An introduction to

SMART DCU
A Smart Dublin District

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Introductory Presentation to AISCF

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Part of the **Smart Dublin** Ecosystem

Smart Dublin is an initiative of the four Dublin Local Authorities to use new technologies to improve services and enhance quality of life in the Dublin Region

Croke Park Smart Stadium

University Smart Campus

Smart Districts, under the **Smart Dublin** programme, are strategically selected geographical locations where targeted smart city projects are implemented

Smart Districts are developed through a partnership model as per the OI 2 **quadruple helix framework**; bringing together industry, academia and citizens, anchored by local government through Smart Dublin

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Smart DCU activities – Croke Park Smart Stadium

Croke Park was one of the world's first **Smart Stadiums**

It is a test bed for everything from pitch management and crowd control to micro-weather wind circulation

Blánaid White – working to improve the efficiency of the grow lamps – has perfected an **LED powered lights** that can be tuned to maximise grass growth at very low energy consumption

Suzanne Little – utilising **computer vision** to monitor where sunlight does not shine on the pitch – identify the sections of the pitch that need special attention

Optimise Grass growth while minimising energy consumption

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Smart DCU activities – Transportation Congestion

Challenge
Cities worldwide are facing an epidemic of congestion and pollution caused by rapid urbanization

Dublin is now the 6th most congested city in Europe
14th worst in the world according to Tom Tom global survey.

Time & Energy are been wasted

Pollution & Stress are increasing

Also the incalculable cost of uncertain or longer delivery times; missed meetings; business relocations; and other congestion-related effects

Personal car usage is crippling Cities

Traffic congestion wasting energy

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SMART DCU — Smart DCU activities – Transportation Shared Mobility

Solution

"…mobility in the Greater Dublin Area could be delivered with only **2% of the current number of private vehicles**…

… A transport system consisting only of **Shared Mobility** services and the existing rail and light-rail transit (LRT) could allow this reduction…"

International Transport Forum
(SHARED MOBILITY SIMULATIONS FOR DUBLIN — © OECD/ITF 2018)

'Free Now' is rolling out its cost-cutting taxi-sharing service to users across Dublin and its surrounding areas

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SMART DCU — Smart DCU activities – E-Scooter

For short distances the use of **Micromobility** solutions like **E-Scooters** has the power to change the world for the better.

Illegal for road use in Ireland

New business model where E-scooters are made available to use for short-term rentals (e.g. Berlin)

Negatives:
Parking them without consideration for pedestrians is causing a lot of problems

GPS on its own is not accurate on its own to confirm if they are parked in the designated parking areas

Riding E-Scooters on foot paths with no regard for pedestrians

E-Scooters Pedestrian hazard

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Smart DCU activities – E-Scooter Supercharged Safety trial

As the DCU Campus is a **closed road network** it is possible to legally trial E-Scooters (Campus only)

Phase one:

Improver positioning accuracy

Smart DCU in conjunction with a **DCU Alpha consortium** are trialing an advanced micromobility solution (a world's first)

Improved high positioning accuracy (**centimeters not meters**)

Ensure parking is only done in designated areas

Auto speed reduction when entering designated areas

Improving Safety for rider and pedestrian

E-Scooter safe parking

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Smart DCU activities – E-Scooter Supercharged Safety trial

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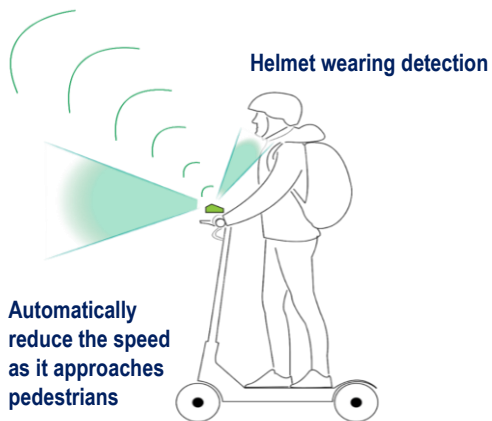
Phase two:

Computer Vision

Automated **detection of helmet**

Detection of **pedestrians** and **hazards** that will trigger an **automated speed reduction**

Learnings will be shared

Can also be trialled in other Smart Districts

Helmet wearing detection

Automatically reduce the speed as it approaches pedestrians

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Opportunities

There has never been an easier time to deploy the most advanced Smart City propositions
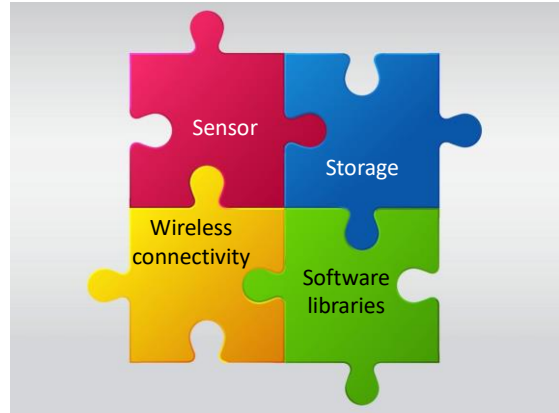
New Technologies are enabling low cost sensors, advanced wireless communications and low cost computer power

When conceptualisation your Smart City proposition, firstly list WHAT you want to do

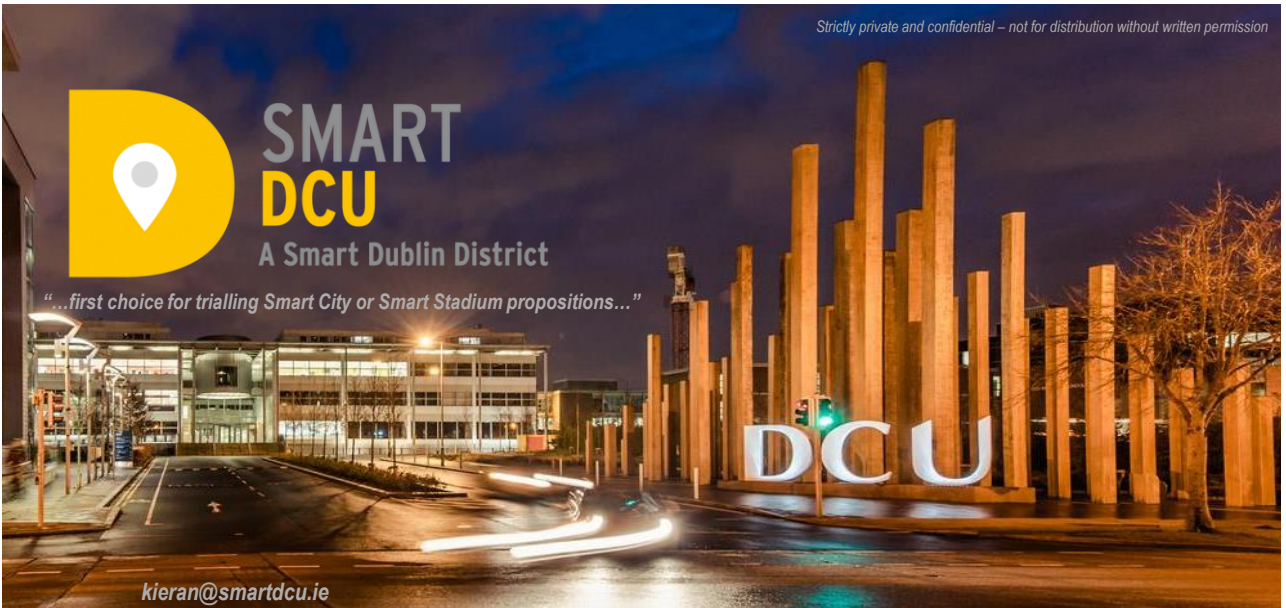Do not be limited by your knowledge of technology

At a later stage figure out HOW to implement

If there are parts of your proposition that appear to be impossible, just wait a while and a solution will appear

Modular approach to building your proposition

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"…first choice for trialling Smart City or Smart Stadium propositions…"

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