

# Te Hiranga Rū QuakeCoRE

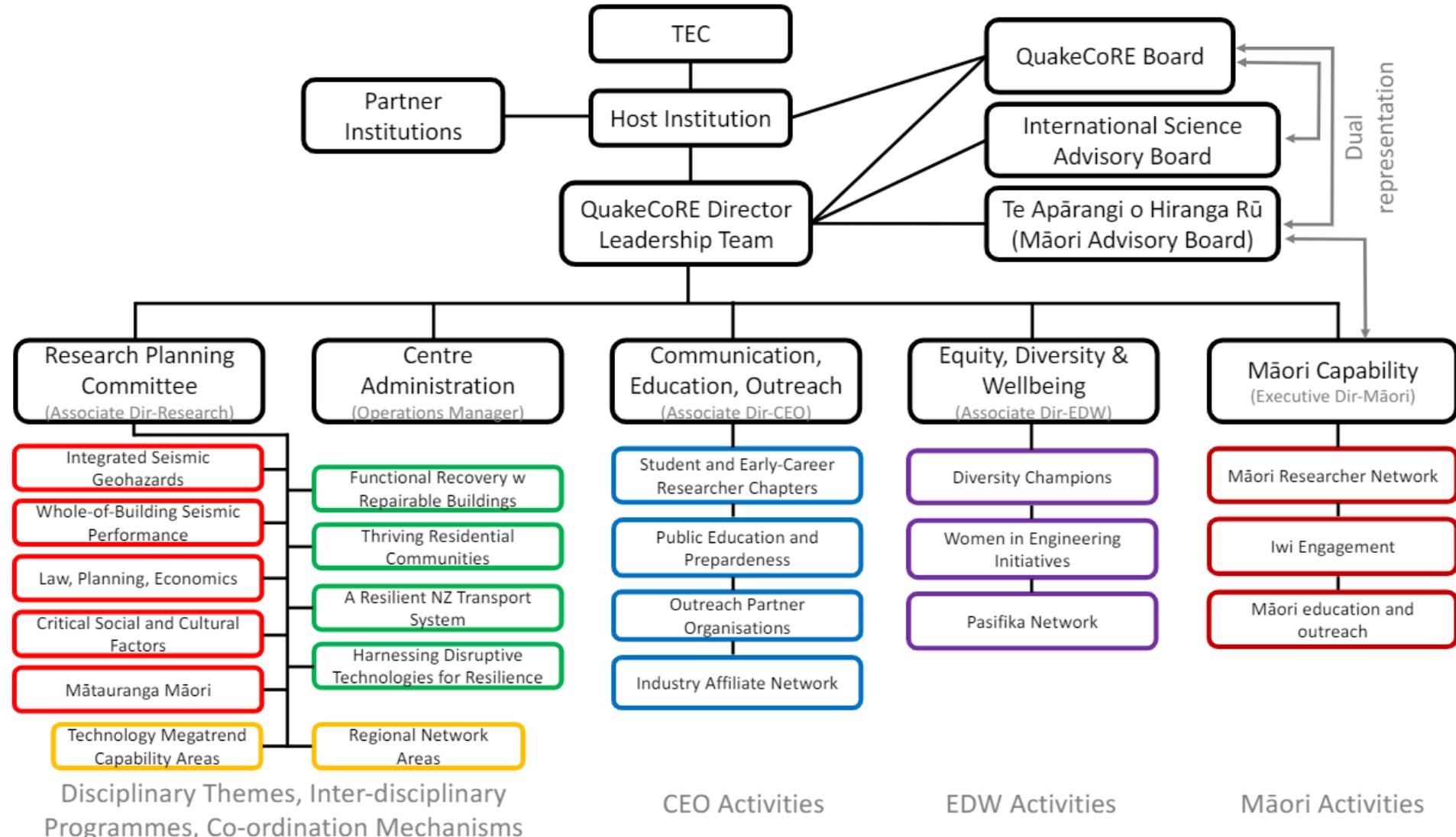
# Summary

- Te Hiranga Rū QuakeCoRE
- Seismic Resilience Centre of Research Excellence
- 2021 – 2028
  
- Partners:
- University of Auckland, University of Canterbury, Massey University, Victoria University, University of Otago, University of Waikato, Lincoln University, AUT, GNS Science, Market Economics, ResOrgs, BRANZ

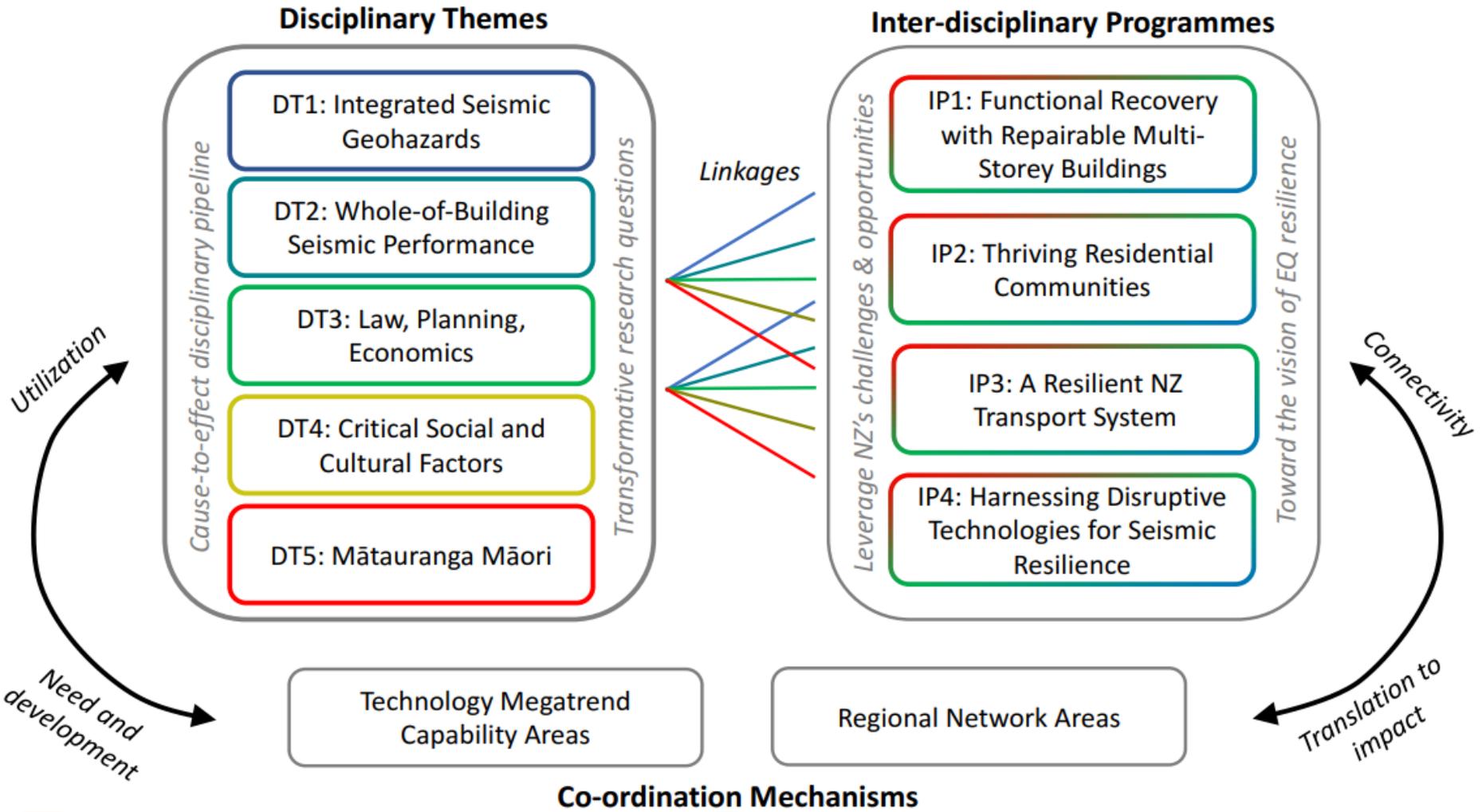
# Mission

- Transform the EQ resilience of communities and society
  - Innovative research
  - Education of next generation
  - Deep national and international collaborations
  - NZ as a natural EQ laboratory

# Structure



# Research Structure



# IP2: Thriving Residential Communities

# Overview

- Focus on the enabling development of resilient housing
  - Engineering and technological solutions
  - Land-use planning
  - Insurance process and frameworks
  - Communication and engagement strategies

# Streams

- Resilient Infrastructure for Residential Communities
  - Post event levels of service for infrastructure
  - Community level adaptations

# IP3: A resilient Aotearoa New Zealand Transport System

# Overview

- Integrate our understanding of components, networks and users of the A/NZ transport system
  - evaluate pre-event resilience investments
  - develop post-event adaptations and recovery strategies
- Support the range of future growth and consolidation pathways

# Transport-as-a-service system modelling

- Assessment of the performance of transport hub components and systems.
- Computational modelling-based fragility models for transport system components.
- Complete framework for A/NZ transport system seismic and co-seismic geohazard exposure models.
- Development of the first iteration of an integrated A/NZ transport network model

# Post-disaster logistics and resilient logistics networks

- Retrospective analysis of logistics impacts across past A/NZ earthquakes.
- Scoping study on the influence of changing consumer demands on logistics requirements.
- Development of the first iteration A/NZ logistics models.
- Sychromodality-based frameworks for post-event logistics systems.

# Resilience investment decision making under uncertainty

- Review and evaluate current transportation system decision making processes.
- Transport hubs resilience strategies and investment case study.
- Explore transportation decision making and uncertainty.
- Develop decision-making processes that extend beyond business-as-usual benefits and fully evaluate the risk of new technologies and potential resilience dividends.

# IP4: Harnessing Disruptive Technologies for Seismic Resilience

# Overview

- Strategic adoption of disruptive technologies and impact on seismic resilience
  - Renewable Distributed Energy
  - Smart Cities
  - Autonomous Vehicles