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IoT and Industry for the future

December 2017

thin^xtra
Empowering Internet of Things



smart
infrastructure facility



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

3 WAVES



1995

1 BILLION
INTERNET USERS



2005

2 BILLION
SMARTPHONES USERS



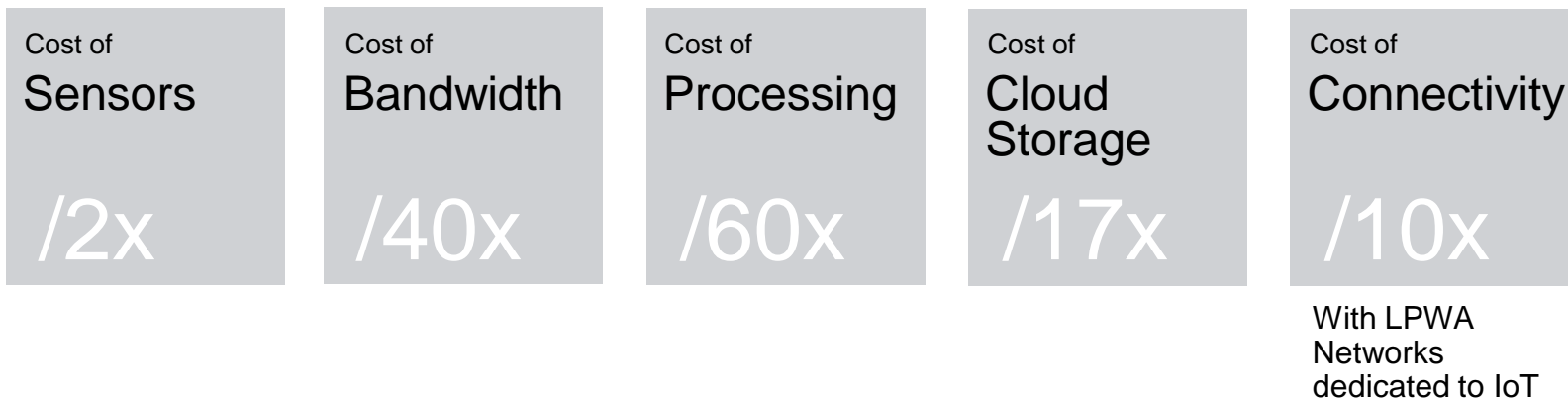
2020

20 BILLION THINGS
TO BE CONNECTED*

*ERICSSON

WHY NOW?

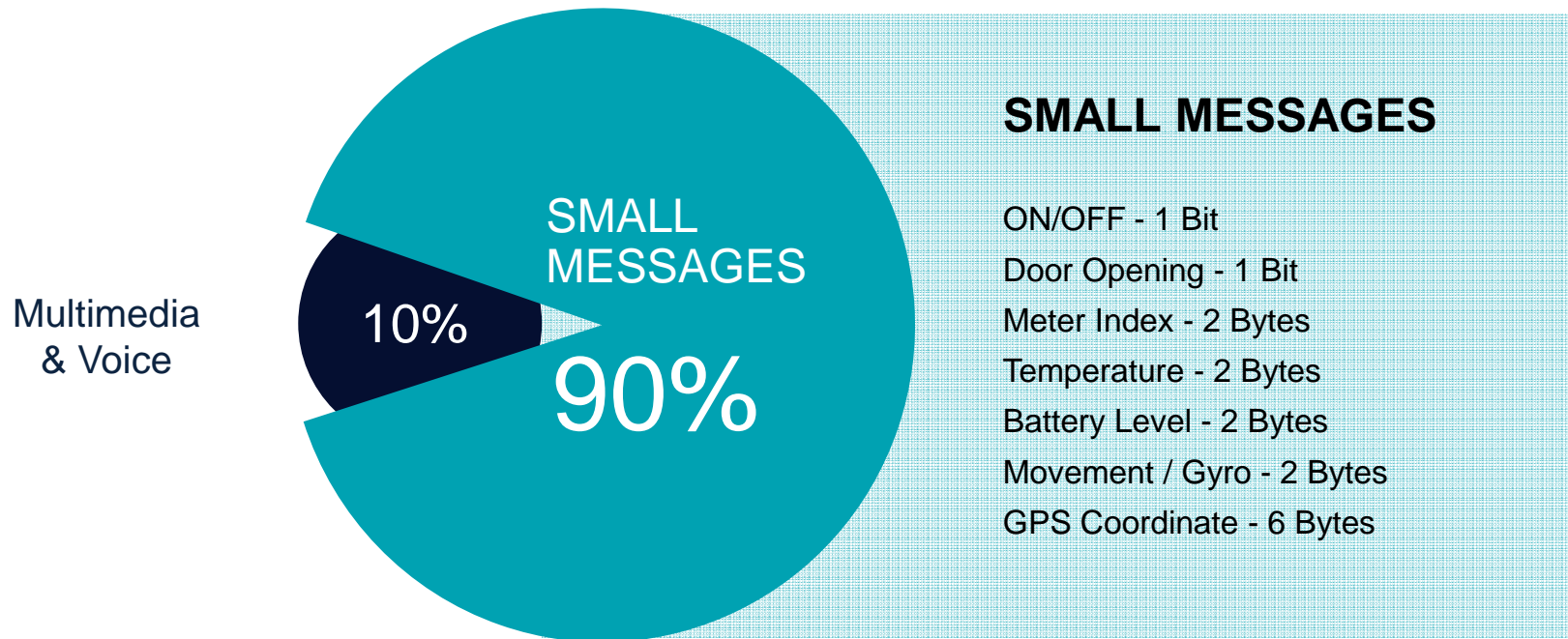
Costs have declined over the past 10 years.



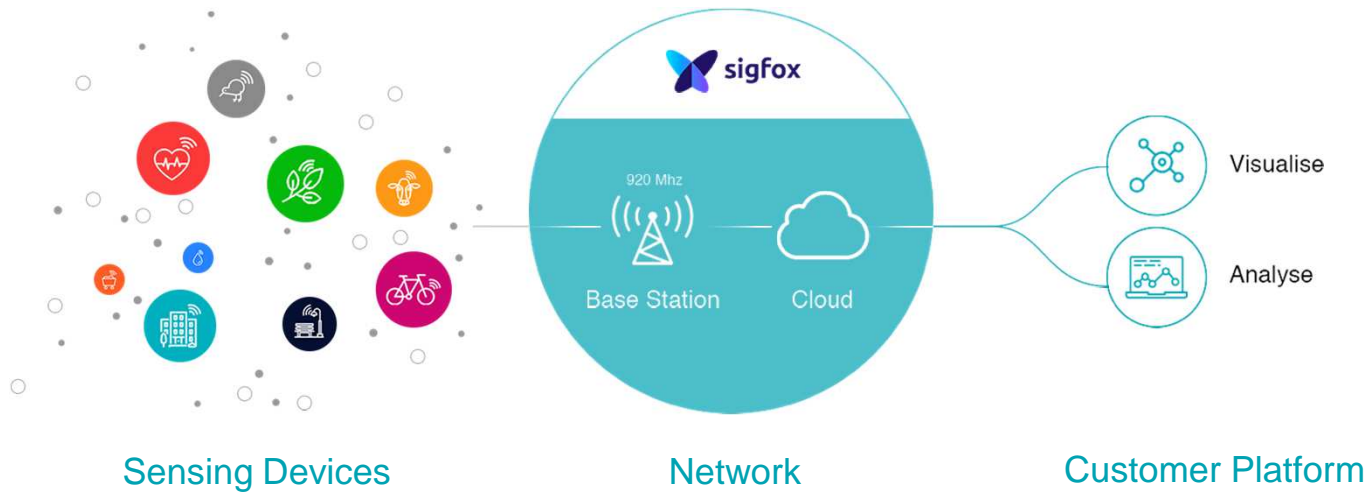
THE GOOD NEWS:

99%
of things in the world are still not connected

MOST THINGS CAN BE CONNECTED VIA SMALL MESSAGES



WHAT IS THE INTERNET OF SIMPLE THINGS?

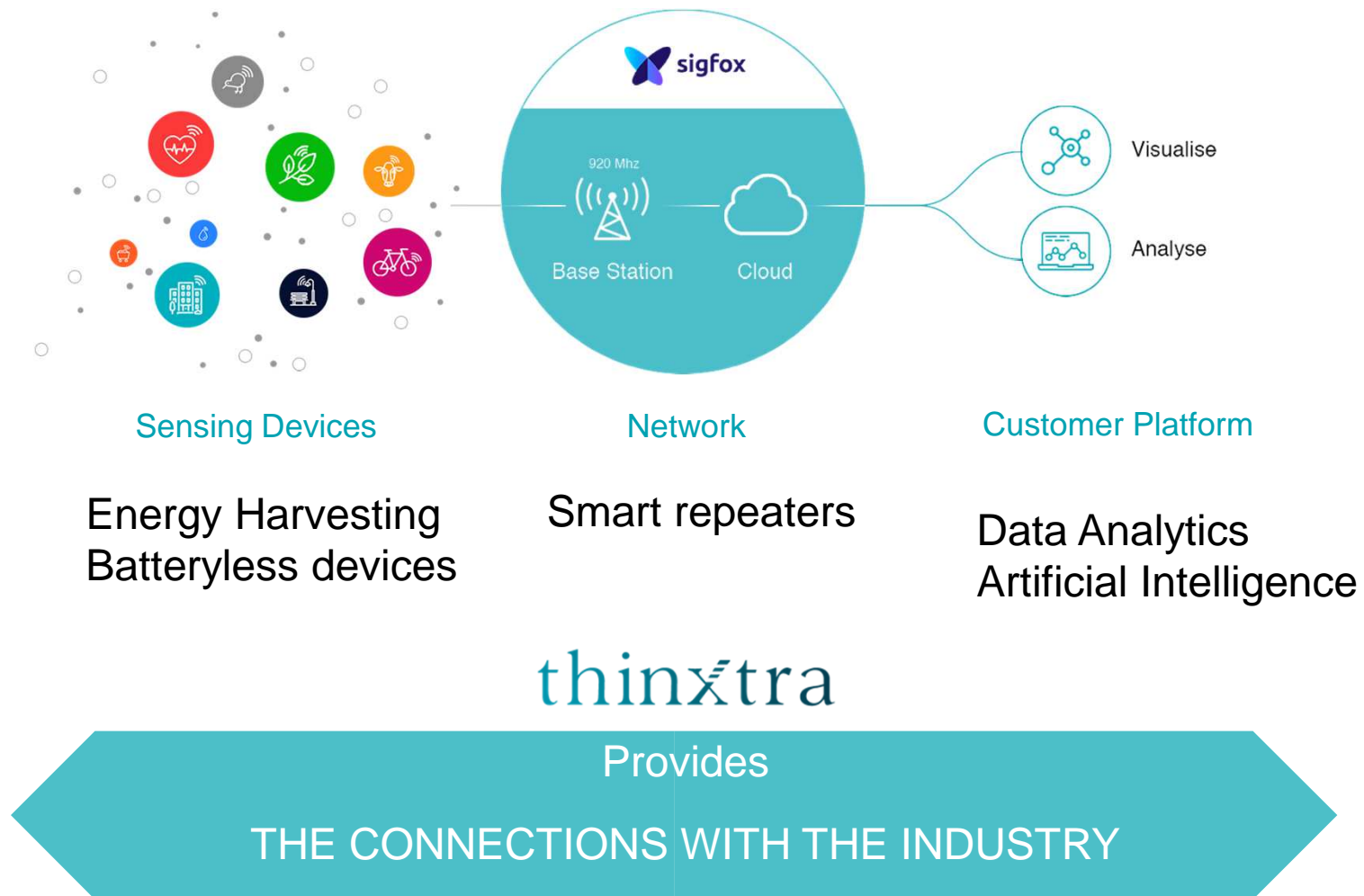


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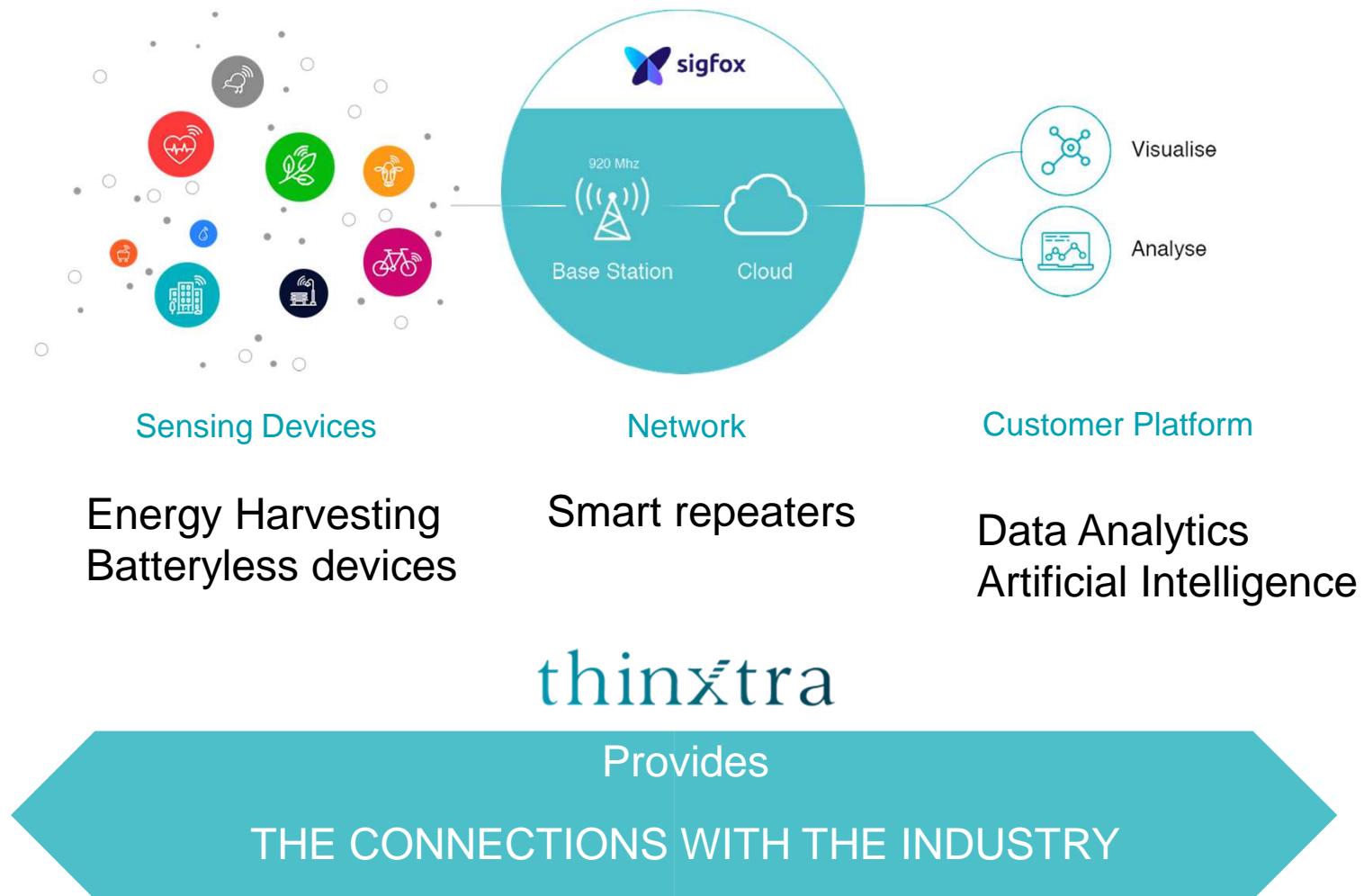
Provides

End-to-End Solutions via our local ecosystem of partners

WHERE IS THE OPPORTUNITY FOR COLLABORATION ? WHERE CAN FRENCH RESEARCHERS HELP AUSTRALIA?



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BENEFITS



Bringing
a global IoT
network for
Research



Empowering
hand on
experience
to hardware
and software
development



Broadening
horizon for
innovation
and future
inventions



Enabling
innovation
from within
Universities
& Research
Centers



Opportunity
to promote
innovation
globally

The Illawarra's Digital Living Lab

The Digital Living Lab is home to some game changing projects addressing key social, economic and environmental challenges facing our region, such as health, safety and environmental issues.



It shares data from sensors throughout the region that can monitor the environment or asset in real time to create safer and more liveable cities using Sigfox or other networks.



UOW and Thinxtra - Digital Living Lab

thinxtra



‘The partnership is very simple, we provide free connectivity and free development kits in exchange for access to the rooftop for a base station’

‘There are already some companies within the university that are developing applications using Sigfox and this will give teachers, students and researchers the support that they need, at no cost to the university.’

‘This will enable local developers to test the inter-operability of their innovations with different radio communication protocols, from our existing free-to-air network that has attracted a large amount of interest in the community, to future technologies that will be deployed in a near future’

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Collaboration with French Universities



SMART has proved to be an attractive destination for two French engineering students, who are spending their summer internships at the facility.

Karim Belayati was born in Morocco, before to France to specialise in mathematics and computer sciences at INSA (Institut National Des Science Appliquées) at Toulouse.

While at SMART, he will be working with Dr Johan Barthelemy using the rich information source provided by the 500 million daily tweets posted to Twitter to provide a range of qualitative information.

Using a streaming API, his job is to collect geo-tagged tweets and provide data visualisation for what information they provide.

'The idea is to create an application for a user so we can – for example – look at tweets about traffic,' Karim said.

'We can look at them by location, over time and whether their sentiment is positive or negative.'

The information can be tailored both by subject and location, and the uses are wide – including commerce, politics and governance.

Also at SMART over the European summer is Clément Grodecoeur, a third-year engineering student from Polytech in Tours.

Specialising in informatics and computer science, Clément is working with Dr Rohan Wickramasuriya to develop a program that will automatically place roads in the map of a housing subdivision.

'Working in a research centre such as SMART is great background to have when I apply for a job later,' Clément said.

In time, the application will also be able to automatically create an entire subdivision – both houses and roads – which can then be altered as necessary.



Karim Belayati



Clément Grodecoeur



Technological Interoperability for Smart Cities: Opportunities and Challenges Seminar and Workshop

