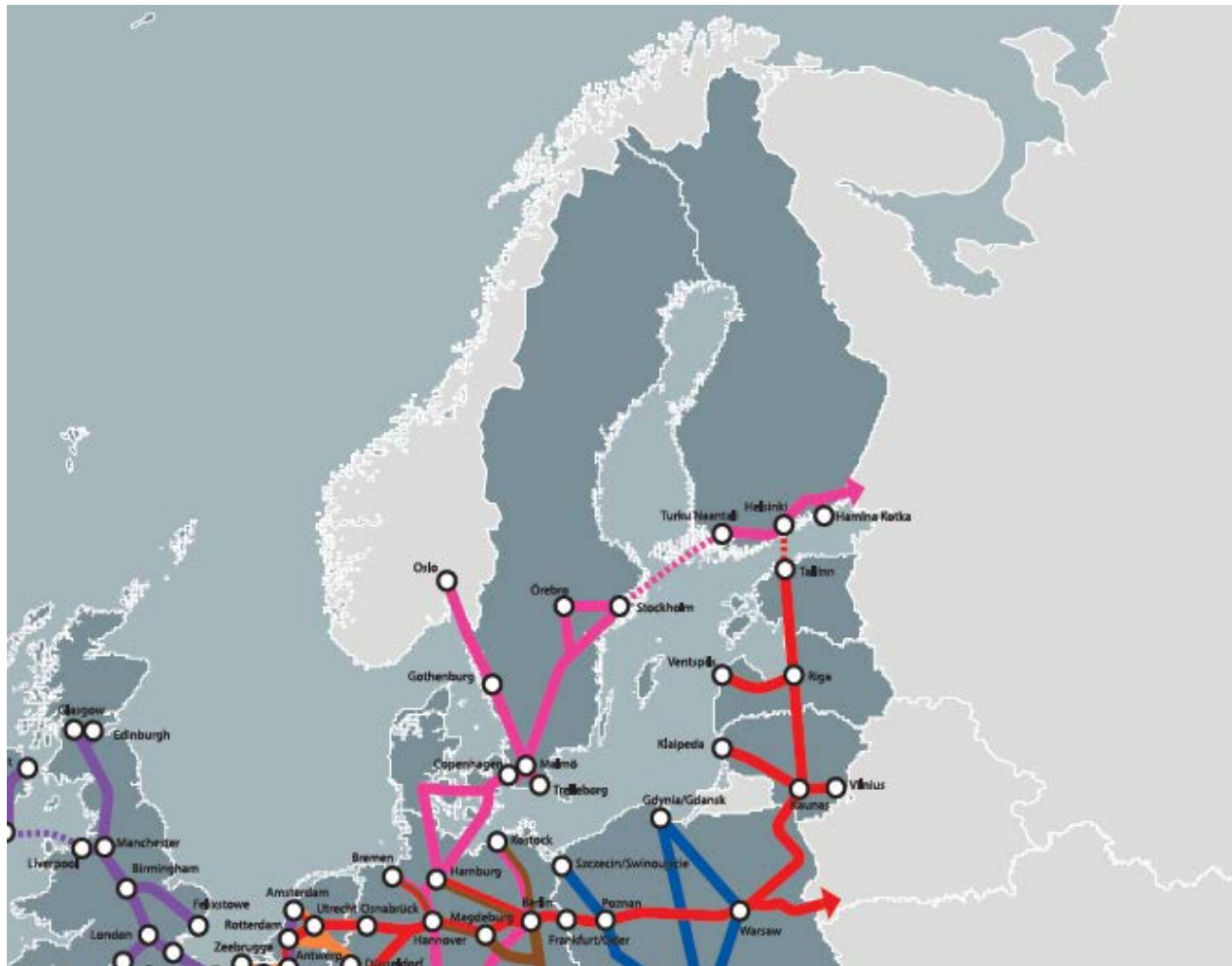
- EU/China trade – more than 3 billion € per day
- 85 % of Chinas trade are seaborne
- Up to 20% of Chinas International trade is said to be transported along the Northern Sea Route by 2030







# TEN-T Corridor Network



# NDPTL Regional Network



# Connecting the NSR with TEN-T?



# Smarter & Safer





## Putin Jumps Into the Race to Build a Hyperloop

by Ilya Khrennikov and Stepan Kravchenko  
July 7, 2016 — 12:00 AM EDT

- Russia sees transonic technology upending freight industry
- Moscow studies using Hyperloops to link airports to downtown

## Finland Takes Delivery of LNG-Powered Icebreaker Polaris



Image Courtesy: Arctech Helsinki Shipyard

The liquefied natural gas (LNG) -powered icebreaker Polaris was delivered to the Finnish Transport Agency on September 28, according to the Finland-based shipbuilder Arctech Helsinki Shipyard.

Arctech Helsinki Shipyard delivered the most powerful newcomer in the Finnish Icebreaker fleet, icebreaker Polaris, to the Finnish Transport Agency on September 28th, 2016.

News

## World's first zero-emissions hydrogen train to go into service in Germany



The Coradia iLint train CREDIT: ALSTOM

By **Our Foreign Staff**

2 NOVEMBER 2016 • 6:45AM

## Electric Car 28% Of All Car Sales In Norway





# Man vs Machine

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## Ship relies on drone to avoid ice blocks in Arctic waters

by Matt McFarland @mattmcfarland  
November 5, 2016 12:54 PM ET

**Money**



Drone helps ship navigate Arctic ice

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- Tech startup questions why Nigerian engineer was detained at JFK
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**BUSINESS | LOGISTICS REPORT**

## Massive Robots Keep Docks Shipshape

Ports introduce automated cargo handling, as free-trade pacts drive flood of goods



With global trade expected to grow steadily in the coming years, ports around the world are being automated. Yet the United States lags behind. In Los Angeles and Long Beach, the nation's two largest ports, only two of the 13 marine terminals are automating. Photo: Patrick T. Fallon for The Wall Street Journal

## Robot Air Cargo Handling

One of the world's biggest air cargo handlers (PACTL) in Shanghai will be trying the first use of robots to build general cargo pallets this summer. This experiment could transform the air freight sector and bring significant improvements in productivity, quality and security.

Aims, logistics facilities developer, has concluded that 85-90% of general air cargo shipments handled by PACTL could be processed by robots.

Using robots could save up to 60% of the manpower involved in operations, with the payback for the investment in a robotic solution being less than two and a half years.

Three robots working on four workstations could build around 16 pallets per hour, or around 24 ULD3 containers. Apart from loading the cargo, each piece is automatically weighed, measured and covered with machine-readable tags by the robot, allowing each shipment to be identified down to piece level. In addition to productivity and manpower efficiency gains, there are also security and safety benefits as cargo will be untouched by humans.

Although this technology is new to air cargo, it has been used within the automotive sector for 25 years. It is believed that it is going to become part of the future.

April 15, 2016 air freight air freight, air freight

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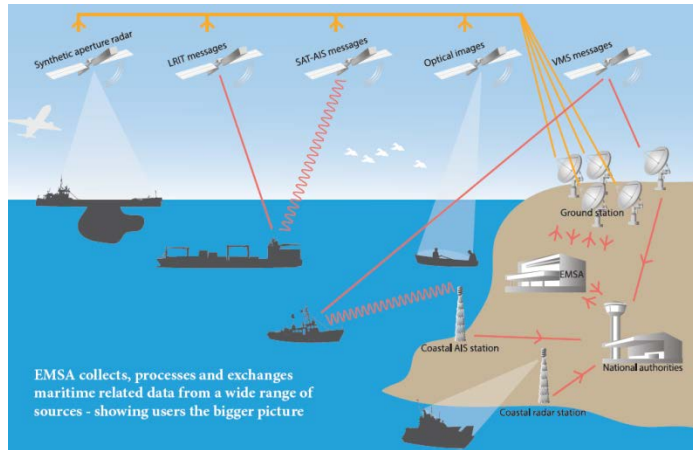
## How blockchain can restore trust in trade



Transparent and efficient, blockchain could lift the lid on international supply chains

Image: Erwan Henry

# IOT and Communications



Comparisons between routes

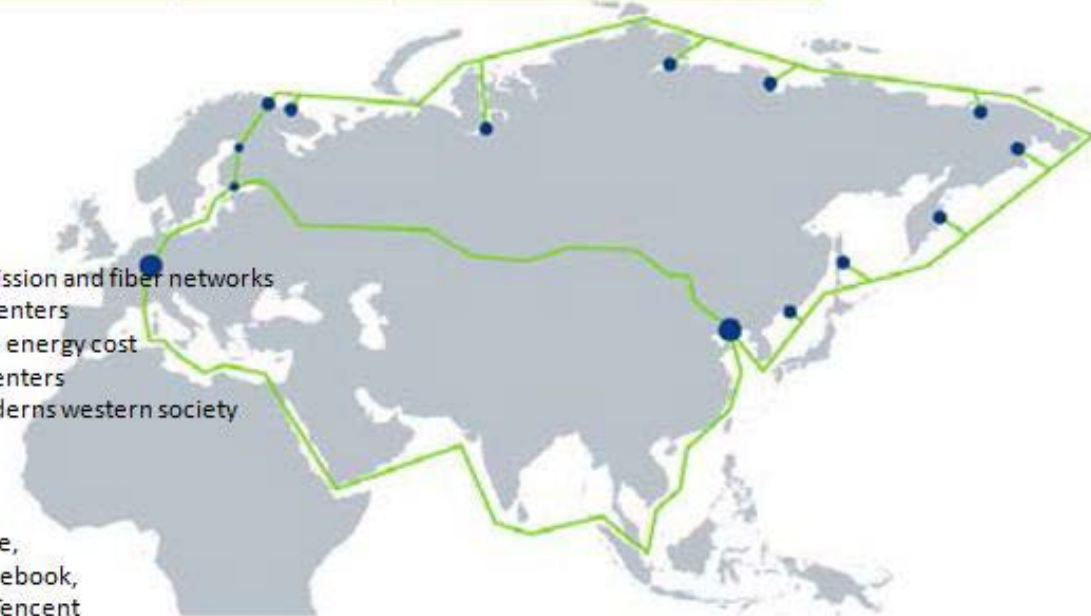
Frankfurt-Peking	The current southern submarine cable	The current terrestrial cable	Northern Sea Route cable
Distance	17 500 km	9500 km	12 500 km
Latency RTD	240 ms	130 ms	165 ms

## Why north?

- reliable power transmission and fiber networks
- green energy in data centers
- cold air cooling to save energy cost
- reduced tax for data centers
- open legislation & moderns western society
- skilled labor

## Users:

Netflix, YouTube, Google,  
Amazon, Microsoft, Facebook,  
Apple, Baidu, Alibaba, Tencent



# Holistic Overview

