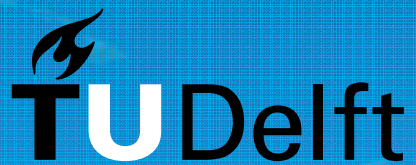
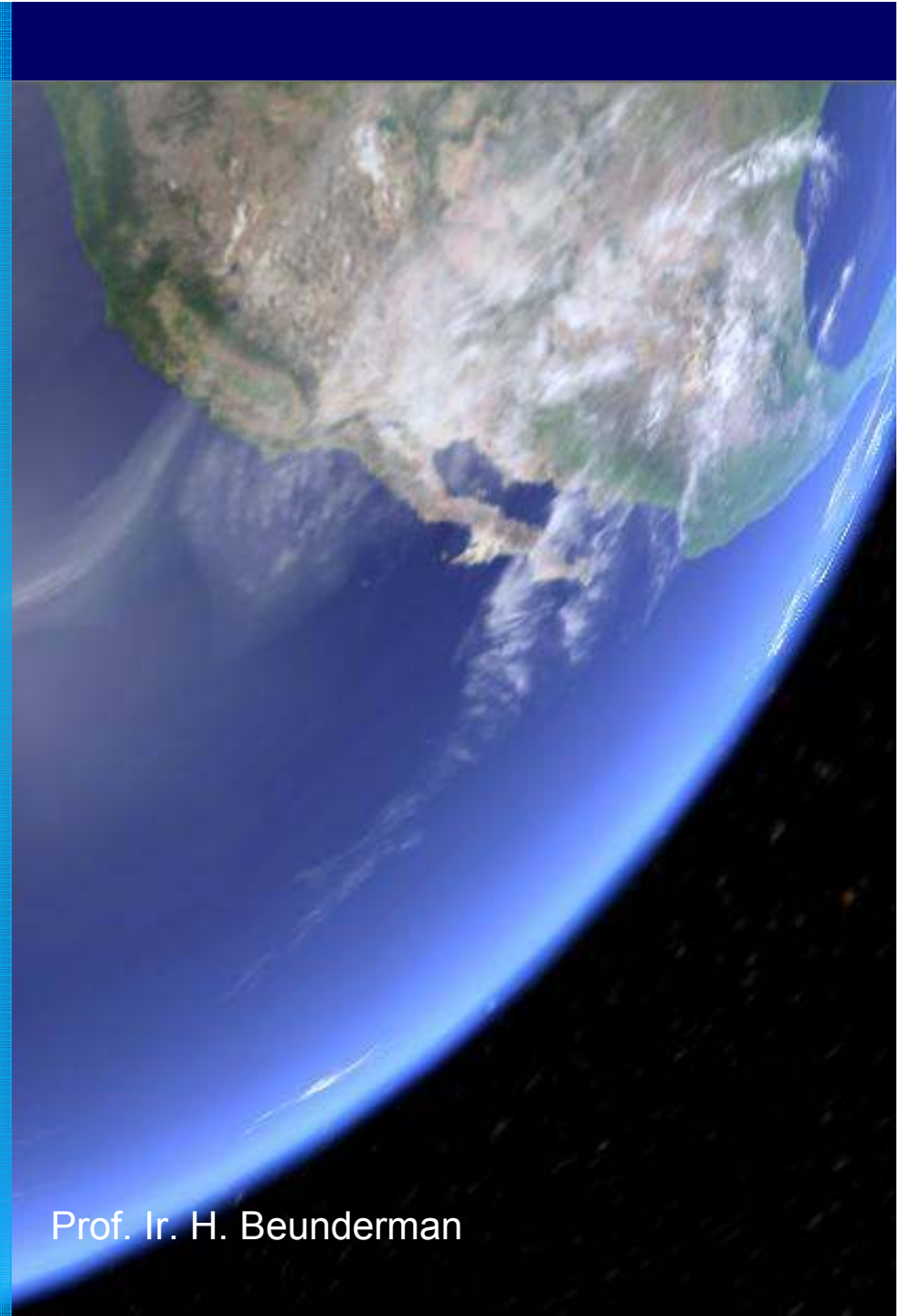


MOBILISING RESOURCES

FOR
A SUSTAINABLE SOCIETY OF NINE BILLION
PEOPLE



Delft University of Technology



Prof. Ir. H. Beunderman

Key points

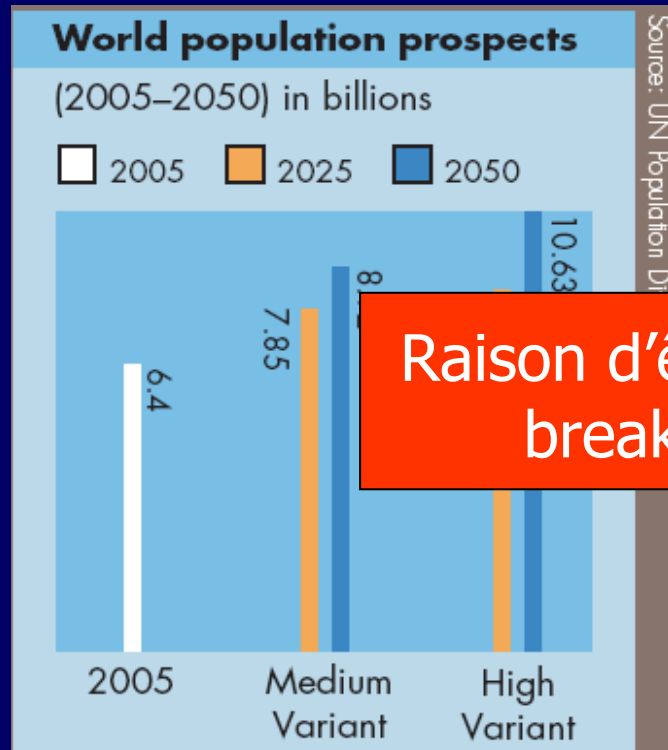
- TU Delft: an overview
- Raison d'être: driven by urban global societal needs
- Case for action and many challenges ahead
- Strategy process facilitating the paradigm shift to European and Global networks
- Networks and talents are key
- Course of action: success factors, boundary conditions and reasons for concern
- No time to spare: commit and double up speed

TU Delft - characteristics



- Driven by **demands of society**
- Well known profile **brand name**, campus and facilities
- Excellent (international) **ratings**
- High **International reputation** on Research and Education
- Strong (mono) **disciplines**
- 11 focused **multidisciplinary research** themes (DRC)
- Founded in **1842**
- Eight faculties
- **14 BSc, 38 MSc** programmes
- **13,000** students, Academic staff of **2,100** (including 200 professors)
- Annual budget **480M€**, incl. **78M€** ext.
- **220** PhD dissertations annually
- **6,500+** annual publications in scientific journals

Explosive growth world population



Raison d'être: fast technological breakthroughs needed!

- Explosive growth world population 2005-2050

+

- Environmental issues

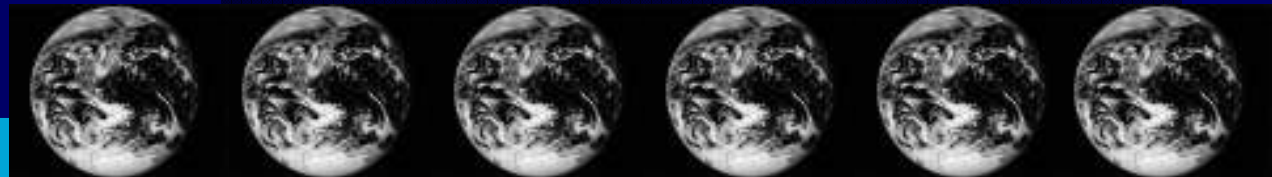
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consumption

=

- 6 x planet Earth resources needed!

Source: UN/Shell, 2005/6



Case for Action for Europe

- **Sustainable** society at stake
- A global arena, **rate of change**
- Future of knowledge transfer, **fluidity** of knowledge
- Knowledge and innovation transfer **paradox**
- University **brands under pressure**: reactive modes do not suffice

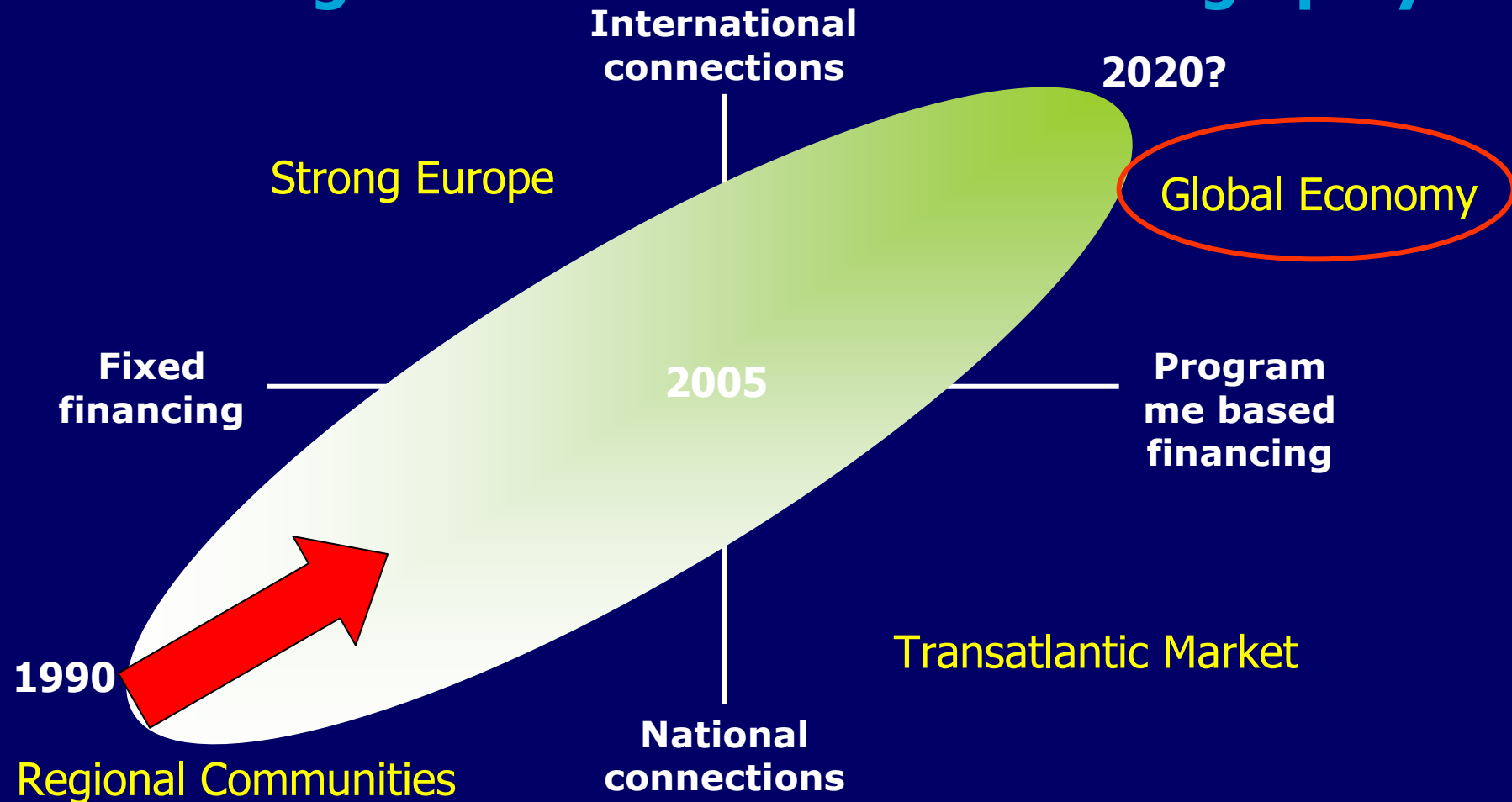
***Challenge for universities:
to move from the exclusive model
to the inclusive model***

Action supported by strategy process: European networks take central stage

- Based on global societal needs, built on strong knowledge pillars, **explicit strategic focus**: Energy, Environment, Infrastructures and logistics, Health
- Supported by ext-, internal community: **mobilising resources, funding and governance**
- Guided by inspiring, challenging **talented** academic leadership

**Effective European collaboration is critical:
Knowledge triangle networks,
with strong individual nodes**

Macro-economical development 2004-2040: Positioning TU Delft as world knowledge player

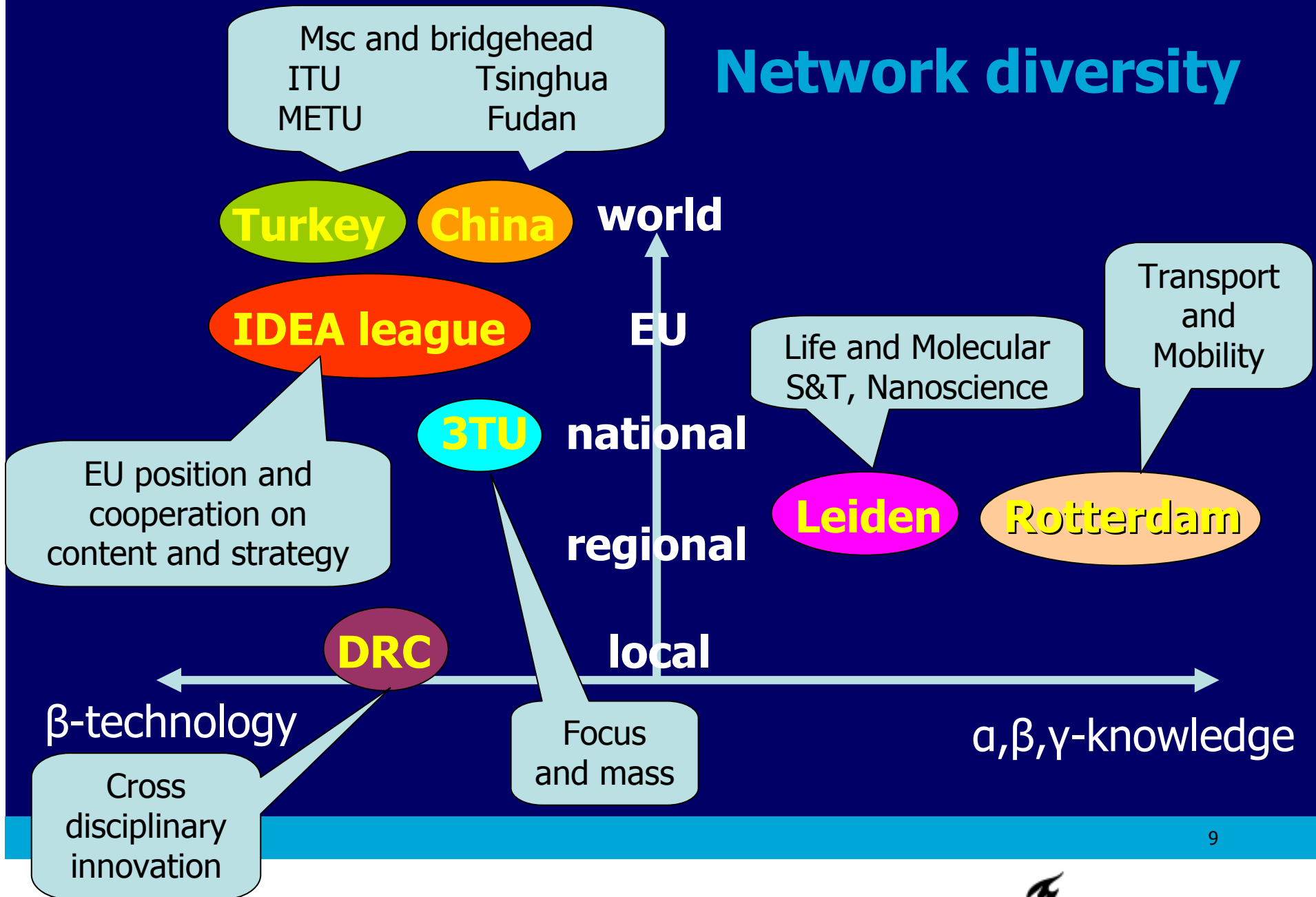


Notion of preferred networks

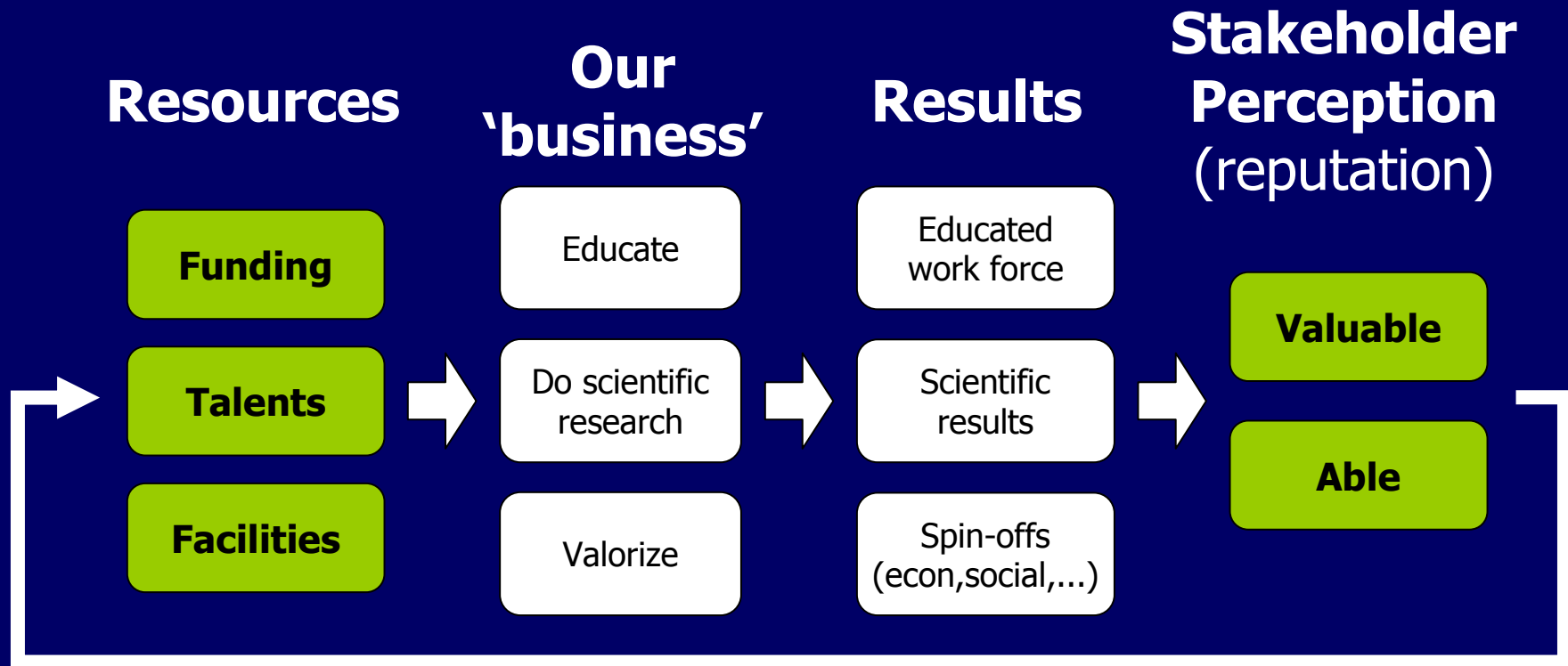
- Need to create **leverage**
- See and be seen: relevance, excellence and **reputation**
- **Different focus / levels** of networks, no “1-size fits all”
- Based on shared values and **trust**

**Adding value in
Netherlands, Europe, worldwide**

Network diversity



Maintaining a self sustaining 'business' loop



The network is the talent pool "machine", where talent attracts talent

TU Delft in IDEA League: getting ready for EIT/KIC

- Active in EIT, ERA-discussions, ESFRI; fostering **exchange** of talents and knowledge, eliminate unproductive barriers
- Sharing **best practices**, **focussing** on major themes
- IDEA league EU-proposal "a **pilot** project for cooperation between European institutes of technology"
 - Imperial College London, United Kingdom
 - TU Delft, The Netherlands
 - ETH Zürich, Switzerland
 - RWTH Aachen, Germany
 - Paris Tech, France

**Ready & able to contribute to European
knowledge & innovation communities**

University governance principles

- Based on **public values**
- Autonomy and accountability
- Less law, more contracts, more sincere **understanding**
- Funding of education, research and facilities with **long term perspective**

**Guiding and guarding:
“Trust and Verify”**

Critical success factors

- Sense of **urgency**
- **Shared** values and trust
- Daring and attractive **perspectives**
- Attract, select and foster **talents**
- Creative **environment**

Inspiring academic leadership
Shared action by government, university,
industry partners

Critical success factors in networks

Beware of:

- Complex **processes**: e.g. visa
- Complex **regulations**: e.g. joint degrees
- Complex **governance**: e.g. national – EU
- Complex **cultures**: on all levels: officials – staff – students

Pay attention to:

- **Bottom-up / Top-down**: continuous leveraging university position and contacts of academic individuals
- Strong **content and quality**
- Extending the **chain**: - Education - Research - Valorization - Organization
- “**More sizes** to fit all various dimensions”
- High alert **antennas** in rapidly changing arena
- Trustworthiness and **trust**: time to grow

Boundary conditions and concerns

What is **needed**:

- Consistent, **long term** oriented boundary conditions
- **Government** as chief **enabler**
- **Private sector** as essential **partner**

Reasons for **concern**:

- Higher education structurally **underfunded**
- **Unstable** research funding universities/ funding influenced by political goals – changing strategies
- Difficulties in creating long term significant **partnerships** with industry/ public sector
- Is programme competition driving **short term focus??**

Not time to spare!

**There are many external and internal drivers for change,
and many good studies and reports analysing this
and the options for action**

**If we are serious about a competitive research and
learning environment in Europe...**

**All EU stakeholders need to commit
and double up speed**