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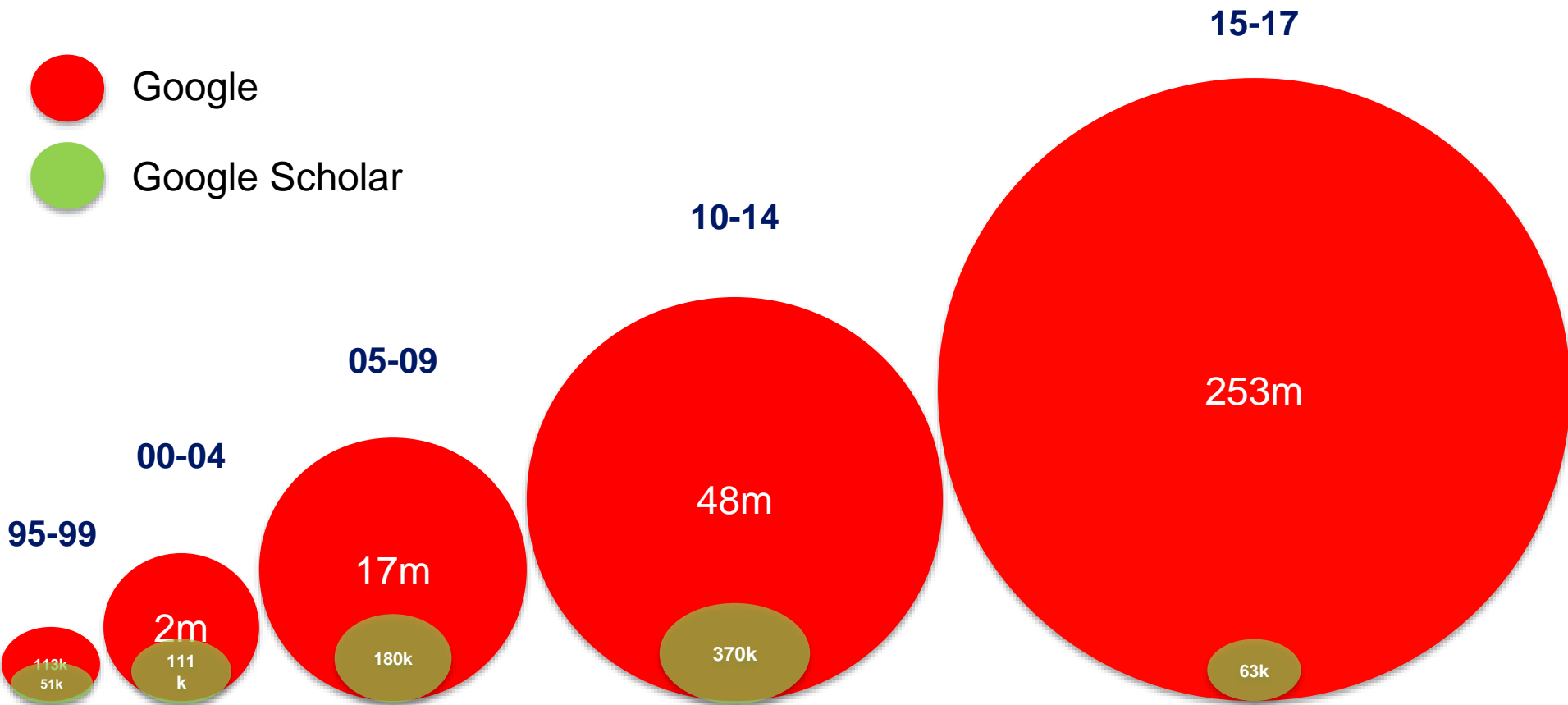
Smart City: the Good, the Bad and the Ugly

Presented by Prof Pascal Perez
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University of Wollongong
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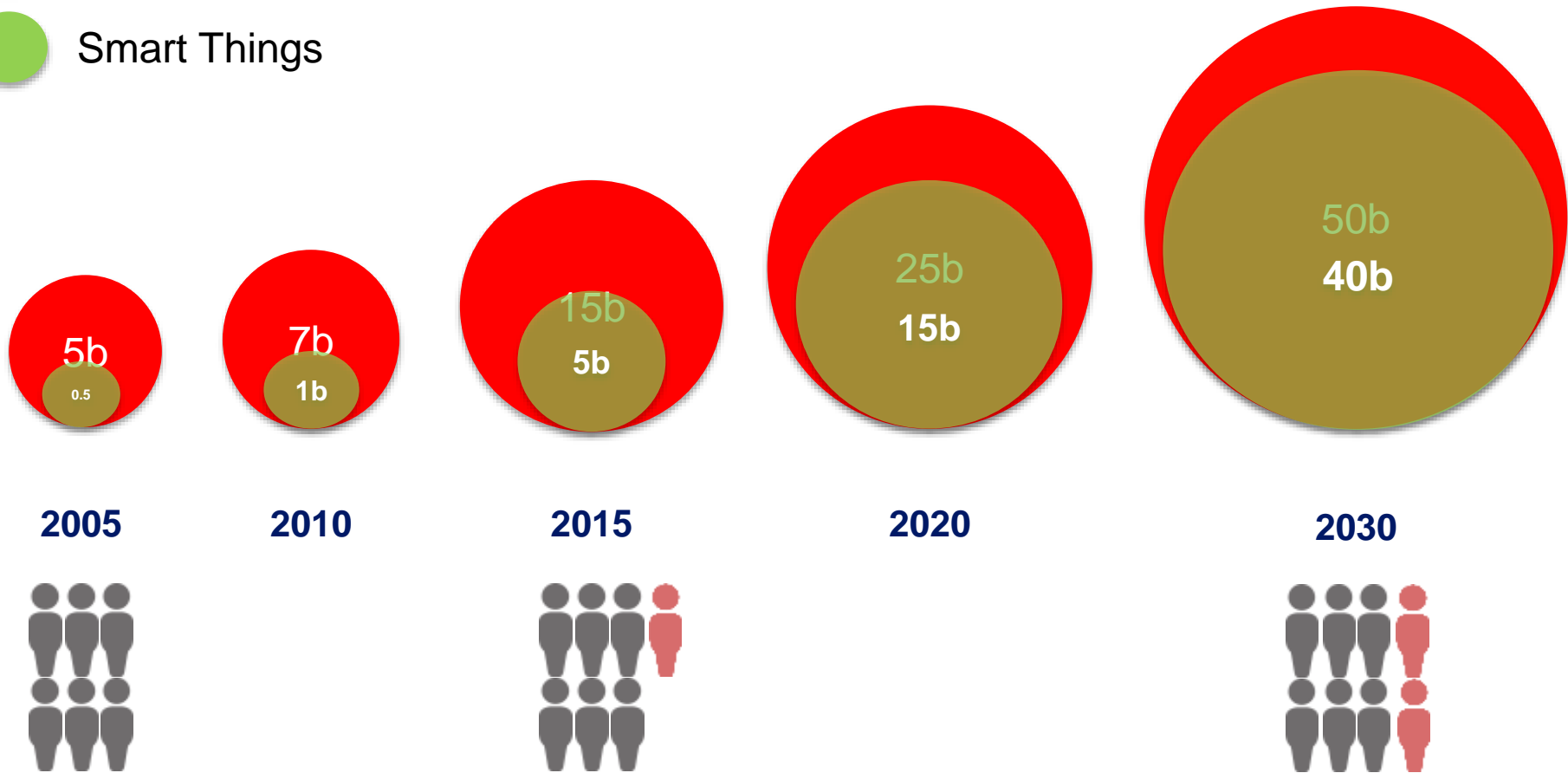
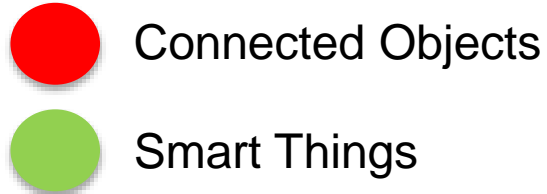
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Smart City...Epidemics or Revolution?



(source: SMART, 2017)

Are we there yet?

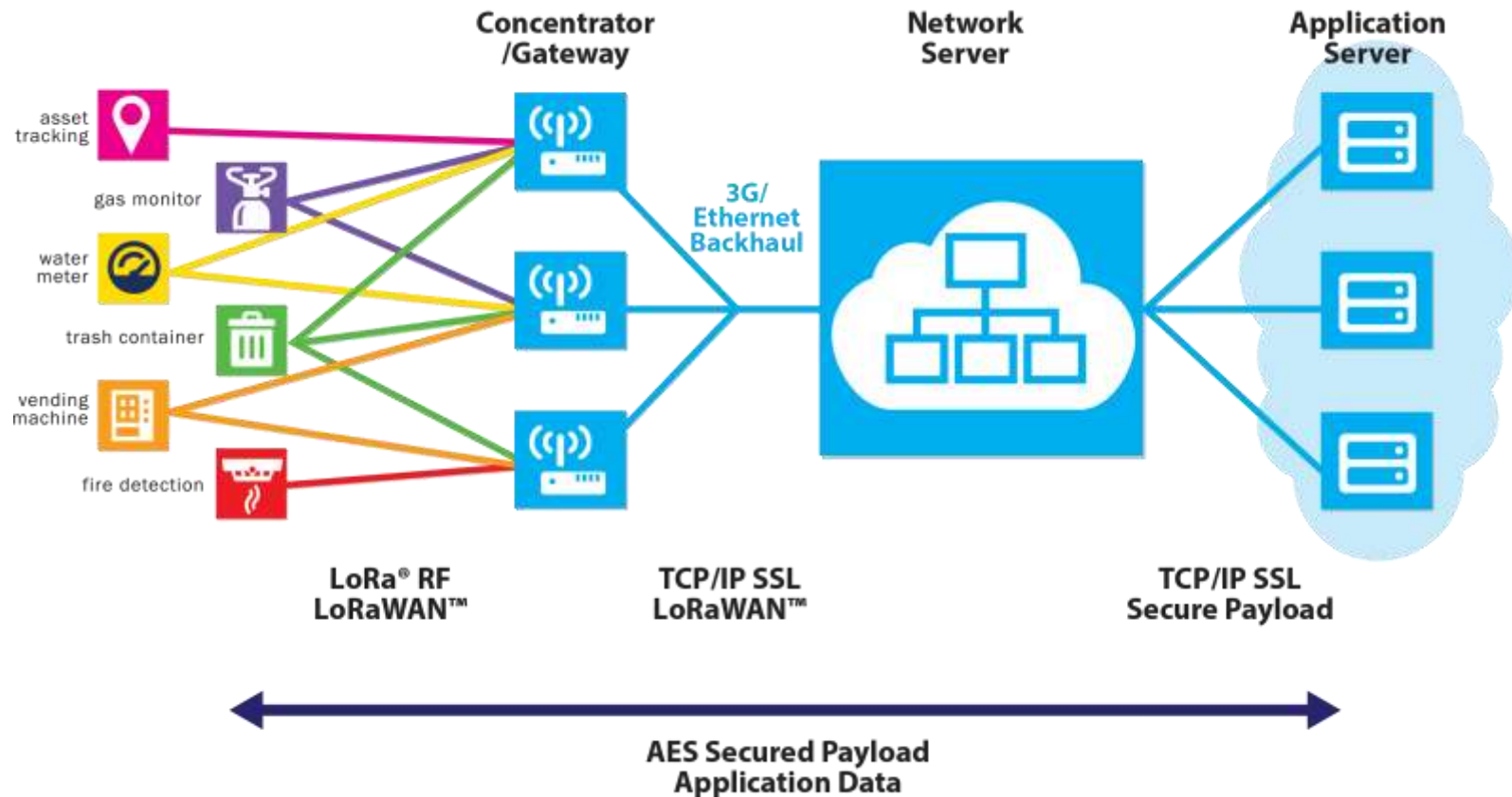


(source: CISCO, 2017)

How does it work?

LPWAN: Low Power Wide Area Network

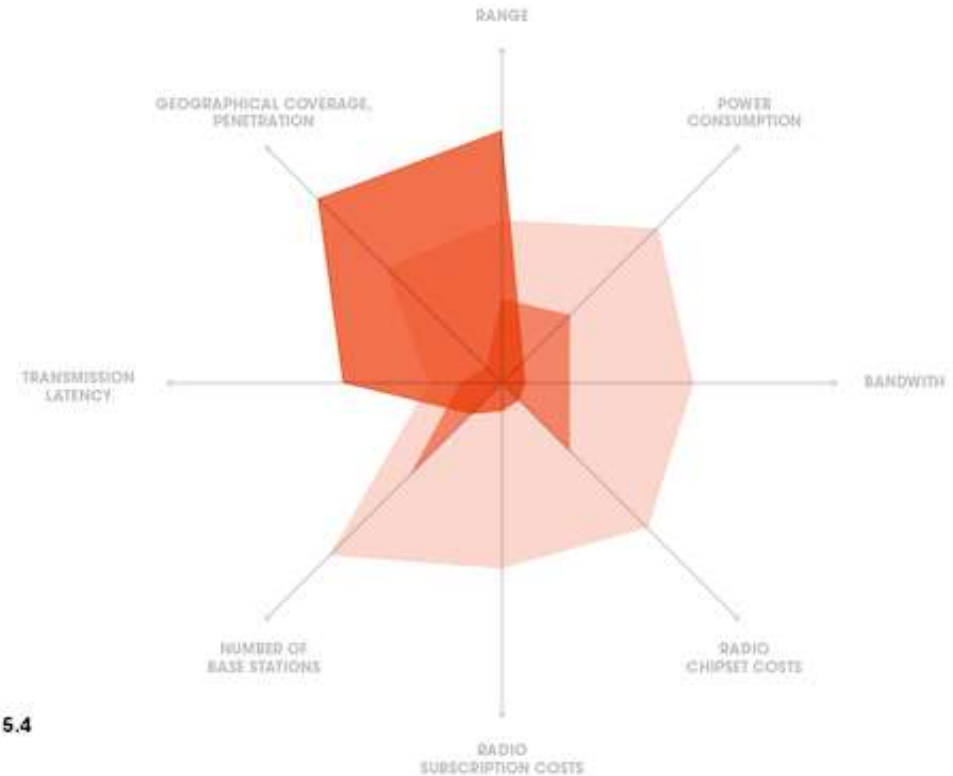
LoRaWAN: specific instance of LPWAN (other protocols: Sigfox, NB-IoT)



(source: MikroElektronika, 2016)

Why is IoT so disruptive?

- Low frequency (915 Mhz)
- Non commercial band
- Long range (5-15 km)
- Low power
- Low cost
- Transmission latency (class A)
- Small data packets (222 bytes)



(source: November Five, 2016)

😊 GOOD

What are we getting wrong?

(source: November Five, 2016)

- **75%** of narrative on 'smart cities' is about **liveability**



- **75%** of smart city applications are about **productivity**



What are we getting wrong?

(source: November Five, 2016)



Smart City!

Smart People?



(source: City of Adelaide, 2016)

Houston...do we have a problem?

- Competing radio-communication protocols
- Contrasted business models
- Slow progress on open-source end-to-end standards (OneM2M)

HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)



UGLY

(source: <https://xkcd.com/927/>)

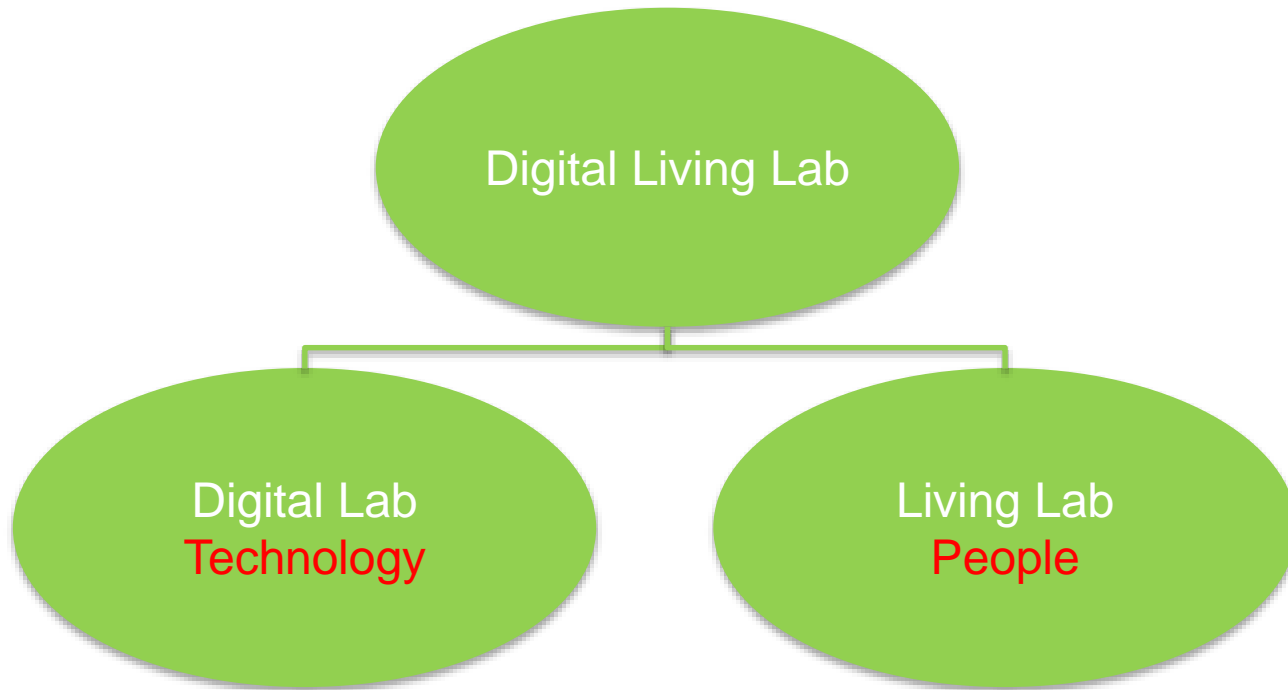
Smart city from the bottom up...Community-IoT!

- Smart cities are made of smart connected people
- Re-writing the smart city narrative as an inclusive process
- Community-IoT: IoT solutions for people by people



<https://youtu.be/U4UrXI-SGEo>

The Illawarra's Digital Living Lab



- Knowledge Hub
- Design & Testing Facility
- Community-IoT Accelerator

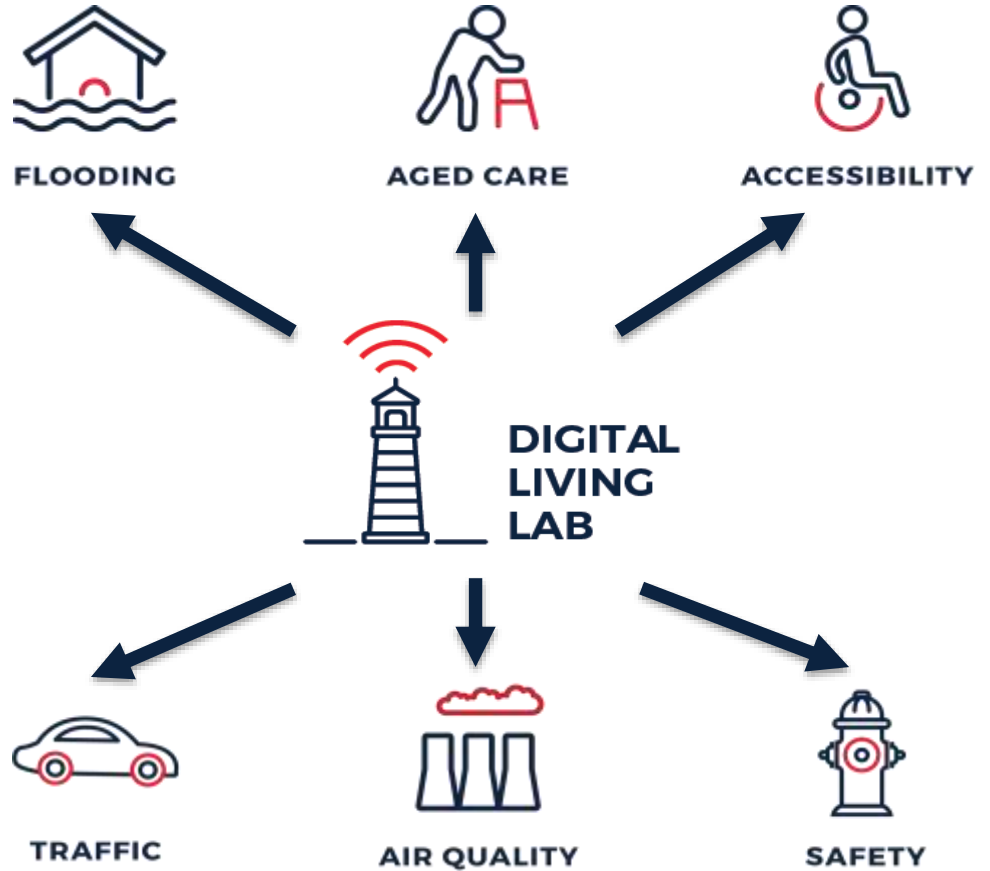


The Illawarra's Digital Living Lab


- Phase 1 - Creation of the **SMART IoT Hub** an open lab where researchers, students, and community members can learn, exchange and develop their community-IoT solutions (September 2016).
- Phase 2 - Deployment of a free-to-air **LoRaWAN network** across the region. SMART is coordinating the installation and UOW is funding the operation (August 2017).
- Phase 3 - Supporting high impact **community-IoT projects** addressing key social, economic and environmental challenges facing our region.



The Illawarra's Digital Living Lab



Launch of the Digital Living Lab – May 2017



UNIVERSITY OF WOLLONGONG AUSTRALIA

Digital Living Lab


The University of Wollongong (UOW) is proudly leading the digital revolution in the Illawarra region.

In collaboration with the Wollongong City Council, UOW intends to deploy a free-to-air Internet of Things (IoT) network across the region to support high impact community-orientated projects.

These game changing projects will address key social, economic and environmental challenges facing our region. A first cohort of projects will tackle problems related to aged care, flooding, accessibility and emergency services.

We encourage communities, entrepreneurs and innovators to embrace this technology revolution and join the Digital Living Lab. Our ultimate goal is for the Illawarra region to become Australia's Digital Living Lab, a place where cost effective and disruptive technology can really change lives.

JOIN US
Whether you are a potential sponsor, an IoT entrepreneur, an IT company or a community group, we want to hear from you: smart-facility@uow.edu.au



DIGITAL LIVING LAB

<https://youtu.be/fFaBRuwTi6Yo>

Keep in Touch!



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