# OECD Responsible and agile governance of Emerging Breakthrough Technologies

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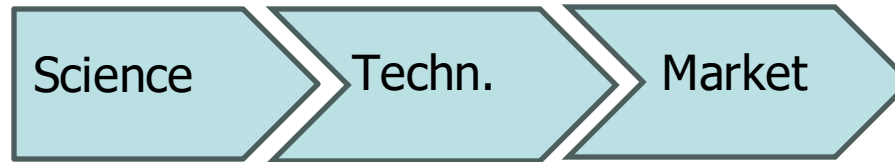**T**U Delft — Delft University of Technology

Challenge the future

# Informing and policy cycle effective governance along the innovation journey
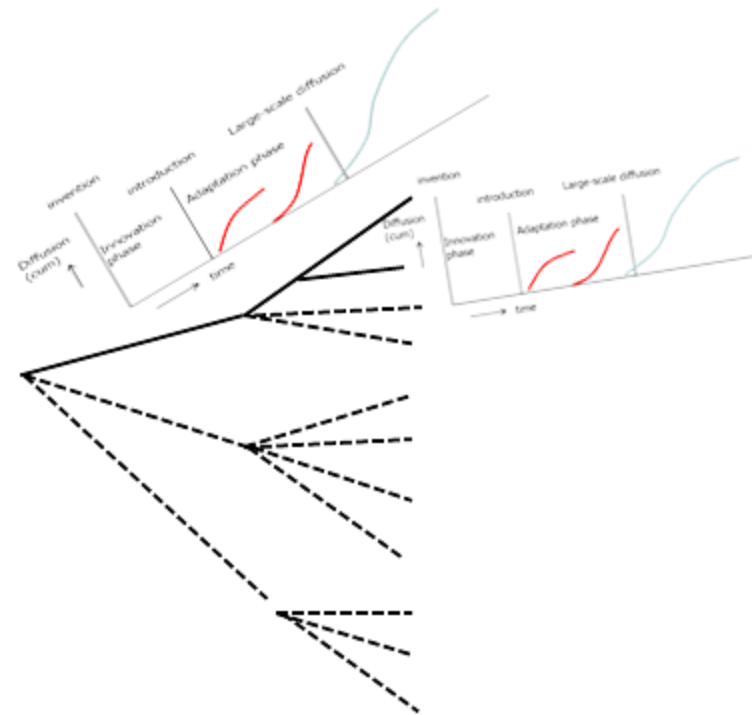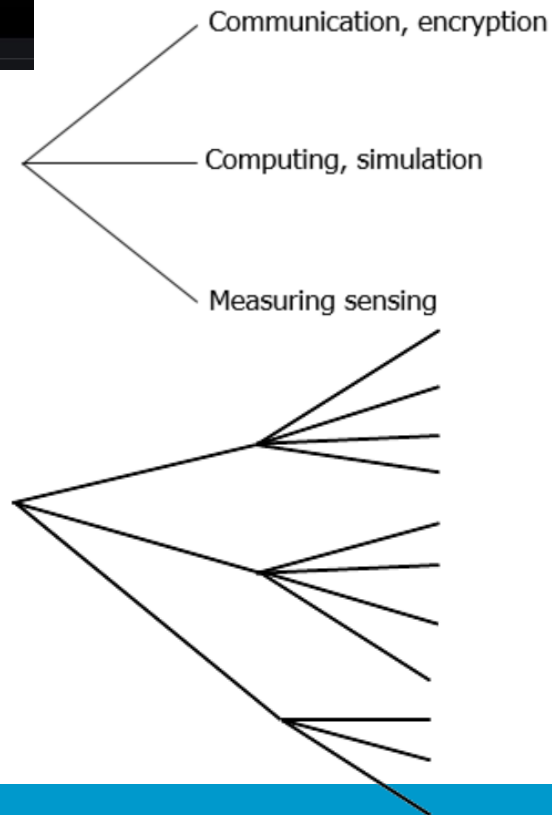
## Five steps

1. Innovation journey: Science-Technology-Market
2. Science to Technology
3. Technology to Market
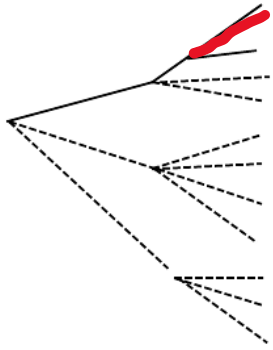4. Implications for strategy and policy
5. Advice

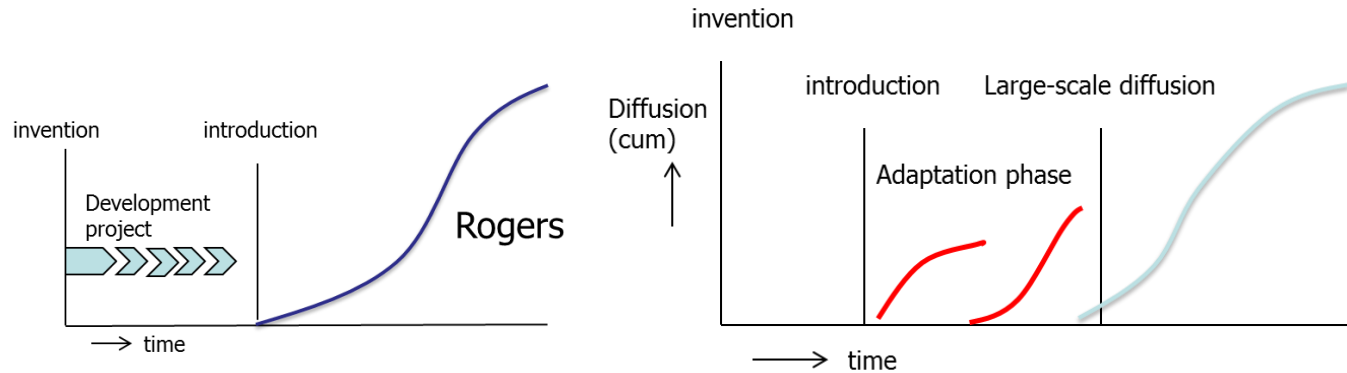# Ad 1. Innovation journey: Science-Technology-Market

# Ad 2. Science to Technology: family of technologies

# Ad 3. Technology to Market

**Life cycle vs Evolutionary model**

invention

introduction       Large-scale diffusion

Diffusion (cum)

Adaptation phase

invention       introduction

Development project

Rogers

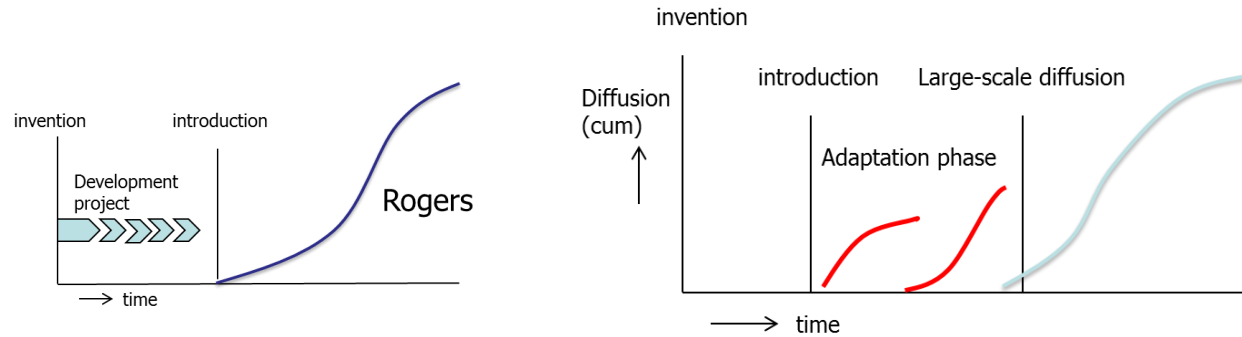time

time

What companies, institutions and scientists underestimate is the early phases

Niche applications in the adaptation phase:
specific technological innovations for small segments of users

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# Ad 4. Implications for strategy and policy



| Consequences | | |
|---|---|---|
| Company strategies<br>- Expectations<br>- Goals<br>- Performance metrics | Managerial perspective<br>- Project = innovation<br>- Success = diffusion<br>- Mainstream market | Entrepreneurial perspective<br>- Experiment<br>- Build-up knowledge<br>- Start in niche market |
| Policies | Policy life cycle<br>- Early standards<br>- Time horizon: few years | Policy agility<br>- Timing is crucial<br>- Experiment<br>- Build up socio-techn system |
| | | |

# Ad 5. Advice

1. ## System perspective
   - Matching the evolutionary perspective and beyond
   - Explaining what is needed for start large-scale diffusion
   - Basis for strategy formation (niche strategies fitting context)
   - Basis for policies and institutional intervention

2. ## Disruptions
   - Event is not sudden
   - There are more
   - You can analyse them (to some extent)

3. ## Multi-technology perspective
   - Science has a technology focus
   - Missions look at a goal that can be obtained by different technologies

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