THE ROLE OF LPWAN IN DESIGNING SMART CITY VERTICAL APPLICATIONS

RENALD GALLIS
VP MARKETING
MARKETING@THINXTRA.COM
Member of

AUSTRALIAN smart communities association

IoT Alliance Australia
infrastructure initiative to support Singapore’s vision bringing nationwide sensor network + data analytics abilities, providing efficient sharing of sensor data.
TYPE OF CONNECTIVITY TECHNOLOGIES

LPWAN PROS:
- LONG RANGE
- LOW COST
- LOW POWER
- SIMPLER
- SECURE

LPWAN CONS:
- SMALL DATA
- AVAILABILITY

# RFID: Radio-frequency identification - NFC: Near field communication - BLE: Bluetooth Low Energy - LPWAN: Low-power wide area network
## LPWAN PROVIDERS

SIGFOX IS A PROVEN TECHNOLOGY WITH A NATIONWIDE LOWEST COST NETWORK, LOWEST COST DEVICES AVAILABLE NOW & LOWEST POWER CONSUMPTION

<table>
<thead>
<tr>
<th>BUSINESS MODEL</th>
<th>INTERNATIONAL NETWORK AND STRUCTURE TO ENABLE GLOBAL ECOSYSTEM. OPEX MODEL</th>
<th>TECHNOLOGY SELLS FROM MULTIPLE VENDORS WITH DIFFERENT FLAVORS CAPEX MODEL</th>
<th>TECHNOLOGY SELLS OPEX MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECHNOLOGY MATURITY</td>
<td>MATURE WITH STRONG SLAS (98+% GUARANTEED)</td>
<td>PRIVATE NETWORK DEPLOYMENTS &amp; COMMUNITY NETWORKS. NO SLA</td>
<td>NOT WIDELY DEPLOYED BEFORE 2018</td>
</tr>
<tr>
<td>ECO SYSTEM</td>
<td>WORLD #1. DEVICES AVAILABLE NOW.</td>
<td>FEW DEVICES AVAILABLE</td>
<td>NOT DEVELOPED YET</td>
</tr>
<tr>
<td>RANGE</td>
<td>BEST IN CLASS WITH 1.5 MILLION MESSAGES / BASE STATION / DAY</td>
<td>GOOD WITH MAX 10K MESSAGES / BASE STATION / DAY</td>
<td>AVERAGE WITH 1 MILLION MESSAGES / BASE STATION / DAY</td>
</tr>
<tr>
<td>DEVICES COST &amp; COMPLEXITY</td>
<td>LOW</td>
<td>MEDIUM</td>
<td>MEDIUM</td>
</tr>
</tbody>
</table>
CITIES NEED LPWAN TECHNOLOGY

IT ALL COMES DOWN TO LOW COST CONNECTED SENSORS
So that you can hear what millions of things have to say
PARKING MANAGEMENT

Happier drivers saving time to find parking. Reduce accidents & gas pollution.
DUMPSTER MONITORING

Manage any kind of bins.
Daily info on filling level.
Alert in case of fire.
Possibility of GPS tracking for moving bins.
MANHOLE MONITORING

Send alert when opening cover.
Easy to install with App, no pairing.
Avoir high street hazard.
Strong magnet on device.
SMART FIRE HYDRANTS

Monitor the status 24/7. Ensure proper functioning. Protection against water theft. Estimate volume drawn.
SMART METERING

Real-time measurement of water and time consumption.
Two-way transmission of data.
Effeciency & durability.
GAS MONITORING

Analyse air quality. Alert gas leak.
Wide area covered.
INTELLIGENT BUILDINGS

Water, gas, electricity meters.
Air conditioning for precise maintenance.
Distorsion of building.
SMOKE SENSOR DETECTOR

Monitoring working hours.
Cheap & simple solution to set up.
Optimum effectiveness & safety.
5+ years battery powered.
ASSET TRACKING (VEHICLE & GOODS)

Ruggedized and waterproof.
Central interface to all your assets.
Live information on asset location, status and motion.
ACCESS DOOR MONITORING

Send alerts for unauthorised access of rooftops/private areas.
Easily customisable solution.
Extremely simple set up.
10+ years battery life.
WITH LPWAN, CITIES CAN BE SMARTER

EASIER TO MAINTAIN

• Monitored access, roads, signage, parking, fire hydrants, street lighting…
• On-demand maintenance, garbage collection, and hazard alerts
• Maintenance staff at the right place, at the right time

MORE ECO-FRIENDLY

• Less energy consuming and avoid waste
• Monitor water pollution and air quality level
SAFER

• Area access control, monitoring of hazardous substances…
• Elders’ monitoring

SPARK INNOVATION

• IoT network coverage gives rise to innovators and start-ups to create more IoT solutions
• Generate new tech business, increase employment & city attractiveness
SUCCESS FOR IOT LPWAN

1- COLLABORATION is required between Government, industry, education, within and between industry sectors and ‘eco-system’ partners.

2- OPEN architectures, protocols, data standards and interoperability across industries

3- CONNECTIVITY framework that is secure and simple: open specification that anyone can implement and is easy for developers to use.

4- LOW COSTS connectivity (low power consumption devices) are imperative to provide obvious benefits.

Low costs, Security & Interoperability are key advantages for IoT LPWAN implementation in Cities.
The SA State Government have entered into an MoU with:

Thinxtra to implement a statewide SIGFOX network coverage to provide IoT connectivity for Councils, Utilities & Agriculture projects.

Many projects in the pipeline with collaboration between local councils, industry, incubators, system integrators and device makers in SA.
IoT experts who share the same passion: Connecting things to improve business processes & people’s lives

Vision:
To be the #1 ANZ-wide LPWAN IoT network

**WE EMPOWER INTERNET OF THINGS IN ANZ**

Firm milestones for roll out:
November 2016: 65% of AUS, 80% of NZ population
End of 2017: Complete