10 rules for technology transfer in wind energy

Swiss Wind Energy R&D Network 2022 Networking Event
Presented Online
11 July 2022
Overview

1. Technology transfer in wind energy
2. The process of technology transfer
3. Rules for innovators
4. Rules for enablers
5. Rules for early adopters
Technology transfer in wind energy

Some rules for technology transfer in wind energy
Growth brings challenges

The global energy transition brings major challenges for wind energy:

- 10% year-on-year growth in installed wind energy capacity
- Electrical grids with very large amounts of variable generation
- Price pressure across the sector

*Wind energy needs to keep innovating.*
1000s of opportunities for innovation

- Wind turbine technology
- Operations & maintenance
- Grid integration
- Hybrid power plants
- Floating substructures
- Blade repair
- Logistics
- Transmission
- Battery
- Mooring lines
- Power2X
- Offshore operations
- Distribution
- Marine animal monitoring
- Lifetime extension
- Crew transfer
- Cable technology
- Active bird & bat management
- Installation noise reduction
- Recycling
- Forecasting
- Radar interference
The process of technology transfer
An example – floating lidar

1. Research projects (2000 - )
Research into floating systems, buoys, wind energy, wind lidar, etc.…

2. KIC InnoEnergy - Neptune
Development of a floating lidar system

3. EOLOS Buoy (2012)

4. EOLOS FLS200 (2022)
From www.eolossolutions.com/product/ 8th July 2022
How innovations reach users

Some rules for technology transfer in wind energy

Contract research

Internal R&I

Knowledge transfer

Industry

R&I organisation

spinoffs

publications

people

services

products

Technology Transfer

Industry

networks

R&I organisation

R&I organisation

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Why innovations are successful

Socioeconomic landscape

Market need

Innovation

“The window of opportunity”

- Right technology
- Right capabilities
- Right market conditions
Startups power technology transfer

Turn ideas, IP, and expertise into products and services
- Move fast
- Less constraints
- Easier access to capital
- Can license technology from R&I organisations

But researchers can lack business skills
The main parties

R&I organisations
- Tech transfer is a KPI
- Attracts researchers
- Generates income

Innovators
- Gives research context
  - Startups allow independence

Early adopters
- Fixes pain points
- Gives competitive advantage
- Helps recruiting

Enablers
- Increase return on government funding
- Develop national or regional competencies
  - Support economic growth
Rules for R&I organisations

Some rules for technology transfer in wind energy
Rules for R&I organisations

1. Encourage and support all forms of technology transfer

Mentoring can help maintain motivation and link innovators to the support they need

Collaborative research builds links to industry. Researchers find out what users need, while industry can help R&I organisations build capabilities

Student events and training build skills and raise awareness of startups as a career choice
Rules for innovators
Rules for innovators

1. Build a demonstration
2. Talk to even more potential customers
3. Build a team

Which is easier for customers to understand?

"It's windy"

Something they've heard about:

Something they've read about:

Something they've experienced in context:

12.5 m/s
Rules for innovators

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“A good group needs a leader, a social secretary, a storyteller and a mixture of introverts and extroverts. Intriguingly, by far the most important role seems to be that of the clown.”

Rules for enablers

Organisations working to support technology transfer

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Rules for enablers

4. €10k makes a difference
5. Fill the funnel
6. Reach out

€10k can get things moving:

- 2 months of a PhD researcher's salary: an EXIST proposal
- 3-6 months of living costs: a demo
- 3 conferences over a year: traction

...but it needs to be easy to apply for, and decisions need to be quick!
Rules for enablers

4. 10k makes a difference
5. Fill the funnel
6. Reach out

The more people that start the race, the more will finish it.
Rules for enablers

4. 10k makes a difference
5. Fill the funnel
6. Get the word out
Rules for early adopters
Rules for early adopters

7. Speed matters
8. Be partners
9. Be realistic
Rules for early adopters

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9. Be realistic

Your company's policies are probably not startup-friendly. Be ready to help both sides.
Rules for early adopters

7. Speed matters
8. Be partners
9. Be realistic

Be ready for things not to work, to take too long, or for unicorns to be donkeys in disguise …
Closing
10 rules for technology transfer

1. Encourage and support all forms of technology transfer
2. Build a demo
3. Talk to (even more) potential customers
4. Build a team
5. 10k makes a difference
6. Fill the funnel
7. Get the word out
8. Speed matters
9. Be partners
10. Be realistic
Join us and make a difference

Our mission: Induction Zone helps early-stage startups to get traction, and enables industry to find and adopt the innovations they need.

Check out bit.ly/inductionzone or contact induction.zone@enviconnect.de for more information!