

# Critical Infrastructure Resilience: reflections on putting theory into practice

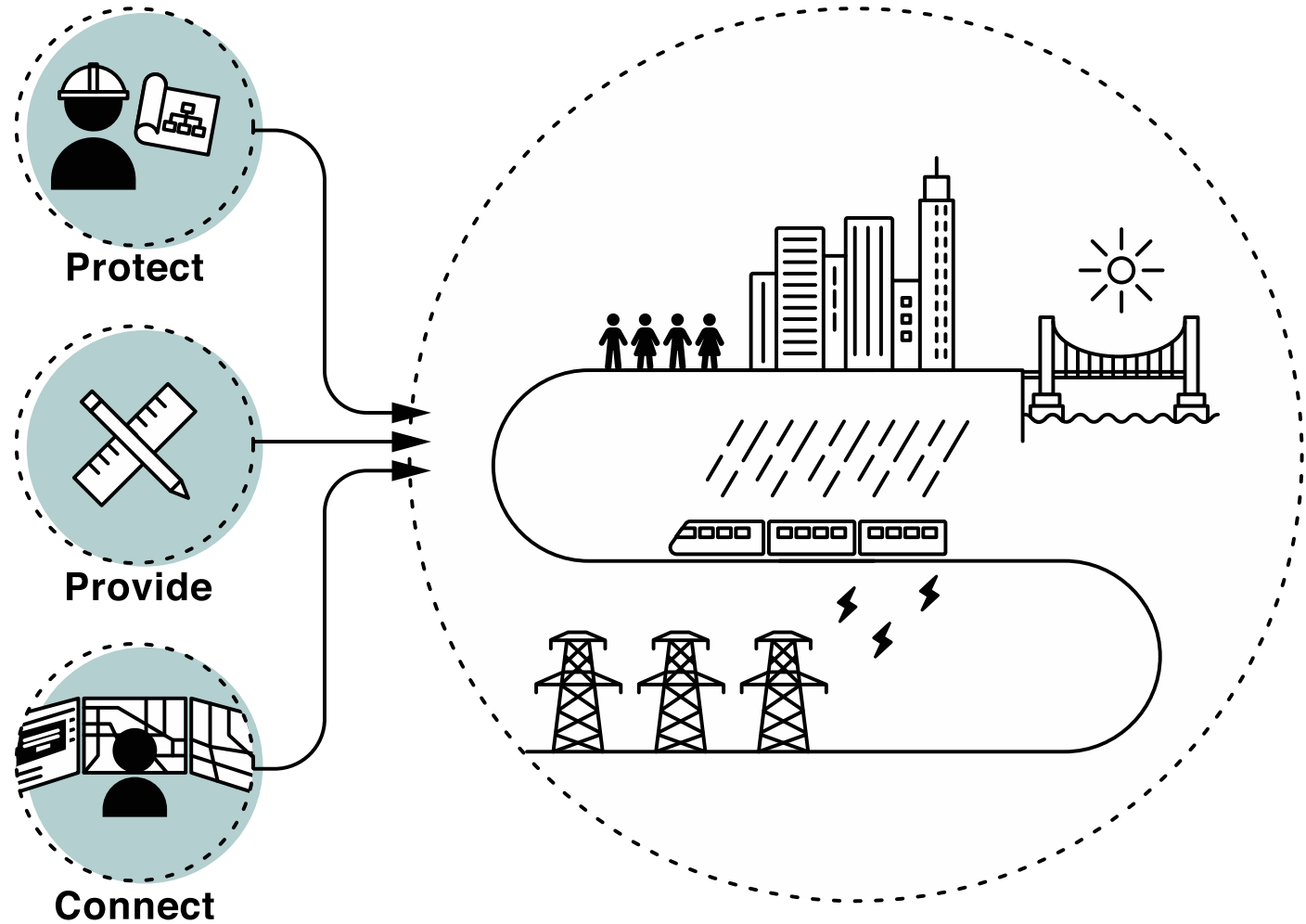
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ARUP

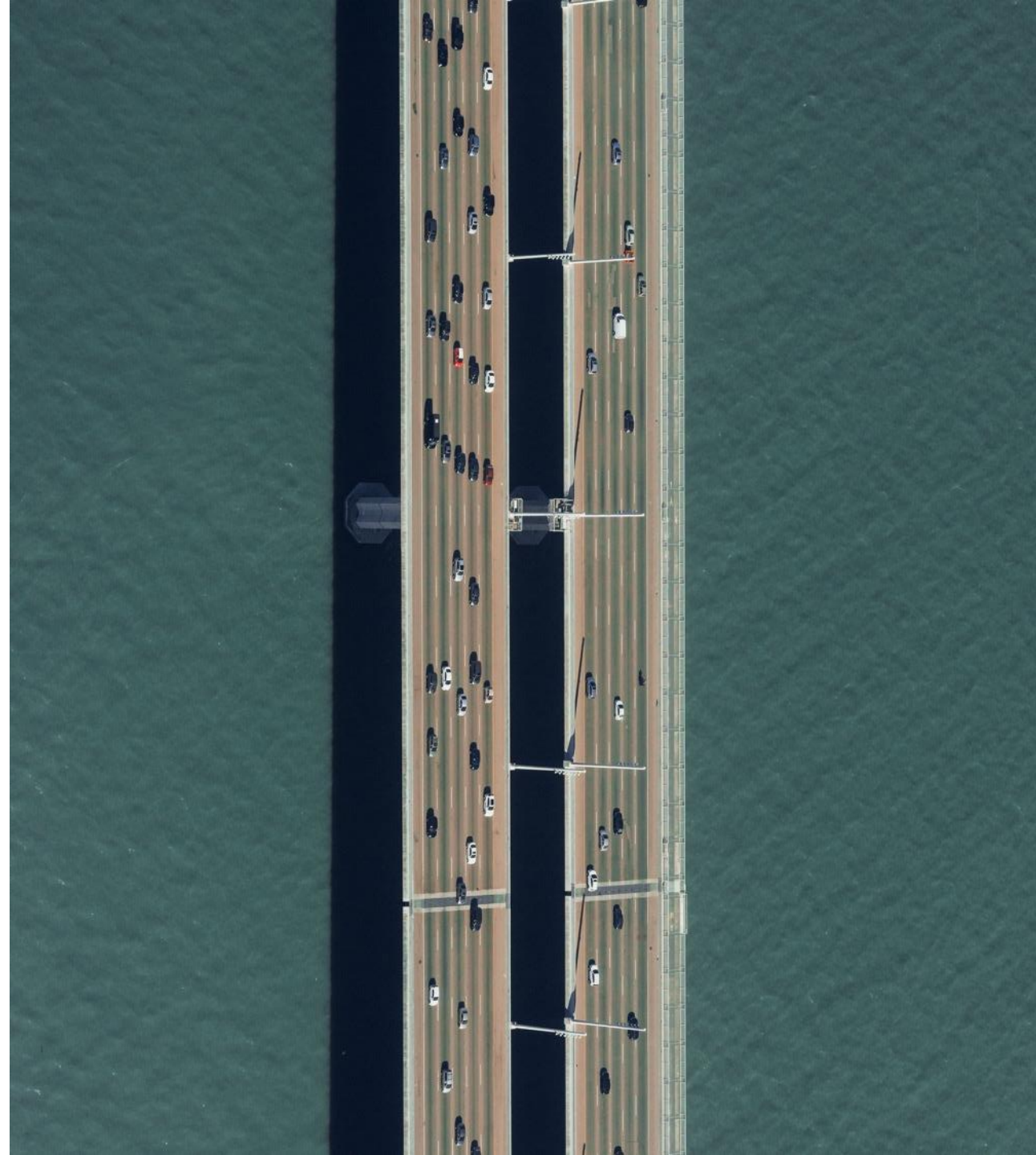


The safety and well-being of billions of people depends on infrastructure systems that can deliver critical services ... that can **provide, protect or connect us** - whatever the future has in store.



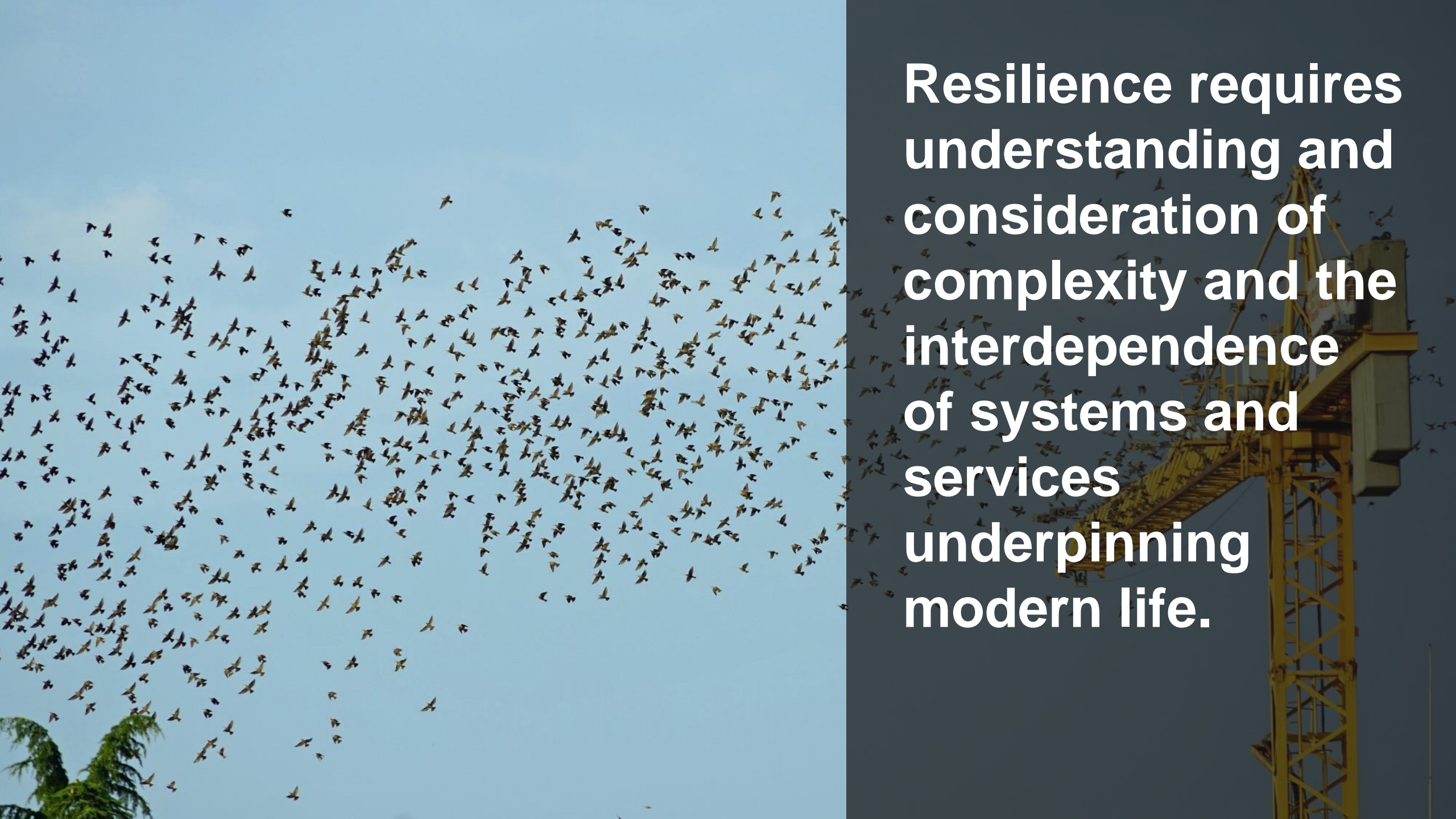
# The context of critical infrastructure

- Ageing and deteriorating assets
- Extreme weather events and climate change
- Fragmented governance systems
- Interconnected and interdependent systems
- Existing and new technologies
- Long life assets facing uncertain future
- Cyber-threats
- Socio-technical systems
- Changing customer expectations





**Resilience building allows you to prevent or mitigate against shocks and stresses you identify and better able to respond to those you can't predict or avoid.**



**Resilience requires understanding and consideration of complexity and the interdependence of systems and services underpinning modern life.**



Sarımsak  
(Lofça yolu)

Çiğdemli Tünel  
Fotokopie  
Ücreti  
Ağlıca  
3 292  
Sarımsak  
3 297



# Sustainable Development Goals



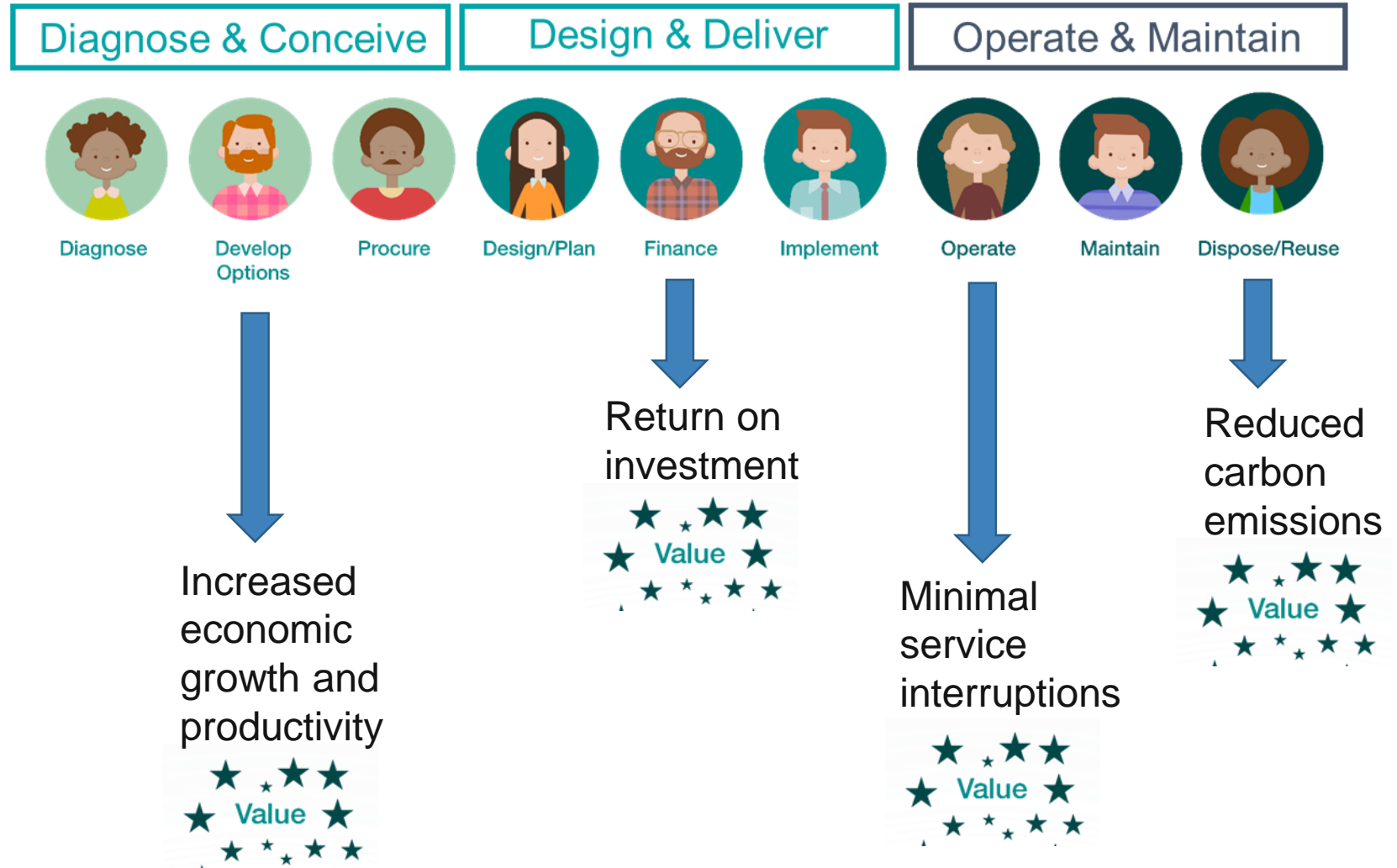




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37-75

# A value-driven approach



**short term**

**known**

**asset scale**

**prepare**

**static**

**Capex**

**Efficiency**

**Risk**



**long term**

**unknown**

**whole system**

**recover/adapt**

**dynamic**

**Totex**

**Avoided loss**

**Resilience**



*He aha te mea nui  
o te ao -  
He tāngata, he tāngata, he tāngata*

*What is the thing that matters most? It's  
the people, it's the people it's the people*

*Maori Proverb*