PLACE FUTURES NOTE

SENSING PLACES

HUB

an indara company

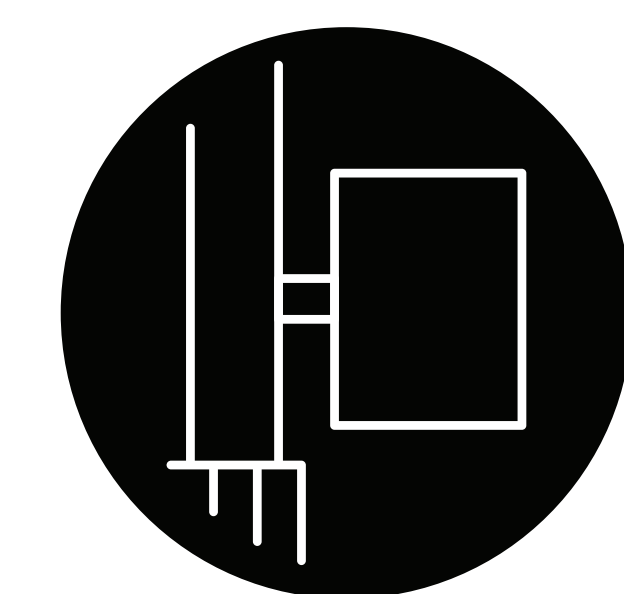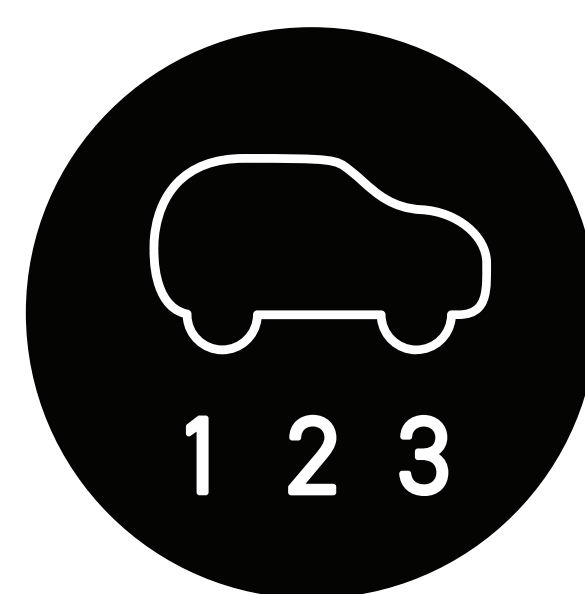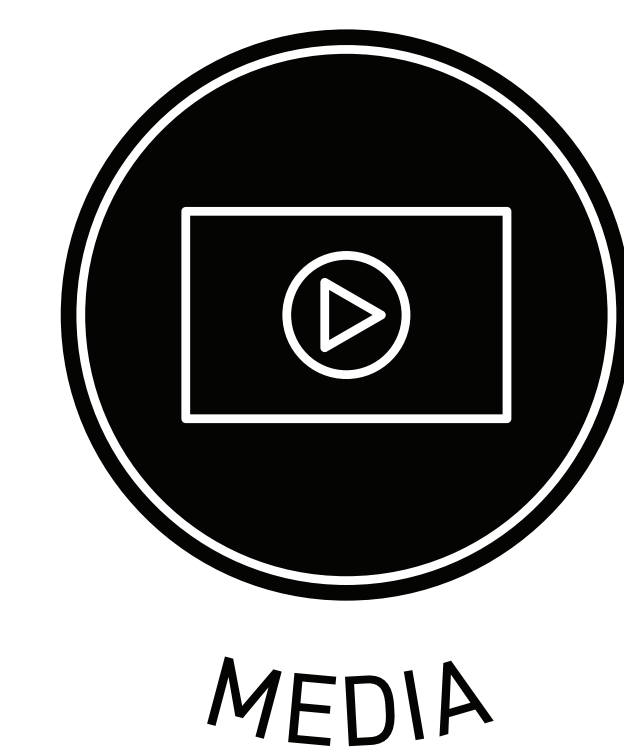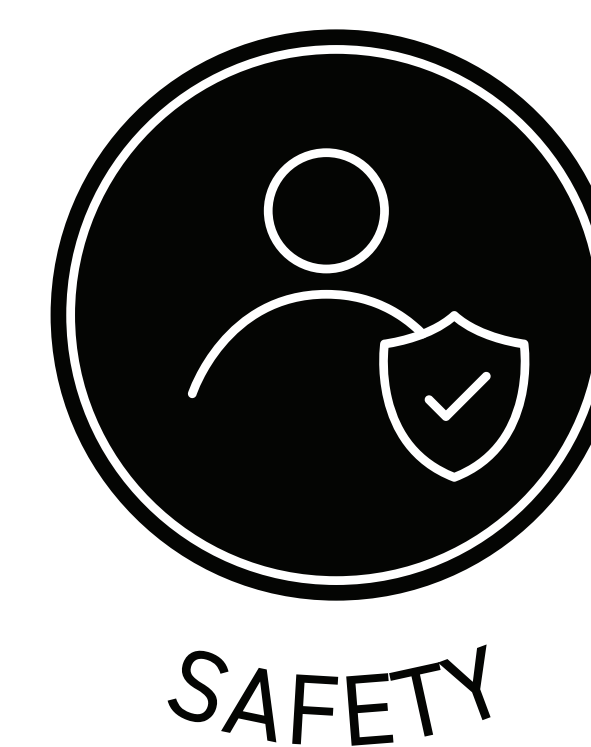# THE INTERNET OF THINGS, ENABLING PLACES

We continue to evolve

Since the establishment of the Internet of Things Alliance Australia - the nations peak body for IoT - more than seven years ago, the IoT marketplace has grown at a rapid rate. The conditions of our environment that can now be 'sensed', the use cases that are being implemented and the data being collected is supporting policy makers shape better decisions that create value for their communities and businesses.

In 2016 HUB installed its first IoT device within its award winning SMART.NODE™. Since then, a diverse array of IoT devices have been integrated into SMART.NODEs™ in many cities and public spaces to make it one of the nation's leading shared infrastructure IoT solutions for the public realm.

The SMART.NODE™ includes connectivity for IoT enablement - including 5G mm Wave antenna's, LoRaWAN gateways and public and private Wi-Fi.

The IoT sensors regularly incorporated into the SMART.NODE™ include pedestrian counting, environmental sensing and CCTV, among others. Connected electric vehicle charging and digital display and wayfinding are the most recent additions and likely to be an important digital service for Council's and land authorities as IoT data transfer continues to grow and become a valuable function for place managers.

| COMMUNICATIONS | ENERGY | ENVIRONMENT | TRANSPORT | SAFETY | MEDIA |

| LoRaWAN Gateway | Flood Detection Sensor | Vehicle Counting | Help Assist Button | Audio and Public Announcement | Digital Displays |

| Environmental Sensors | CCTV | Noise Sensor | Edge Processor | Pedestrian Counting | Wi-Fi |
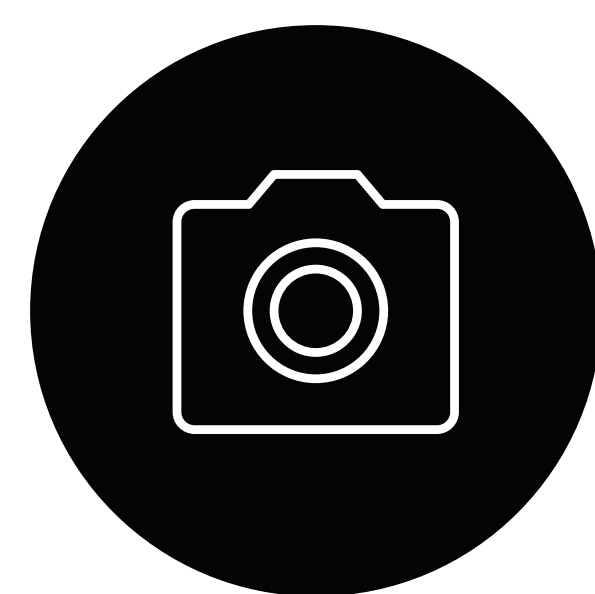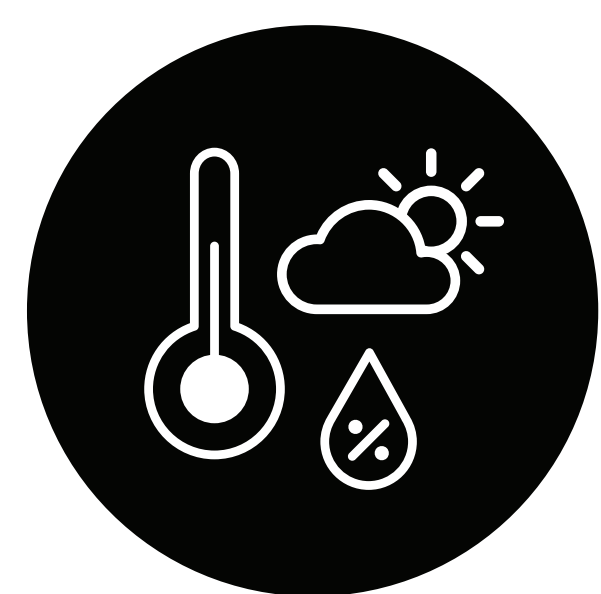
Show me the data...

The HUB e3 data and analytics platform helps land authorities control, monitor and interrogate data collected from the public realm.

The ability to find patterns, generate insights, make inferences and shape conclusions and recommendations is more about human capability than technological capability.

From public safety to movement activity, and environment sensing to lighting control, having insights and functionality like this support informed public investment in the public realm.

It is clear that the depth of sensing capability now available for park planners, urban designers and place managers is at it's highest ever level, but there is a really important question to continue to explore - does any of it make a difference?

Where to next?

There are potentially two significant advancements that will change the face of IoT in the public realm in coming years that will support not only our ability to make a difference (through better decision making), but how we measure our impact.

Firstly, 5G - the next generation of digital connectivity. By combining the low latency, high bandwidth and high reliability of 5G with more powerful edge compute power, artificial intelligence and more secure processing, there is likely to be greater opportunities for autonomous and remote applications, to name a few.

And then there is the capability of Digital Twin - a series of aggregate capabilities that ingest and integrate disperate data sets, enables analysis and simulation and then presents insights visually in multiple dimensions. By ingesting IoT data into a Digital Twin, there is a greater level of intelligence that our planners, designers and place managers can access to support them in planning for growth, major events and ongoing place management.