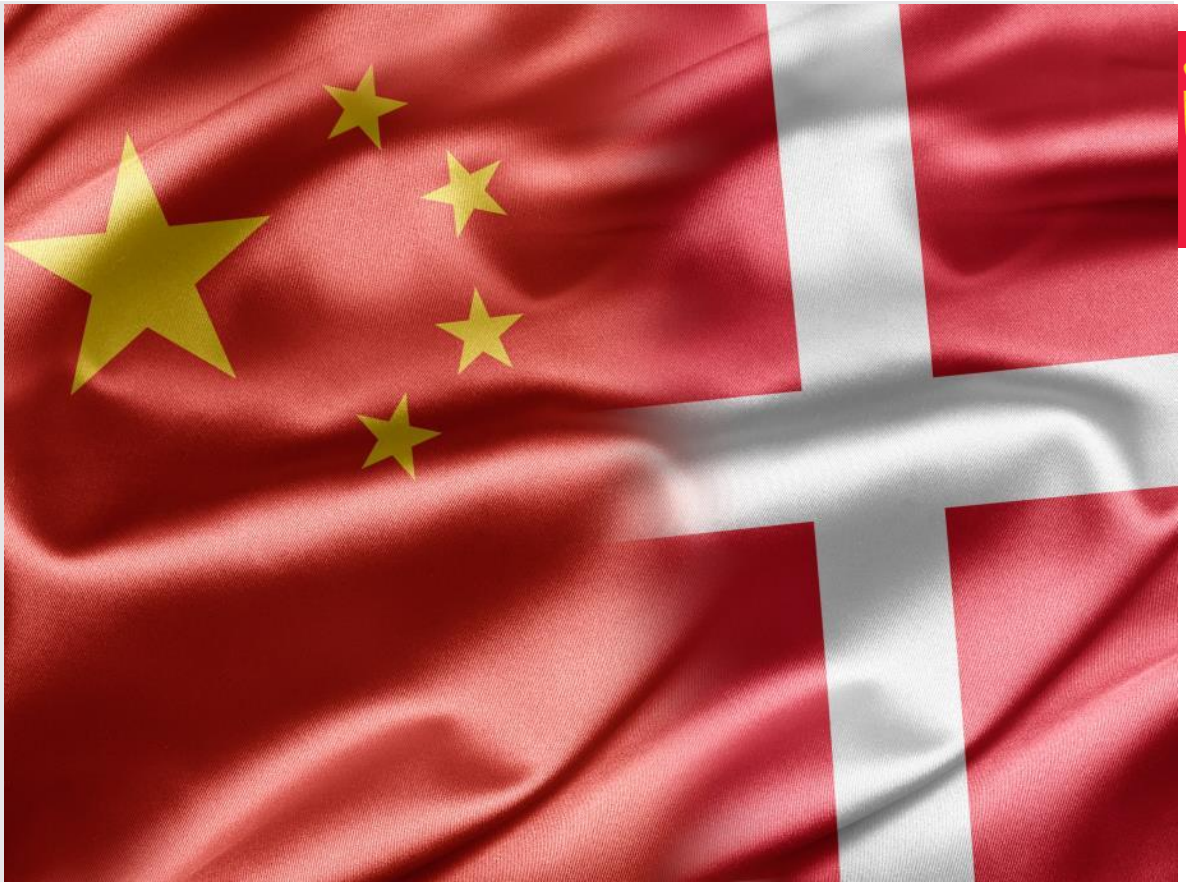


DENMARK – A COUNTRY OF QUALITY OVER QUANTITY

Innovation Attaché Lars Christensen, Innovation Centre Denmark

BASIC R&D FACTS I

- Denmark is 200 times smaller than China in terms of geographical size and population.
- Denmark is in a 7th place among OECD-countries in terms of R&D-expenditures of GDP with over 3 % GERD.
- Strong tradition and favourable conditions for a healthy R&D-ecosystem with close relations between academia and industry.
- Denmark is at a 3rd place as innovation leader on the Innovation Union Scoreboard.

BASIC R&D FACTS II

- Denmark is 2nd of 142 nations in entrepreneurship in Legatum's Prosperity Index
- Denmark ranks 4th in the Global Creativity Index out of 82 nations
- Denmark is 2nd on The Global Talent Index out of 60 countries
- Denmark is at a 9th place on Global Innovation Index 2013 and at 1st place on the Global Clean-Tech Innovation Index.

DANISH UNIVERSITIES I

- Danmark has only 8 universities – and some are too small to be included in the international rankings.
- Denmark has 3 out of its 8 universities among top200 on Times Higher Education – Aarhus, University, Technical University of Denmark and University for Copenhagen.

AARHUS UNIVERSITY

DTU

UNIVERSITY OF COPENHAGEN

DANISH UNIVERSITIES II

- Denmark has 2 universities among top100 on Academic Ranking of World Universities, thereby being among the only 11 countries with 2 universities among the 100 best – Aarhus University and University of Copenhagen.
- Leiden ranking has Technical University of Denmark in a 7th place in terms of scientific impact in the world.
- Eduniversal's list of best business schools has Copenhagen Business school in a 3rd place.

RESEARCH RESULTS & PATENTS

Research results and patents:

- Denmark is the 4th most productive nation of OECD & BRIC-countries, when when measuring scientific publications per capita.
- Denmark is the 3rd most productive nation, when it comes to publications per capita in Nature, Science and Lancet.
- Denmark is the third best ranked of OECD & BRIC-countries in terms of number of citations per publication. This indicates that Danish research has one of the world's highest impacts.
- Looking at impact within specific scientific areas Denmark is above average in 20 out of 22 scientific areas, and Denmark has the highest impact among the Nordic countries in 12 of the 22 scientific areas
- Looking at EPO patents per capita, Denmark is ranked as one of the best countries and holds a fourth place out of OECD-countries.

INTERNATIONAL FUNDING I

International competitive funding and recognitions:

- Denmark is among the five best European countries in five out of ten thematic areas of Cooperation-programme in EU7RP.
- Denmark is 6th most winning nation out of the 26 European countries, measuring the number of grants per capita from ERC – both starting and advanced grants.

INTERNATIONAL FUNDING II

- Denmark holds 8th place in terms of received funding per capita from NIH.
- Denmark ranks as the 2. best country in terms of received funding per capita from NSF.
- Denmark is in a 6th place measuring Nobel prize winners per capita.

DANISH RESEARCH PRIORITIES I

- **A society with a green economy** - future energy technologies and systems; from knowledge about the environment, water and resources to competitive technologies and solutions; climate and climate adaptation for the future; bio-resources, food and other biological products.

- **A society with health and quality of life** - from basic research to effective prevention, diagnostics and treatment of diseases; the healthcare and care sector of the future.

DANISH RESEARCH PRIORITIES II

- **A high-tech society with innovation capacity** - digital opportunities and solutions; future production systems and new types of innovation; strategic growth technologies.
- **An efficient and competitive society** - competitiveness, productivity and growth; effective and innovative welfare and prevention; transport, logistics and living space.
- **A competent, cohesive society** - education, learning and competence development; cultural understanding and cross-cultural competences.

DANISH INNOVATION PRIORITIES I

- **Innovative transport, environment and urban development** - from waste to resource - more efficient utilisation of household, industrial and construction waste; blue jobs via green solutions; an intelligent and green city with high mobility; climate adaptation in cities – global solutions for climate-resilient and sustainable cities.
- **Innovative food production and bio-economy** - intelligent, sustainable and efficient plant production; from plant residue to high value; resource-efficient food production; Denmark as a global supplier of nutritious and health-promoting food products.
- **Innovative health solutions** - Denmark as the preferred country for early clinical testing of new medicines; patient self-management of chronic disease; the efficient and safe hospital.

DANISH INNOVATION PRIORITIES II

- **Innovative productions** - water-efficient industrial production; pharmaceutical and biotechnological production – better, cheaper and safer processes and products.
- **The intelligent factory** - advanced materials as a basis for growth and solution to societal challenges; made in Denmark - sustainable fashion and textile production.
- **Innovative digital solutions** - a *Smart Society* based on the utilisation of "Big Data"; Digital learning – competencies for the 21st century labour market.
- **Innovative energy solutions** - innovatorium for building renovation of world class standard; industrialisation of offshore wind power on an XXXL scale; integrated energy solutions – managing energy in the city intelligently and efficiently.

THE DANISH RESEARCH PROFILE I

Largest research field:

- Health science is the largest research field in the Danish research landscape both in terms of investments and researchers in the private and the public sector.

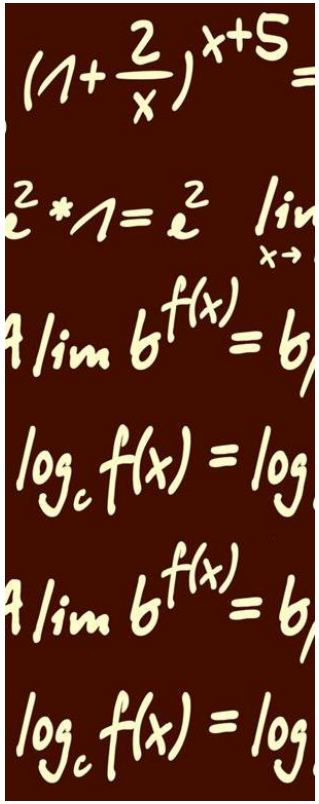
International competitive funding - research areas:

- Denmark is among the five best countries in five out of ten thematic areas of Cooperation-programme in EU7RP: 1) Transport including aviation, 2) environment including climate research, 3) Space, 4) food including agriculture, fisheries and biotechnology and 4) nano science.

THE DANISH RESEARCH PROFILE

Research results – areas with most publications:

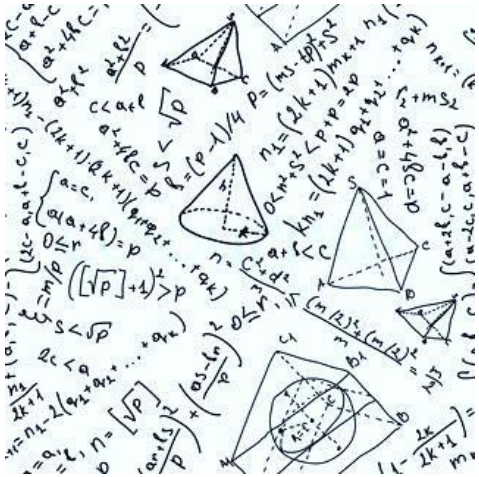
- Clinical medicine; biology & biochemistry; chemistry; physics; plant- & animal science; engineering; environment & ecology; social science; molecular biology & genetics; geology.



Research results – areas with a world over-average of publications:

- Immunology; environment & ecology; space research; biology & biochemistry; molecular biology & genetics; clinical medicine; Economics & business; agricultural science; multidisciplinary research; plant & and animal science; geology; neuroscience; microbiology.

THE DANISH RESEARCH PROFILE II



Research results – areas with a world over-average of citations:

- Material science; multidisciplinary science; clinical medicine; geology; space research; molecular biology & genetics; plant and animal science; agricultural science; environment & ecology; physics; engineering; chemistry; biology & biochemistry; microbiology; computer science, pharmacology & toxicology; social science; psychology & psychiatry; neuroscience; mathematics.

DENMARK & CHINA I

Political, bilateral agreement:

- Memorandum of Understanding between the Chinese Ministry of Science & Technology and the Danish Ministry for Science, Innovation and Higher education from 2007, highlighting:
  - Biotechnology and biomedicine (incl. TCM) Agricultural and food technology
  - Clean and renewable energy (esp. Wind power, bio energy power and fuel cells)
  - Nanoscience and technology
  - Health and TCM application
  - Information and communication technology

DENMARK & CHINA II

Joint funding programmes:

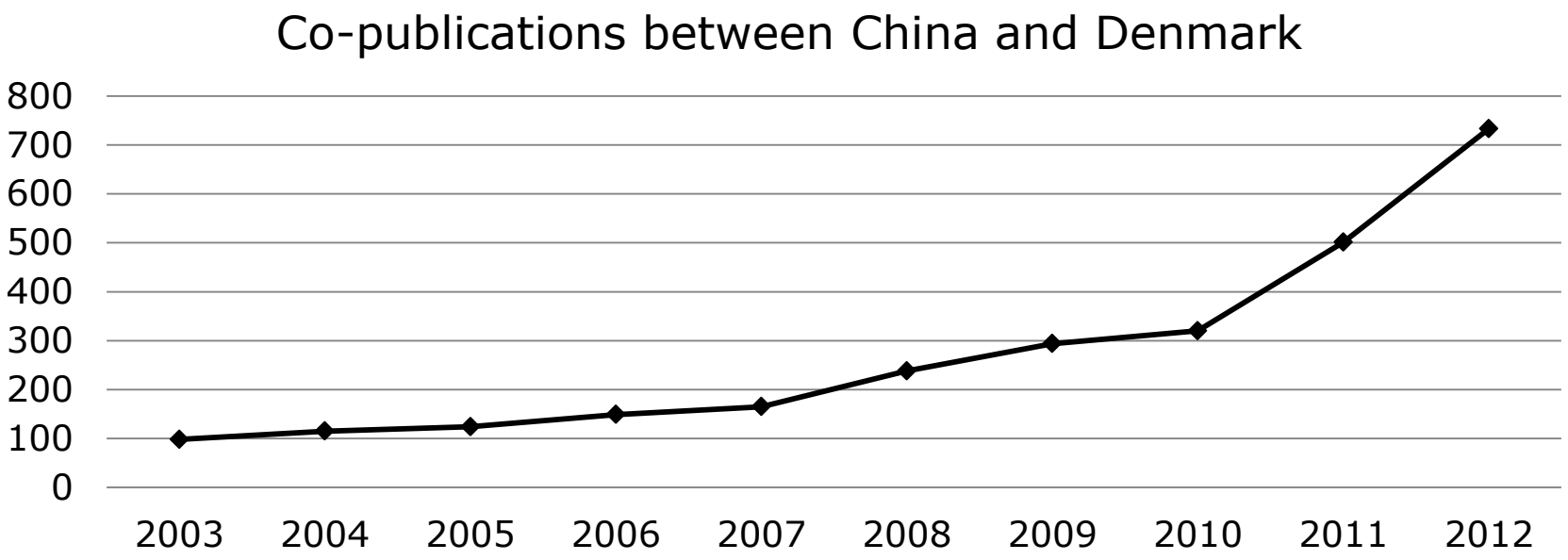
- MOST and the Danish Research Council for Strategic Research within sustainable and renewable energy (new call expected in 2014).
- MOST and the Danish Energy Agency within wind energy and smart grid (new call expected in 2014).
- National Natural Science Foundation in China and the Danish National Research Foundation within cancer research, nano technology, renewable energy and information and communication technologies (no new calls planned).

DENMARK & CHINA III

Sino-Danish Centre for Education and Research Centre:

- between Danish universities and Chinese Academy of Sciences (and others).
- With research and master programmes within:
  - Water and environment
  - Sustainable energy (incl. chemical and biochemical engineering
  - Nanoscience
  - Life sciences (incl. omics, and neuroscience and neuroimagining
  - Social sciences (incl. innovation management, and public management and social development)

DENMARK & CHINA IV



Top10 areas are: physics; engineering; chemistry; materials science; science technology; biochemistry & molecular biology; environmental sciences & ecology; genetics heredity; astronomy & astrpphysics; agriculture.

Source: Web of Science

LINKS TO DANISH UNIVERSITIES

Universities

- Aalborg University
  www.en.aau.dk
- Aarhus University
  www.au.dk/en/
- Copenhagen Business School
  www.cbs.dk/en
- IT-University of Denmark
  www.itu.dk/en
- Roskilde University
  www.ruc.dk/en/
- Technical University of Denmark
  www.dtu.dk/english
- University of Copenhagen
  www.ku.dk/english
- University of Southern Denmark
  www.sdu.dk/en/

Chinese-Danish University

- Sino-Danish Center for Education & Research
  www.sinodanishcenter.com

KEY TAKE-AWAYS

- Denmark ranks top in the world on a number of parameters – in terms of quality.
- Danish researchers are interested long-term collaboration with high-quality partners.
- Contact for more information and for bridge-building to Denmark:
  - Lars Christensen, Innovation Attaché

    Innovation Centre Denmark, Shanghai

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