inter airport FOCUS CONFERENCE

inter airport europe 25TH EDITION

Keynote Presentation

Sustainability

Race to Net Zero

Regardt Willer – ADB Safegate

Airports under pressure:

Sustainability is no longer optional

Legislation, cost, and reputation are pushing sustainability to the top of the airport agenda

- **Legislation is tightening**
  (ICAO, EU fit for 55, CORSIA)
- **Stakeholders are demanding action**
  (Passengers, Investors, Regulators)
- **Sustainability = Opportunity**
  (Efficiency, cost savings, resilience)

Examples of Local Airport Emissions

GHG Protocol

Scope 1

Emissions from Airport-Controlled Sources

- Vehicles/Ground Support Equipment
- On Site Waste and Water Waste Management
- On Site Power Generation
- Firefighting Exercises
- Boilers and Furnaces
- De-Icing substances and refrigerant losses

Scope 2

Emissions from purchased Electricity (Generated Off-Site)

- Heating
- Cooling
- Lighting

Scope 3

Emissions from other sources related to the activities of an airport

1
- Flights and Aircraft Ground Movements
- APU's
- Passenger Travel to/from the Airport
- Staff commute and Business Travel
- Non-Road construction vehicles and equipment
- Scope 1 activities involving 3rd parties

Scope 3:

Follow the Greens

Reduce TAXI TIMES

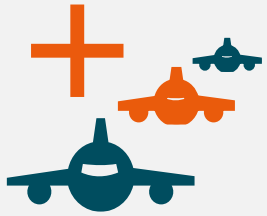
>30% reduction in low-vis
>10% reduction in CAVOK

Reduce FUEL BURN

up to > 30% less fuel used, depending on environmental condition

Reduce EMISSIONS

> 40% reduction of CO2, HCs, NOx, almost 50% reduction of CO



Increase TRAFFIC FLUENCY

>80% less stops in low-vis
~50% reduction in CAVOK

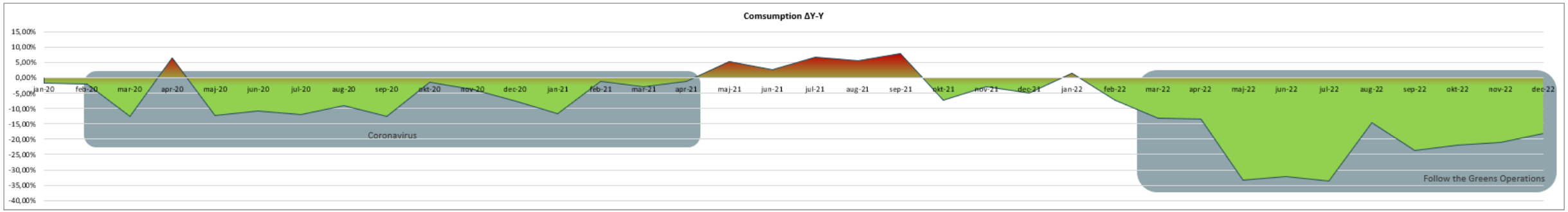
- **SESAR European Airport Consortium – Validation Study**
- Consortium of six European Airports (Munich, Frankfurt, Zurich, Heathrow, Paris & Amsterdam)
- Support SESAR Research Project – Delivering the Digital European Sky
- Simulated on Munich Airport Layout

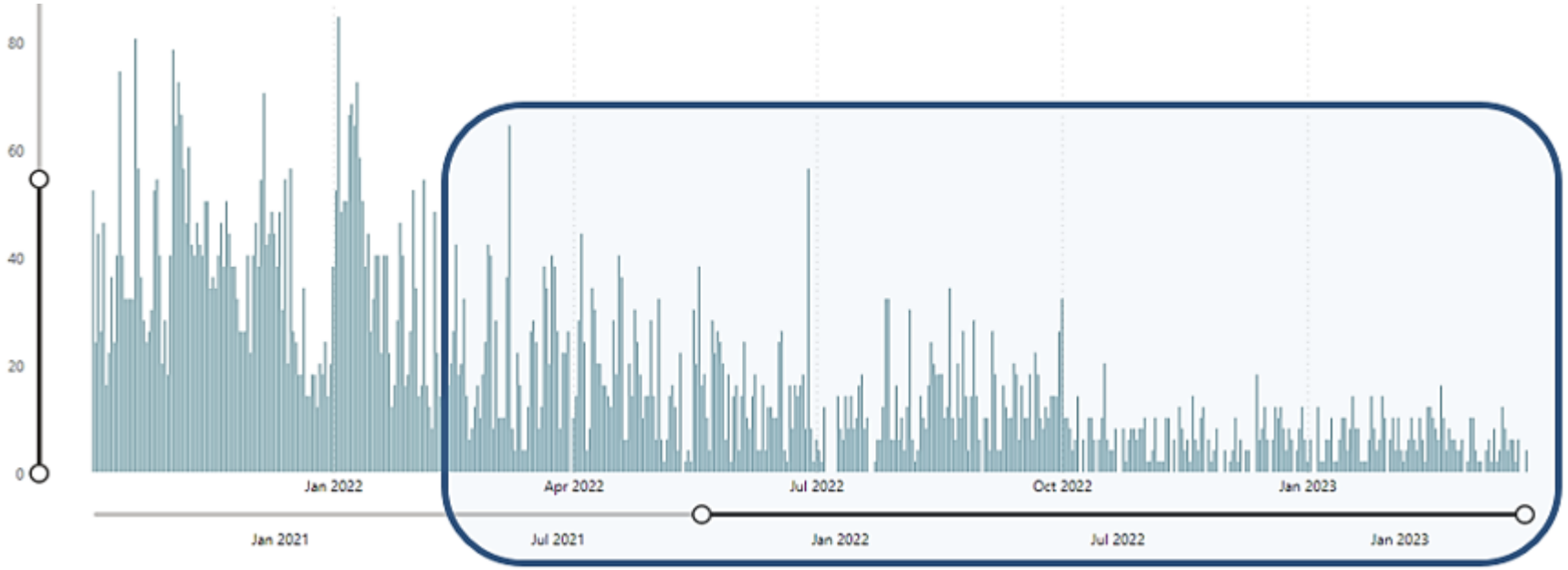
https://www.youtube.com/watch?v=vLpmkB_mV7U
https://www.sesarju.eu/sesar-solutions/guidance-assistance-through-airfield-ground-lighting

Scope 3 Emissions:

Reference: Abu Dhabi International Airport – A-SMGCS

Energy Savings



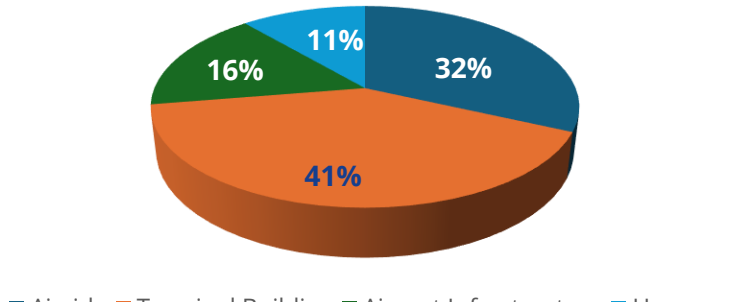


Decreasing Taxi Times

Safety – 82% decrease in taxiway incursions

Scope 2: Typical Airport Energy Usage

Airport Power Distribution (Traditional Technologies)



Energy

Airport – Airside – ADBSG / AGL – Floodlighting

Airport: 1 RWY, Multiple TWYs, Apron, Terminal Building (8 contact Stands + Remote Stands), Parking, Cargo and General Services Areas:

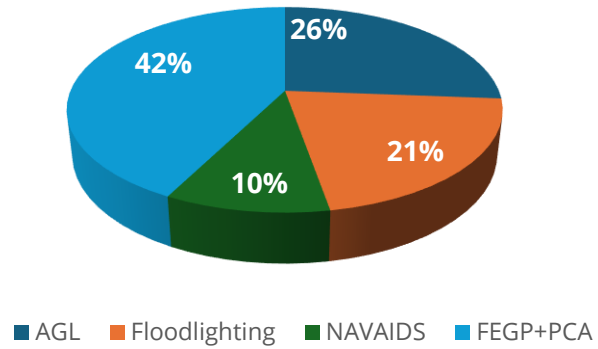
- Traditional Technologies: Halogen for AGL, and Metal-Halide for Floodlighting.
- New Technologies: LED for AGL, Dynamic Routing (FtG) and LED for Floodlighting.

Airside: AGL, Floodlighting, Navaids (Navigational Aids), FEGP (Fixed Electrical Ground Power) + PCA (Pre-Conditioned Air Unit)

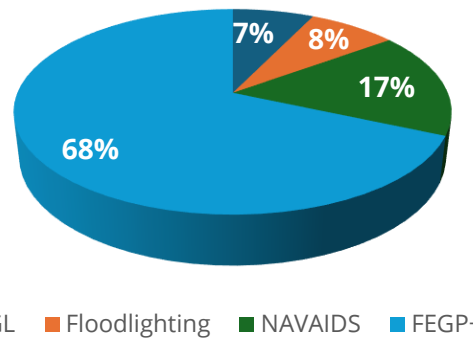
ADB SG: AGL and Floodlighting

Reference Airports: Valencia, Manchester, Abu Dhabi (FtG)

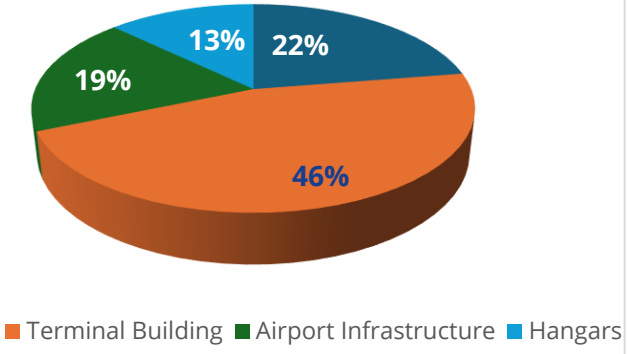
Airside Power Distribution (Traditional Technologies)



Airside Power Distribution (New Technologies)



Airport Power Distribution (New Technologies)

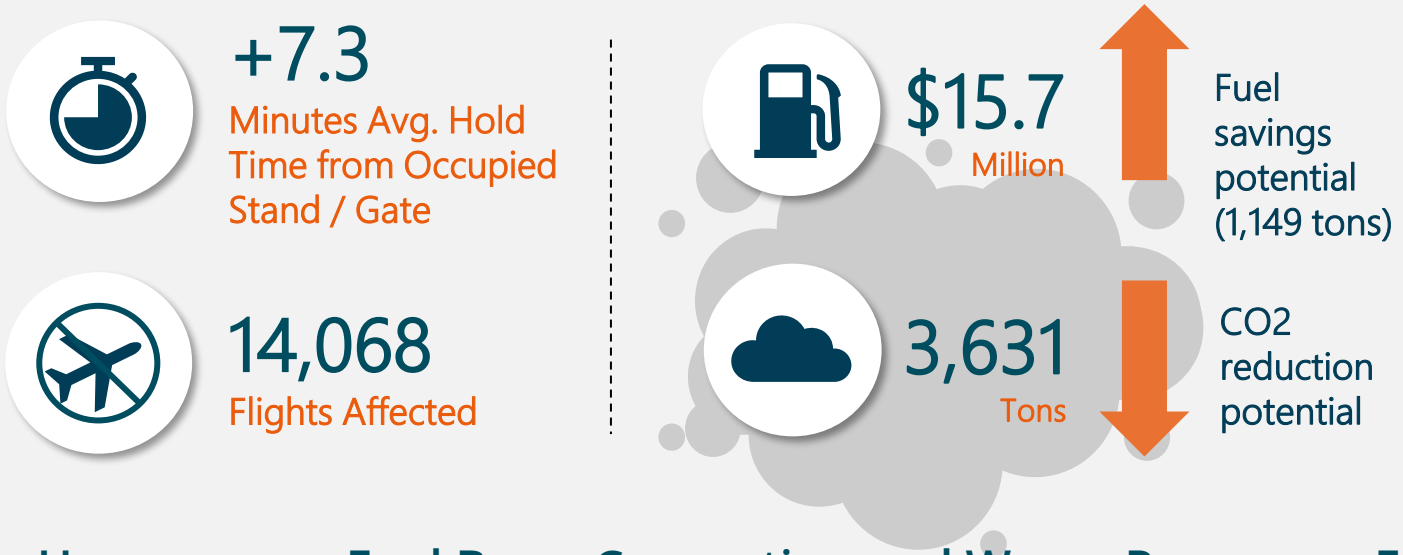


Scope 3 Emissions:

Turnaround Management

Occupied Stand / Gate is a Common Reason for Increased Taxiway Hold Time…

Example form One Large Hub[1]



…Resulting in Unnecessary Fuel Burn, Congestion and Worse Passenger Experience

- **Arriving aircraft often cannot taxi to the assigned stand/gate because it is occupied by another departing flight with a delayed off-block**
  - As a result, the arriving aircraft had to hold on taxiways, burning fuel, contributing to congestion, and worsening passengers' experience

Beyond the Airfield

Terminals & Energy

- Solar Panels
- Renewable Energy Integration
- Smart Building Management

Waste & Water

- Zero-Waste Goals
- Recycling/Refurbishment Initiatives
- Water Capture & Re-use in terminals/landscaping
- Plastic reduction

Ground Access & Mobility

- EV Airport Buses, Staff Shuttles, Charging Hubs
- Rail & Public Transport Integration reducing Scope 3

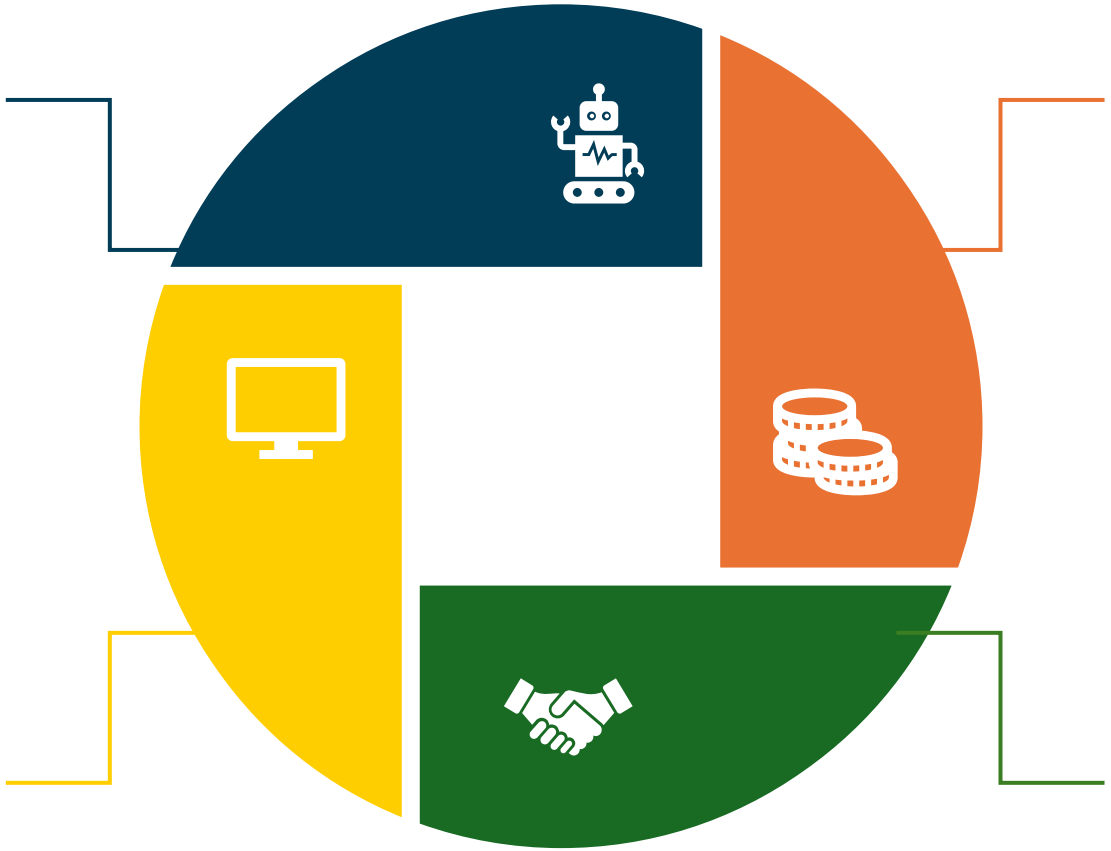
Amsterdam Schiphol – Circular Economy Focus, Changi – Solar & Energy Efficient terminals,
Dallas-Fort Worth – First Carbon-Neutral Mega Airport, Oslo – Biofuel Integration

Airports are embedding sustainability across operations, infrastructure, and access – not just the airfield

Future Outlook

AI Optimization

- Smarter allocation of gates, stands, taxiways
- Predictive Maintenance → Reduced waste & downtime



Green Financing

- Green bonds & ESG-linked investment
- Funding major infrastructure decarbonisation projects

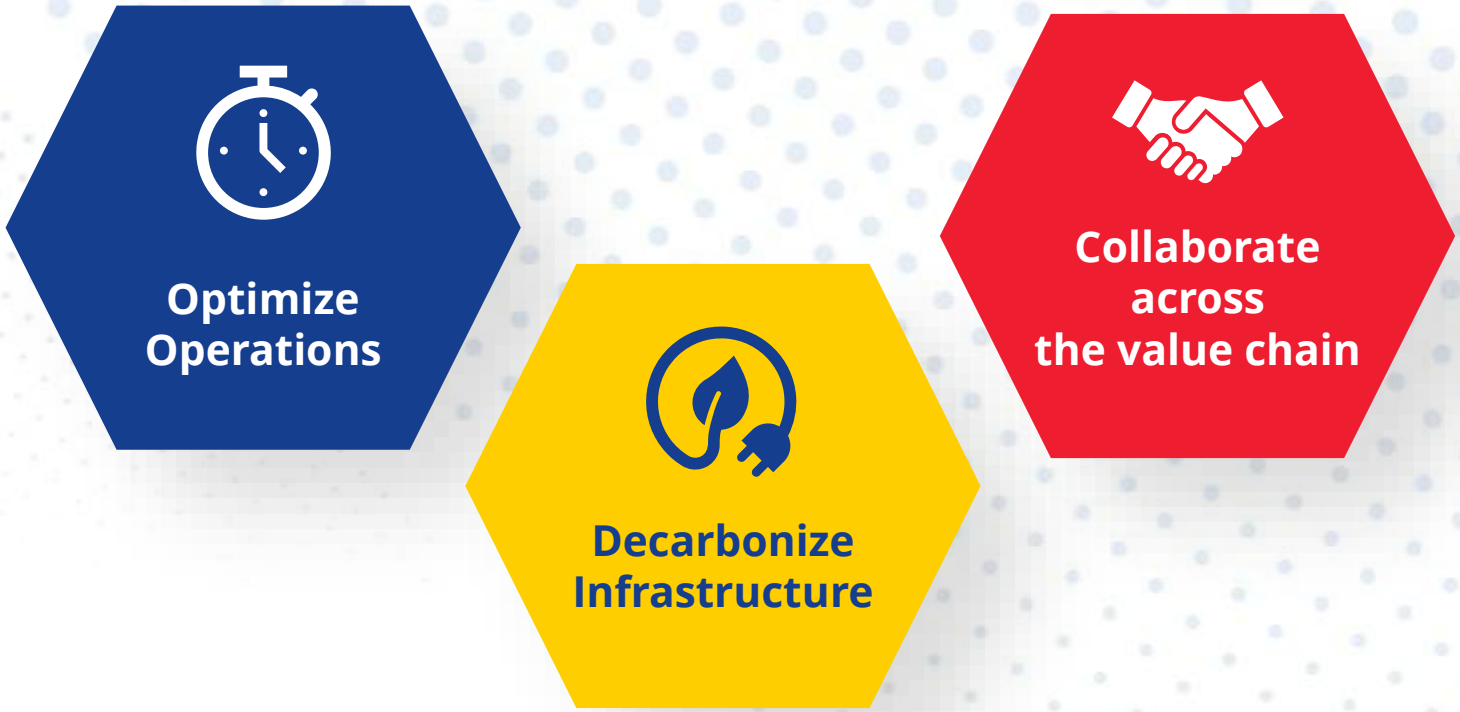
Digital Twins

- Virtual Replicas to model operations & infrastructure
- Test energy, flow, and sustainability scenario's before deployment

Cross-Sector Collaboration

- Airports + Airlines + ANSP's working together
- Shared responsibility for Scope 3 Emissions

Key Takeaway



Actions

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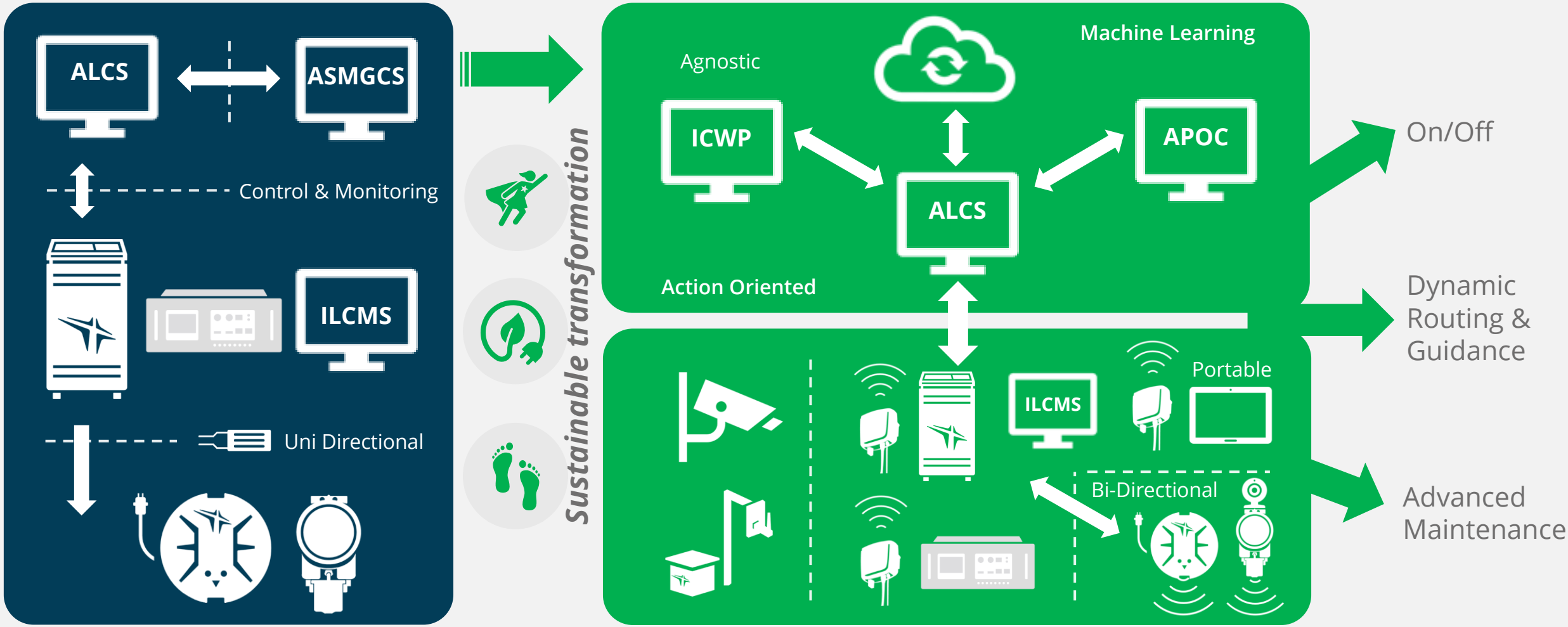
Thank you for your attention

ADB SAFEGATE SCAVENGER HUNT

367NSF

AIRSIDE 4.0® Greening by IT:

Using IT to Advance Sustainability AGL



AIRSIDE 4.0® Greening by IT:

Using IT to Advance Sustainability AGL