



What Is A Smart Region?

A Region is Smart when investments are made in physical capital, human capital, social capital and ICT to fuel sustainable economic growth and improve quality of life.

Key Points:



Digital transformation in Regions is a **journey**, not a destination

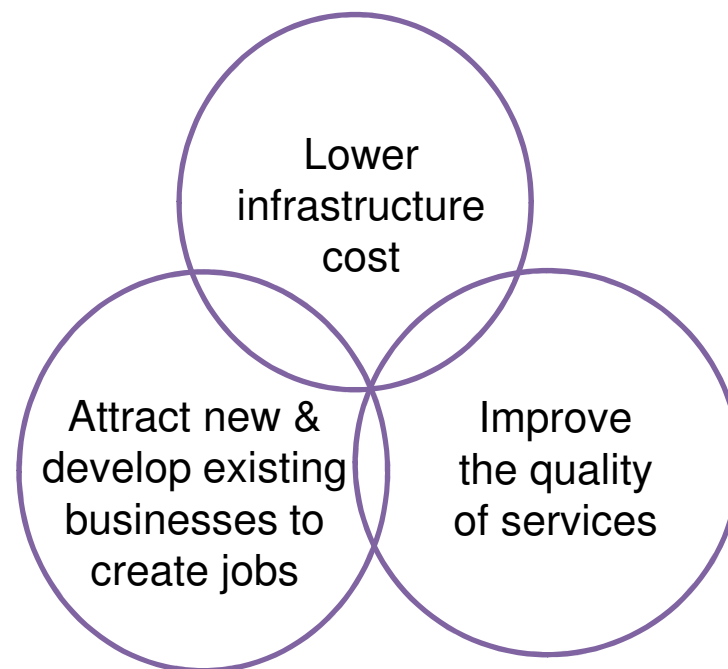


It is not just about technology, it is about the **people**



How do you deliver a better community to the **residents**?

Aim of Smart Initiative:



Motivation

Urban Population

1950 – 30%

2008 – 50%

2050 – 70%

Impact on resources,
infrastructure and rural areas

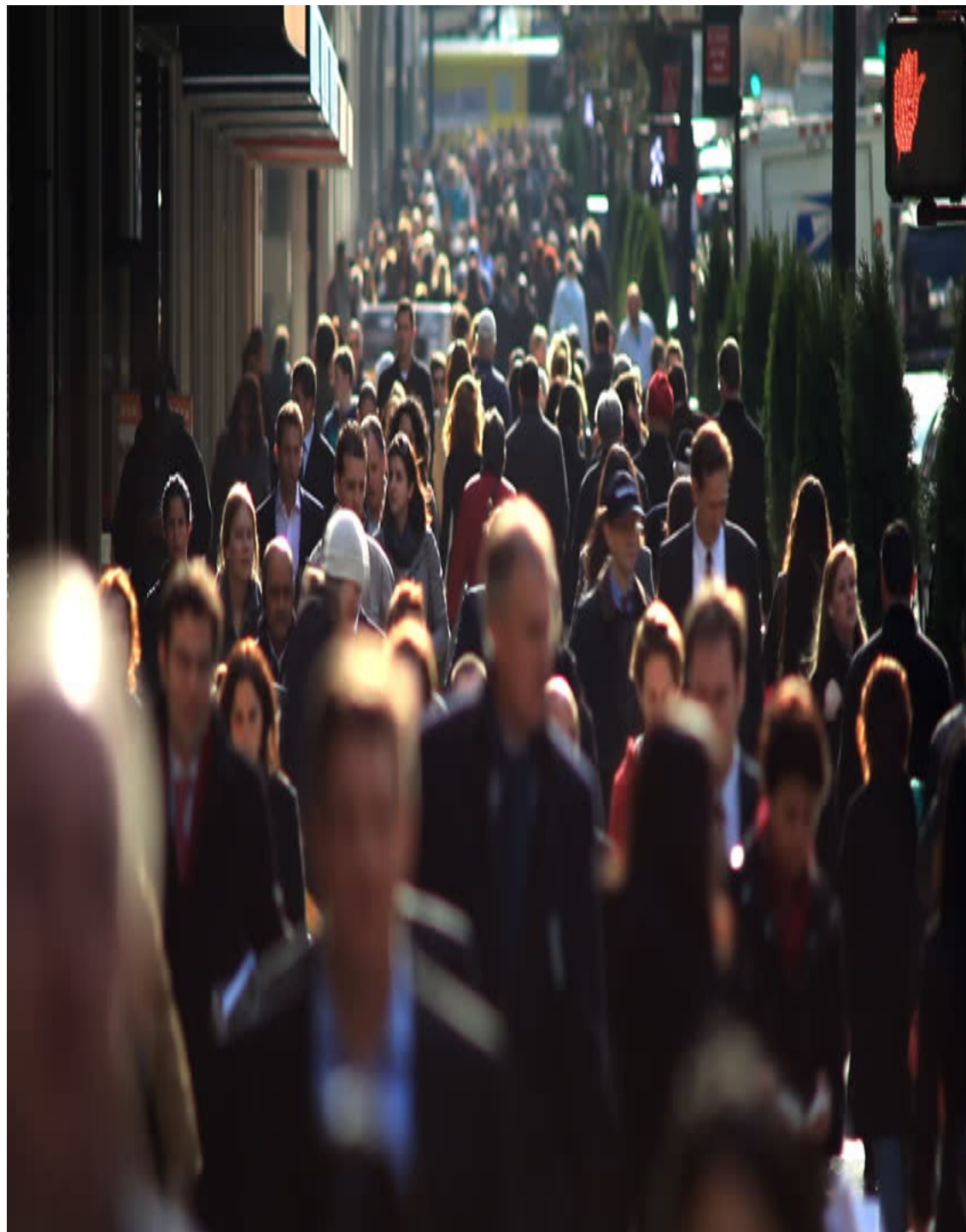
Over 60 Population: 22%

Increasing competition with
other regions for talent, trade
and investment

Ambition to enhance
productivity and economic
prosperity

**33% Energy Savings for Local
Authorities**

Exponential IOT growth
Connected Devices :
2016 – 22.9bn
2020 – 50.1bn



New Approach Required

In the next 30 years

× 1.5

Energy consumption
will grow by 50%

÷ 2

CO₂ emissions
need to be halved

↑ 3 ×

We have to become
3 times more efficient

Source: Schneider Electric, 2016



In the year
2050

World
population
will require



70%

More **food**, and



70%

Of this food must come
from efficiency-improving
technology³



Global Movement Towards Smarter Cities and Regions



Innovative Opportunities exist across all sectors to Improve Efficiency and Competitiveness in a Sustainable Manner.

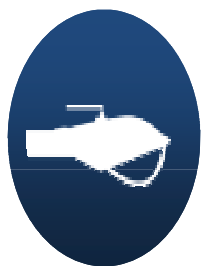
Smart is NOT just about technology BUT Smart solutions can use technology as an enabler to solve real problems



Traffic Management



Public Safety



Lighting



Water Management



Pollution/
Environment



Waste Management



Agriculture Management

Smart Grid/
Smart Energy



Smart Agriculture



Internet of Things



Smart Retail



Smart Health



Smart Mobility



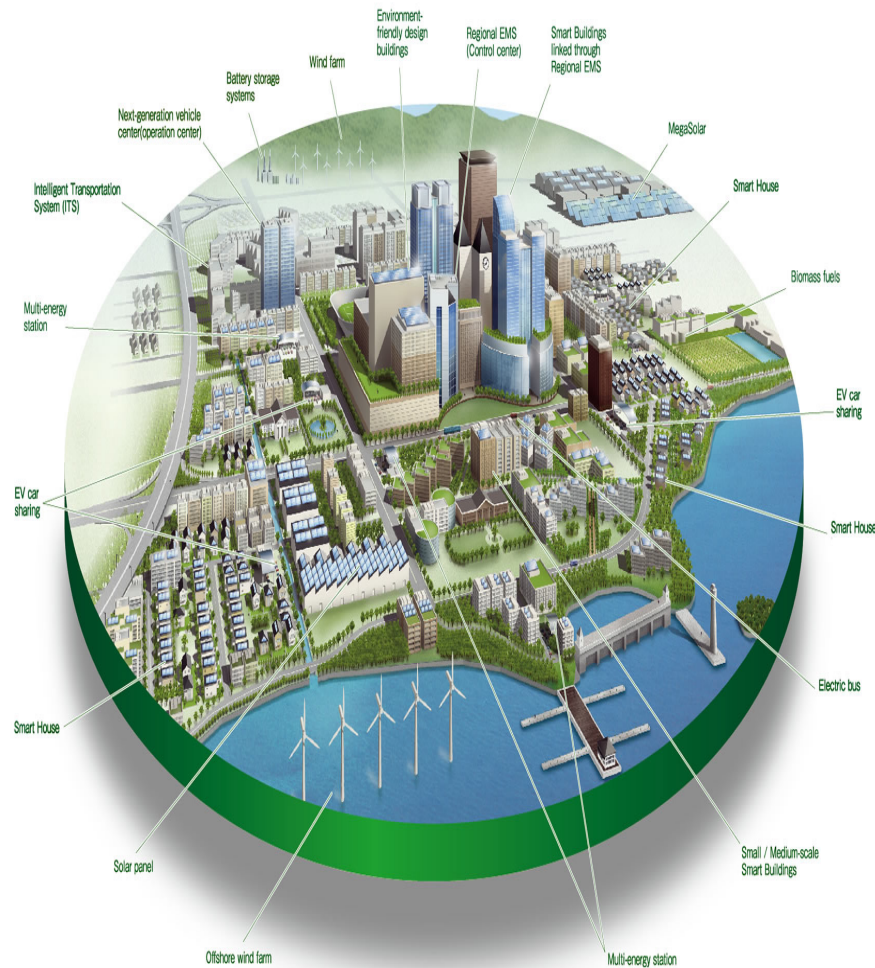
Smart Home



Open Data



Translating the Smart City Vision



Source: http://www.districtoffuture.eu/uploads/imagenes/imagenes_meetinpoint_smart-city_2b637ab6.jpg/

Cork Smart Gateway Steering Group



James Fogarty
Cork County Council



Mike Hayes
Tyndall



Dirk Pesch
Nimbus



Ruth Buckley
Cork City Council



John Forde
Cork County Council



Claire Davis
Smart Programme Co-ordinator



Aidan O'Riordan
Cork City Council

Cork Smart Gateway: Vision & Objectives



The Cork Smart Gateway works to identify and deploy smart solutions to solve regional challenges, seize emerging opportunities and enhance the reputation of Cork as an attractive place to live, work, visit and invest.

Vision:

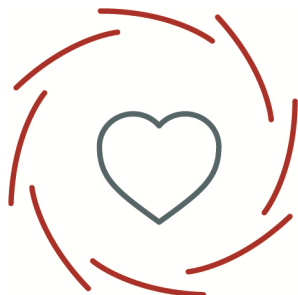
The Cork Smart Gateway aims to enhance the reputation of Cork as an attractive region for people to live, work, visit and invest

Objectives:

The Cork Smart Gateway will achieve this vision by:

- **Engaging** with citizens to identify the evolving challenges and opportunities that impact on their quality of life
- **Identifying** suitable and achievable smart projects through a collaborative multi stakeholder approach
- **Encouraging** an open and innovative ecosystem that supports start ups and SMEs through the facilitation of test beds to pilot new technologies
- **Promoting** Cork as a Smart destination internationally

Strategic Focus Areas



Citizen Engagement

Assisted Living

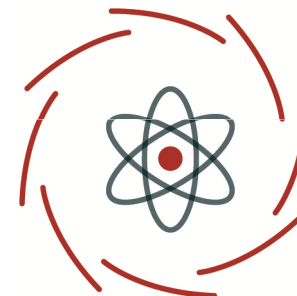
Mobility

Open Data



Energy & Resource Efficiency

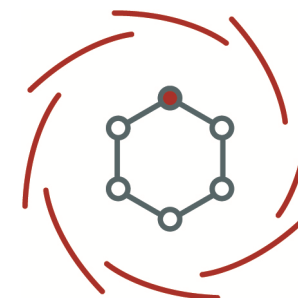
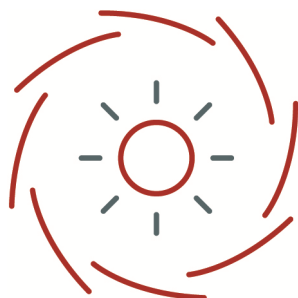
E – Governance



Food & Agriculture

Economic Development

Communication



Some Smart Local Projects

County Hall Campus Beyond 2020:

- Achieved National Energy Efficiency Action Plan of 33%
- Energy saving projects, technology & building user participation
- ISO 50001 in May
- 30% Energy Savings in libraries via Insulation & Heat upgrades

Bandon Flood Early Warning System

- Approx 5 hours warning time
- Scale of flood can be estimated
- Citizen communication via text and email

Civic Offices – Geothermal

- Heat Pump tapping into the aquifer
- 160kw Heating/175kw Cooling
- Secondary Heating to Natural Gas System

Upgraded Wastewater Treatment

- Protection of water quality
- Environment and Economic benefit
- Nereda® technology

Mallow Swimming Pool:

- 6% reduction in electricity usage at Mallow Swimming Pool
- CHP Project this year will achieve additional savings

Mallow Systems and Innovation Centre

- Test-bed for wireless, medical & other solutions.
- Free public wifi

Automated municipal bike rental



Electrical Vehicles

- Network of EV charging points
- Converted vehicles (including first responder van) to electric.

LED Lights in County and City

- Upgraded all of the public lighting on 7 inhabited islands off Cork coast.
- Energy Saving & Reduction in CO2 Emissions in excess of 30%

Tourism Technology at Spike Island

- Self guided tours are facilitated through next generation technology by Cork based Company In Hand Guides

Housing Initiatives

- Glen District Heating Scheme
- Ground Heating Hollyhill Library
- Solar Heating – Knocknaheeny

Tramore Valley Park

- Living Laboratory for the co-creation of solutions to urban challenges in the renewable energy field

Water Systems and Service Innovation Centre

- Centre for applied research and technological innovation for Irish water sector companies

'Your Council' Online Engagement

- Access to 40 different online services
- Designed following survey to 3,000 citizens

Mix your Mode

- Public transport, cycling and electric vehicle journey Planner
- Carbon Calculator to inform decision

All Ireland Smart Cities Forum

Aim: To advance smart city programmes across Ireland by working together to explore common challenges related to implementing smart city policies and projects and share insights

- Local authority representation from Cork, Dublin, Limerick, Galway, Waterford, Belfast and Derry
- The forum will work to share best practice solutions and collectively drive Ireland's smart agenda.



Lighthouse projects

- *Low energy districts*
 - *Integrated infrastructures/ICT*
 - *Sustainable urban mobility*
-
- 3 Lighthouse districts
 - 3 follower cities (min)
 - 8-10 partners per lighthouse
 - IA Project: 70% funding + 25% overheads
 - Budget EUR 12 to 18 million
 - Competitive call at National and International Level

Cork is in a good position due to its role as a follower city



Aim is that Lighthouse Cities/Regions will become the **most advanced** in Europe and act as exemplars for their region by paving the way for replication of these solutions.

GROWSMARTER

3 Lighthouse cities

Stockholm, Cologne, Barcelona

will be using an integrated approach to roll out.....

5 Follower cities

... and Valetta, Suceava, Porto, Cork and Graz will follow the progress & create their own replication plans..

3 targets

... to achieve 3 targets based on the 3 pillars of sustainability:

- improve the quality of life
- create growth in local enterprises
- save money for the municipality

12 smart solutions

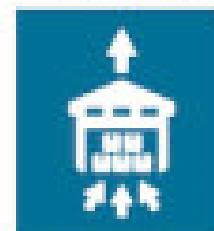
..., in partnership with industry, solutions in 3 areas:

- low energy districts,
- integrated infrastructure
- and urban mobility....

Low energy districts



Smart building shell refurbishment



Smart building logistics



Smart energy-saving tenants

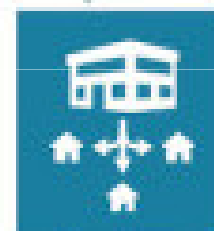


Smart local electricity management

Integrated infrastructures



Smart street lighting



Waste heat recovery



Smart waste collection

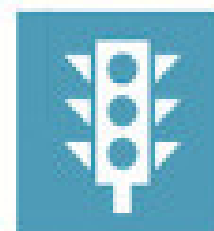


Big data management

Sustainable urban mobility



Sustainable delivery



Smart traffic management



Alternative fuel driven vehicles



Smart mobility solutions

Cork Smart Gateway Role:

Supporting Cork Companies



07 NOV 2016 / BY CLAIRE / 0 COMMENT / BLOG

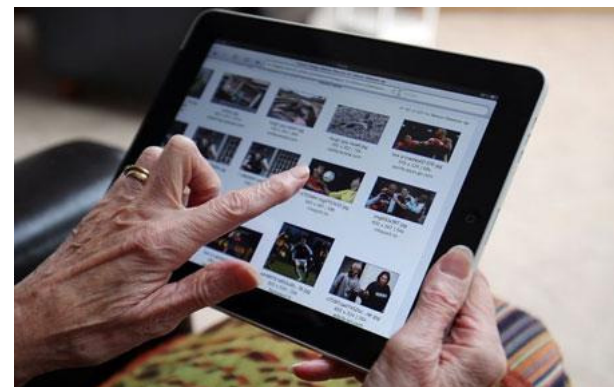
AND THE WINNER IS VCONNECTA

The @cork Leader's Awards is an annual event recognising the leading companies in Cork's IT community. From global multinationals to schools and start ups, the awards recognise those who have gone further than most in this

Communication and Dissemination



Identifying Smart Solutions



Representing Cork's Smart Agenda at National level



Creating a forum for Collaboration












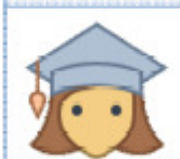
Promoting Cork as a Smart Destination



Some Projects:

Cork Citizen Engagement Survey

 Representative	950	 Senior	141
 Non-Representative	1301	 Youth (15-18)	768
 Mallow	87	 Official	352
3599 respondents			

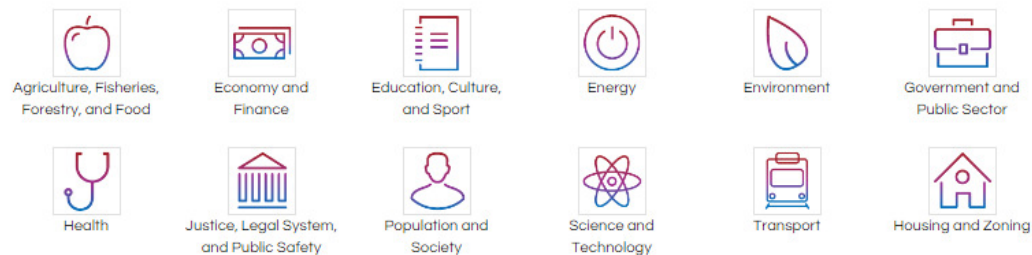
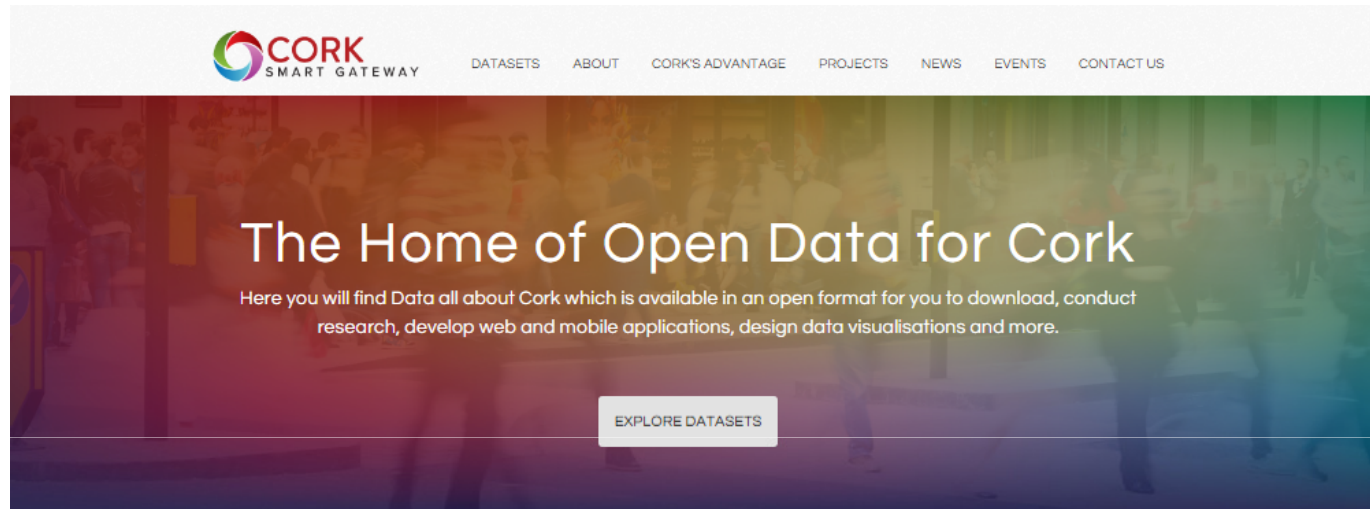
Impacts	
	High volume of reliable data for project prioritization and implementation
	Cost: from 3 to 10 times cheaper than using service providers
	Awareness of the CorkCitiEngage 20K on Twitter 2.5K+ face to face 14K on LinkedIn 30K students (UCC + CIT)
	100+ students trained in households interview skills => National Census

51% Male

76% living in Cork for over 10 years

63% living in City Centre and Suburbs and 37% living in Commuter Towns and Rural Areas

Open Data Portal



Data Streams:

- Real time car parking availability in the 7 car parks around the city
- Planning Applications
- River Lee Water Levels at Anglers Rest and Lee Road
- Coca Cola Bikes API

Cork Demonstrator Brochure

17 Snapshots of Key Smart Demonstrators, Projects and Test Beds from the Cork Region



Precision Agriculture Technology Testbed

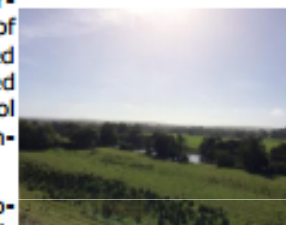


One of the biggest challenges facing humanity is the ability to feed our rapidly growing world population. The existing worldwide production system is unsustainable without some major breakthroughs in food production.

Tyndall National Institute is playing a small part in addressing this global problem. Using expertise of existing technology and track record of developing new innovative sensor and integrated circuit solutions, Tyndall has created a test-bed where smart systems are being used to control and monitor a variety of factors relating to farming.

The 'small smart farm' is spread over various locations around Cork, accessing different conditions. The locations include several horticultural units, simple stand-alone planters, a pasture area and even the river Lee itself where water levels are being continuously monitored and the output available on a live automatic [twitter](#) feed operating 24/7. Data is transmitted wirelessly to and from sensors and actuators using a variety of technologies including the SFI CONNECT Centre's 'Pervasive Nation' LoRa infrastructure. <https://connectcentre.ie/pervasive-nation/>

The testbed utilises a variety of sensors which monitor soil and air temperature, rainfall, light intensity, moisture & water levels, and can make changes to positively influence growing conditions. New Award-winning smart sensors have been developed in Tyndall. Combining this technology with agricultural expertise from several partners (including the UCC school of Biological, Earth and Environmental Sciences), allows farmers to instantly measure and remotely receive information, to make better decisions on fertilization and watering, leading to increased production at lower cost.



Contact:

Brendan O'Flynn

T: +353(0)21 4903000

E: brendan.o'flynn@tyndall.ie

www.tyndall.ie

Tyndall National Institute,
Lee Maltings Complex
Dyke Parade,
Cork



Procurement through Open Challenge

- Open Challenges allow public bodies to define problem statements and invite creative and innovative solutions from researchers and businesses including SMEs and Start Ups.
- Fundamentally changing public procurement methodology by not specifying the solution
- Small Business and Innovation Challenge
 - Pre Procurement
 - Two Stage Process
- Benefits include:
 - Establishing a dialogue with businesses
 - Access market research
 - Explore a variety of solutions
 - Stimulate the market by incentivising the development of new ideas, prototypes and pilots.
 - Savings of up to 10% by opening up procurement contracts and leveraging innovative community based problem solving (McKinsey)



€80k Small Business Innovation Research Challenge

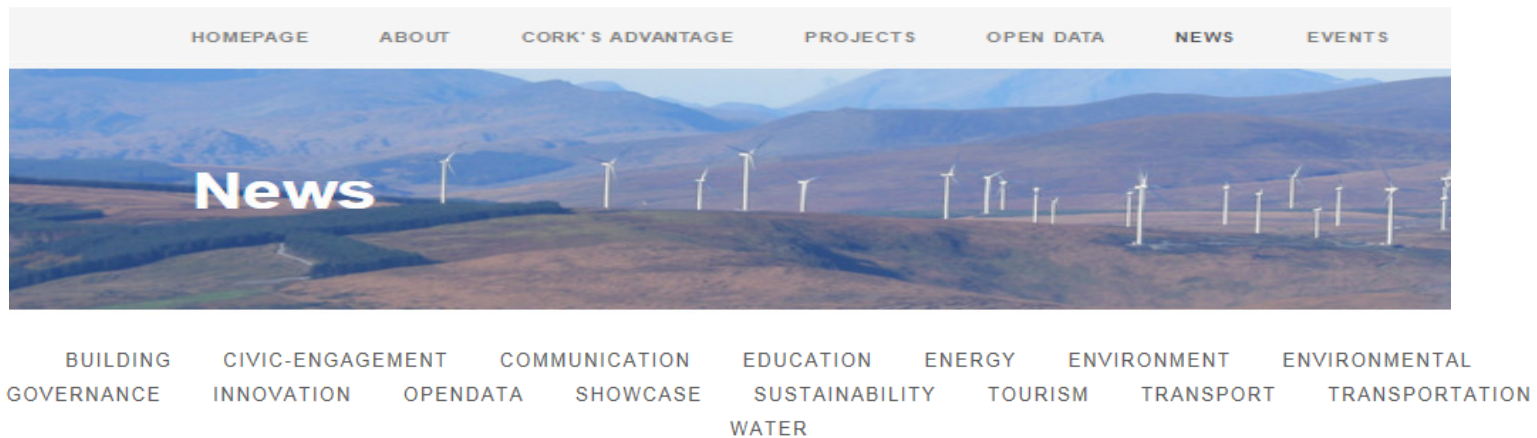
- Cork County Council is seeking low cost and accessible solutions that will help Cork's older citizens maintain a good quality of life and enable them to remain and feel secure in their home.
- Solutions sought should aim to address one or more of the effects of being / feeling isolated and insecure and in particular increase the resilience of older people to respond to the impacts of critical events
- For more information and to apply see https://irl.eu-supply.com/app/rfq/publicpurchase_frameset.asp?PID=111314&B=ETENDERS_SIMPLE&PS=1&PP=ctm/Supplier/publictenders
- Closing date 12 noon on the 2nd June 2017





Thank You

claire_davis@corksmartgateway.ie



LinkedIn: Cork Smart Gateway

www.corksmartgateway.ie

@smartcork