# Future Cities Laboratory
## at the Singapore-ETH Centre

## Director

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Stephen Cairns is adjunct professor in the Department of Architecture at ETH Zurich. He is an architect, writer and teacher whose work concerns the interaction of buildings, cities and society.

***Shaping future cities:***
***through science, by design, in place***

The rationale for Future Cities Laboratory (FCL) emerges from the challenges of urbanisation and its consequences for Singapore, Asia and the globe. The challenges of urbanisation frame a set of three interlinked research challenges:

**Planning challenges in Singapore for the coming 75 years**
Singapore's urban development poses challenges such as managing population density while improving resilience, environmental sustainability and qualitative aspects of everyday urban living.

**Harnessing the power of information technology for responsive planning**: Sustainable future cities need integrated planning that harnesses the full power of information technology appropriate to their large scale and complexity. This involves engaging diverse city-makers, including government, industry, academia, and civil society.

**Formulating sustainable pathways to urbanisation for ASEAN+ and beyond**
New ideas are urgently needed to guide the urbanisation of Asia, with its large urbanising population, dynamic economies, diverse cultures and delicate biomes.

## Research

FCL is structured around three, problem-oriented and transdisciplinary research 'scenarios' that link science, design and specific places:

1. **High-density mixed-use cities**: Developing new integrated planning paradigms, research methodologies and implementation processes to support higher population densities, higher standards of environmental sustainability, and enhanced liveability.

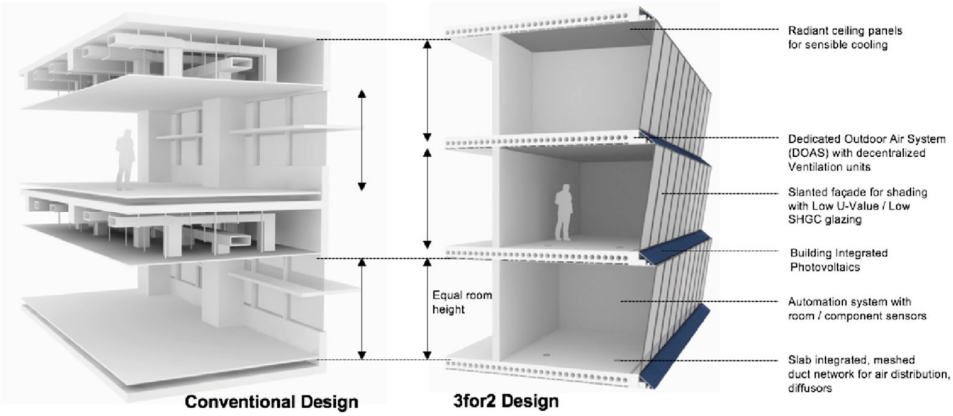
2. **Responsive cities**: Harnessing the power of information technology to support an integrated, transdisciplinary planning approach that engages the large scale and complexity of future city systems.

3. **Archipelago cities:** Proposing viable pathways to sustainable urbanisation in the ASEAN+ region, to ameliorate the threat of uncontrolled urbanisation, and deliver resilient forms of development.

The scenarios combine discipline-specific research in architecture, planning and urban design, mobility and transportation planning, sociology and psychology, landscape and ecosystems, energy systems, materials and engineering, and information technology.

## Highlight

### 3for2 Beyond Efficiency




The 3for2 concept radically changes the way buildings are air-conditioned by splitting cooling and dehumidifying; using water instead of air for heat transport; and using small decentralised ventilation units. The project was piloted at the United World College in collaboration with UWCSEA and Siemens Building Technology.

Future Cities Laboratory was established in 2010 as the first programme of the Singapore-ETH Centre, established by the Swiss Federal Institute of Technology Zurich (ETH Zürich) and the National Research Foundation.

**For more information about Future Cities Laboratory, visit www.fcl.ethz.ch or contact info@fcl.ethz.ch.**

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