

# Gordon TAFE ICT Awards - Internet of things

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SLIDE: Title

Thank you *NAME* and good afternoon ladies and gentlemen.

## Acknowledgement of country

The first thing I'd like to do is acknowledge that we're gathered here today on the land of the Wauthaurong people of the Kulin nations and we pay our respects to elders past and present, and I acknowledge in particular any Indigenous guests with us today.

Congratulations.

Congratulations on choosing a career path that has incredibly power over humanity in the future, the ability to shape and influence our everyday lives given how incredibly dependent we are on technology these days.

SLIDE: Maslow's wifi

In fact, we're almost a loss now without WiFi aren't we? :)

Congratulations on choosing a career path that has such incredible opportunities for employment. In a recent World Economic Forum report on jobs of the future, ICT was one of only a handful of sectors where significant employment growth - upwards of 3.5% by 2020, was expected to occur in Australia.

SLIDE: Fourth industrial revolution

And it's a great career choice as globally, as we head into the fourth industrial revolution - driven by advances in technology such as artificial intelligence and machine learning, advanced manufacturing and 3D printing and nanotechnology. It really is an exciting time to be alive.

SLIDE: Internet of things

And one of those incredible advances is the Internet of Things. Where the first generations of the internet were used to share information - mostly text and images, and then video with platforms like YouTube, the internet of things takes the internet not just to our laptop screens and mobile devices, but it takes the internet more broadly into our physical world.

To a world filled with sensors - devices which are able to measure things like the air temperature, or how many steps I've walked today (not enough!), or the stock levels in a vending machine, or how moist or acidic soil is in a plantation.

In fact, current estimates show that there are around 5 billion IoT devices on the planet - about one for every human being on Earth, and that number is predicted to quadruple by the early 2020s to around 20 billion devices. 20. Billion. Devices.

SLIDE: If this then that recipes

And increasingly, those sensors are interlinked and networked, sharing data with each other in a widening range of platforms, like If This Then That and Zapier.

For example, we have internet connected lightbulbs that flash in colour to the sound of your Spotify playlist, or interconnected plant pots that prompt you to tend to them if they're thirsty. Those examples are quite small scale though - something that an individual could do in their own home, or

backyard.

## SLIDE: Smart cities

Of course though, one of the biggest applications of the Internet of Things is in industrial applications, and one of the biggest use cases for IoT is in the Smart City area.

Imagine a city of the future, where we have applications such as

- smart parking: so that you're able to know exactly where the next free spot is, and automated payment for parking, and unfortunately, automated fines as well!
- autonomous vehicles: and in the next 10 years we may not have to drive at all, as autonomous and self-driving vehicles start to become mainstream; a city's network of sensors will certainly help pave the way for that, directing traffic to less congested routes and minimising fuel consumption
- smart footpaths: we're seeing in some European countries the rollout of smart pavement made from solar cells - that collect energy during daylight hours and then light up at night, replete with appropriate line markings.
- smart transport: the Internet of Things also helps us to integrate our public transport networks - for instance a bus communicating with a train to say there's been a major accident and to delay the train to allow the bus passengers to make the train.

## **anecdote**

In fact, this anecdote is based on a true story - just a couple of weeks ago, some of you will remember there was a major accident involving a cyclist in

the Geelong CBD, and unfortunately it was a fatal accident. Shortly after the accident I was going in to town on the bus - because I think we should all be using public transport more -and there was a gentleman on the bus going to an interview in Melbourne and of course, the bus had to detour, and it was late getting to the train station, and he missed the train to Melbourne, and presumably his job interview - I certainly hope the employer was understanding. And if public transport was more integrated - through the internet of things - then the train could have held back for five minutes to meet the bus.

- smart buildings: we're seeing the rise of smart buildings too - buildings that turn off lights automatically when no one's around, or that control the temperature to minimise energy usage.
- smart retail: combining the Internet of Things with big data we're starting to see the rise of Minority Report style advertising, targeted specifically to the individual, using your preferences and past purchasing history.
- smart fashion: and of course, fashion is not immune to the Internet of Things either. We already have on the market *wearables* - various devices like fitness trackers and health trackers, and soon we'll see more active devices that for example change colour with an outfit, or that respond to the environment they're in - such as changing colours to match your sports team.
- smart communities: we're starting to use the Internet of Things to build happier, healthier communities, through technologies such as proximity sensors and location tracking, which will become more valuable given our large aging population.

## Conclusion

So again, congratulations. You've chosen a career that has an incredibly bright future as our world becomes increasingly smart and increasingly connected, and with the knowledge gained from your courses here at the Gordon you'll be well equipped to meet the challenges this new Smart World presents.

Thank you.