

Digital Innovation and Efficiency Committee

Item No.

Report title:	LoRaWAN conference & Hackathon Update
Date of meeting:	14th November 2018
Responsible Chief Officer:	Executive Director, Finance and Commercial Services
Strategic impact Networks of connected devices and associated systems provide new opportunities to achieve savings for the Council and improve outcomes in Norfolk.	

Executive summary

The Digital Innovation and Efficiency Committee approved support for The Things Network LoRaWAN conference held in Norwich on the 15th/16th October. This included supporting the “Hackathon” setting a number of challenges for alternative ways of delivering services and achieving outcomes for the people of Norfolk.

The Conference was a success and many of those present complimented NCC on our willingness to innovate.

One result has been an immediate opportunity for our Highways Winter services to explore an initiative in relation to savings.

Recommendations:

- **To note the contents of this report**

1. The Things Network Conference

- 1.1. The Things Network conference was held at St Andrew’s hall in Norwich on the 15th/16th October promoting the use of long range wide area network technology LoRaWAN.
- 1.2. The conference was attended by over 200 people over the two days which included SME’s, NCC staff, council members, young entrepreneurs and the public.
- 1.3. The key note speech was given by the Leader of the Council, who was then followed by the Chairman of the Digital Innovation and Efficiency Committee.
- 1.4. The conference provided an opportunity for officers to explore the technology and understand what others are doing but also it presented an immediate opportunity to consider prototyping sensors to monitor road surface in a field trial for our winter services.

2. Hackathon

- 2.1. In addition, we partnered with 'The Things Network' to conduct a Hackathon on as part of the conference to set a series of challenges for teams to explore if the LoRaWAN technology could solve them.

These included how can we use technology to:

- Monitor air pollution.
- Notify a trusted friend or neighbor if someone has fallen or is taken ill.
- Tackle dementia.
- Alert someone if a person's normal activities have not happened.
- Tackle loneliness and isolation.
- Do things differently in Libraries
- How can we enable people with learning difficulties to travel independently?

- 2.2. The competitors choose to tackle

- How can we people with learning difficulties to travel independently?
- How can we monitor lone workers and alert someone if help is required?

- 2.3. The two Hacks were presented back to the audience and a panel of judges on day two of the event. They were judged and awarded prizes as part of the conference. Our Deputy Head of Information Management & Technology (Kurt Frary) presented two awards, 'People's choice' and 'Best Pitch'

- 2.4. Winners have been invited to county hall on the 1st November to explore if we can develop their solution into a prototype fit for a field trial.

3. Digital Marketplace

- 3.1. The conference highlighted that there are many initiatives across the country using this type technology, but many are re-inventing the wheel each time. We will lead the creation a Digital Marketplace, a list of initiatives, detail of what they are and contact names to freely share with the public sector and Norfolk Business community.

4. Norfolk Hackathon

- 4.1. The Hackathon provided an insight into how such an event can tackle challenges for services, bring innovation, support young entrepreneurs and provide opportunities for SME's. Therefore, we will explore how we can hold an event focused on public sector challenges and innovation.

5. Step Into Tech

- 5.1. We have sponsored 'Step Into Tech,' a Norfolk social enterprise group that brings together parents, educators, employers and tech specialists, that have successfully run competitions previously.

5.2. The Council sponsored the event, accessing its existing social value funding from large contracts by:

- Funding equipment for the event.
- Setting a challenge to monitor air pollution.

5.3. We supported the event on the 25th and 26th of October at Norwich school encouraging young people to use new technology, programming and building sensors.

6. Financial Implications

6.1. The use of social value funding from the Council's existing Capita/Updata network contract and officer time, to develop, implement and organise.

7. Issues, risks and innovation

7.1. Significant innovation opportunities across all sectors, including Norfolk County Council's services.

7.2. The future opportunity to extend the network to cover the whole county for the benefit of residents and businesses.

8. Background

8.1. The Things Network (TTN) <https://www.thethingsnetwork.org/>

8.2. The Things Network is building a network for the Internet of Things by creating abundant data connectivity, so applications and businesses can flourish.

The technology used is called LoRaWAN and it allows 'things' to talk to the internet without cellular mobile or Wi-Fi networks.

It features low battery usage, long range and low bandwidth. No Wi-Fi codes and no mobile subscriptions.

8.3. Step Into Tech (<http://stepintotech.org/>)

8.4. Step Into Tech is a social enterprise founded to make sure we are doing all we can to help all our children reach their full tech potential. The group brings together parents, educators, employers and tech specialists.

Officer Contact

If you have any questions about matters contained in this paper or want to see copies of any assessments, eg equality impact assessment, please get in touch with:

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