

Micro-Innovation

Expertise in a Toolbox Format



The Use of Innovation Platforms

UNIVERSITY

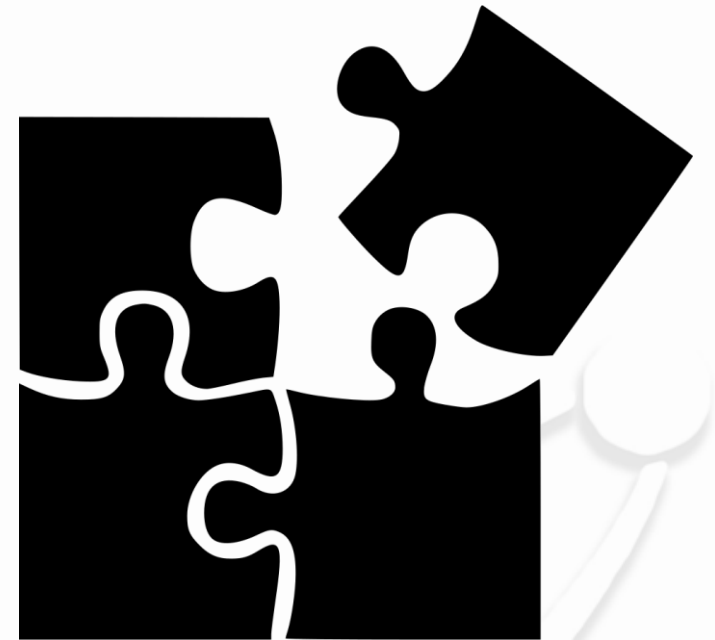
Who Am I?

- **CEO of the Danish industry portal LINX**
- **Mediator-organization, industry/academia**
- **Industrial use & implementation of research tools using X-rays and neutrons**
- **Supported by the Innovation Fund Denmark 2016-2021 (ca. 6.3 M.€)**
- **16 companies, 9 knowledge institutions, 3 technological institutes, 3 sponsors**



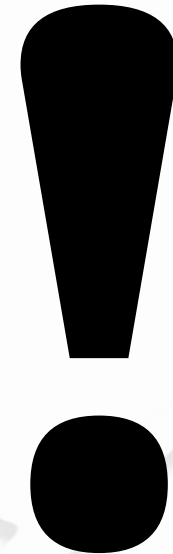
LINX Characteristics

- **Everything from micro-SMEs to giants**
- **“Factory floor” at three Danish universities (Copenhagen, Aarhus, DTU)**
- **Special efforts on helping SMEs**
- **Operates as an innovation platform**
- **Strong focus on outreach and promotion**



Fun Facts on SMEs in Denmark

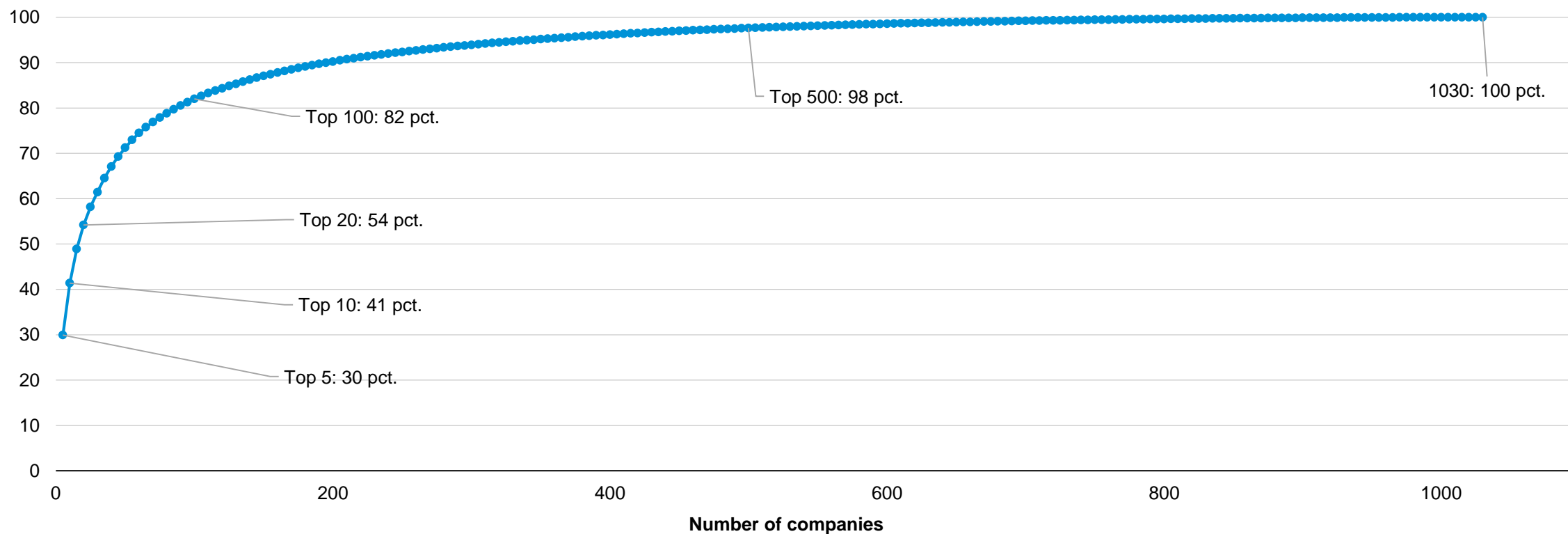
- Rarely motivated to use research expertise
- Carry <10 % of all corporate spending on research in Denmark
- Poor access to academic expertise
- Many face very simple (yet crippling) challenges
- Hard for them to navigate the public innovation system



Few DK Companies Carry Almost all Research

Corporate research investments and their share of total private research investments/expenditure, 2018

Pct. of private research/development



Basis: Public DK funding landscape 2020



- **The Innovation Fund Denmark dominates all:**
 - Major program for industry/academia (>0.4 M.€)
 - Small program for research-startups (<50 k€)
 - Special program for agriculture
 - Special program for international collaboration
 - Programs for corporate-Ph.D./Postdocs
 - One program (“Innobooster”) for everything else
- **Anyone spots the issue?**

The Hole in the System

- The system favors major projects and startups
- Innobooster is useful but hugely overloaded
- Simple, small-scale projects face hard odds
- Yet, the innovation width & range of “small-scale” by far exceeds large innovation projects

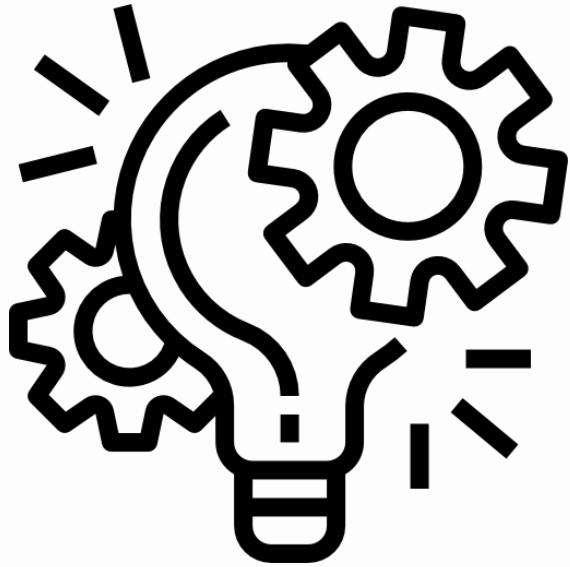


Micro-Innovation Seen from LINX

- De-risking simple, practical challenges “here and now”
- Counterpart to big, long-term public-private innovation investments
- Deliberately: Only 1 step up in TRL
- Easy for all partners to get started in



Some Project Examples



- Increase the production speed of packaging machines
- Validate materials for water treatment systems
- Describe mineralization in heat exchangers
- Map fiber networks in stone wool
- Track and model water ingress in plastics
- Visualize barrier protections in semiconductors
- Qualify antibiotic diffusion in hospital products
- Develop business potential of bio-char from pyrolysis
- Model internal mechanisms in medical equipment
- Etc.

Fail Fast, Fail Cheap

- Small scale projects are quick
- Small scale projects are low-budget
- Quick decisions on “what works”
- Low costs of failure
- Dynamical adaptation to company needs



The Essence of an Innovation Platform



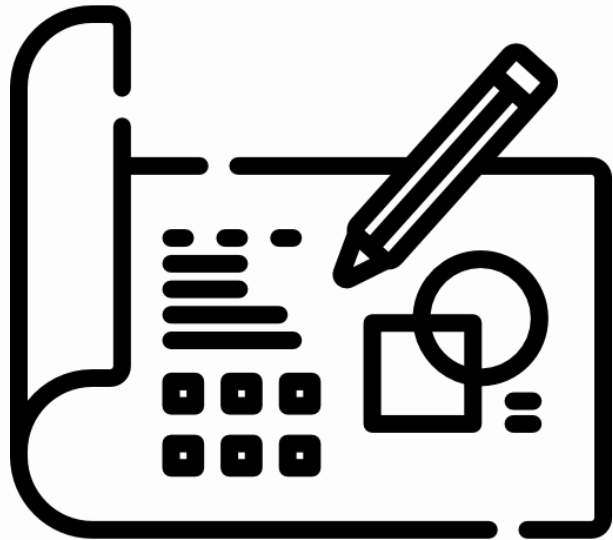
- A micro-cosmos for private-public collaboration
- Experts, consultants, mediators
- Fast-track to co-financed projects
- NOT just guides or advisors
- A neutral third party
- Has a fixed collaboration agreement

Defining Properties

- **High scientific expertise within its theme**
- **Short projects**
- **Relatively small budgets**
- **Sensible levels of co-financing**
- **TRL steps: ONE level up**
- **Very close contact to funding body**



The Prototype LINX



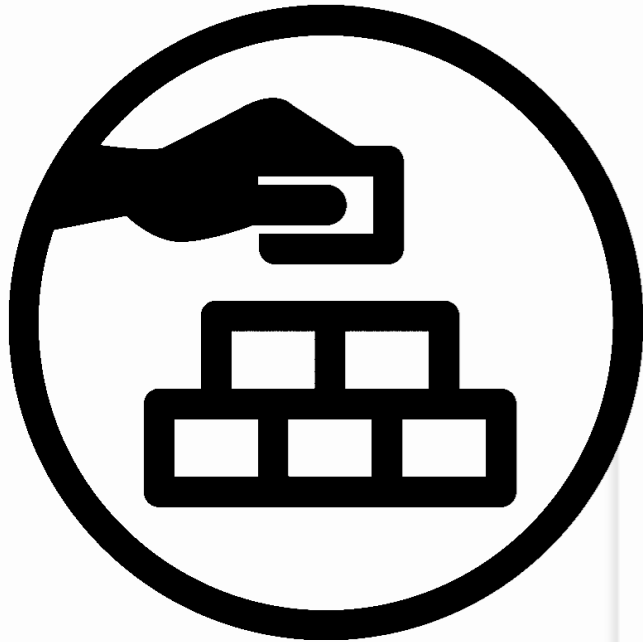
- LINX has been a “living lab” for a possible shape of an innovation platform
- Key take-aways:
 - It is all about de-risking
 - Good with a broad scope (umbrella theme)
 - Stimulate network building
 - Focus strongly on outreach and storytelling
 - Linear thinking “from research to invoice” should be avoided

What Has LINX Taught Us?

- Extremely useful with combined consultants/mediators
- Close contact to funding body is imperative
- MUST offer some funding access scheme
- MUST involve itself in every project
- Careful dissemination/outreach is paramount
- Scientific skill is essential ("what can be done?")



What's Next for Us?



- **Summarize the impact of LINX to the Innovation Fund Denmark:**
 - Value creation in individual projects
 - The role of LINX, as it developed
 - Strategic learnings on mediator role
 - Advise on “do”s and “don’t”s for future platforms
 - Clarify value propositions to companies
– what make them engage?

Is There a Recipe?

- Find a funding source (!)
- Establish a thematic innovation platform to engage with companies (base grant)
- Locate university powerhouses in the theme
- Hire a person into the platform with
 - High scientific expertise within the theme
 - **STRONG** outreach/dissemination abilities
- Seek out companies, present possibilities, identify advantages, develop collaborations

