



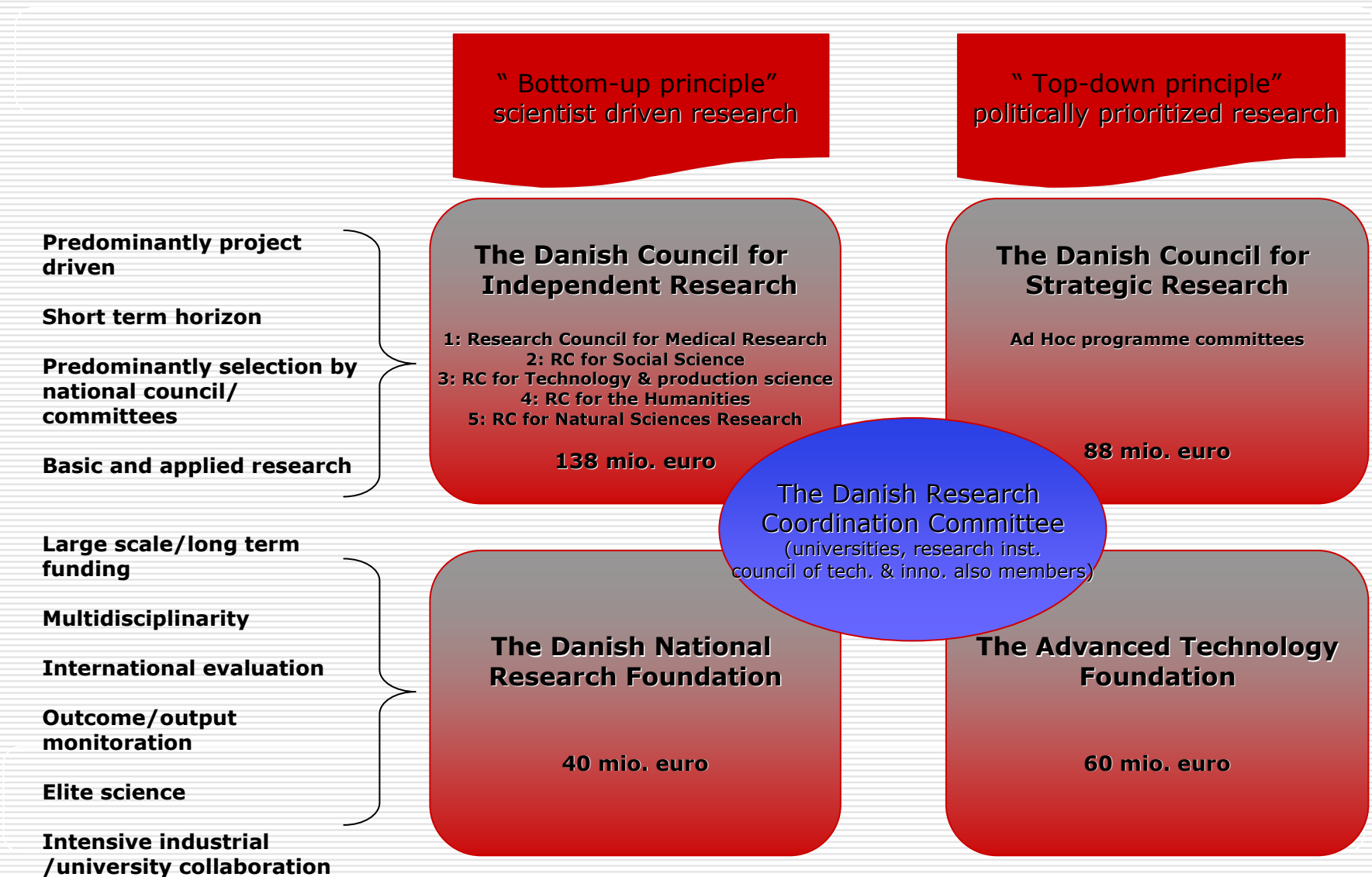
Objective of the Danish National Research Foundation

To strengthen independent research in
Denmark within all science areas:

Natural, Technical, Health, Social Sciences and the Humanities



The role of the DNRF in the research advisory system





The D NRF activities

The D NRF's primary mean to strengthen Danish research:

• Centres of excellence

Other DRNF activities:

**• Niels Bohr
Visiting Professorships**

• DRNF Professorships

• Research infrastructure

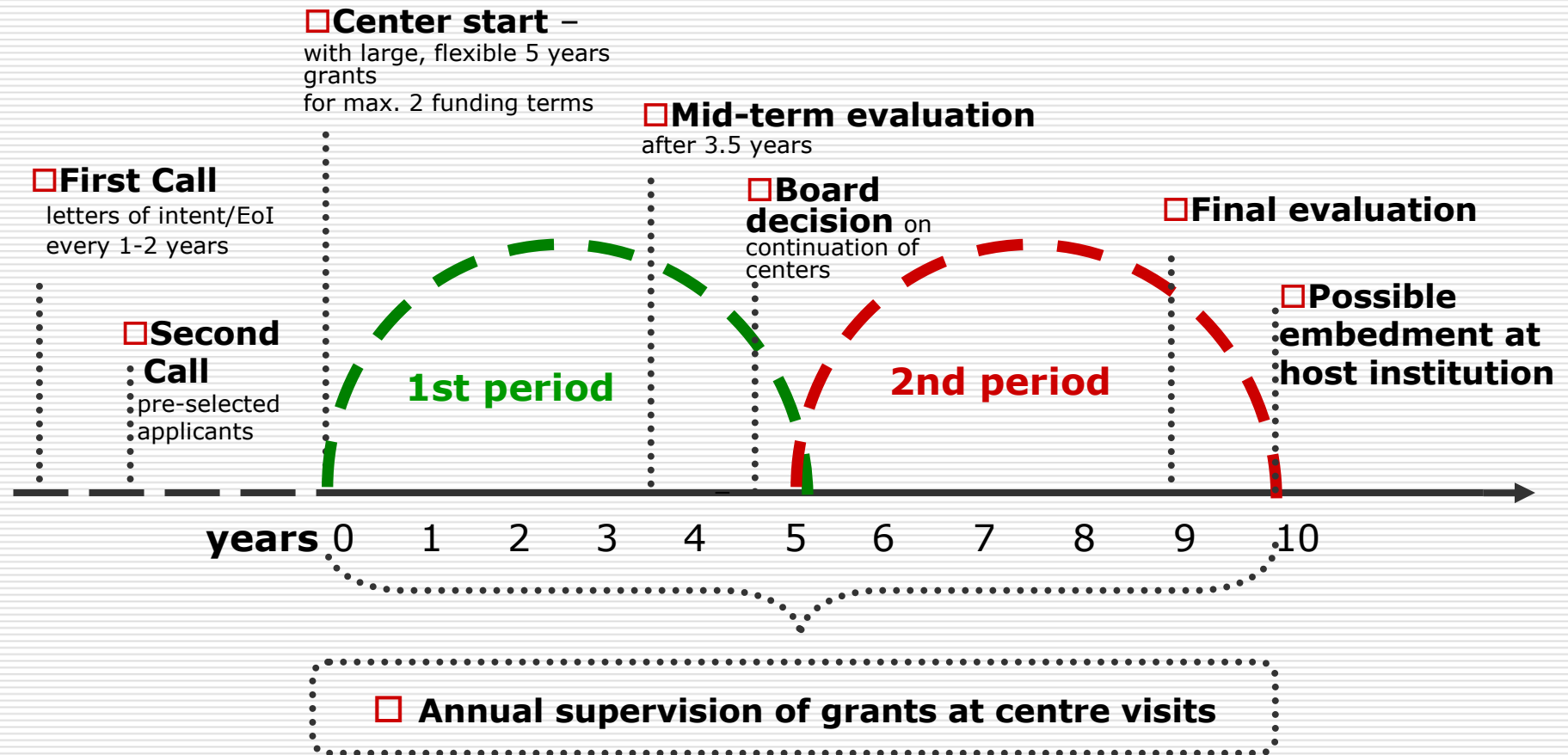
**• International Talent
Recruitment Programme**

Centers of Excellence

- **Centres of Excellence are funded for periods of 5-10 years, average yearly funding ~1 mio. €**
 - **Selection based on international evaluation with focus on *quality of project proposal, ambition, and relevance***
 - **Centres should be internationally competitive and preferably include international scientists of high standing (several heads of centres are not Danish)**
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Life cycle of a center of excellence



Centres of Excellence Selection criteria:

- ✓ **The head of centre should be a recognised outstanding scientist.**
- ✓ **The head of centre has the scientific freedom to set priorities for research and budget within a 5-year frame.**
- ✓ **The head of centre signs a detailed contract with the Foundation and the leader of the host institution (vice-chancellor)**
- ✓ **The Foundation monitors each centre regularly and makes a site-visit annually**
- ✓ **After 4 years a centre is evaluated by an international panel of experts**

World Class Centres of Excellence require:

(based on experiences and interviews with e.g. centre leaders from the Danish National Research Foundation)

- ✓ ***Strong scientific personalities with international 'track record' with full responsibility***
- ✓ ***Adequate and flexible funding with long-term time frame***
- ✓ ***Dynamical risk-taking research groups***
- ✓ ***Team spirit, common ambitions, strong centre identity***
- ✓ ***Strong enthusiasm from all participants***

From Survey by 'Monday Morning' spring 2004



Center of excellence concept

Criteria for becoming a D NRF centre of excellence

- Scientific excellence
 - Clear, precise and focused research theme
 - Research group(s) forming a physical community
 - Senior researchers of international standing
 - Headed by center-leader with high international standing
 - Clear organisational structure
 - Potential for international competitiveness
 - Attractive research training site
 - Location at Danish university or public research institution
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Center management

Host institution

centre placed at host institution to

- Inspire and stimulate competitiveness
- Use infrastructure (20% overhead included in grant)
- Access to students

Head of center

- Independent centerleader
 - Delegated authority from host institution
 - Strong research management skills
 - Inspiring, ambitious and visionary
 - Ability to involve and coach younger scientists
-



All DRNF centres

- 23 centres established 1993/1994**
 - 9 centres established 1997/1998**
 - 12 centres established 2001/2002**
 - 16 centres established 2004/2005**
 - 8 centres established 2007**
 - New centres in 2010:**
 - About 10 new centers will be identified early 2009 from 29 applicants selected by the board among 148 expression of interest
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Quality criteria in evaluations

Research quality, relevance, originality, and focus

Progress
Coherent research plan
International status

Organisation, leadership and team members


National and international cooperation
Recruitment and guests
Research training
Publications

Social impact

Public outreach
Collaboration with public institutions
Collaboration with industry



Funds

-  The Danish Parliament established the Danish National Research Foundation in 1991 with a capital of 2 billion DKK (\approx 270.000.000 euro) supplemented in 2008 with 3 billion DKK, so the Foundations capital today amounts to about 4.5 billion DKK
 -  The Danish Act on the DNRF decrees that a conservative investment policy must be pursued to obtain the highest income consistent with capital protection
 -  Since 1991 the DNRF has committed itself to support the Danish research environments with more than 4 billion DKK (\approx 550.000.000 euro)
 -  The DNRF yearly distributes from 2010 \approx 400 million DKK (\approx 55.000.000 euro) to its activities
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The international evaluation of the DNRF

Conclusions from the international panel headed by professor
Enric Banda, which evaluated the DNRF in 2003

"The DNRF has had a major influence on quality of basic research in Denmark despite it's modest share (2%) of total public spending on R&D"

"The centres of excellence initiative has been successful in bringing about genuine improvements to the Danish research system"

"About a quarter of the centres have achieved genuine distinction as world leaders in their scientific fields "



A recent international evaluation of four centre's performance after 10 years

All four centre receives excellent to outstanding comments from 12 international peers, who conclude that several of the centers' belong to world leaders in their field

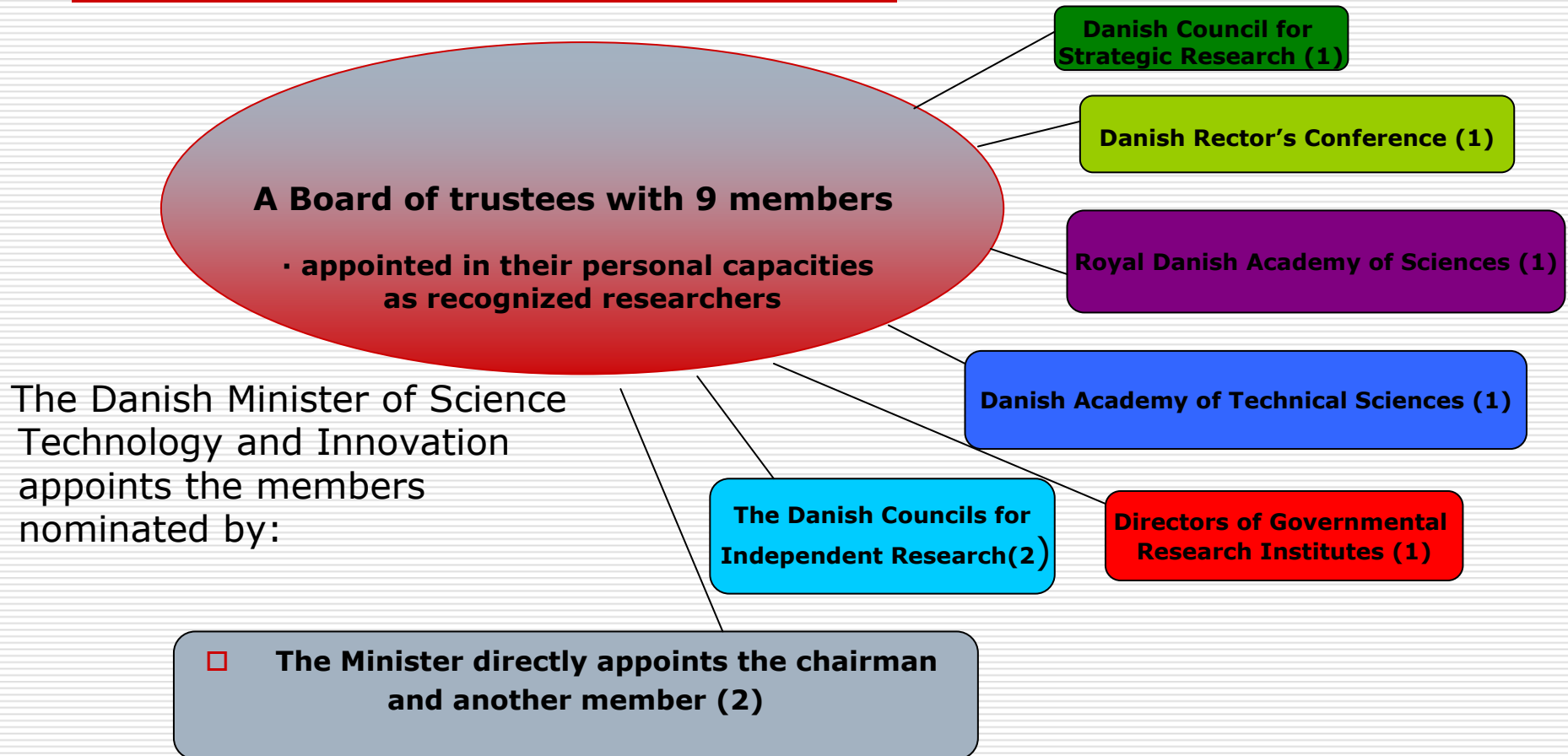
- ✓ *Science in World Class*
 - ✓ *Danish scientists as pioneers*
 - ✓ *From basic science to innovation*
 - ✓ *The Center of Excellence concept strengthens Danish elite science*
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Formalised International Contacts/Activities:

- **Member of European Science Foundation**
 - **National Science Foundation in the USA**
 - **CNRS in France**
 - **DGF and MPI in Germany**
 - **Chinese Academy of Sciences**
 - **Research Centres in the Nordic Countries with formalised collaboration**
 - **Research Centres abroad with formalised collaboration**
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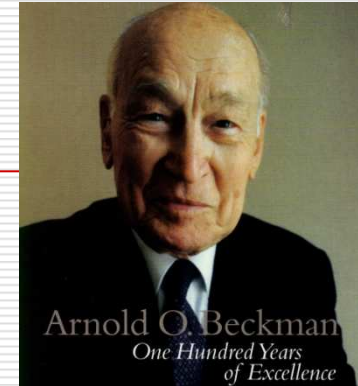


DNRF Board – the governing body





Rules for Success



- ✓ **There is no satisfactory substitute for excellence**
- ✓ **Absolute integrity in everything**
- ✓ **Everything in moderation including moderation itself**
- ✓ **Hire the best people and then get out of their way**
- ✓ **Don't take yourself too serious**

Arnold Beckman
