

Future Cities

Future City Management

- Project idea 1**
- Knowledge Management platform for Future Cities
 - o (1) Capture good practice of other cities
 - o (2) Sharing and access good practice of other cities, accessible through web and perhaps 3D visualization
 - Urban Focus
 - o Increase walkability
 - o Bi-cycle paths
 - o Increase safety and reduce crime
 - Standards and metrics
 - Legislation, government led compliance
 - Small air vehicles BMAV for infrastructure degradation identification with low environmental impact
 - Government authorities overview the city through out a control centre? (makes people have less privacy)
 - Walkable
 - Promote cycling
 - Intelligent traffic management
 - Waste management
 - Equitable communities

- Gap**
- Need city & Malaysian industry partners
- Partner**
- Transport Systems Catapult
 - Atkins

Energy affordability / security

- Project idea 2**
- Living Lab, real experiments in cities, green financing incentives
 - Local generation from local waste
 - Government policy / regulation on energy saving / green energy
 - Congestion / fuel tax
 - o Make energy for transport more expensive
 - Energy harvesting after daylight

- Gap**
- No parents present that fit this profile from industry
 - Need mechanism to post profile of desired partner and MIGHT to help identify suitable partners
- Partner**
- ??

Transport and Congestion

- Project idea 3**
- Sustainable Cities:
 - o City / vertical farming
 - o Recycling
 - o Water capture
 - BMAV for traffic monitoring / management for reduced emissions
 - Behavioural change / education to 'drive' people out of cars
 - Trial traffic management systems in cities to improve flow of traffic. Incorporate into planning of new expansions / roads
 - Planning, Integrated transport strategy (linked to urban planning policy)
 - Mobile app for jams and train / bus disruptions
 - Traffic management – controls on road use
 - Park & Ride schemes – more parking spaces outside congested areas
 - Integrated planning land user transport
 - Green infrastructure planning:
 - o Air quality
 - o Health
 - o Heat island

- Gap**
- Regarding mobile apps (see project idea): Need to have digital information first; currently does not exist.
- Partner**
- Transport Systems Catapult

Crime and Personal Safety

- Project idea 4**
- Crime prevention:
 - o Illegal immigration monitoring
 - o Intelligent cameras & surveillance
 - Challenge:
 - o Rapid urbanisation
 - o Changing demographics
 - BMAV micro air vehicle for crime surveillance

- Gap**
- ??
- Partner**
- ??

Urban Transport

- Project idea 5**
- Improving public transport systems
 - Efficient road networks
 - Demand Management
 - Air quality
 - Affordability
 - Planning of transport in expanding city

- Gap**
- Ministries
 - Local authorities
 - Operators
 - OEMS (Manufacturers)
- Partner**
- UCL (UK)
 - Costain (UK)
 - University of Malay (MY)
 - Bina Puri (MY)
 - Essex University (UK)
 - Transport Systems Catapult

Real-Time City/Urban Performance

- Project idea 6**
- Well-Being: combined use of infrastructure, e.g. transport tunnel & flood relief
 - Energy Supply & Demand
 - Transport & Logistics
 - Big Data
 - System of Systems Approach
 - Finding baseline (monitoring, measuring)

- Gap**
- Ministries / Local Authorities
 - Inform asset managers
 - Technology providers
- Partner**
- UCL
 - Transport Systems Catapult
 - Essex University
 - University of Malay (urban planning)
 - Bina Puri
 - Atkins
 - University of Malay (Engineering)
 - UPM

Building Performance

- Project idea 7**
- Heat / Slands
 - Carbon Footprint
 - Big Data (Analytics) – real-time performance
 - Energy Efficiency
 - Well-Being

- Gap**
- Developers
 - Building asset managers / FM companies
- Partner**
- UCL
 - Essex University
 - University of Malay (urban planning, sustainable development)
 - UPM (built environment)

Resilience and Flood Risk

- Project idea 8**
- Asset optimisation responsive to climate risk, e.g. robotics
 - Climate Change: flash flood
 - o Proper monitoring of water levels
 - o Intelligent monsoon drain
 - o Proper housing estate
 - Emission control zones
 - Green infrastructure, green walls / roofs
 - Traffic management
 - o Traffic light management to make people sit more than public transport => New metrics, current state and target to achieve
 - Public transport get traffic priority
 - Cloud / rain management
 - Climate risk: Forrest burning => Haze
 - o Solution: traffic management
 - o Air purification

- Gap**
- ??
- Partner**
- Transport Systems Catapult