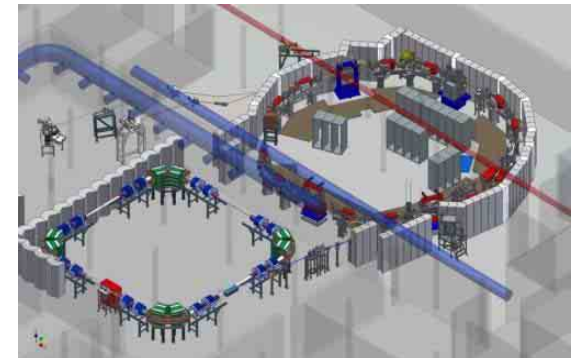


# Research infrastructure to meet Grand Challenges



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“We live in an era where  
new is normal,  
where everything is possible  
and  
where nothing is certain”

This calls for a paradigm shift and  
it is time for change

# Globalized world



EU's position in the world is being challenged!

In 2000, the European economy was 2.5 times the economy of China. Today, Chinese economy is larger than European economy

Free mobility of products, talents and knowhow

In the development of EU towards a world leading knowledge-based society, investments in

**Education, research and innovation** will be of utmost importance for Danish/European competitiveness



# 21<sup>st</sup> Century Scientific Challenges

## SSR: Scientific Social Responsibility



# Time for CHANGE, a new mindset !

People



Infrastructure



Excellent research  
Brain Gain



Innovation



# Top 10 scientific breakthroughs/scientists from 1820-1940

Faraday

Lyell

Darwin

Maxwell

Boltzmann

Hertz

Röntgen

Einstein

Bohr

Curie



Why success:

Freedom to follow their own  
ideas

Independent research: not  
controlled by strategic  
considerations



# Why research infrastructure?

Meeting Grand Challenges

New infrastructure opens up for scientific breakthroughs

Promotion of excellence

Brain gain to Europe

Research at the international forefront (“give and get”)

Regional development (“Excellence clusters”)

Industrial competitiveness

Innovation driver: from science to business and competitiveness



# The Danish roadmap

## Six scientific panels

1. Humanities and Social Sciences
2. Energy, Climate and Environmental Sciences
3. Biotech, Health and Life Sciences
4. Materials Technology and Nanotechnology
5. Physical Sciences
6. e-Science

Call for suggestions

Panels prioritized 3 cases each

Ministry wrote a roadmap

Direct dialogue between researchers  
and Ministry





# Prioritize!

We need a European RI roadmap

ESFRI provides an excellent wish list

Prioritization and implementation!

Speed is of the essence!

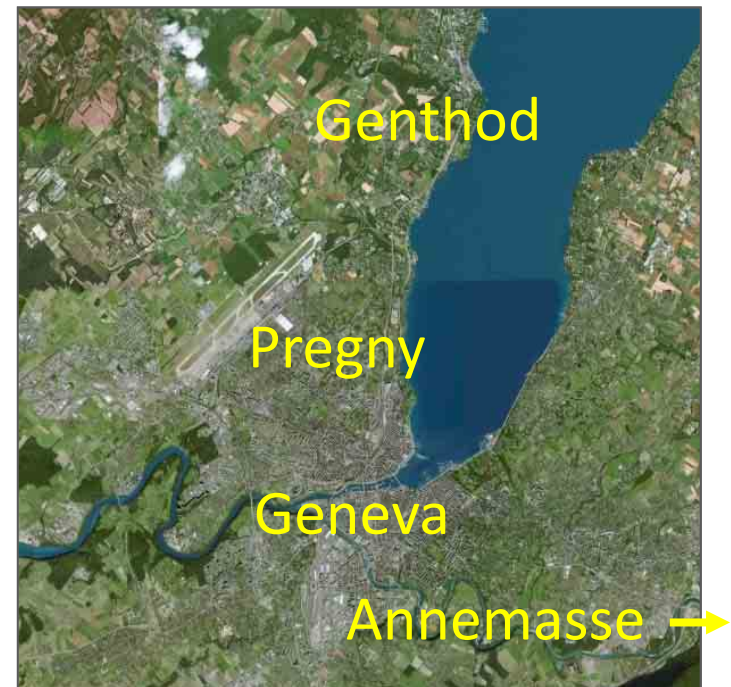
Relevance criteria:

1. European interest
2. Excellence in research and management
3. Enhance brain gain
4. Added value



# Regional development: Two Cases

## Geneva - CERN



From: Prof. Christian Ketels, Harvard Business School & Stockholm School of Economics

# Regional development

Some new EU countries lack behind in scientific excellence

Promotion of regional excellence

Exactly the purpose of structural funds!

Develop the European Research Area



# Recommendations for actions

Make a *prioritized* European roadmap for research infrastructures

Location and leadership driven by *excellence*

*Financing*: structural funds

“It is not the strongest species that survive, nor the most intelligent, but the ones most responsive to change”  
... Charles Darwin