# #COCREATEMYCITY Cape Town, 2019

## THE CHALLENGE

Multidisciplinary and multicultural teams of students from different universities in Cape Town and the Netherlands will work together on actual challenges identified by the City of Cape Town. Under the guidance of a select group of experts (from institutions and relevant industries) and mentors, these teams will come up with concept solutions to these challenges. Each student team will develop a sustainable and implementable business model for their solutions, thereby stimulating the local business climate.

Students will receive training and guidance in the following areas:

- Entrepreneurship and enterprise development
- Bottom-up approach of Design Thinking
- Innovation and the knowledge economy
- Students become part of an entrepreneurial ecosystem

### Challenges in the City of Cape Town linked to Dutch Top sectors[1]

### Health

- A *green hospital* can be defined as one which enhances patient well-being, aids the curative process, use new technologies and innovation while utilising natural resources in an efficient environmentally friendly manner. Your challenge is to design a green hospital considering cost effectiveness, water use, energy efficiency and digitalisation.

- What e-health application can be developed which can provide effective, live quality data so users and health care practitioners can make real time informed decisions about health care options?

- Patient and provider safety within facilities – how can we ensure the clinic is a safe space (e.g. not just through security but innovative community engagement strategies)?

- Facility decongestion – how can we provide more services (and which services) off site to decongest our facilities?

- Immunisation coverage and uptake – our childhood vaccination coverage drops significantly after 6 months – how can we change our services to retain patients in care?

- Reaching vulnerable groups – men do not come to clinics for care – how do we reach this vulnerable population?

### Water

- What application can be developed that can provide effective live water quality data so end users, municipalities and policy makers can make real-time informed decisions about water use for household (primary) and recreation (secondary) use?

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[1] Challenges are subject to changed based on input by stakeholders

- What mechanisms and technology can be developed to improve the built environment's relationship with human systems, the wider ecosystems and the natural water cycle.

- Develop an application/technological solution to address water quality within neighbourhoods to make water re-usable. Consider aspects such as sustainable sanitation, resource recovery and green buildings.

**Transport, Maritime and Logistics**

- **Automated Data Collection -** The City Transport Planning Department requires large amounts of varied data types for scenario analysis and planning of transport systems into the future.  Much of this data must be collected frequently, manually and at great cost.  What data should the City be collecting and how should it be collected to enable effective planning and operational management of all transport systems and modes?  How can this best be automated and optimised considering current and future technologies, the internet of things and the commuters themselves?  Are there any real time feedback loops that can improve the commuting experience and promote the use of public transport?  Consideration must be given to sustainable transport modes including non-motorised transport.

- **Integrated Ticketing – the passenger perspective -** There are multiple options for integrated ticketing systems in terms of the technology available for multi-modal and interoperable public transport systems.  Many of these are designed for implementation in the developed world where cashless systems are ubiquitous.  Is this appropriate in South Africa considering the current fare payment methods on the less formal modes that will need to be integrated with formal modes for a truly interoperable system?  In Cape Town what is the unbanked proportion of the population and are they reliant on cash only as payment? Or are there other forms of banking in our context that could be brought into a technology driven system for integrated ticketing?  How does this inform the fare medium options to best serve all of the population over the range of income groups and payment preferences?  Consideration must be given to transition over time as the finance and banking ecosystems will evolve over time.

- **Road to Rail Freight – Business Process Mapping -** In South Africa there has been a migration of freight movement from rail to road based forms of transport.  This is particularly evident in port cities like Cape Town where there are a large proportion of heavy freight vehicles on the road network.  This places a significant burden on the network in terms of both shared space with other users and increased road maintenance requirements due to heavy axle loading.  There are complexities around the ability for freight movements to migrate back to the rail network in terms of the South African legislative and institutional frameworks relating to road and rail freight systems.  This will require unpacking from a policy, regulatory and institutional perspective for multiple spheres of government in order to develop a business process map to enable effective migration of freight from road to rail modes.  The challenge is to develop this business process map.

- **Hout Bay** – A rapidly developing informal settlement expands out of control whilst unemployment within the area grows. This has resulted in locals resorting to illegal fishing and poaching for their income. The Department of Agriculture, Forestry and Fisheries (DAFF) have launched on a campaign to manage the rampant poaching in the area as it has severe impact on the ecology and sustainability of certain marine species, but this intervention has been very poorly accepted by the local communities. Today, Hout Bay

remains a very volatile area and a 'hot-spot' for civil unrest. Local communities have destroyed factories and legally operated fishing vessels in protest which further impacts on the economic climate and job creation within the area. What can be done by existing businesses operating from Hout Bay Harbour to ensure local communities are educated and trained to support the local fishing industry?

- **Hermanus** – Hermanus is world renowned for its superb whale sightings and attracts millions of international tourists annually. During the peak tourist season, thousands of informal traders flock to Hermanus in an attempt to seek out a living from selling curios or cheap imported products. However, after the tourist season has closed, these informal settlers lose their income and crime as well as civil unrest increases dramatically in the area. This is having a negative impact on tourism in the area and unless a suitable and sustainable solution is reached soon, the future of Hermanus lies in jeapordy. What can be done to include local communities into the maritime/tourist sector to enable sustainable job creation in the area which will attract increased tourism and civil stability.

**Energy – Renewable energy**

- Considering the impact of climate change on a city particularly with regards to energy, what innovative interventions could help the diversification of the energy mix whilst also conserving biodiversity, reducing waste to landfill and increasing recycling?

- Design a power storage solution that would contribute to a decentralized solution (or solutions) to build resilience to power outings within the city that would benefit the private sector and communities.

**Agriculture**

- Develop an example of a climate smart technology for the agriculture sector in urban Cape Town.

- Develop an application for empowerment of women in agriculture and agro-processing to contribute to wealth and economic development.

- How to grow the most vegetables in the least space in the shortest timeframe – is an exercise which replaces current conventional crop production methods and has been proven at various community gardens – however the mind-set and attitude change required requires a large scale demonstration that can be related to a biofuel crop exercise.

- How to prepare the most energy efficient meals without losing caloric and kilojoule value in the shortest time - off the grid – aimed at the secondary food producer (for example restaurants) in conjunction with the primary food producer (farmer).

- Climate change will have complex impacts on agriculture and its ability to provide food products. These effects will be both direct, due to the impacts it will have on biophysical processes and on the agro-ecological conditions at the basis of agricultural systems, as well as indirect, affecting growth and wealth distribution, and as a result on demand for and access to agricultural products. Develop a tool that will take into consideration the risk factors of climate change to mitigate challenges for urban food security.

**Application process**

1. Applicants must complete the application form and a short application video
2. Each partner institution will make a first selection of 5-10 students
3. The applications of the selected students will be reviewed by the Dutch embassy in South Africa and Nuffic Neso South Africa
4. The final selection will consider:

   - Balance between Dutch and South African participation
   - Thematic focus area
   - Academic background
   - Group dynamics

5. Application video

The application video should provide the following

   - Personal introduction
   - Reason for participating in Cocreatemycity
   - Motivation for selected thematic area

**Requirements**

   - Students must be enrolled at one of the partner institutions of the project
   - Be available for the full period of the project ( 7 -22 November 2019)

Application form


Name and Last name  _____

Academic institution _____

Field of Study _____

Year of Study


Rank your choice of thematic area (with 1 being your top choice and 5 your least preferred choice)

1.

2.

3.

4.

5.