

An assessment of New Zealand's spatial data ecosystem

Needs, barriers and initiatives among the spatial planning community

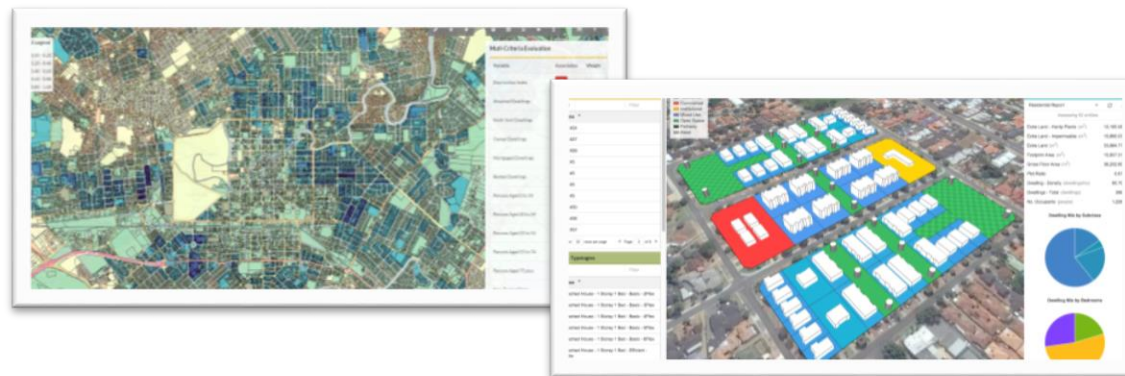
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Spatial data for urban decisions

- Increased use of **decision-support tools in urban planning**
- **Challenge: availability of fit-for-purpose** spatial data for evidence-based decisions

Needs, barriers and initiatives among the spatial planning community?



Methodology

Stakeholder-based assessment of the urban planning **spatial data ecosystem**

- Stakeholder identification & mapping
- Interviews: challenges and needs among the community
- Multi-level perspective (Geels 2002): transition of the ecosystem

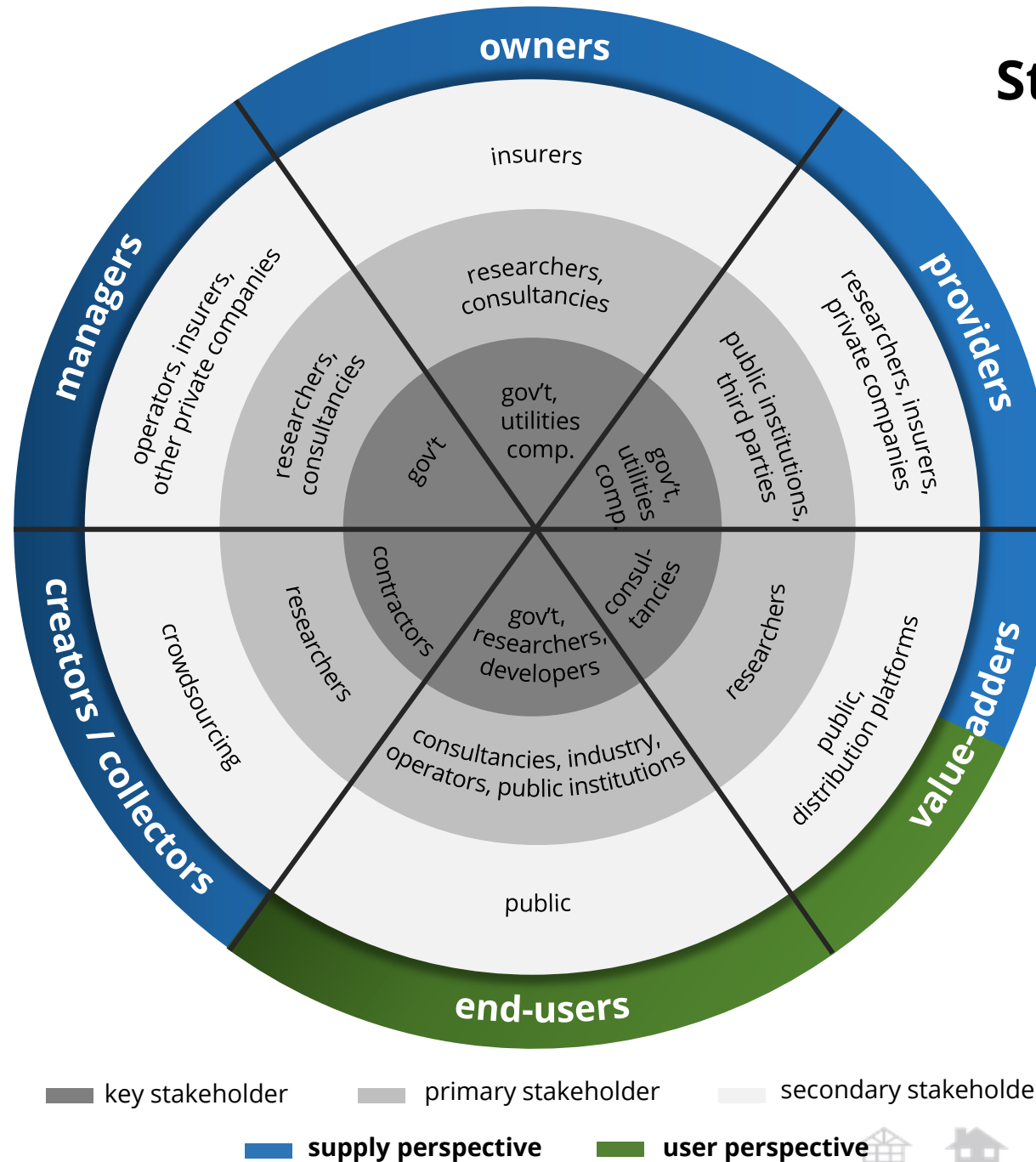
spatial data life-cycle

data & ecosystem

spatial data ecosystem



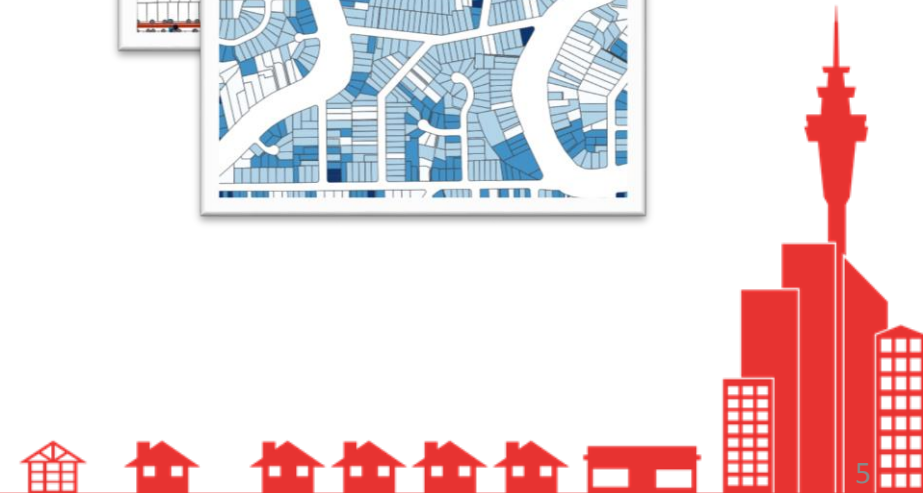
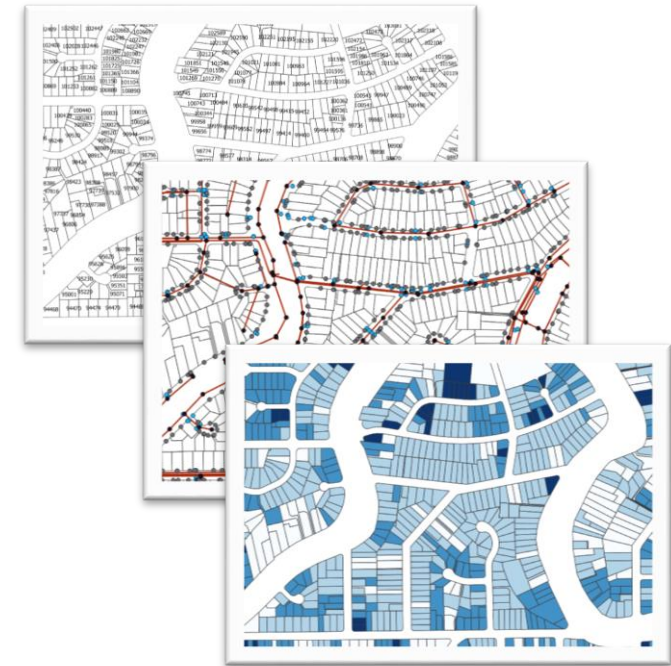
Stakeholder mapping along the spatial data life-cycle



Stakeholders' spatial data needs

Aligning stakeholder needs

- urban infrastructure: advanced **attribute information**
- address data: high internal and **external quality**
- demographic attributes: **spatially varying**
- localized amenities: **(re)usable & consistent**
- building and property: attributes **in bulk**
- land information: **spatial relationships**
- Natural hazards: **small-scale & consistent**



Towards an optimized spatial data ecosystem

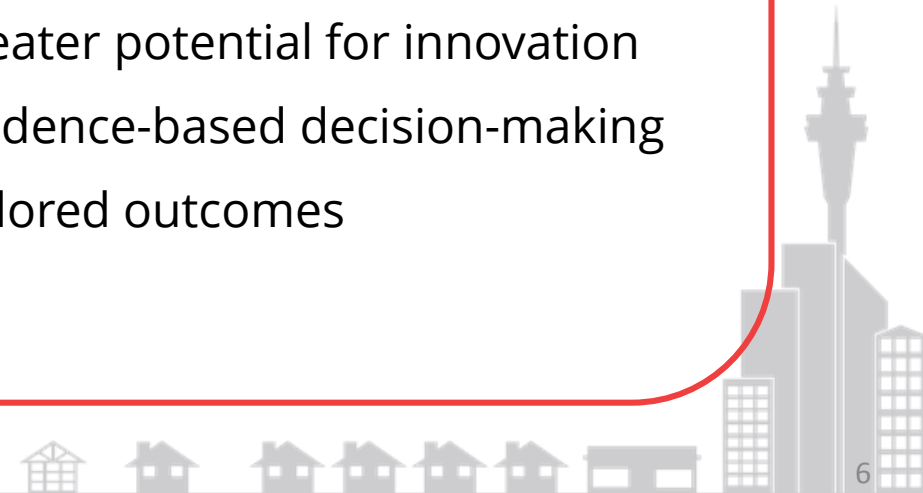
OPTIMIZED ?

- **Frictionless** data life-cycle
- Fundamental principles following the EU INSPIRE Directive
- **Adaptive, scalable, sustainable** socio-technical system with potential for
 - self-organisation
 - **flexibility**
 - cooperation
 - transparency
 - **recognition of user needs**
 - **feedback mechanisms**

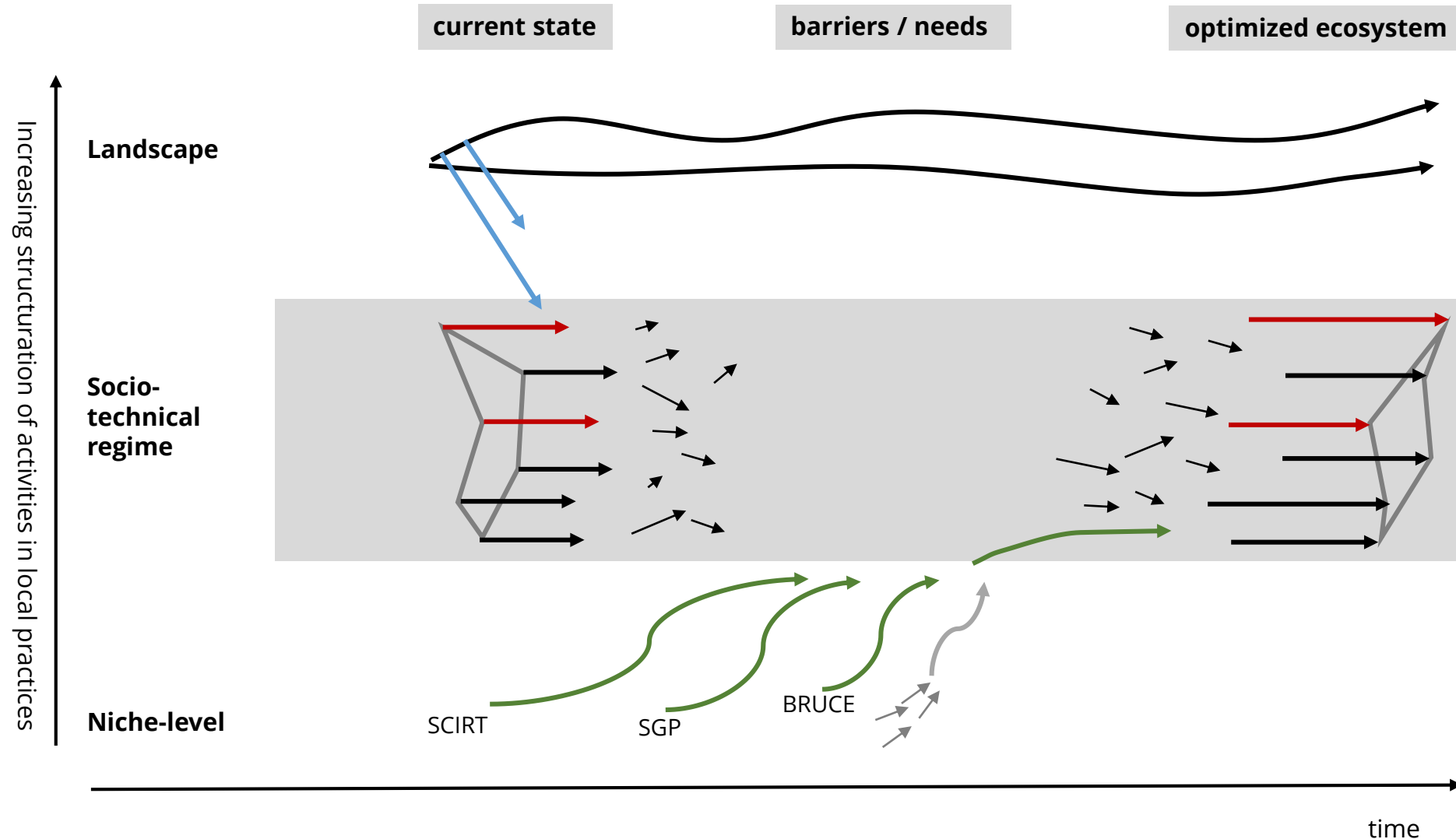


Benefits to stakeholders

- cost reductions
- value creation
- greater potential for innovation
- evidence-based decision-making
- tailored outcomes

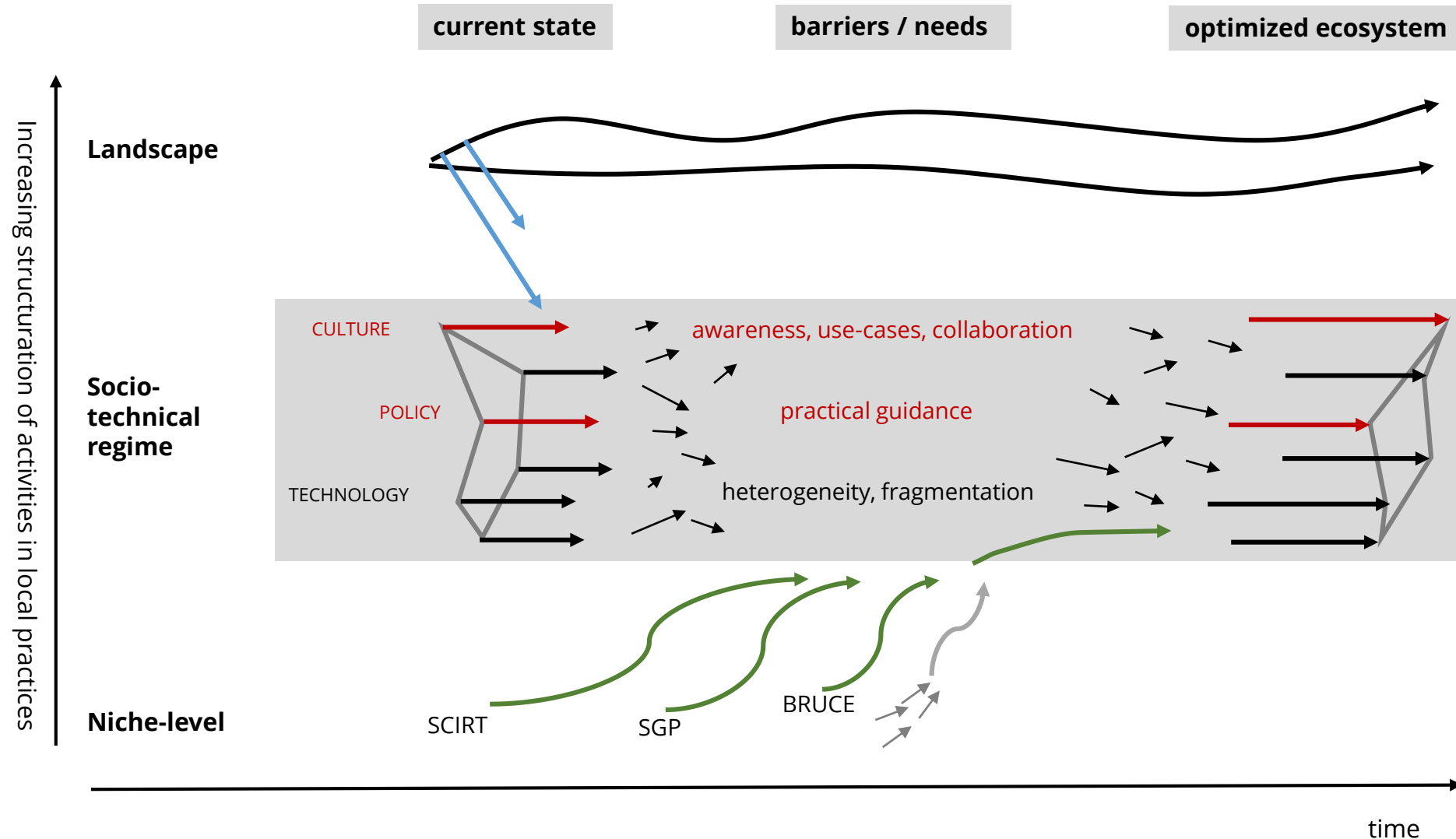


Multi-level perspective of New Zealand's spatial data ecosystem



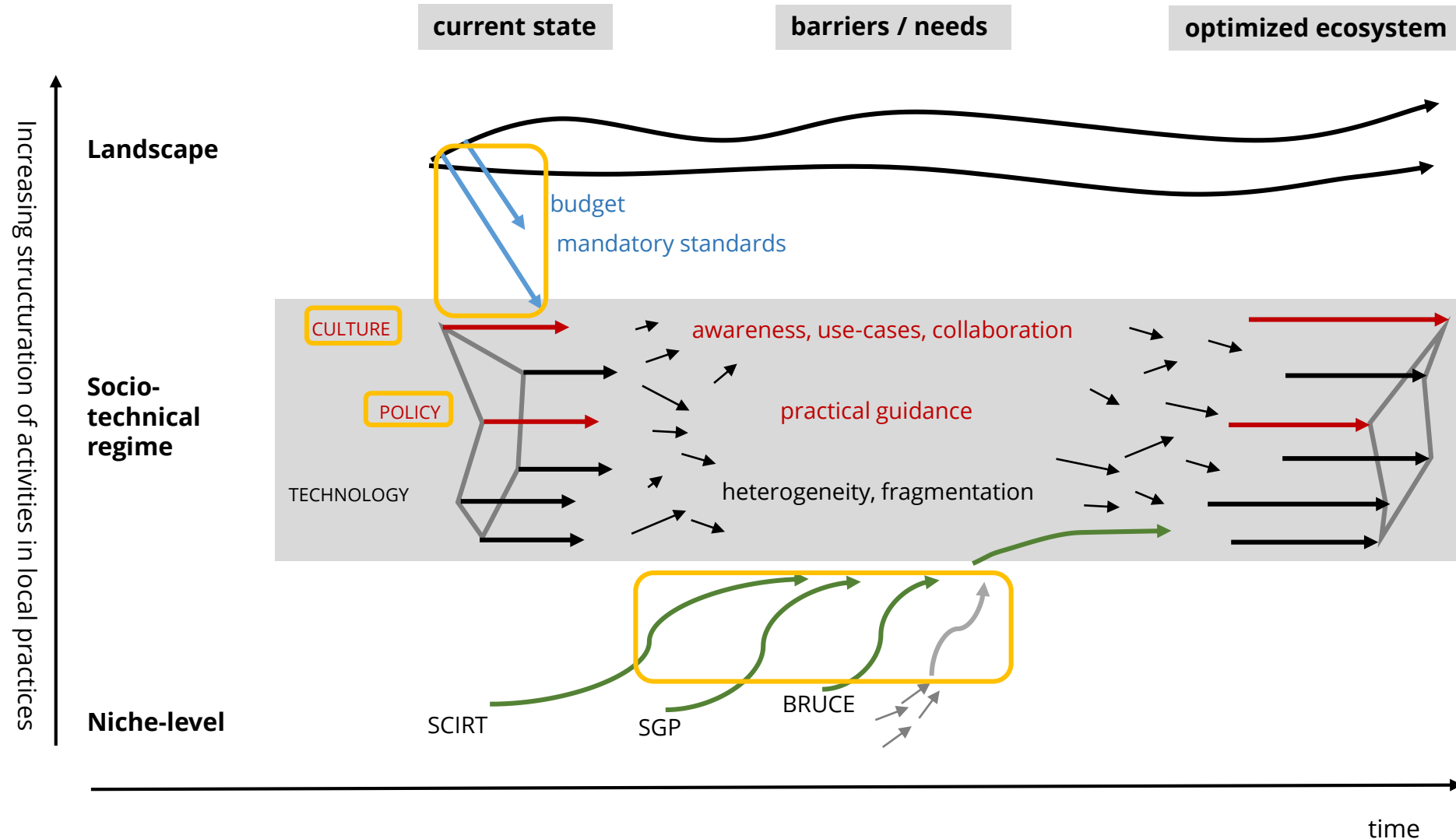
The multi-level perspective of socio-technical systems by Geels (2002) adapted for the New Zealand stakeholder-based spatial data ecosystem

Multi-level perspective of New Zealand's spatial data ecosystem



The multi-level perspective of socio-technical systems by Geels (2002) adapted for the New Zealand stakeholder-based spatial data ecosystem

Multi-level perspective of New Zealand's spatial data ecosystem



The multi-level perspective of socio-technical systems by Geels (2002) adapted for the New Zealand stakeholder-based spatial data ecosystem

Towards a transition

- **System-wide perspective**
- **Awareness, capability, understanding, trust**
- Catalyst technologies through **niche-level developments**
- Focus shift from technology to **cultural** and **governance** local practices:
 - **Joint coordinated mechanism** at the landscape and niche level
 - Well-networked community; stakeholder **communication**



Thank you for your attention!

We are thankful for the valuable support of our interview partners

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