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# WHAT'S THE MATTER OF KNOWLEDGE REGIONS FOR GRAND CHALLENGES ?

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## Socio-economic paradigm

- Knowledge economy / society

## Development paradigm

- Economic development achieved through knowledge-based innovations

## Research and policy matter

- Knowledge as an explicit research and policy issue to foster competitiveness

## General research and policy question

- How to make knowledge more intensive

## Public direction of knowledge generation and use

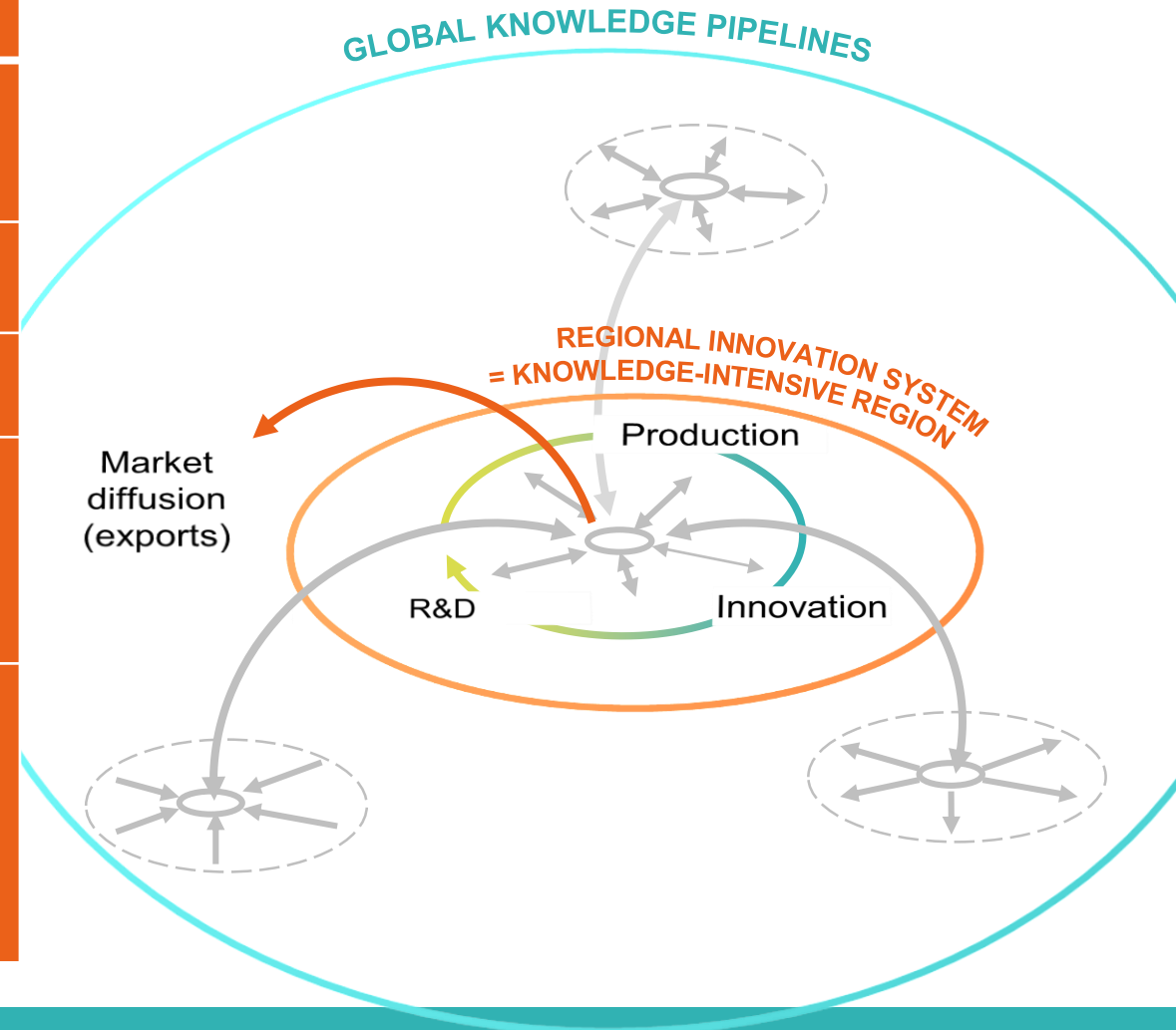
- No explicit public direction
  - Scientific curiosity, exploration
  - Economic competitiveness driven by external market selection

**Focused on how to generate, use and share more knowledge in economic processes (knowledge-intensity paradigm)**



# OUR HERITAGE: KNOWLEDGE-INTENSIVE REGIONS

	COMPETITIVE KNOWLEDGE-BASED INNOVATION
Socio-economic paradigm	Knowledge economy / society
Development paradigm	Economic development achieved through knowledge-based competitive innovations
<i>Research and policy matter</i>	Knowledge as an explicit research and policy issue to foster competitiveness
<i>General research and policy question</i>	How to make knowledge more intensive → How to generate, use and share more knowledge in economic processes
Public direction of knowledge generation and use	No explicit public direction <ul style="list-style-type: none"> <li>• Scientific curiosity, exploration</li> <li>• Economic competitiveness driven by external market selection mechanisms</li> </ul>



## Socio-economic paradigm

→ Grand Challenges

## Development paradigm

→ Sustainable societal development achieved through transformative innovations

## Research and policy matter

→ Transformative innovations as a focal research and policy matter that implicitly build upon knowledge

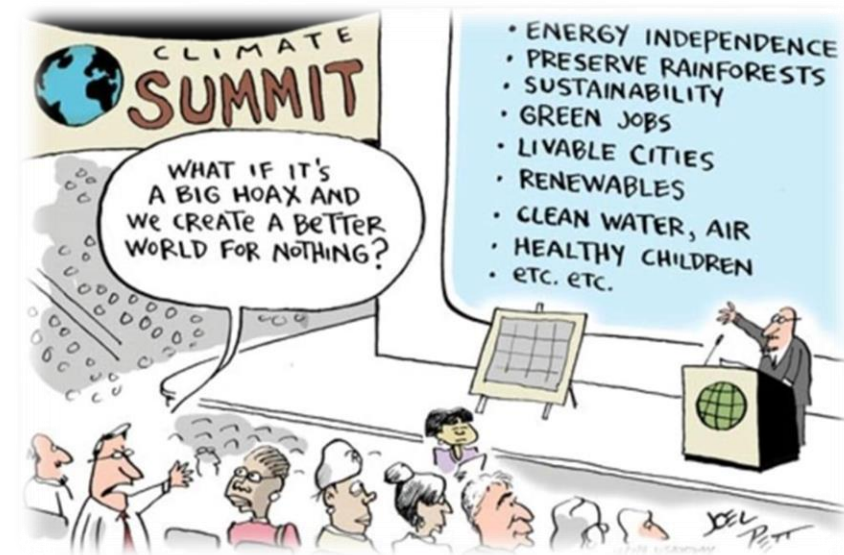
## General research and policy question

→ How to reach sustainable development goals

## Public direction of knowledge generation and use

- Explicit public direction
- Solving an existing problem
  - Societal transformation e.g. reaching the Sustainable Development Goals, challenge-based

**Focused on what to achieve in economy and society ... and when and where (transformative paradigm)**



*Boon et al., 2022; Mazzucato, 2021; Boon et al., 2020; Coenen & Morgan, 2019; Morgan, 2018; Schot and Steinmueller, 2018; Flanagan et al., 2022; Tödting et al., 2022; Uyarra et al., 2019; Truffer and Coenen, 2012; Truffer et al., 2015; Hansen and Coenen, 2015; van Winden and Carvalho, 2019; Miörner and Binz, 2021; Boschma, Frenken and Truffer, 2017; Grillitisch and Hansen, 2019; Gong et al., 2022*

# THE NEW AGENDAS (THEORY, PRACTICE, POLICY)

	COMPETITIVE KNOWLEDGE-BASED INNOVATION	TRANSFORMATIVE SYSTEMIC INNOVATION
Socio-economic paradigm	Knowledge economy / society	Grand Challenges
Development paradigm	Economic development achieved through knowledge-based competitive innovations	Sustainable societal development achieved through transformative innovations
<i>Research and policy matter</i>	Knowledge as an explicit research and policy issue to foster competitiveness	Transformative innovations as a focal research and policy matter that implicitly build upon knowledge
<i>General research and policy question</i>	How to make knowledge more intensive → How to generate, use and share more knowledge in economic processes	How to reach sustainable development goals → What to achieve in economy and society ... and when and where
Public direction of knowledge generation and use	No explicit public direction <ul style="list-style-type: none"> <li>• Scientific curiosity, exploration</li> <li>• Economic competitiveness driven by external market selection mechanisms</li> </ul>	Explicit public direction <ul style="list-style-type: none"> <li>• Solving an existing problem</li> <li>• Societal transformation e.g. reaching the Sustainable Development Goals, challenge-based</li> </ul>

# WHAT'S THE (NEW) MATTER(S) OF KNOWLEDGE TODAY ?



We need to address the role of knowledge in transformative processes

**With a focus on WHY knowledge matters and HOW it can be actually transformative (transformative knowledge paradigm)**

## Because:

**Knowledge is a crucial performative driver of societal change to be understood and to be promoted (research and policy issue)**

1. *Knowledge is the driver of valuation processes in economy and society (beyond the production of market goods and services)*
2. *Knowledge should be produced in perspective of action (to make and not only to think)*
3. *Knowledge should be understood not merely at micro level but also at system level (knowledge to change established institutions)*
4. *Knowledge as political issues (knowledge as political result, politics as knowledge process)*
5. *Future making/thinking*

Transformative knowledge is the **performative driver of societal change**.

It drives transformation by **combining micro- and system-level innovations valued in society** through influential socio-technical settings (technical, economical, cultural and institutional).

It evolves in **participatory multi-actor contexts** including the civil society.

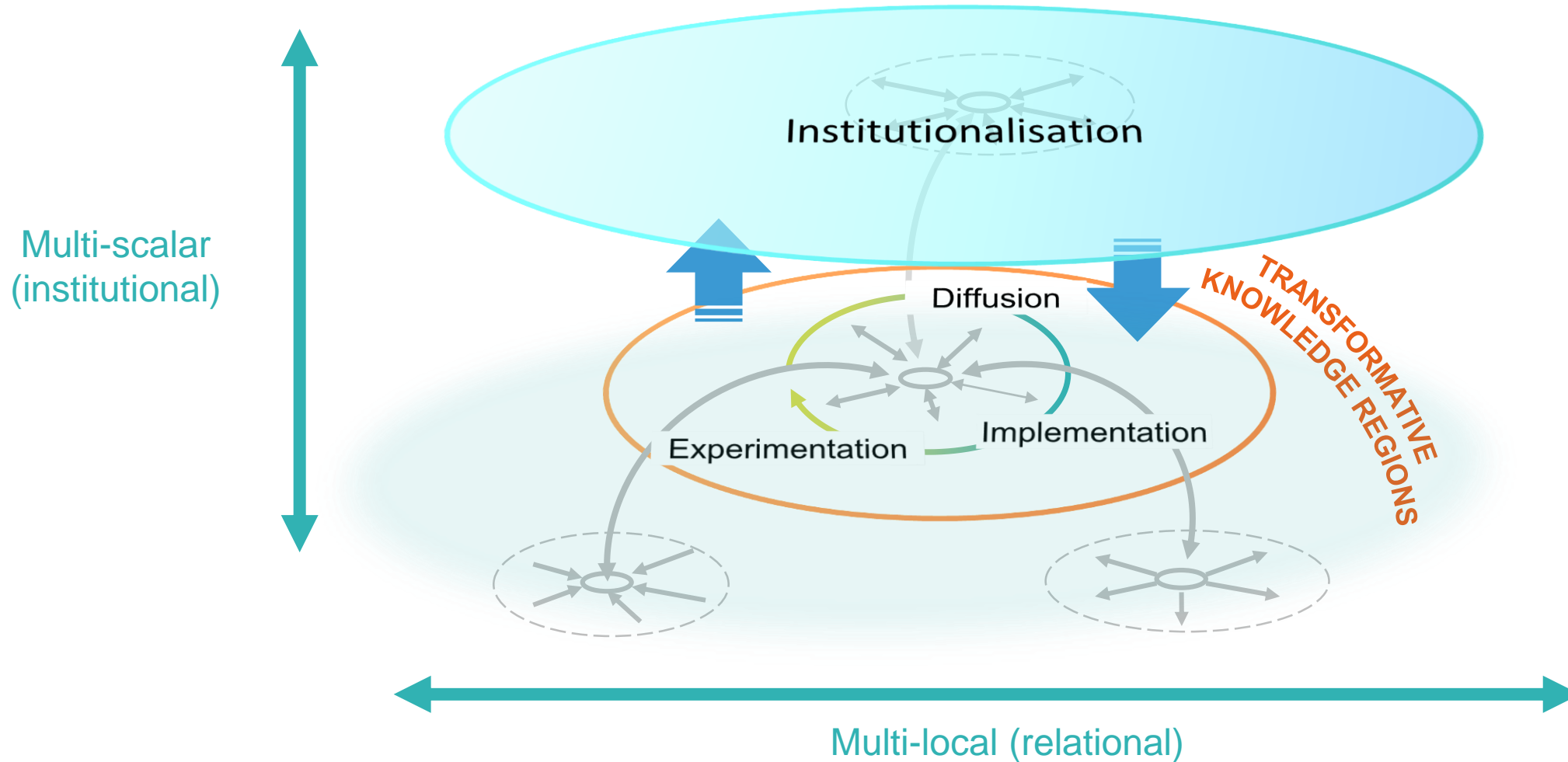
The mode of **knowledge generation is action-oriented** and characterised by **experimenting, implementing, diffusing and institutionalising localises responses to Grand Challenges**.

# OPEN ISSUES FOR REGIONAL INNOVATION RESEARCH AND POLICY

	KNOWLEDGE-INTENSIVE REGIONS	TRANSFORMATIVE KNOWLEDGE REGIONS
Mode of knowledge generation and use?	<p>Scientific discovery</p> <p>Research and development (R&amp;D)</p>	<p>Mission-oriented</p> <p>Experimentation (living labs, real laboratories ), open</p>
How	<p>Cooperative</p> <p>Cumulative (“smart”) specialisation</p> <p>Fundamental/Applied Knowledge</p>	<p>Inclusive and participative</p> <p>Experimental combination</p> <p>Implicated / Implemented knowledge</p>
Knowledge actors	<p>Research and industry with public catalysts (Triple Helix), knowledge-intensive (public and private) services as knowledge mediators and/or sellers</p>	<p>Research, higher and lower education, firms, public bodies, consumers and civil society</p> <p>Diverse (also without science)</p>
Territorial knowledge dynamics	<p>Territories, regional level, local anchoring, multi-scalarity</p>	<p>Placed-based emergence and diffusion as a simultaneous process that is multi-local and multiscalar</p>
Regions	<p>Regions as local-global innovation spaces</p>	<p>Regions as local-global arenas of change</p>



# TRANSFORMATIVE KNOWLEDGE REGIONS



- 1) How, where and by whom is knowledge generated in regional sustainability transitions ?
- 2) What are the distinctive regional features of transformative knowledge dynamics and which (new) knowledge conceptualisations would be useful for studying the types of knowledge, learning and communities that are involved in sustainability transitions ?
- 3) What is the role of and contribution of specific industries and sectors for transformative knowledge creation and broader regional sustainability transitioning ?
- 4) What are the distinctive capacities of the “knowledge ecosystem” driving sustainability transitions in different types of regions ?

