



Internet of Things

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Heathrow

 **SITA**
Commercial Telecoms

Gerd Lheonard Prophecy

Anything that can be digitized or automated, will be...

Gërd

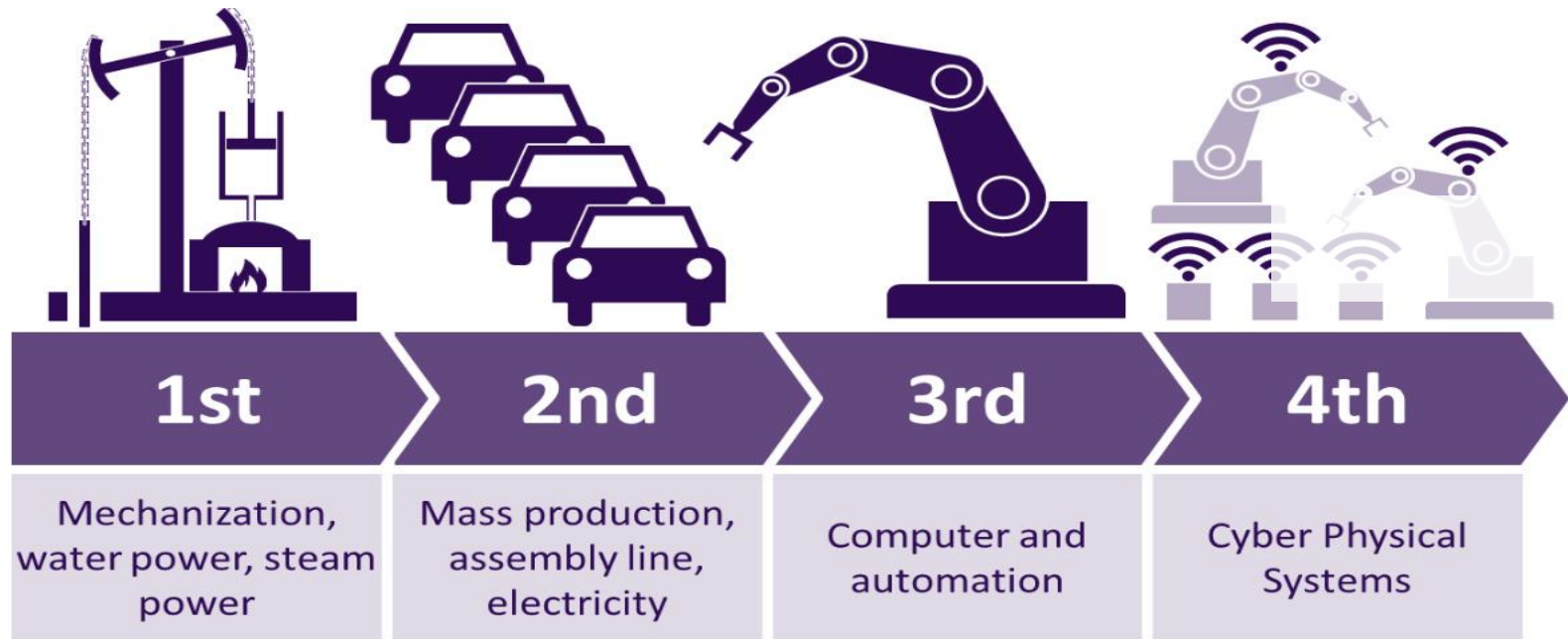


...yet anything that cannot be digitized or automated, will become much more valuable

Heathrow

 **SITA**
Commercial Telecoms

Internet Of Things is a catalyst for the 4th industrial revolution



What is Internet Of Things

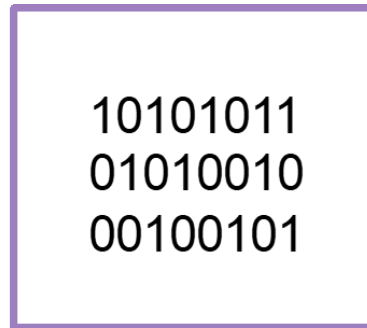
The Internet of Things (IoT) is the internetworking of physical devices, buildings and other items—embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data



Things



Connectivity

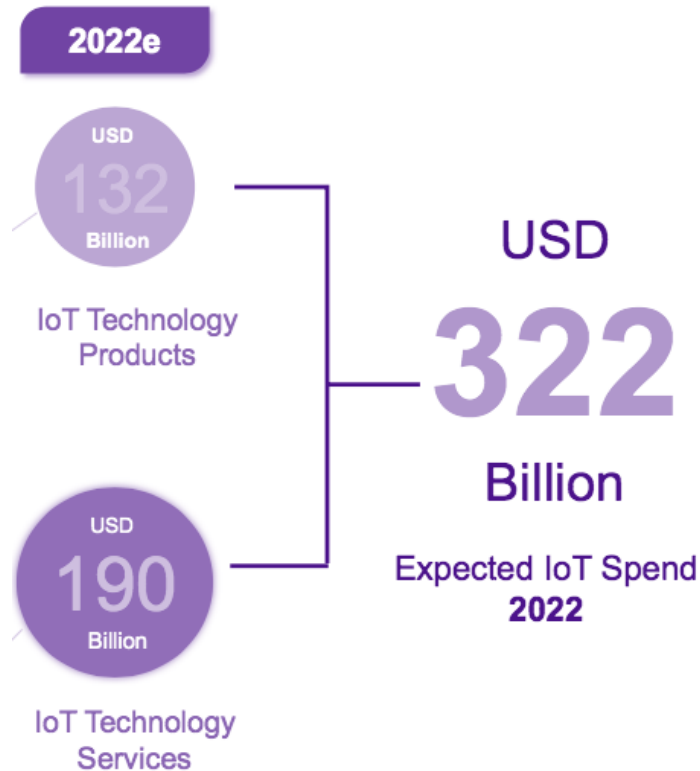


Data



Analytics

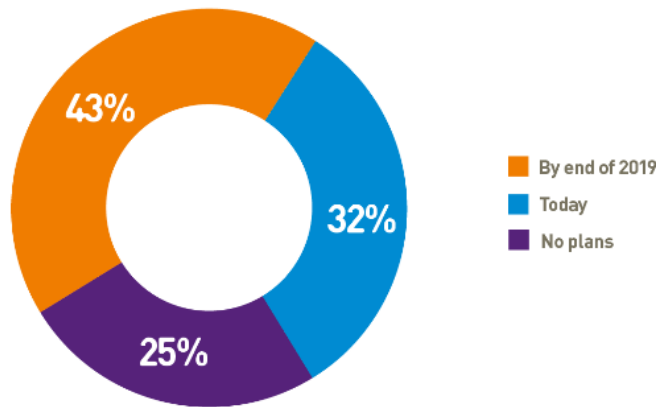
IoT market trends



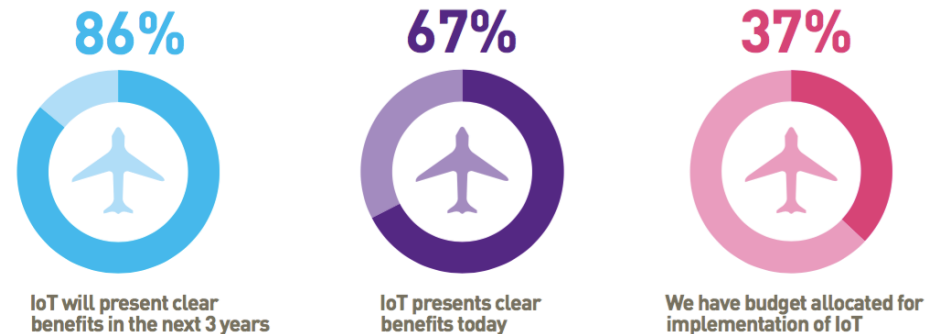
- **5m** daily new devices connected (2016)
- **50b** total number of connected devices (2020)
- **10%** of data on earth Will be produced by IoT machines (IDC)

IoT market trends in Air Transport Industry

% Airports is including IoT in strategy by 2019



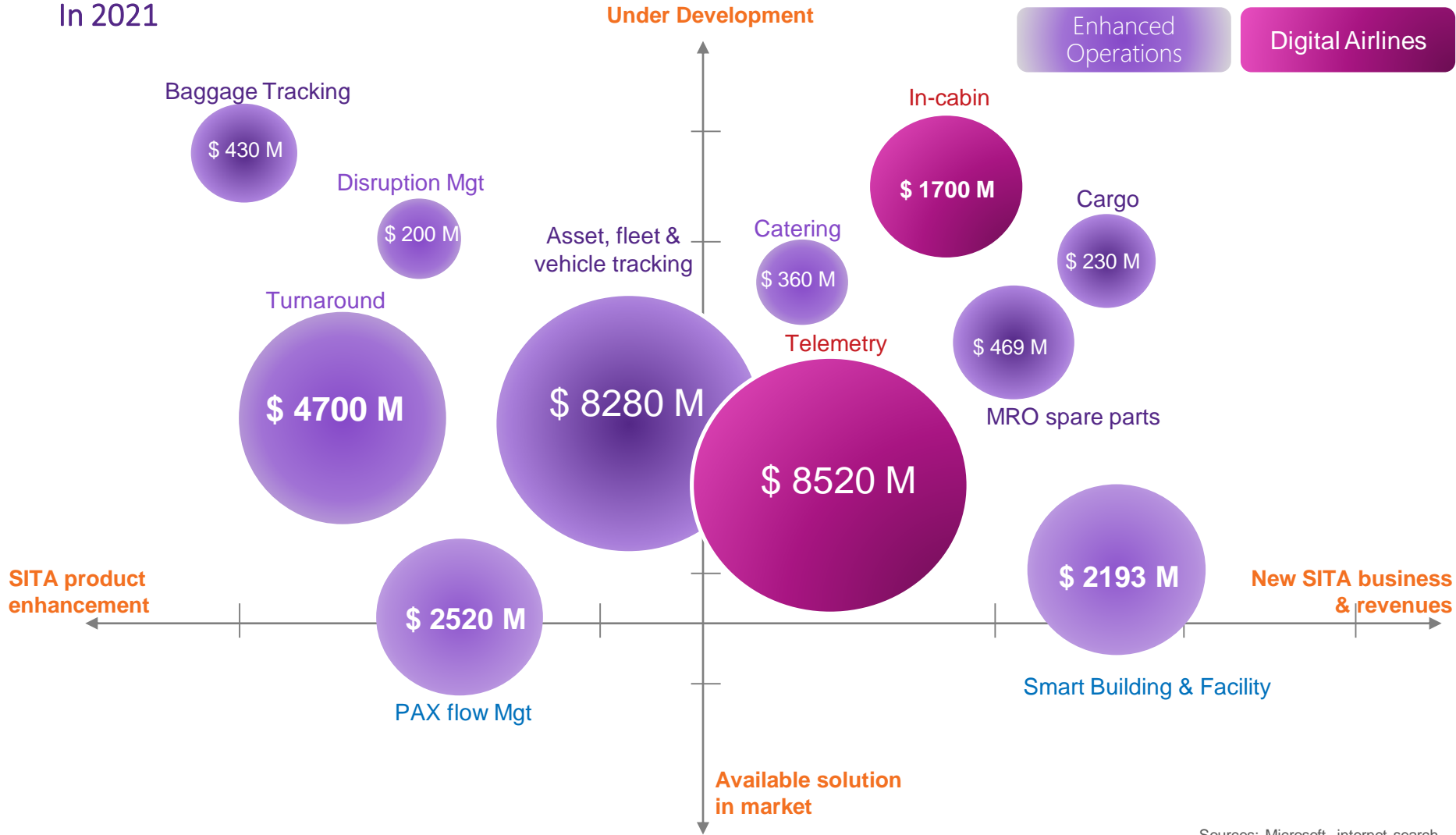
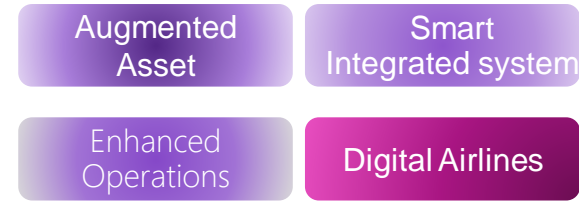
IoT expected benefits for Airlines



Sources: Microsoft, internet search

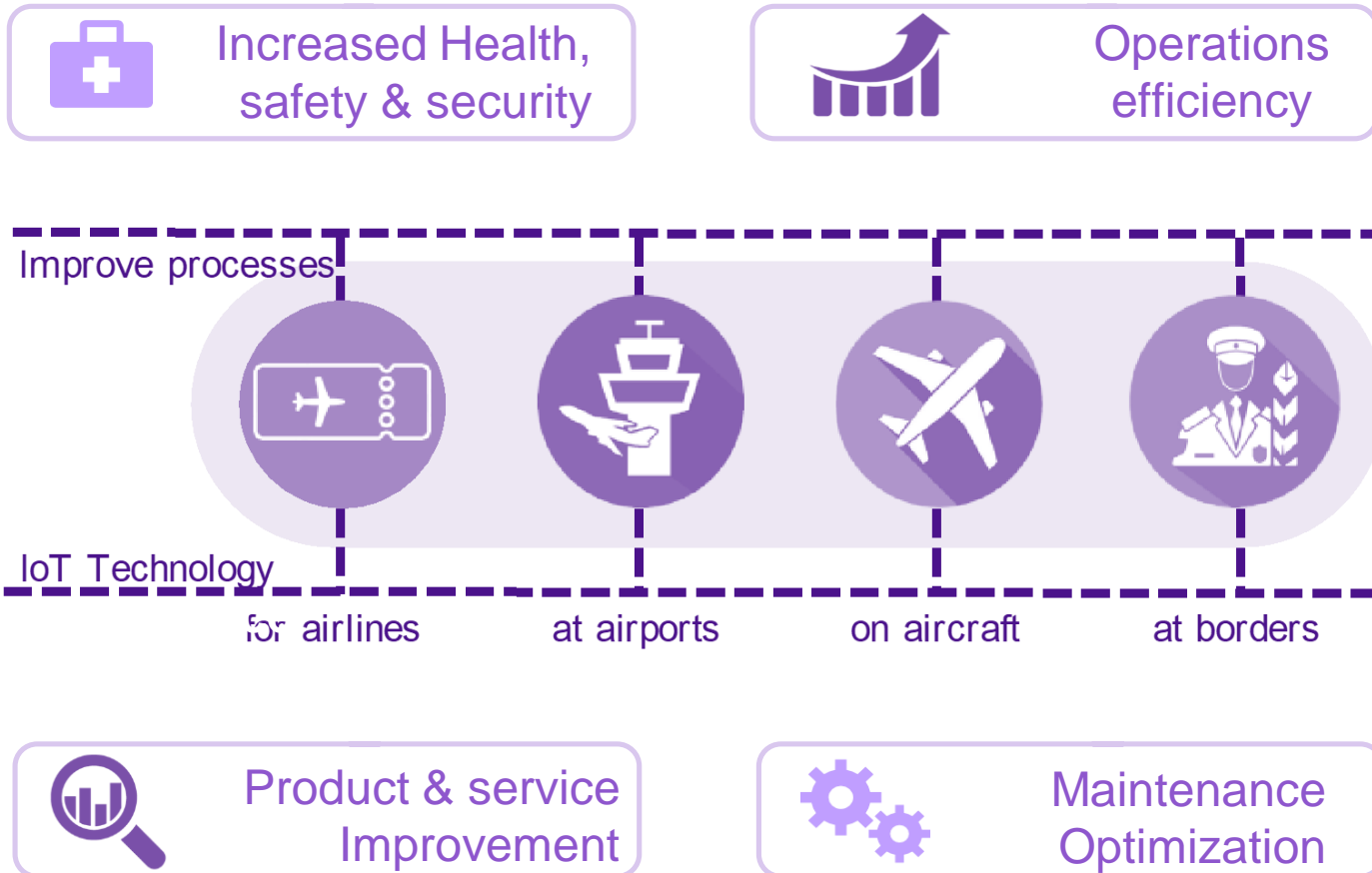
IoT value in Air Transport Industry

In 2021



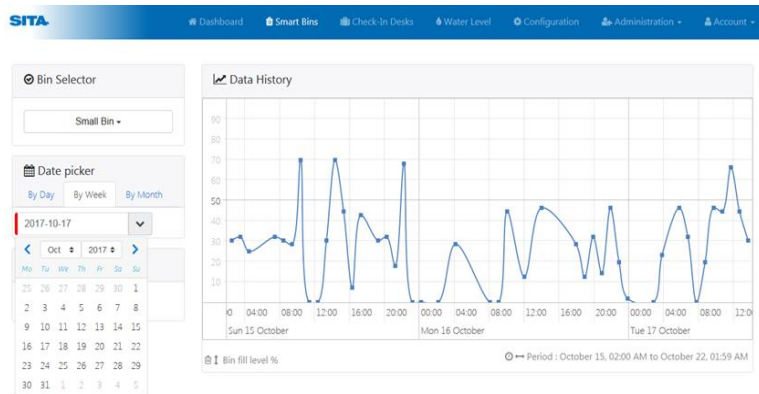
Sources: Microsoft, internet search

Enabling Airlines & Airport Digital Transformation



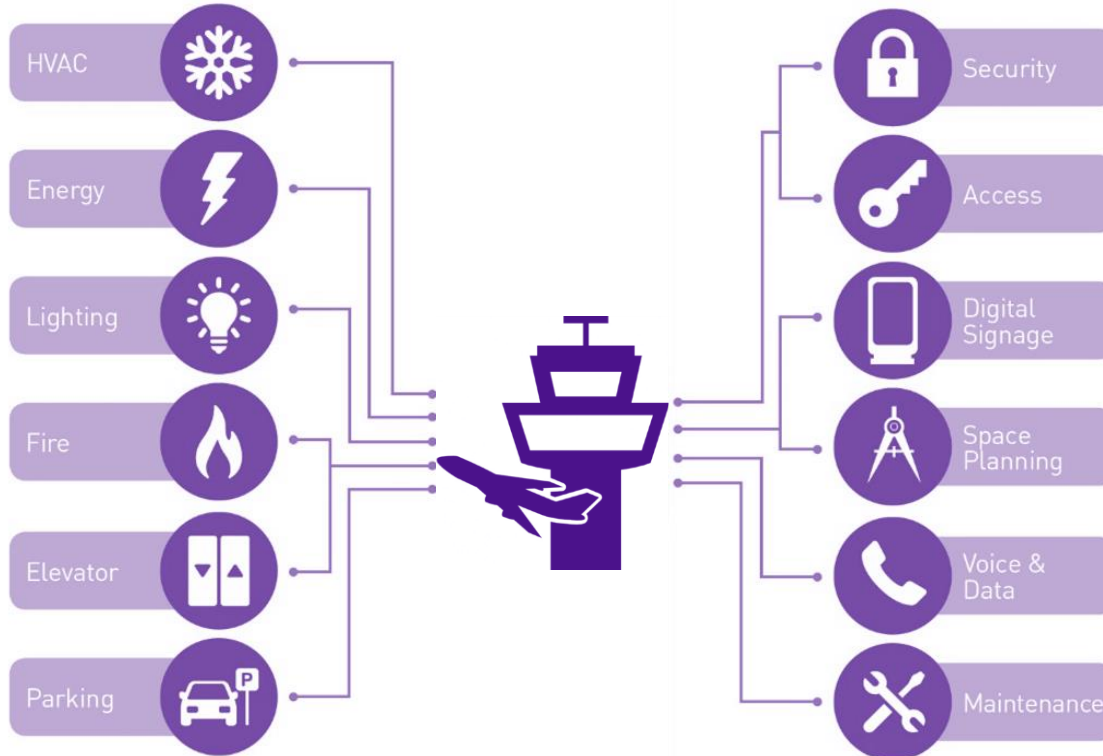
Airport Telemetry

- Measure presence of an agent at the departure counter
- Indoor Small Bin Sensors to measure garbage level in a bin
- Outdoor Large Bin Sensors to measure garbage level in a bin
- Measure water level in the pond



Smart Integrated system

Connect physical devices, buildings systems and sensors on integration platform.



- Work order Management
- Building Management integration
- Energy management



- Improve operational efficiencies
- Reduce energy cost and waste
- Improve reporting & dashboards

Cargo - Smart ULD

(Unit Load Devices)

Handling



Analytics



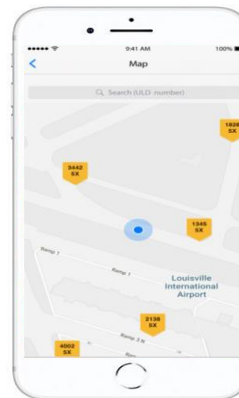
Monitoring



- Enhance process efficiency
- Minimize disruption impacts
- Provide full visibility of Operations & share data

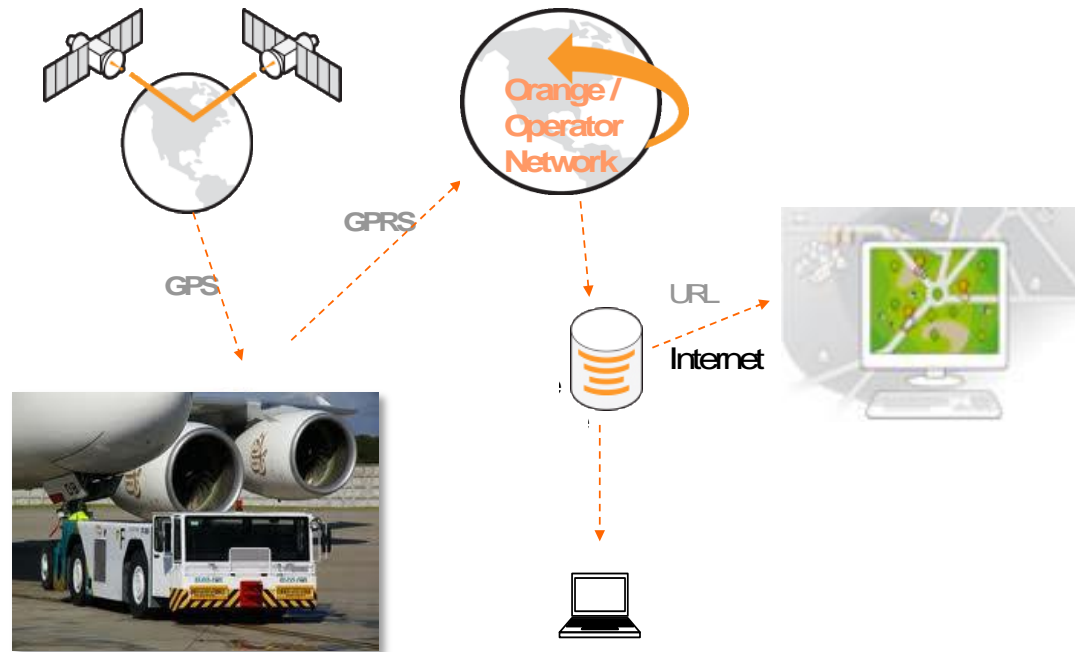


ULD ID	ULD Manifest	Alert	Battery	Signal	Connect	Location
1345X	Show Manifest	✓	20%	📶	🔗	📍
3442X	Show Manifest	✓	75%	📶	🔗	📍
2138X	Show Manifest	✓	78%	📶	🔗	📍
4002X	Show Manifest	✓	95%	📶	🔗	📍



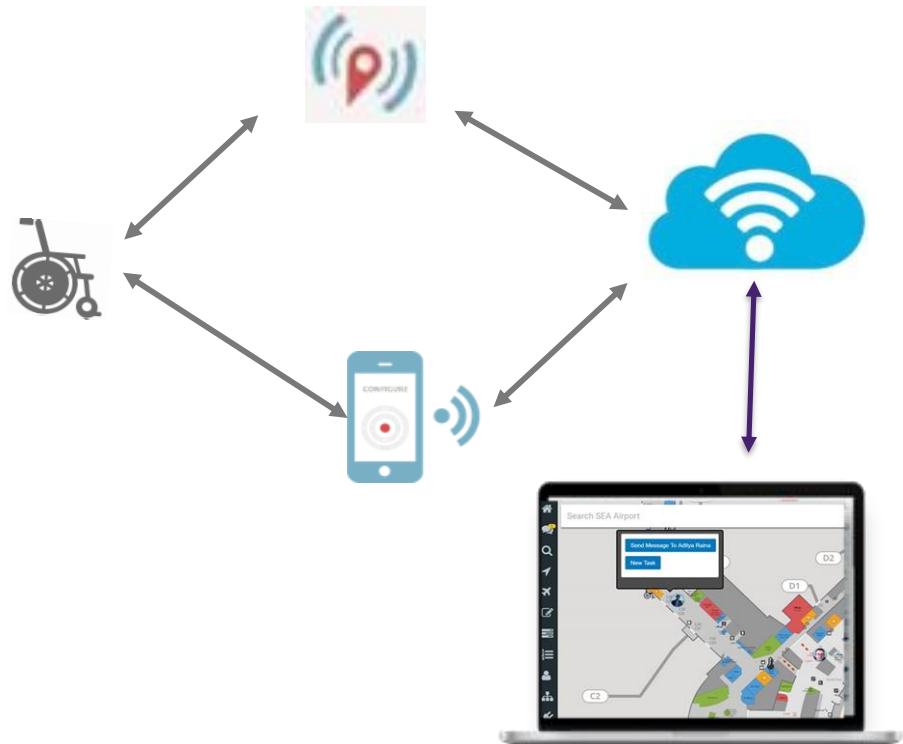
Fleet Management

- Ensure moving asset is in place in accordance to schedule
- Fleet performance asset tracking (rotation, delay...)
- Activity report (including stand-by time)
- Asset Traceability & security



Wheelchair tracking

- Generate real-time data on wheelchair & agent movement at airport
- Record WCHR idle time
- Analyze escort walking distance
- KPI dashboard



Digital airlines

RFID bag tag



Aircraft Health monitoring



MRO



Hard Landing



DIK BEDANKT ^{tesekkurler SALAMAT} ^{grazie} ^{Khublei} ^{TAK} ^{merci}
^{asante} ^{GRAZAS} ^{GRANTANGI} ^{MERCi} ^{Ngiyabonga}
^{Paxmet} ^{TAK} ^{kiitos} ^{kammagar} ^{SALAMAT} ^{Diakuj}
^{謝謝} ^{MASI} ^{danke} ^{ありがとう} ^{tesekkurler}
^{mahalo} ^{SUWUN} ^{grassie} ^{SUWUN}
^{TAK} ^{DIK} ^{THANK} ^{YOU} ^{HVALA} ^{tesekkurler}
^{gracias} ^{Спасибо!} ^{daank} ^{GRANTANGI} ^{grazie} ^{TAKK} ^{daank}
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