



# Cultivating innovation in our regions

*A guide to  
ecosystems, complexity & resilience*



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Research Group  
Region to Region for Regional Resilience



- Regional innovation systems
- Complexity
- Resilience



Regional  
innovation  
ecosystems

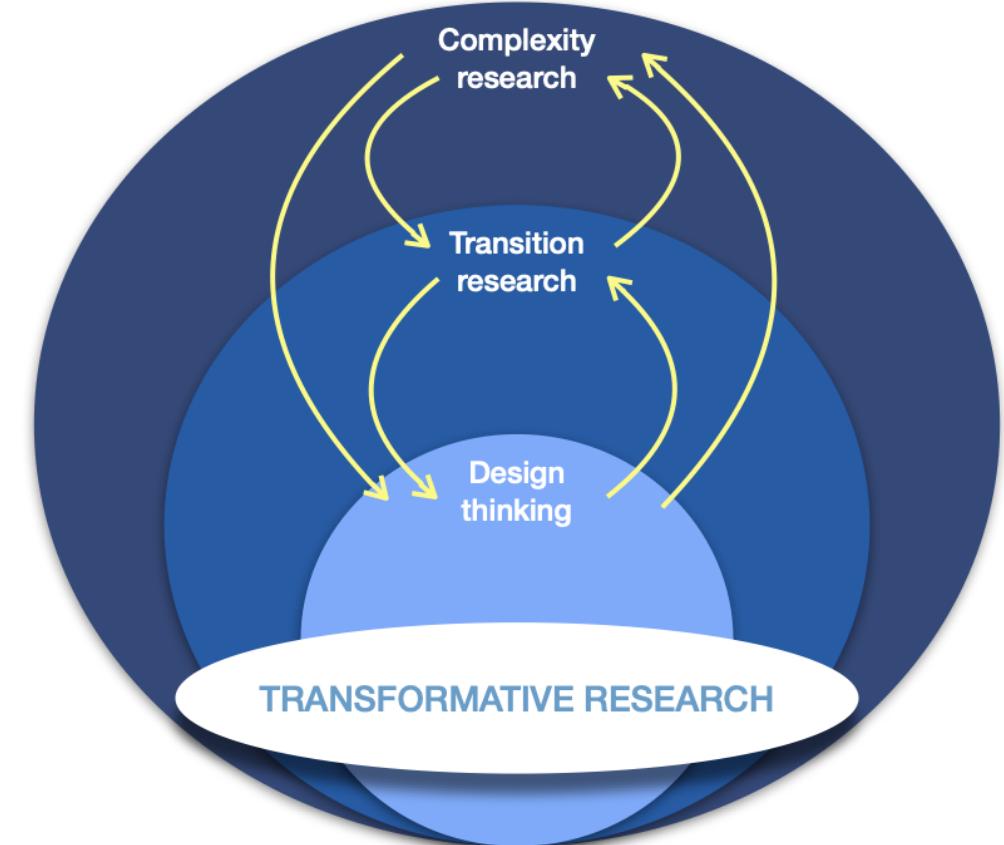
## Regional innovation ecosystems

*...are not mechanical systems but a dynamic, living environment*



## Regional innovation ecosystems

*...are changing because people interact & respond to everything*



# Regional innovation ecosystems

*How do we get everyone on board to work on a common, sustainable future?*

*Invite everyone!*

The multi-helix  
*A quintuple helix*



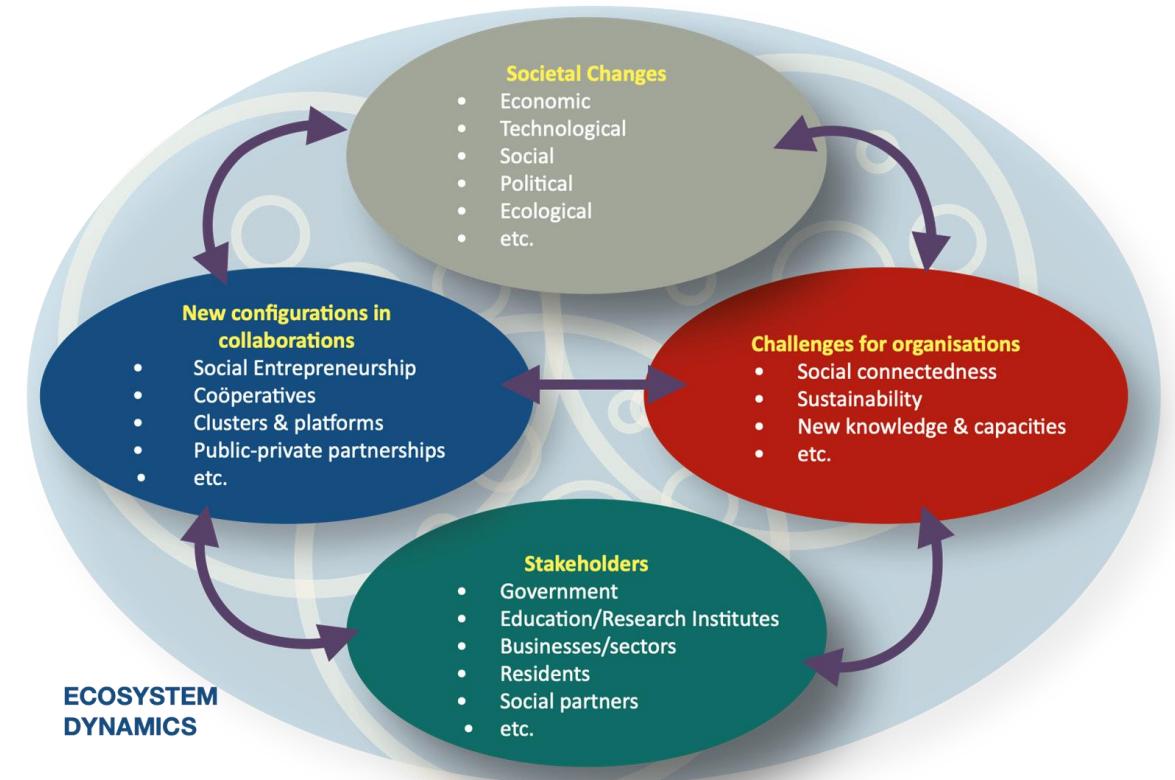
Manickam, A., van Berkel, K., & Foorthuis, W. (2023). *Regions taking the lead*. Marian van Os Centre of Expertise Ondernemen, Hanzehogeschool Groningen.

# Regional innovation ecosystems

*When everyone works together on common (societal) challenges, new forms of collaborations happen, organizations also change...*

*...the ecosystem starts to change!*

*Ecosystems at work*

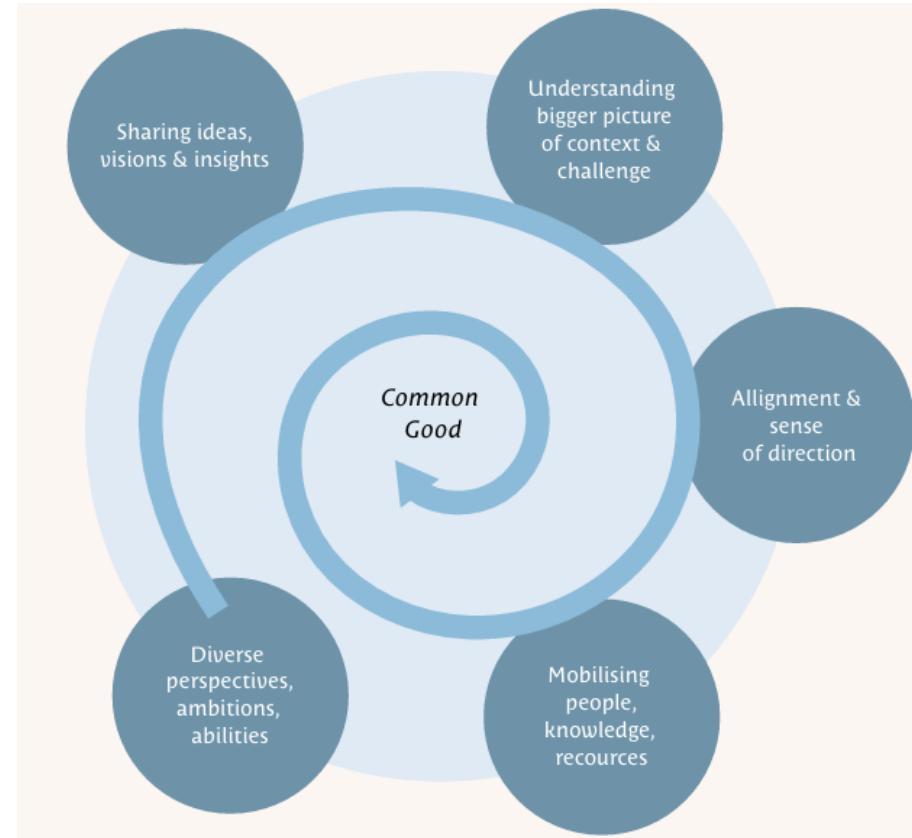


# Regional innovation ecosystems

*solving common societal  
challenges*

*... involves a process of  
collective sensemaking*

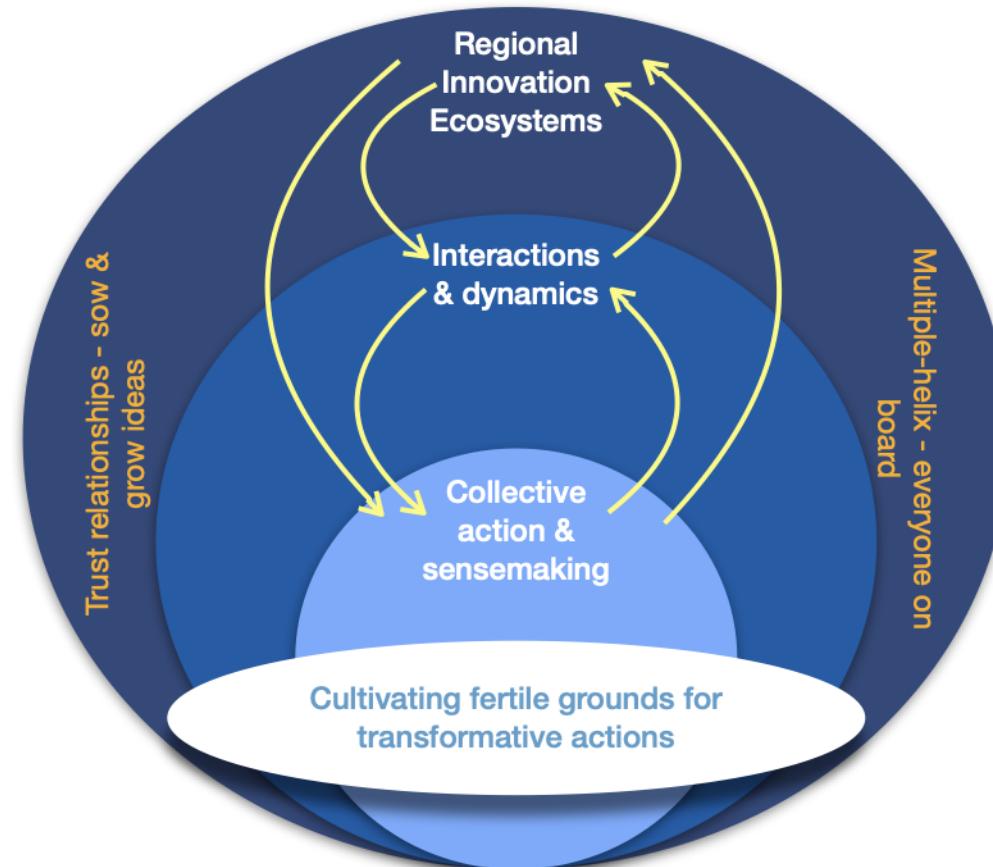
*Working towards Common Good*



Manickam, A., & Van Berkel, K. (2025). *Reclaiming common good: A complex adaptive systems approach for inclusive and sustainable futures*. International Business School & Centre of Expertise Entrepreneurship, Hanzehogeschool Groningen.

# Regional innovation ecosystems

*solving common societal  
challenges*





Embracing  
complexity

## Embracing complexity

*Why? Simple solutions fail when dealing with societal challenges*

### Complicated vs. complex

- a rocket to the moon (need specialists!)
- a lagging region is complex (need multiple actors, ideas & approaches)

### Macro & micro are linked

- global crises plays out in the region & vice versa

### Interconnectedness

- a change in one place affects everything else

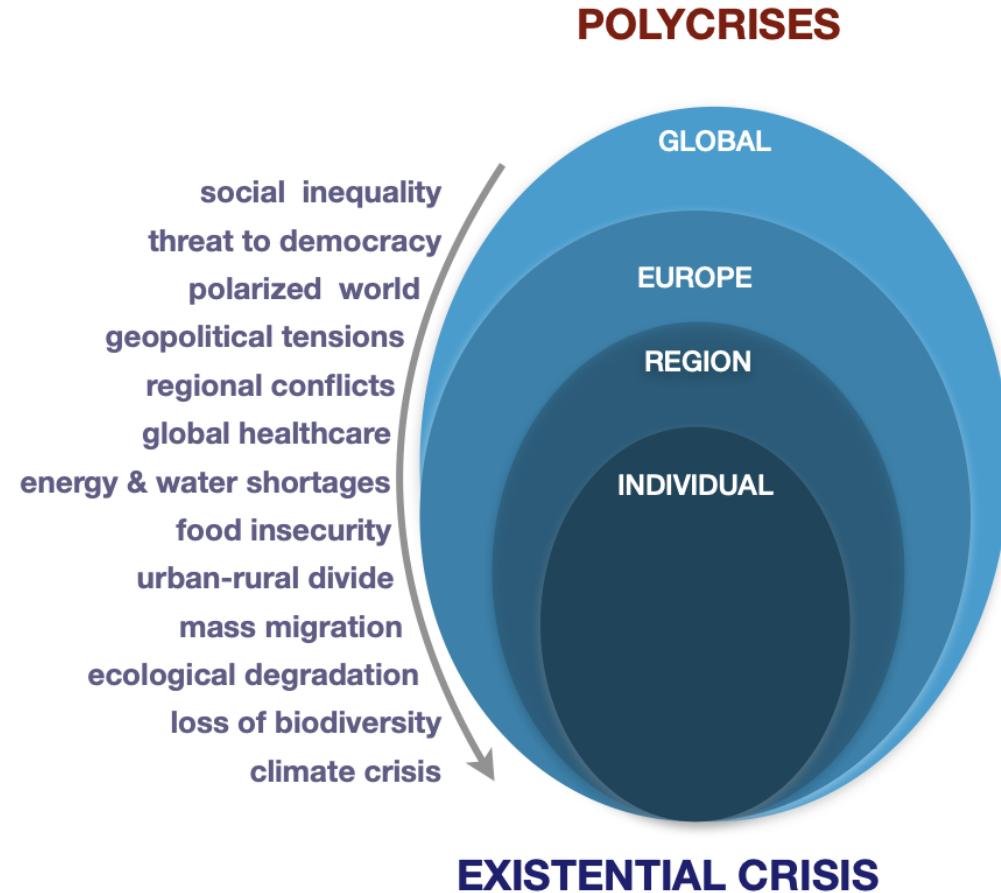
### Transition is difficult

- every partner must change to 'outside-inside' thinking



# Embracing complexity

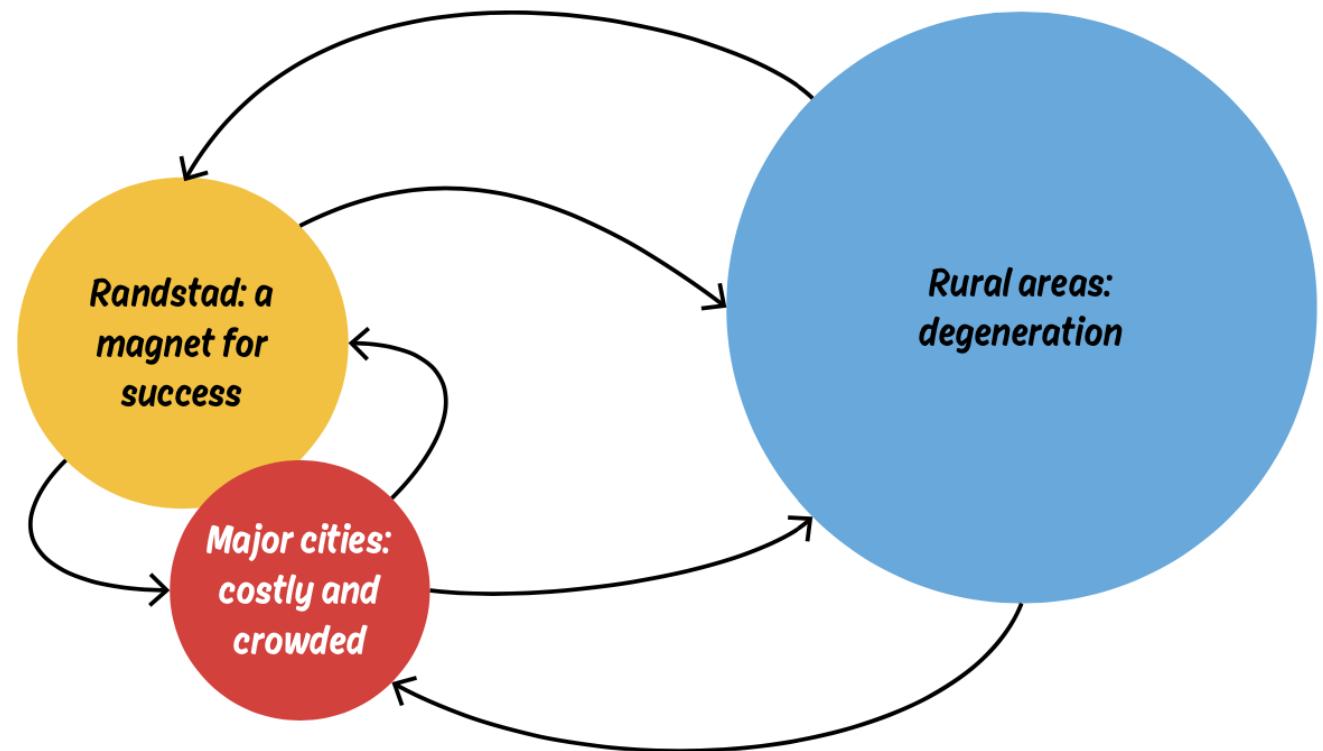
*Interconnected crises at all levels*



Manickam, A., & Van Berkel, K. (2025). *Reclaiming common good: A complex adaptive systems approach for inclusive and sustainable futures*. International Business School & Centre of Expertise Entrepreneurship, Hanzehogeschool Groningen.

## Embracing complexity

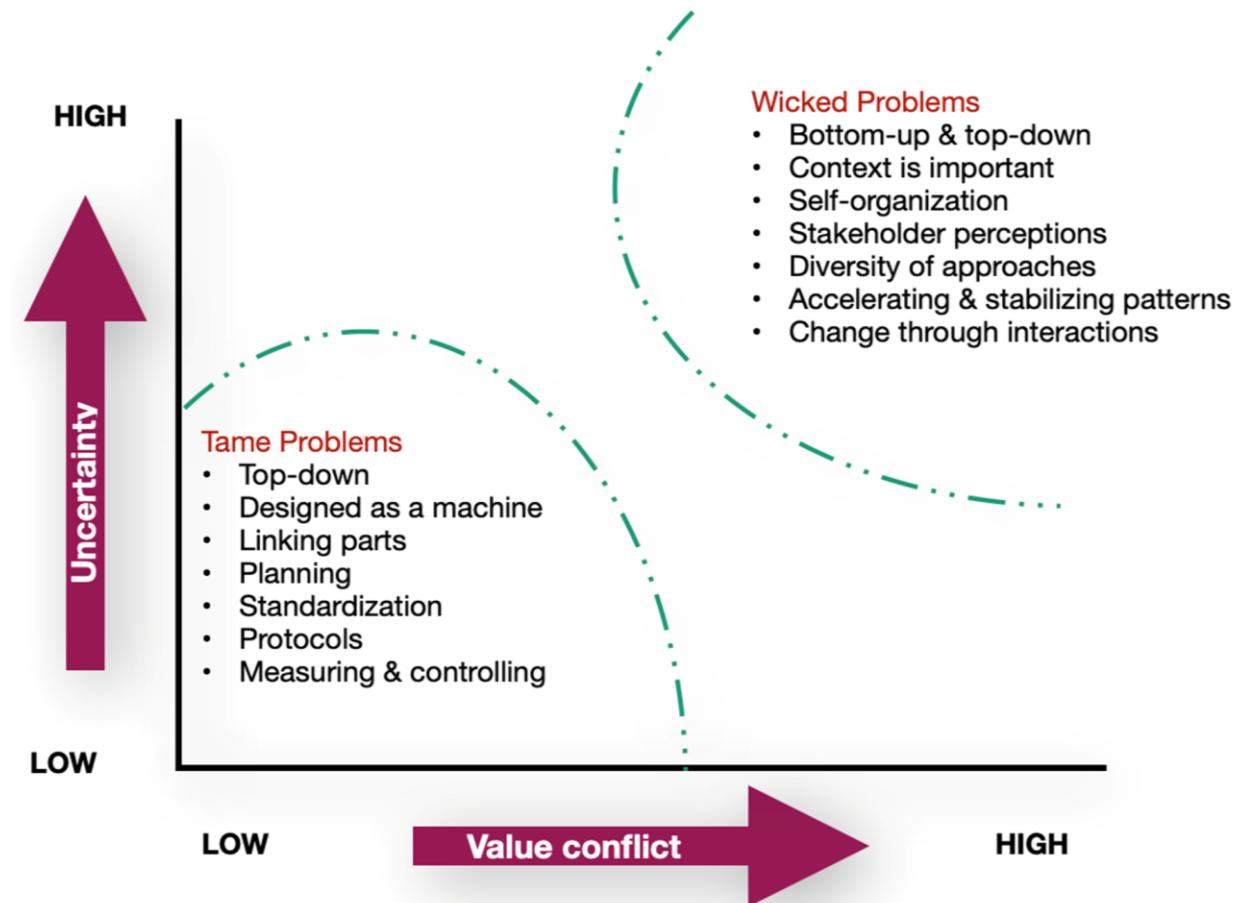
## Interconnected systems



Van Berkel, K., & Manickam, A. (2020). *Wicked world: Complex challenges and systems innovation* (International edition). Noordhoff Uitgevers.

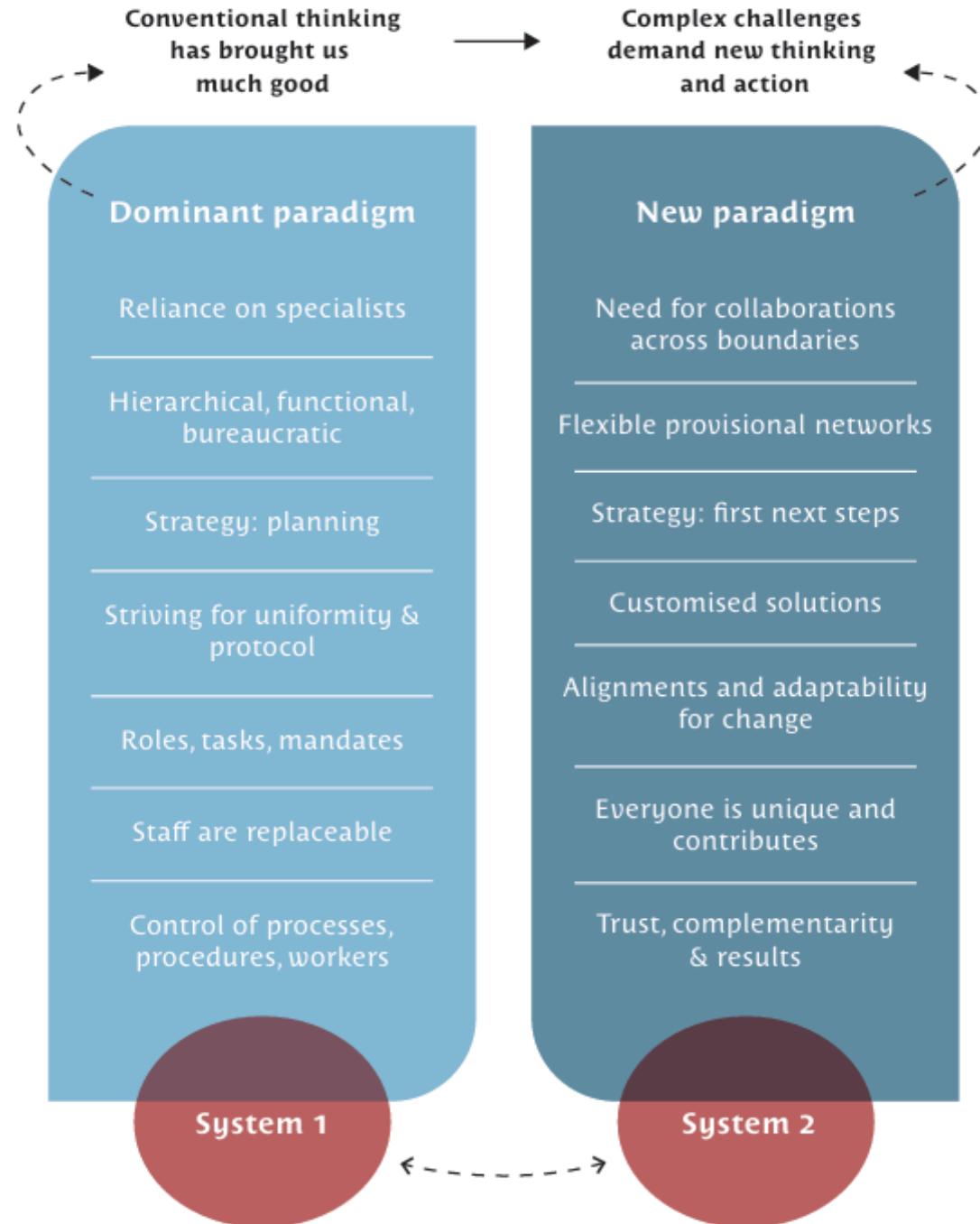
# Embracing complexity

*Different problem,  
different approach!*



# Embracing complexity

*Changing mindsets:  
thinking 'outside-in'*



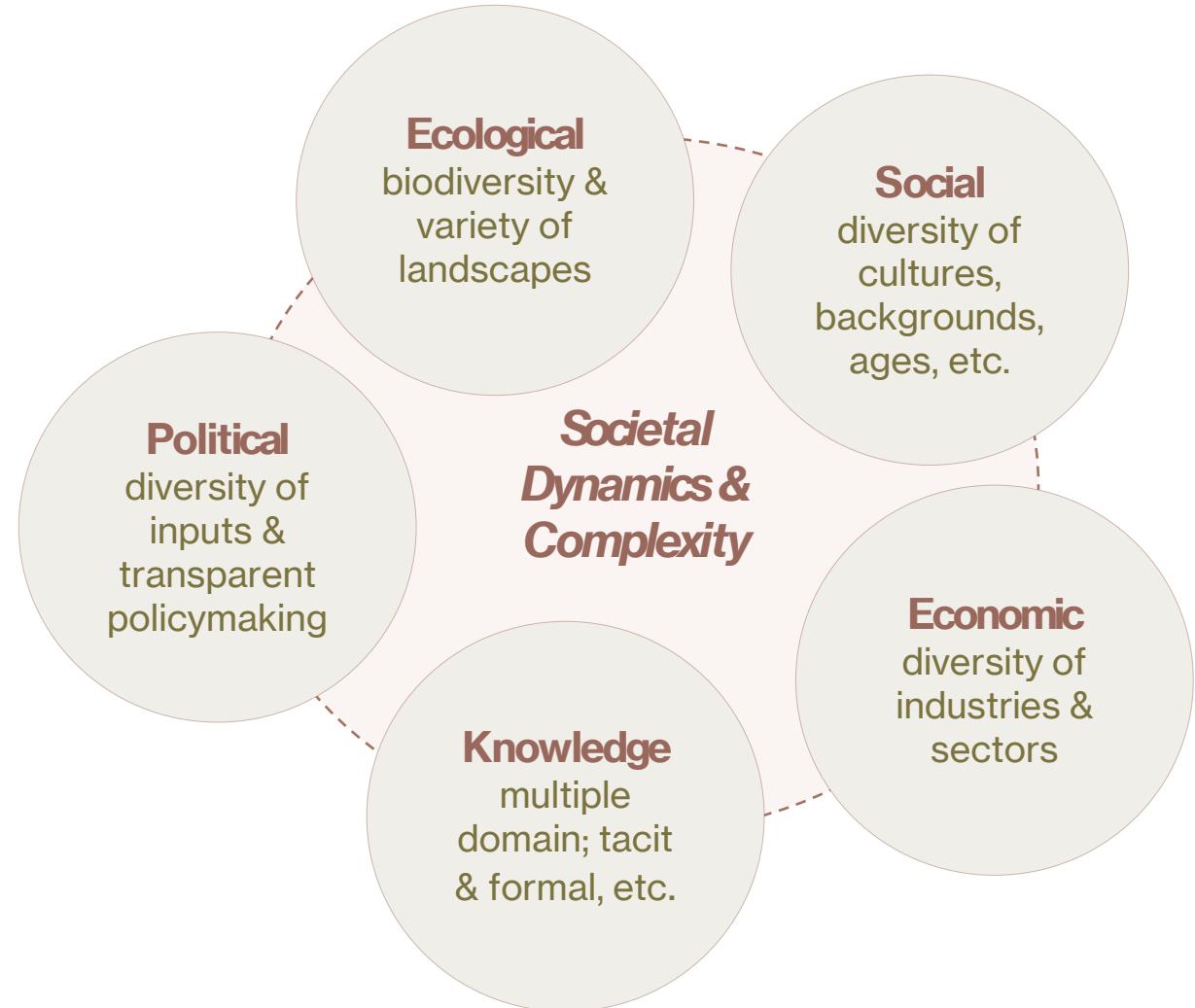


# Building resilience

*bouncing forward, not  
backwards*

# Building resilience

*Diversity is essential*



# Building resilience

## *Adaptive capacity*

- *responsive to challenges*
- *'outside-in' adaptations*
- *investments needed for*
  - *skills, infrastructure & innovation capacities*
  - *flexible, adaptive systems in organizations (System 2)*



## Building resilience

### *Investment in*

- *skills*
- *Infrastructure*
- *innovation*

- Developing human capital (education, training, lifelong learning arrangements)
- Maintaining robust infrastructure (transport, digital, energy)
- Fostering innovation (entrepreneurship, applied & transformative research)
- Equip regions to pivot and recover from disruptions (adaptive governance & leadership)

## Adaptive capacity: System 2 supports outside-in' strategies

Knowledge institutions in transition		Business organizations in transition	
System 1	System 2	System 1	System 2
Stewards of Knowledge	Engaged university	Hierarchical & pyramidal organization	Network organization
Hierarchical & discipline-based	Interdisciplinary & intersectoral networks	Competitive: closed & independent	Collaborative networks: shared, open and interdependent
Focus: knowledge creation/professions	Focus: societal development	Focus on profits, growth & speed	Integral (or broader) focus: economic, technological, ecological & sustainable
Detailed & fixed curriculum	Flexible programmes	Focus on shareholders/ profit-driven: win-lose	Collaboration with stakeholders: win/win
Uniform profile of graduates	Unique graduate profiles	Rational/linear strategic & operational planning	Self-organization based on scenarios, goals, rules & boundaries
Class-based lessons: theory & practice	Practical engagement & focus on applied research, knowledge creation & innovative solutions	Striving for uniformity & standardization	Looking for variety that matches changing contexts
Priority: specialized competences	Priority: transversal skills & use of data & technology	Roles, tasks, authorization and accountability	Alignment, coherence & coordination
Assessment criteria focused on mastery	Assessment focused on effectiveness of interventions	internal systems	Frame of reference: new developments, changing contexts/landscapes
		Control of processes, procedures & workers	Trust, complementarity & results



## Building resilience

*Strong social capital & inclusive governance*

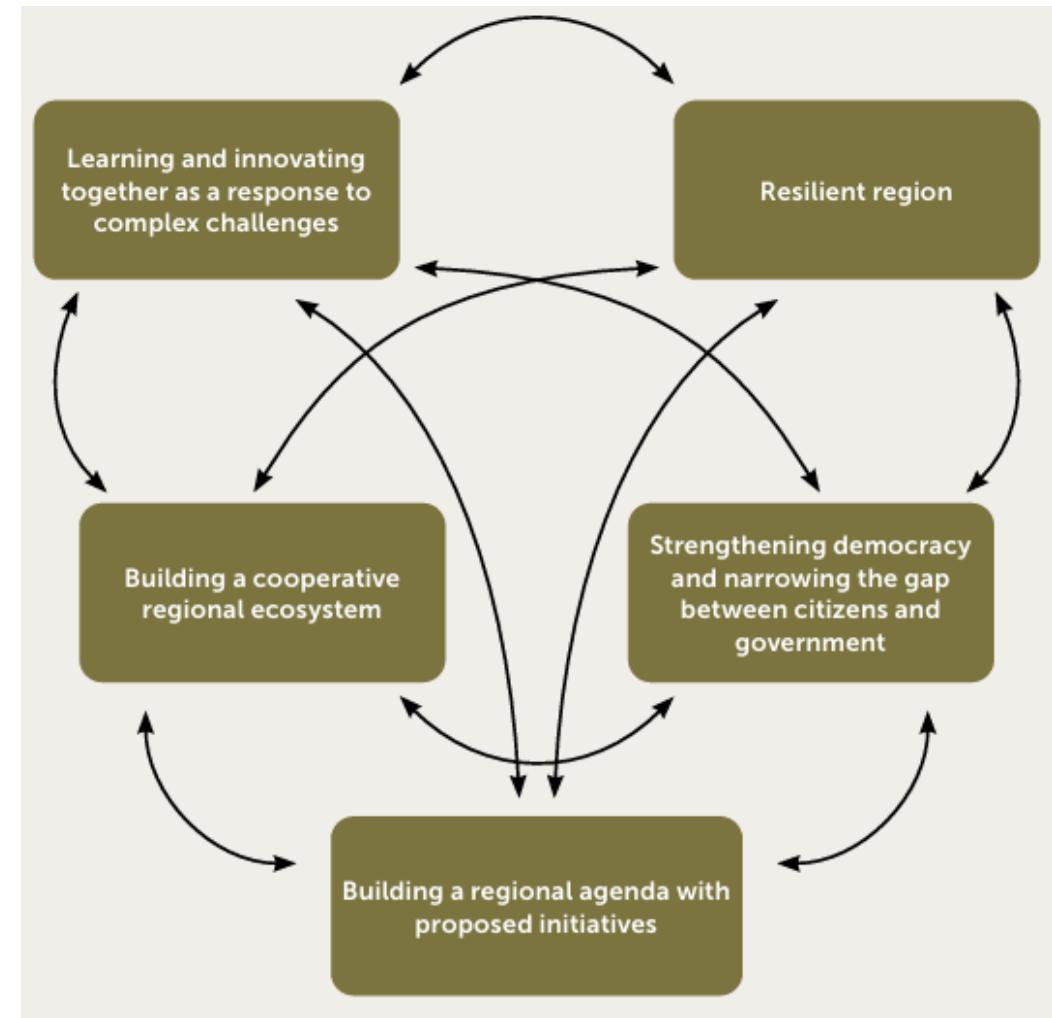
- Nurturing trust
  - *trusted networks & collaboration among local actors enable collective action, rapid response & innovation in the face of challenges*
- Decentralized decision-making & broad participation as key drivers
- Place-based policy shaping

# Flexible, learning-based

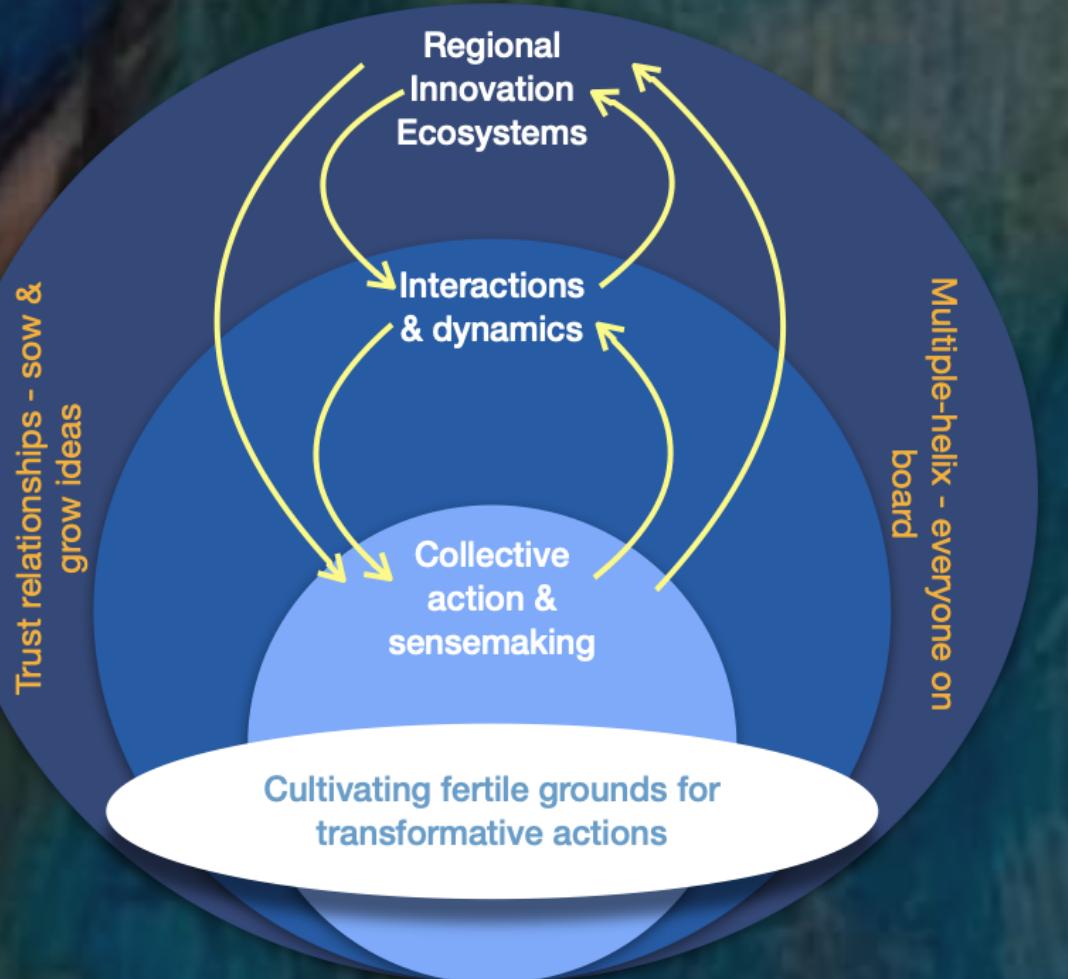
**governance** is crucial for managing complex, changing environments with

- *diverse stakeholders*
- *continuous adaptation (as norm)*
- *Common good as goal*

## A new regional cohesion



# Cultivating innovation in our regions



- **Regional innovation systems** - *provides the networks (who)*
- **Complexity** - *provides the mindset (how)*
- **Resilience** - *provides the results (why)*

*Example of innovation in regions solving common problem collectively*

A local cooperative of local businesses (ecosystem) notices a drop in soil quality & develops a new composting business (complexity) that keeps money in the town & protects against future fertilizer price hikes (resilience).



# Resources

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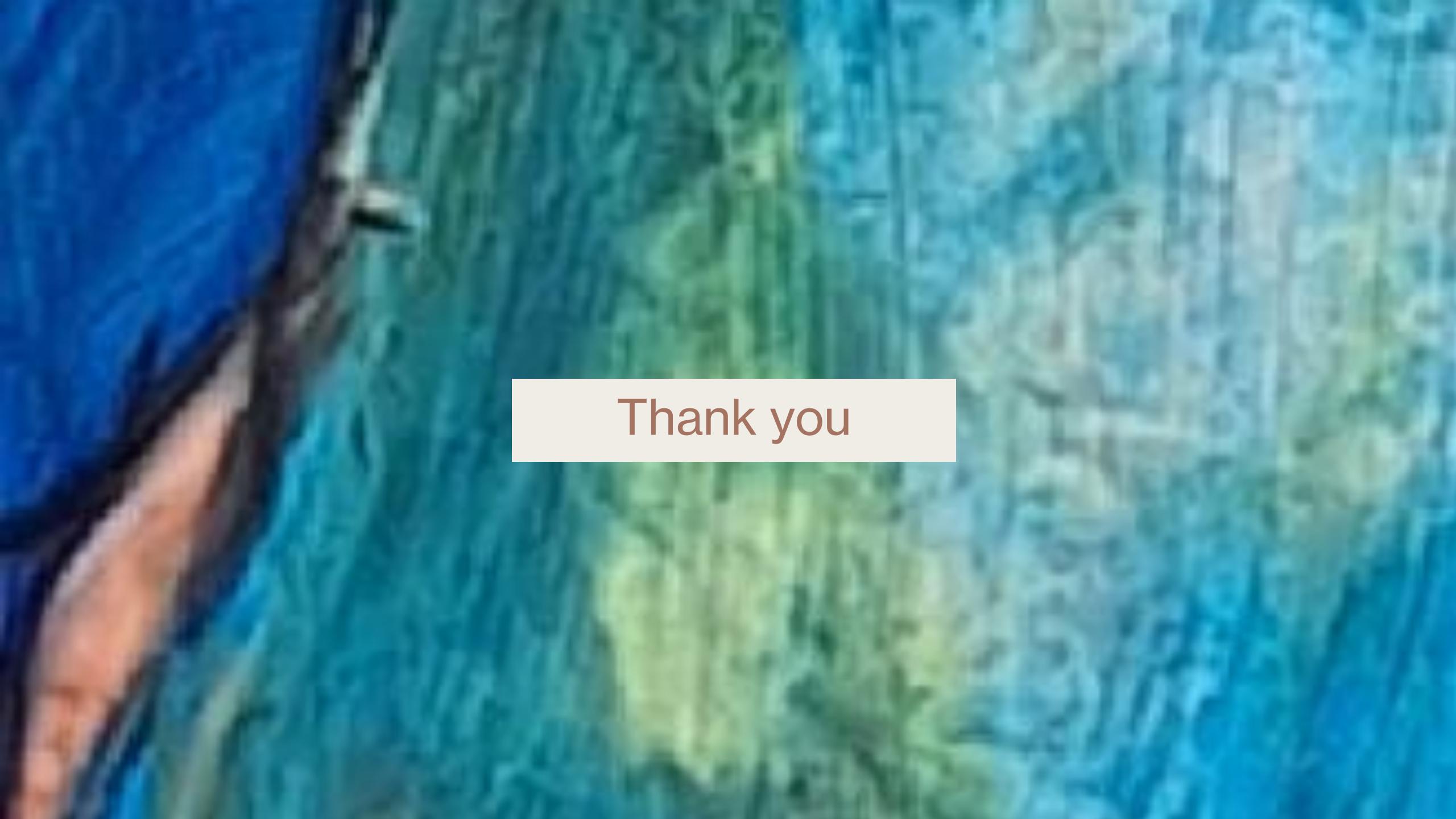
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**BUFFER+**





Thank you