



# C5 IoT Projects

Michael Bateman, Head of Bespoke  
Development, C5 Alliance

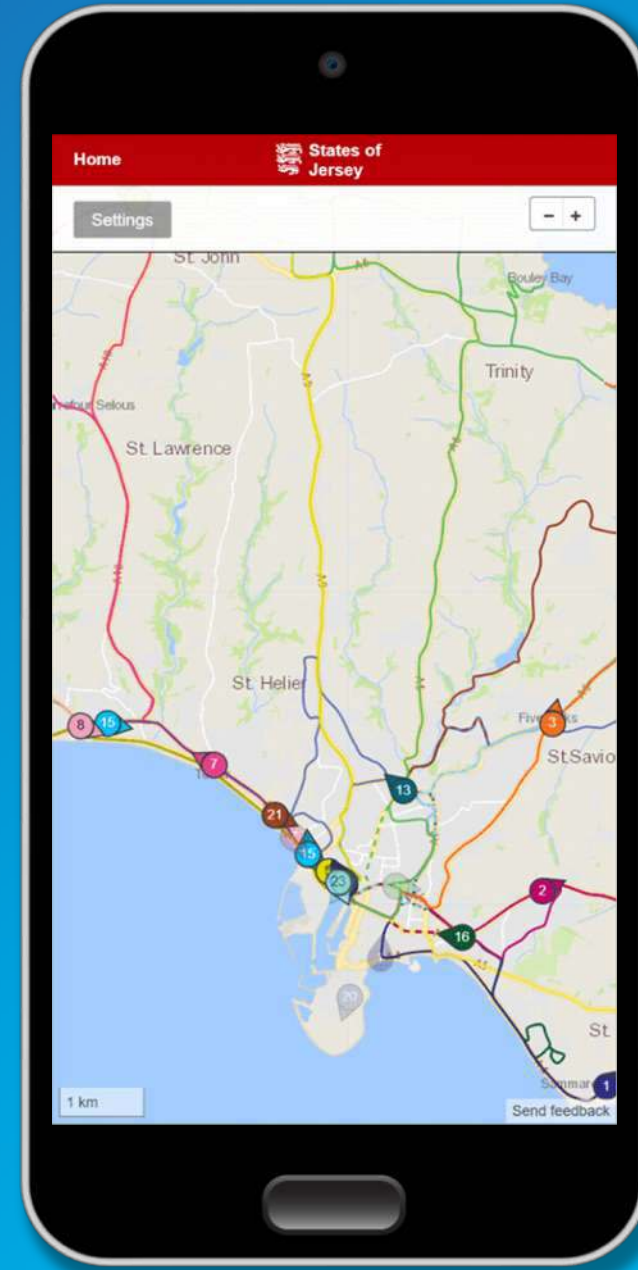


# Introduction

- Bus Tracker
- Car Parking Spaces
- Air Quality Sensors
- Garden Tags
- Big Data



# Jersey Bustracker





Home States of Jersey

Settings - +

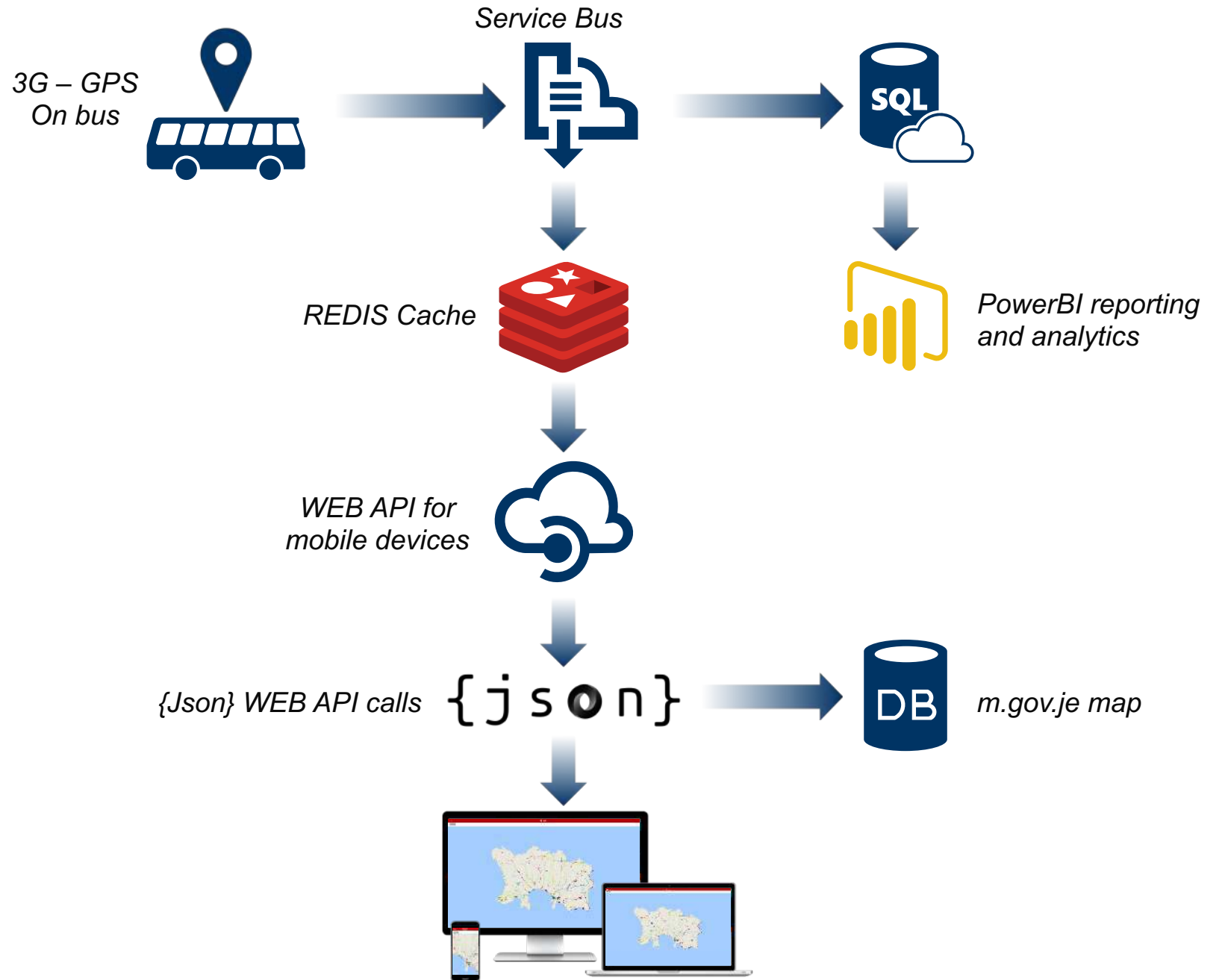
ETA	Time	Route	Destination
4m	21:17	15	St Helier
33m	21:46	15	St Helier
50m*	22:12	15	St Helier

\*This is the scheduled time of arrival not the tracked time.

50 m Churchill Send feedback

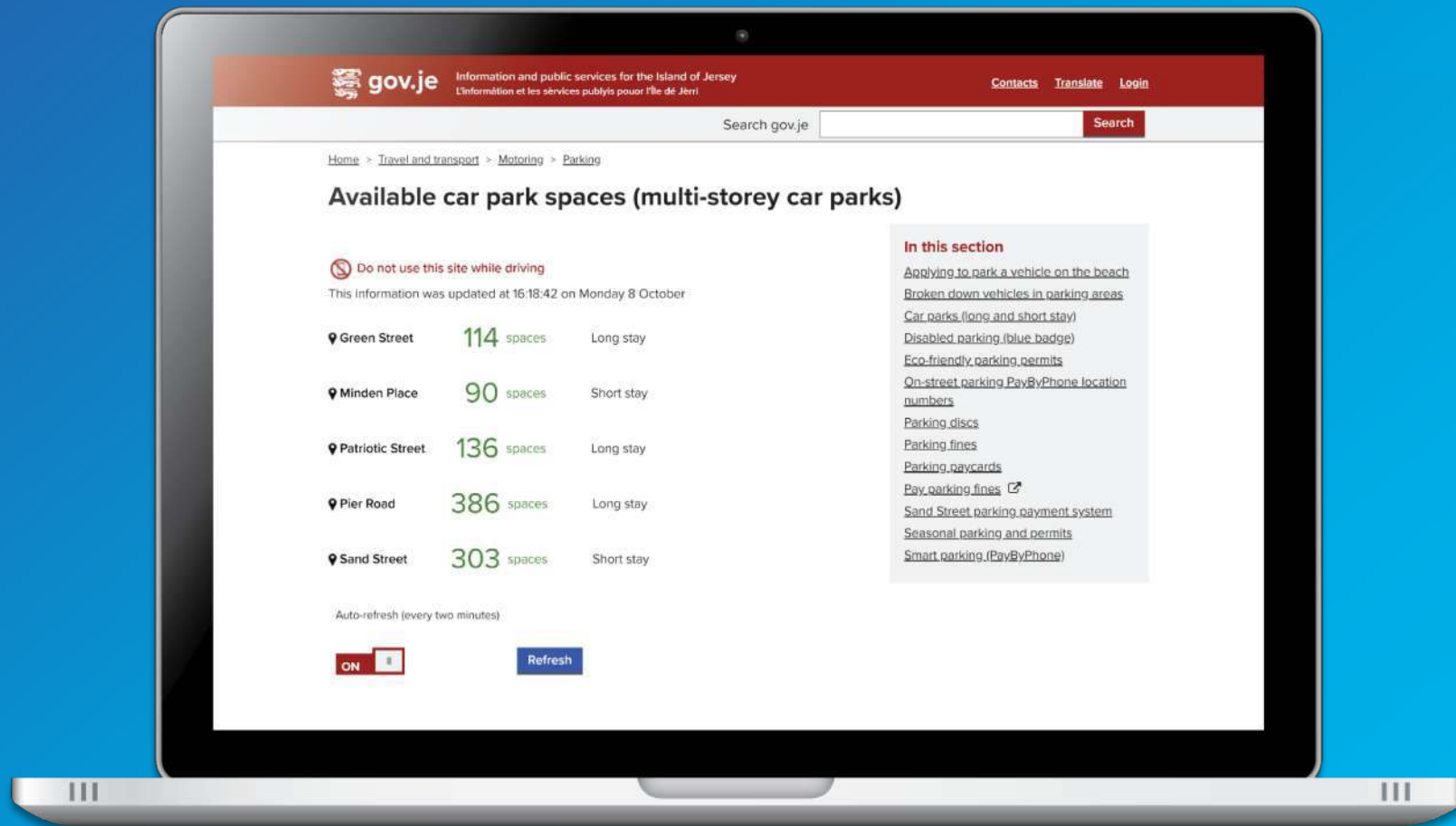


# Bus Tracker system architecture



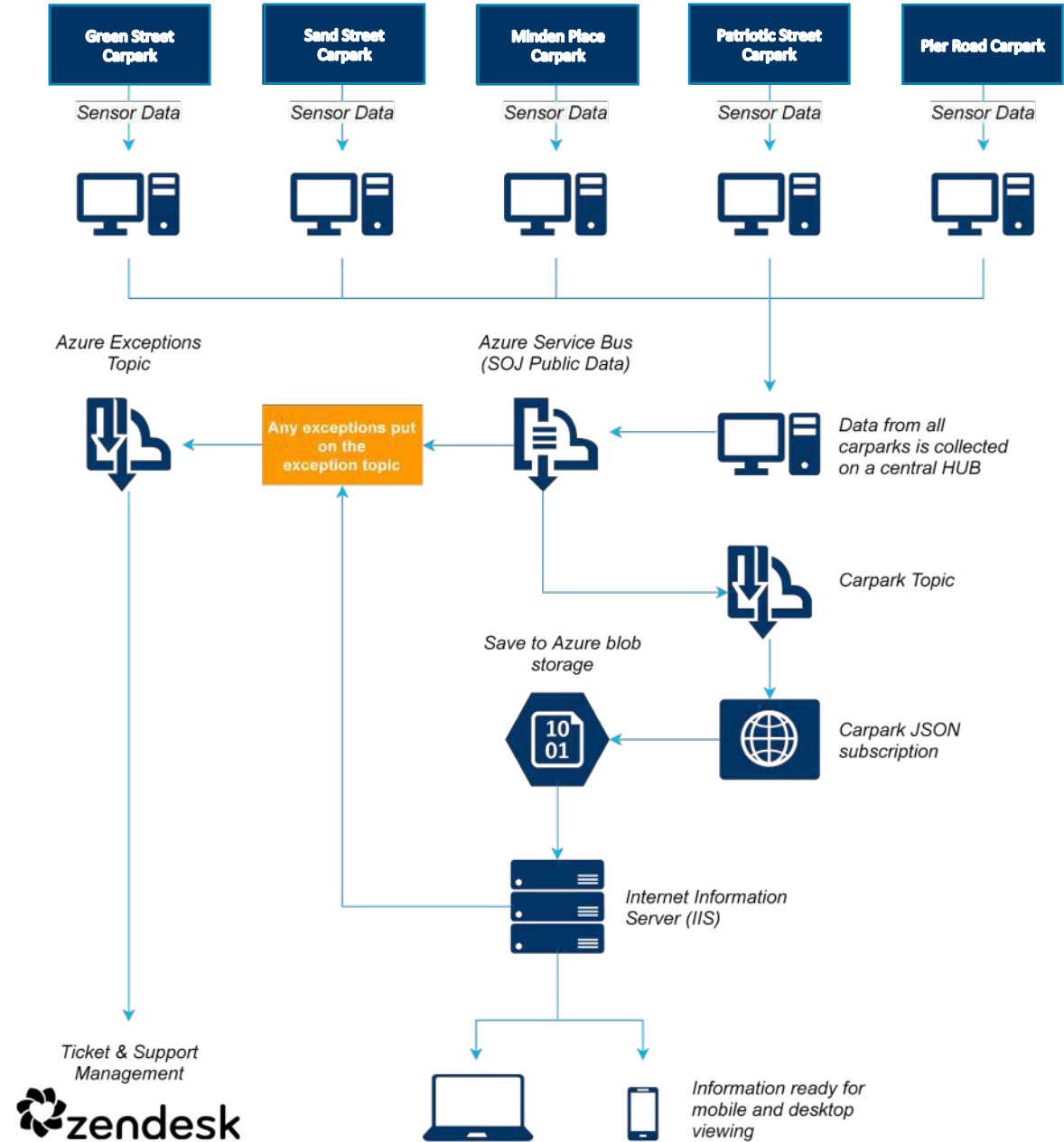


# Available Car Park spaces on gov.je





# Car Park data system architecture



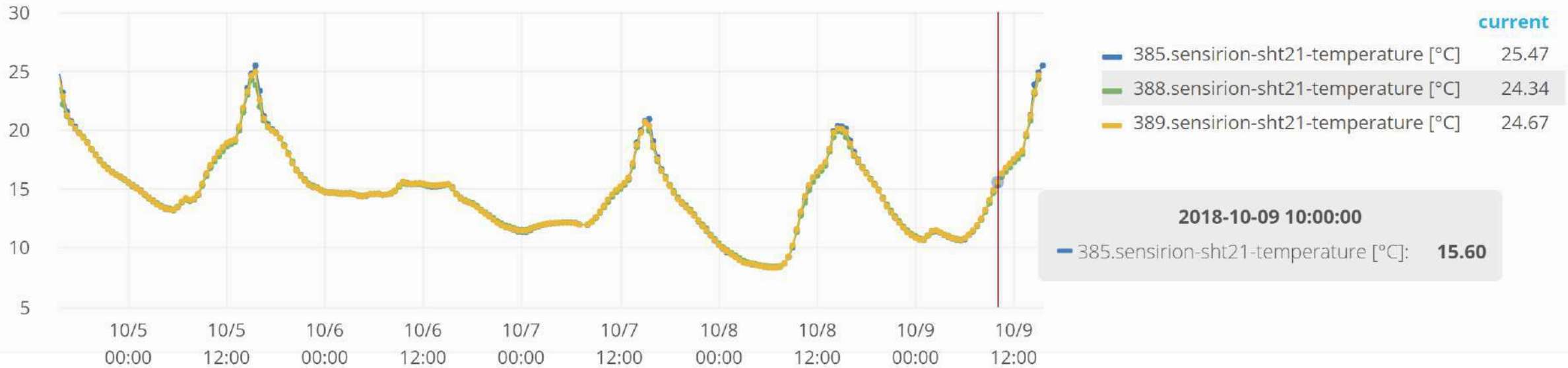
# Air quality





# Temperature over time

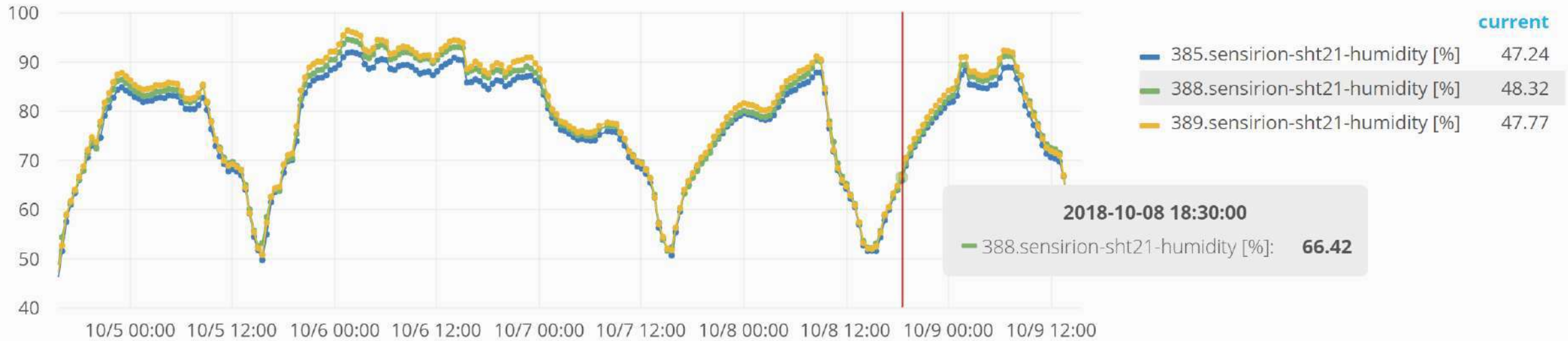
sensirion-sht21-temperature (mean of 30m)





# Humidity over time

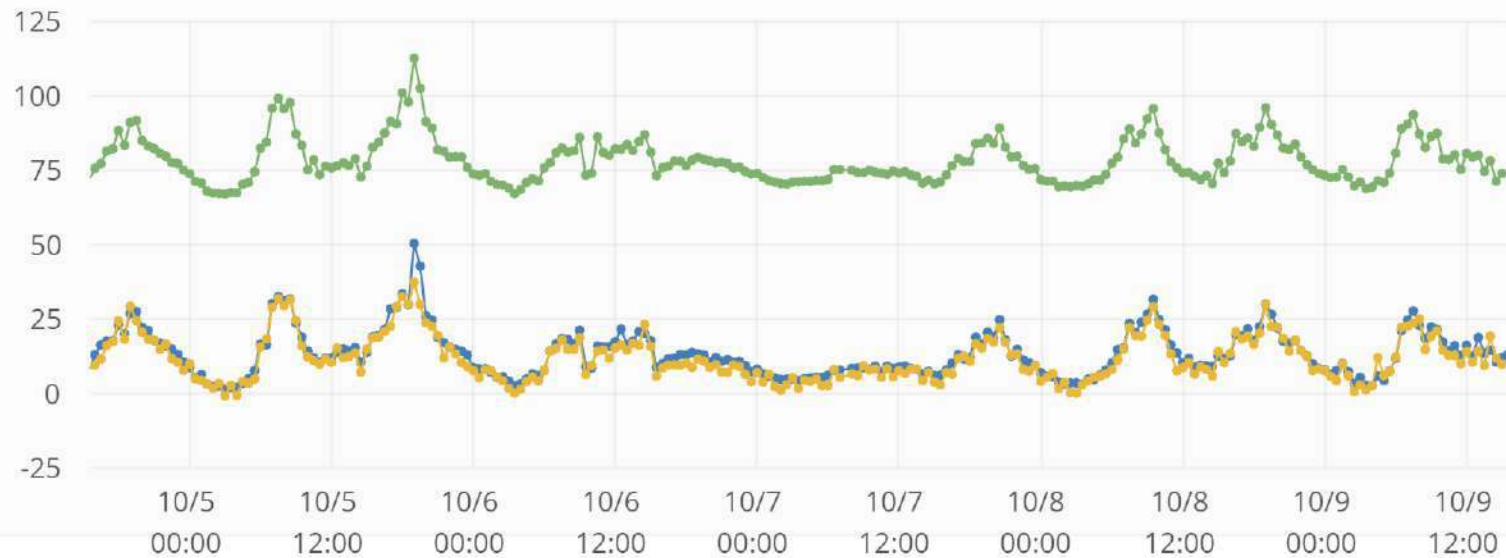
sensirion-sht21-humidity (mean of 30m)





# NO<sub>2</sub> Results over time

alphasense-no2-we-aux-ppb (mean of 30m)



	current
385.alphasense-no2-we-aux-ppb.ch7 [ppb]	12.68
388.alphasense-no2-we-aux-ppb.ch7 [ppb]	73.63
389.alphasense-no2-we-aux-ppb.ch7 [ppb]	9.50

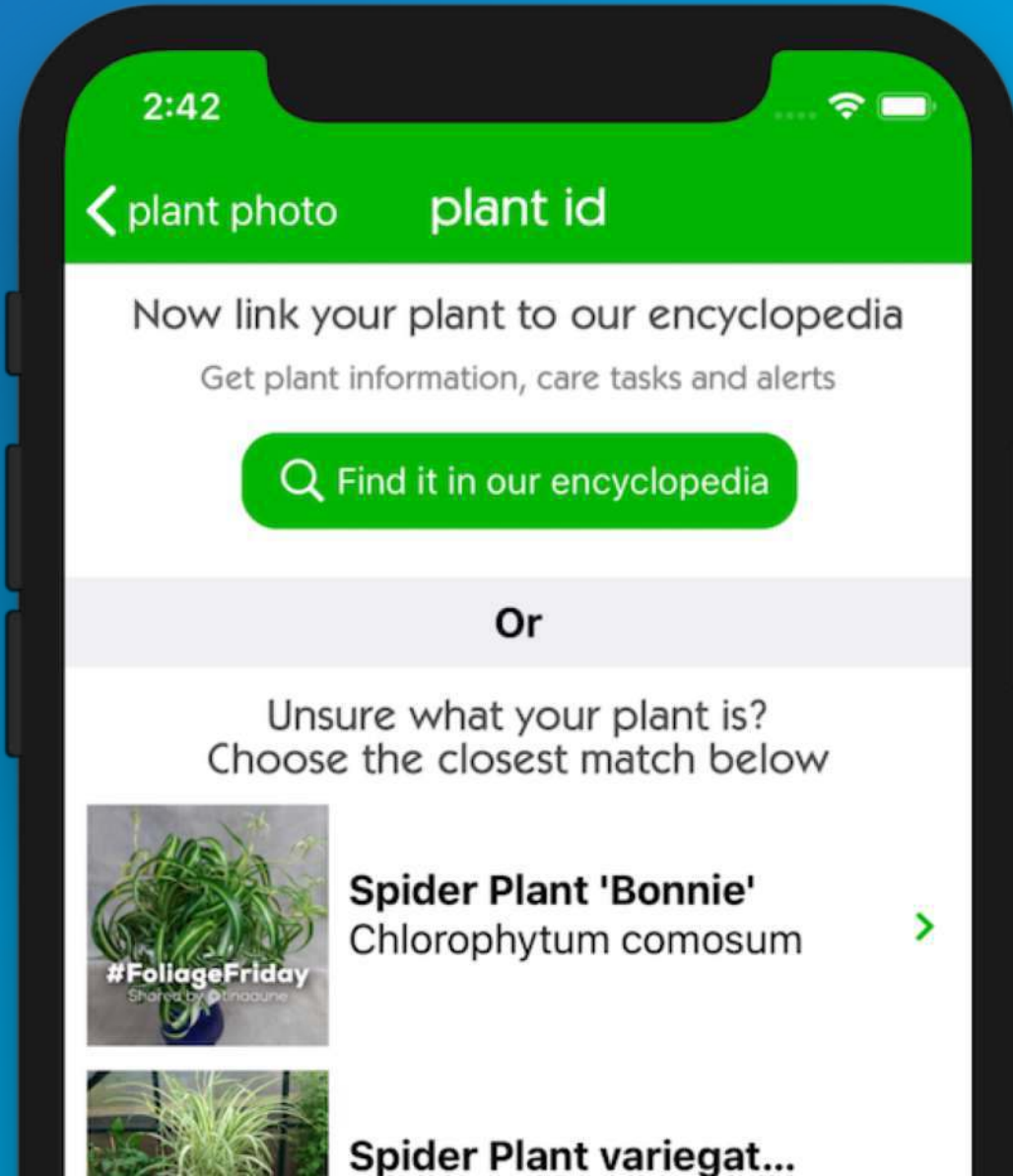


# Air sensor system architecture





# Garden tags plant identification

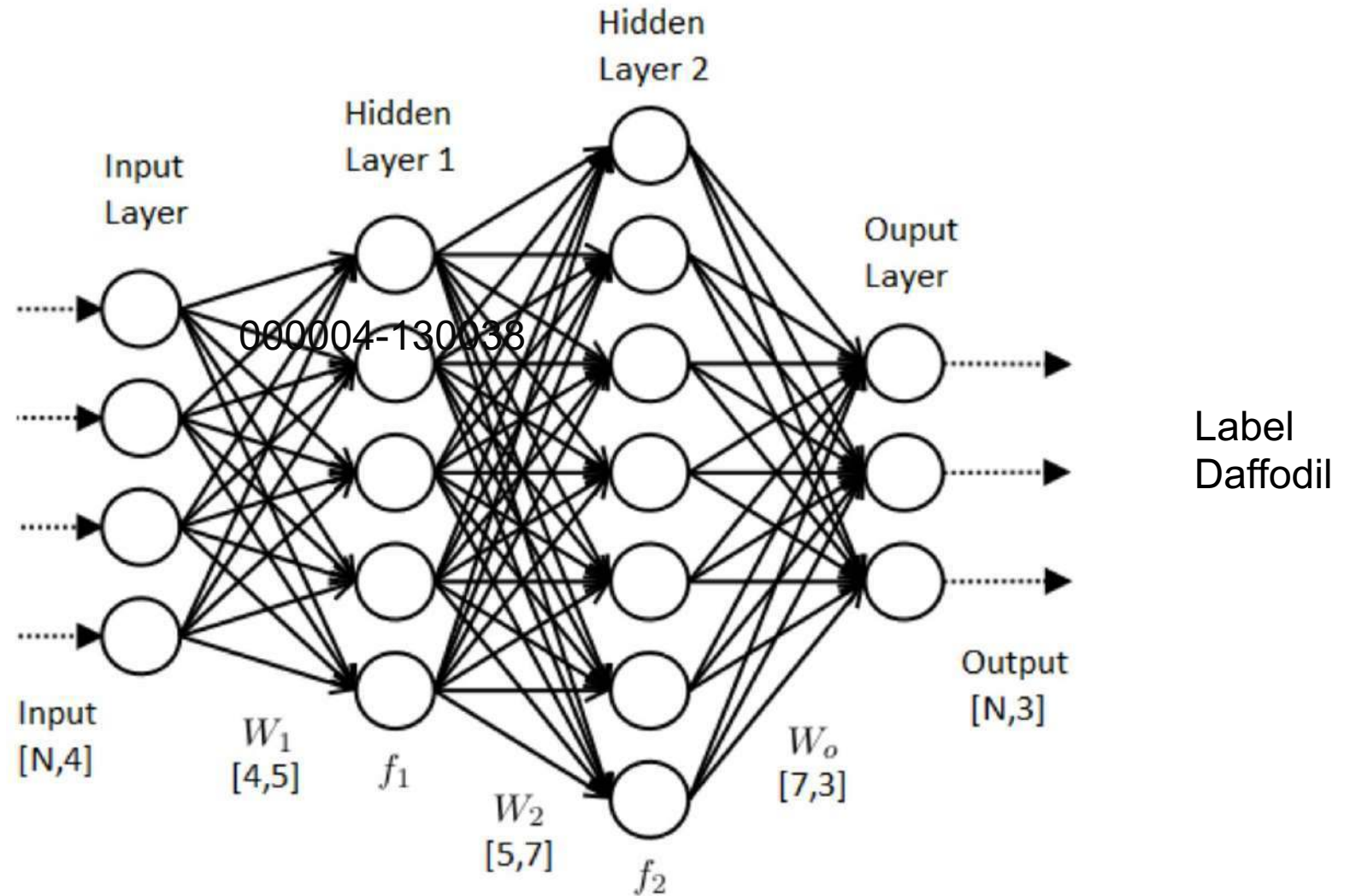


# Supervised Learning

Feature



Label  
Daffodil



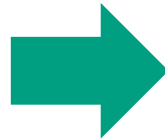
# Plant ID Process

## Input



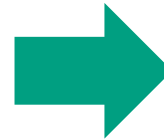
Daffodil

## Source Images

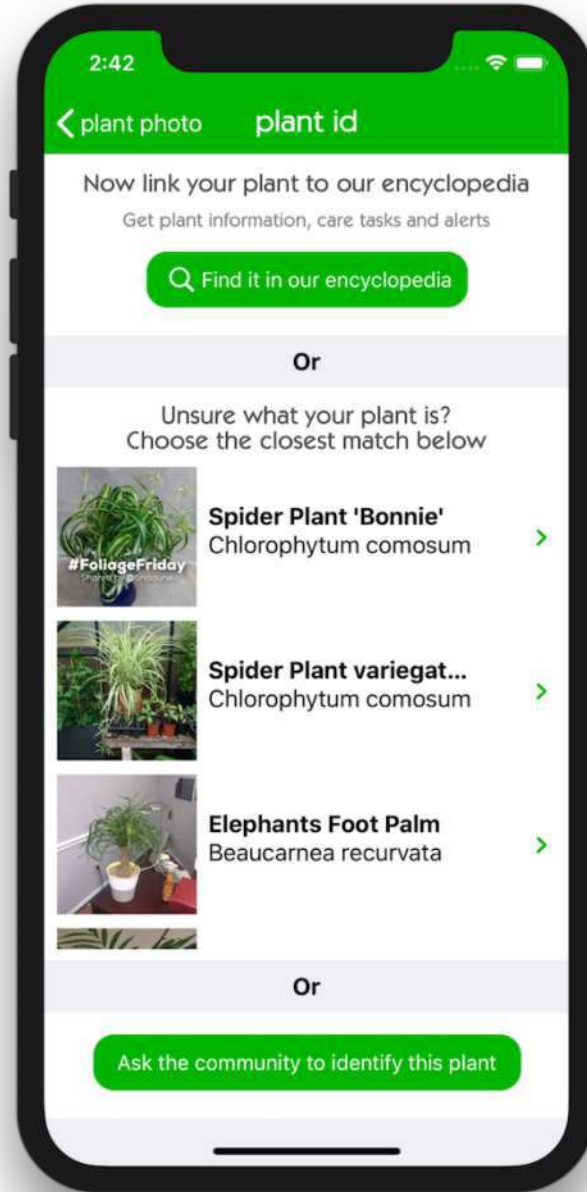


1020 Daffodil images

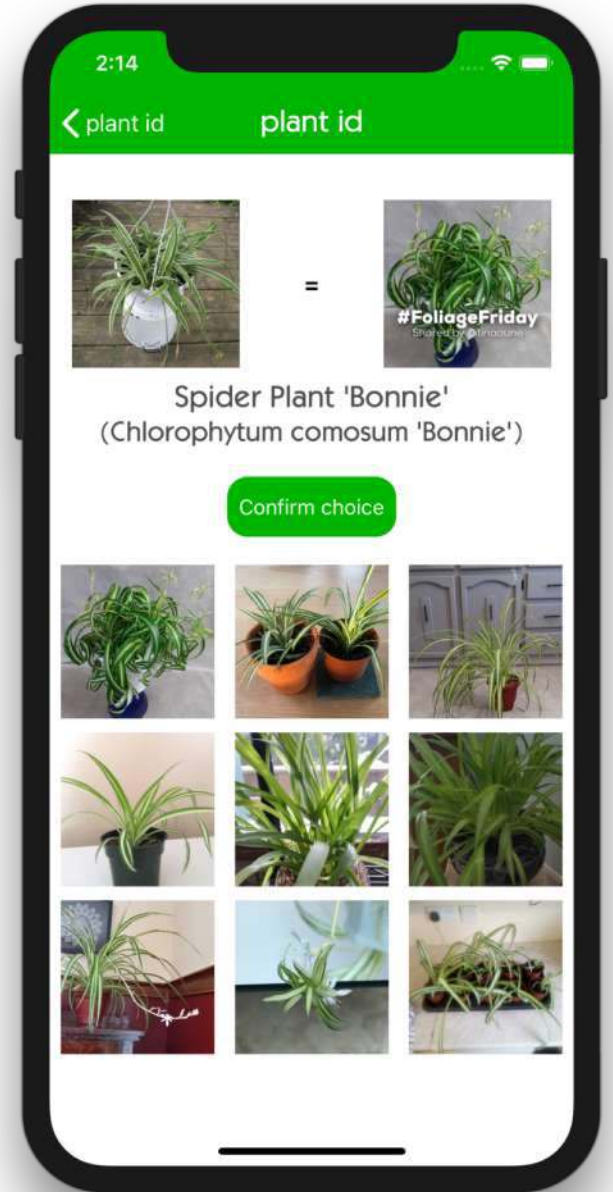
## Result



- Daffodil - 16%
- Natal lily or bush lily - 6%
- Daffodil 'Tete a Tete' - 4%
- Japanese Anemone 'Honorine Jobert' - 3%
- Yellow Eyed Grass - 3%
- Kaffir Lily 'Mollie Gould' - 2%
- Pot Marigold - 2%
- Bedding Dahlia - 2%
- Pot Marigold - 2%
- Japanese Anemone - 2%



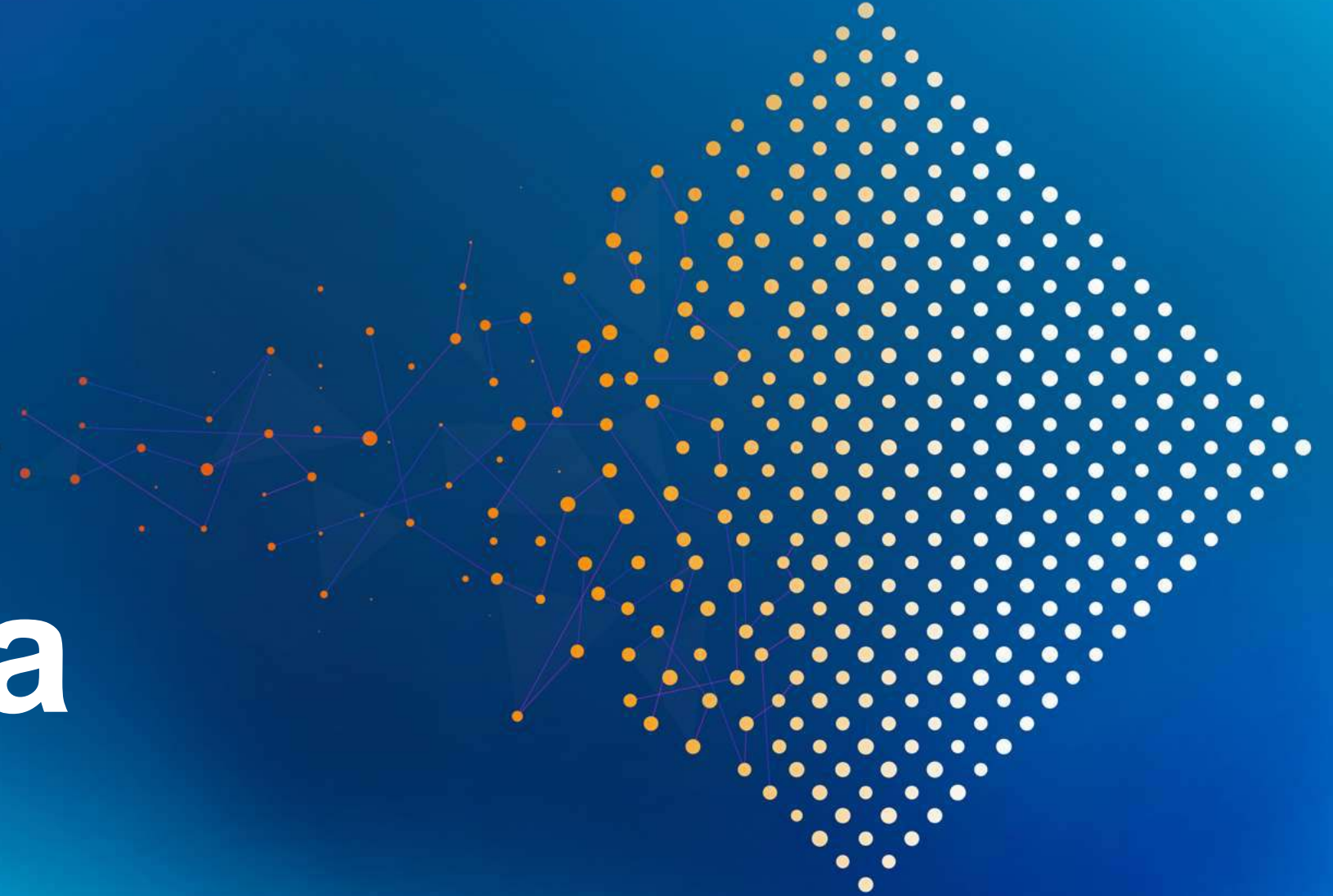
iPhone X - 11.3



iPhone X - 11.3



# Big Data



# Big Data: did you know?

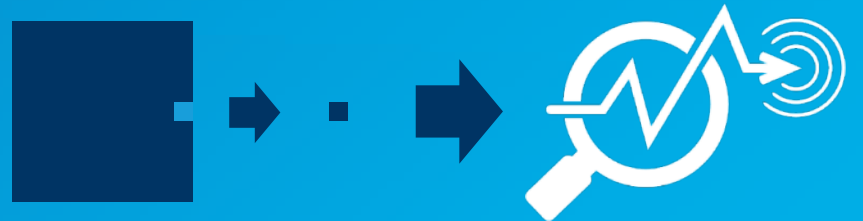
1.

We've created more data in the last few years than in the entire span of human history



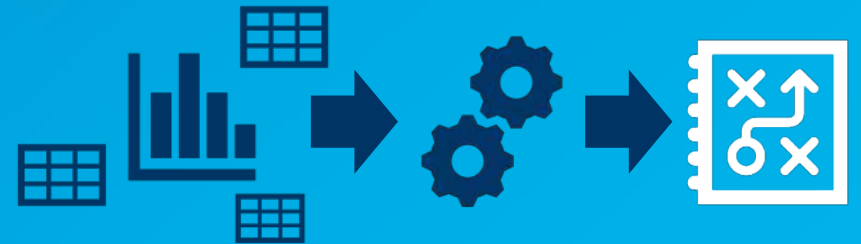
2.

Less than 1% of the generated data has been analysed



3.

Analysis of this data can uncover new patterns or enhance efficiencies in existing ones





# Big data discoveries...



Men who skip breakfast are at greater risk of coronary heart disease



Users of the Chrome and Firefox browsers make better employees



Typing with proper capitalization indicates creditworthiness



Female-named hurricanes are more deadly

**Just because that relationship exists, doesn't mean it will happen**

See more examples - [Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die](#)



Thank you

