EVERCOMM

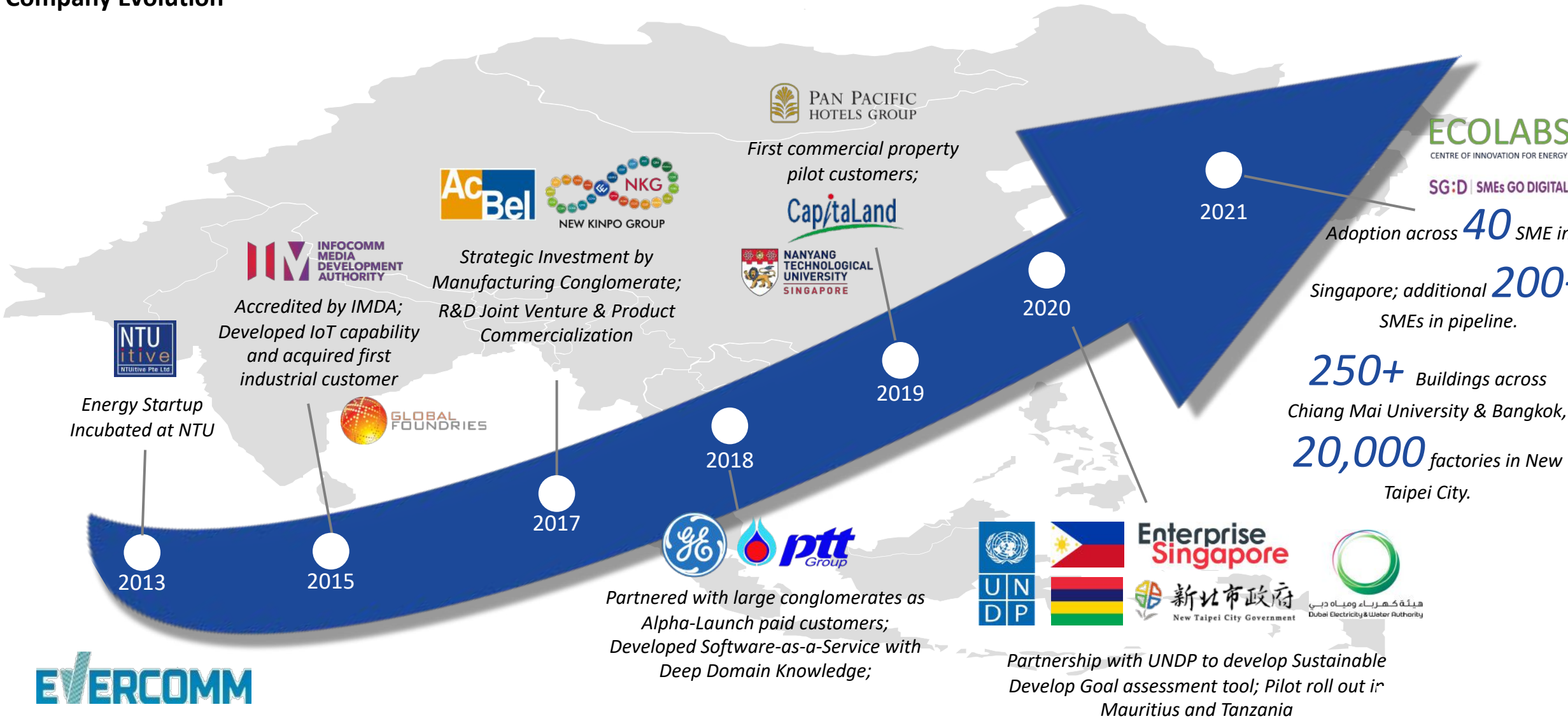
Innovating for a Sustainable Future

Prepared for Urban Sustainability R&D e-Symposia Webinar

Oct 2021

Our Path in Making Sustainability Affordable

Company Evolution



Our Journey with PPHG

2016 Initial engagement & design thinking brainstorming with PPHG through NTUitive introduction

2017 Kickstarted multidisciplinary collaboration between PPHG, NTU, and Evercomm

2018 Selected for STB Hotel Innovation Challenge Phase 1 (AI-enabled Chiller Plant Digitization)

2019 STB Hotel Innovation Challenge Phase 2

2020 NEA Food Waste Digitization

Travel Technology

Pan Pacific ties up with Singapore startup for digital transformation

By TTG Asia / Posted on 8 October, 2018 10:21

Pan Pacific Hotels Group (PPHG) and energy startup EverComm Singapore have kicked off their inaugural collaboration to enable digital-ready hotels across the former's global portfolio.

Using EverComm's proprietary technology, a Building Energy Management System harnessing Artificial Intelligence and the Internet of Things will be deployed across all of Pan Pacific Hotels Group's hotels, resorts, and serviced suites, starting with Singapore.

AI Operation On-boarding Scope

Deployment Sites

- PARKROYAL on Kitchener Road, Singapore (BMS Integration)
- Pan Pacific Serviced Suites Orchard, Singapore (IoT Sensors)
- Pan Pacific Serviced Suites Beach Road, Singapore (IoT Sensors)
- PARKROYAL COLLECTION Pickering, Singapore (BMS Integration)
- PARKROYAL on Beach Road, Singapore (IoT Sensors)

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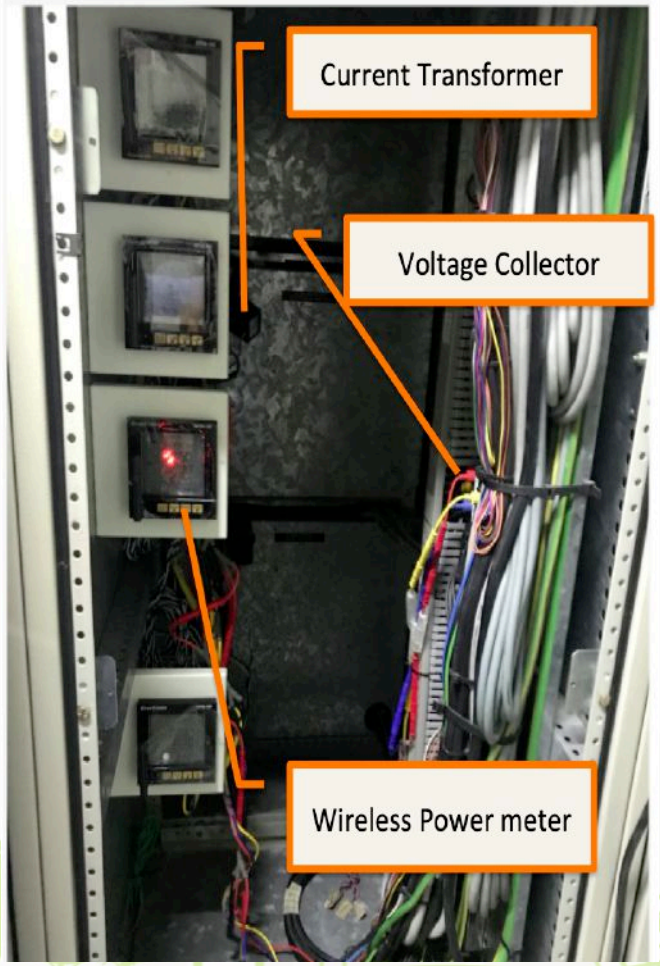
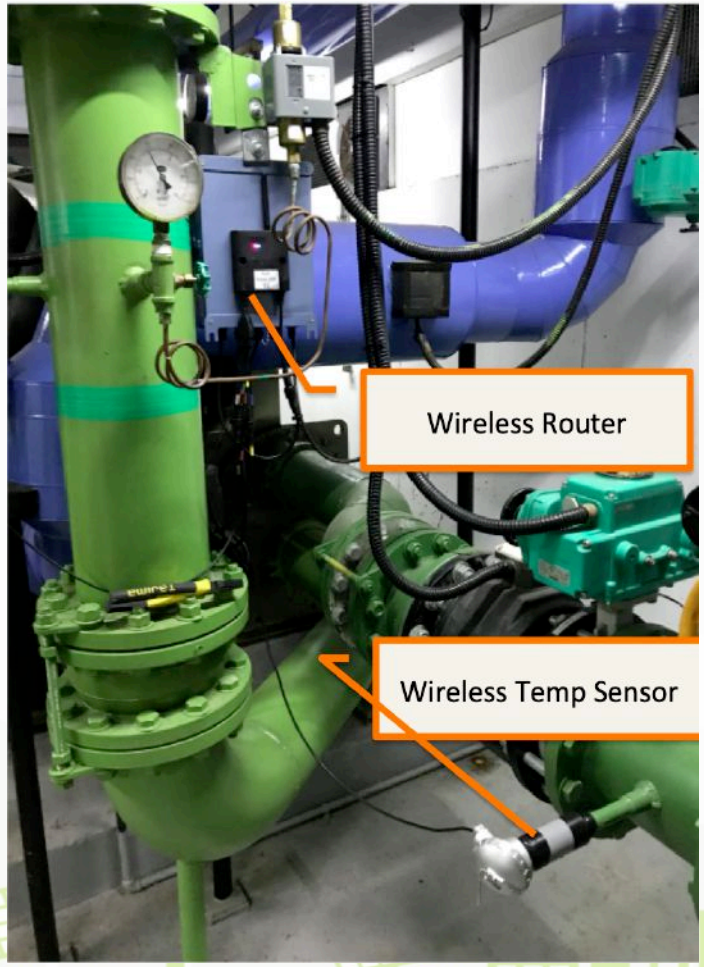
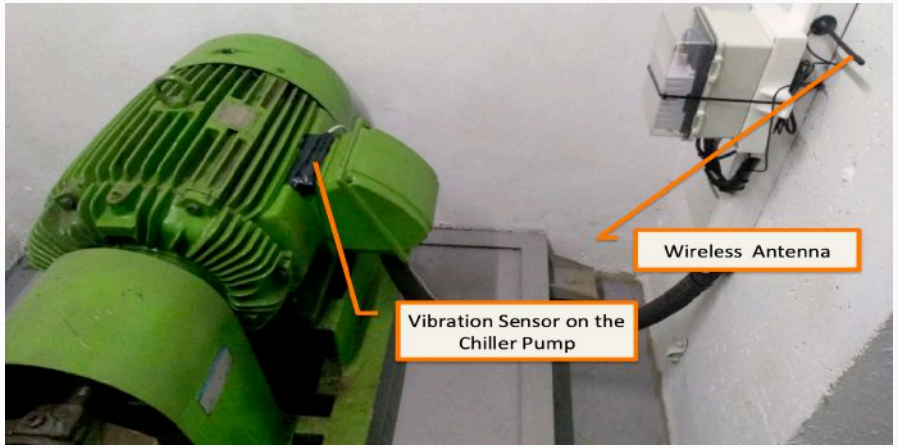
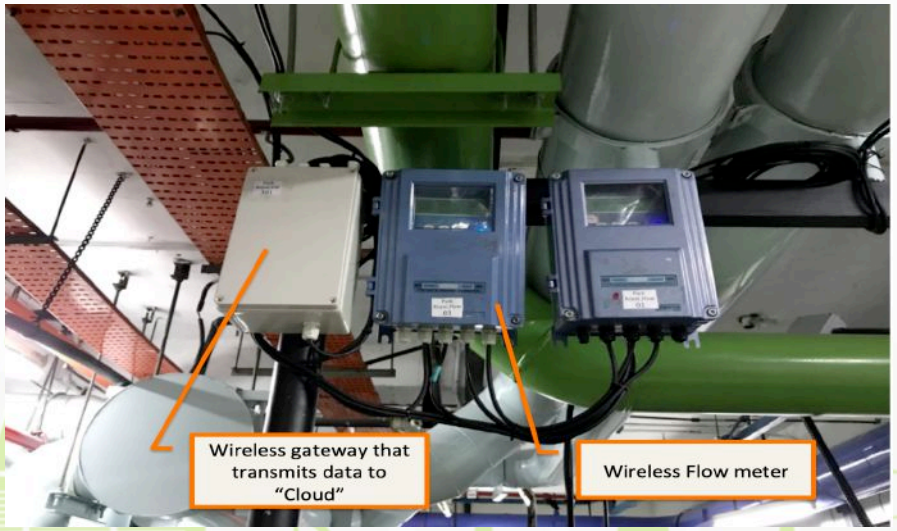
Assets/Equipment Digitization

- Wireless IoT devices enable quick and simple data on-boarding for buildings
- Capable to interface with existing sub-systems (BMS/MES etc)

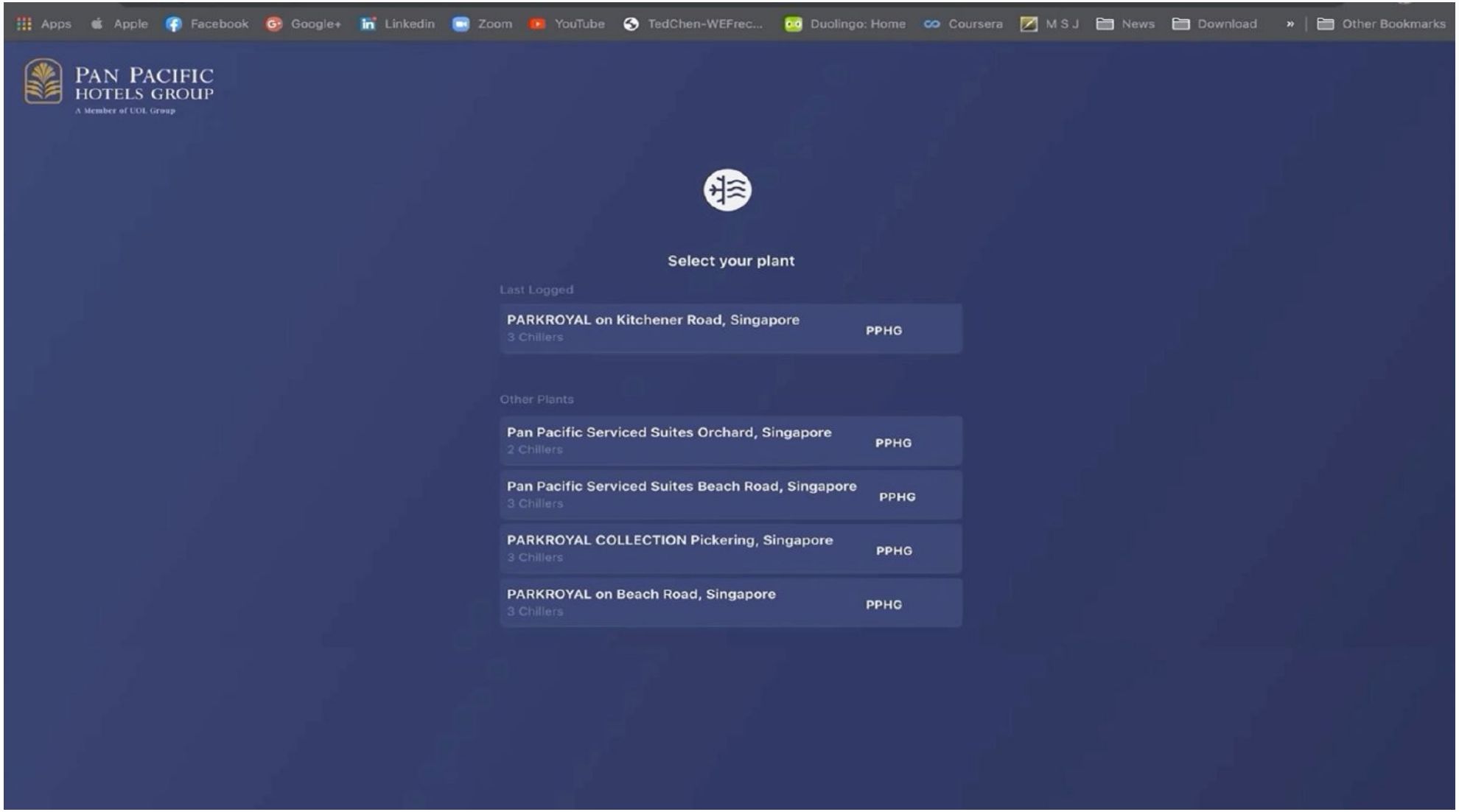




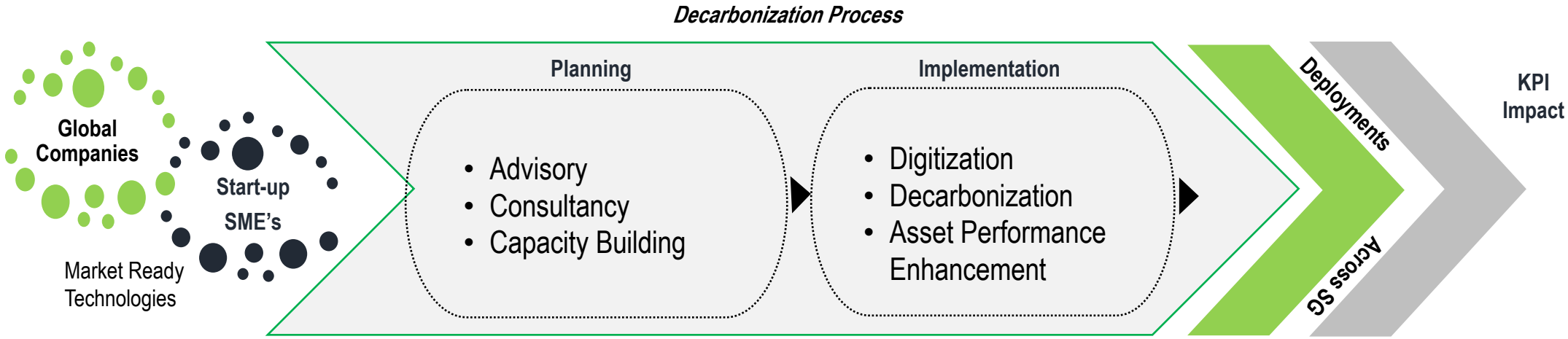




Assets/Equipment Digitization



Scaling Innovation with NTU ECOLABS



PPHG to serve as a catalyst centre to translate cutting-edge technologies, products, solutions in into real applications to create value and impact.

Our focus is on pull-through of projects from **applied development to deployment**

EcoLabs Engagement
Test Bed Architecting
Provide Virtual Audit es
Due Diligence of partners
Project Deployment Support
Access to Govt Grants, Financing

PPHG Team
Site Advisory
Projects Planning
Commercialization

+
PPHG Contribution
Data Provides
Access to Test Bed Sites
Direct project funding

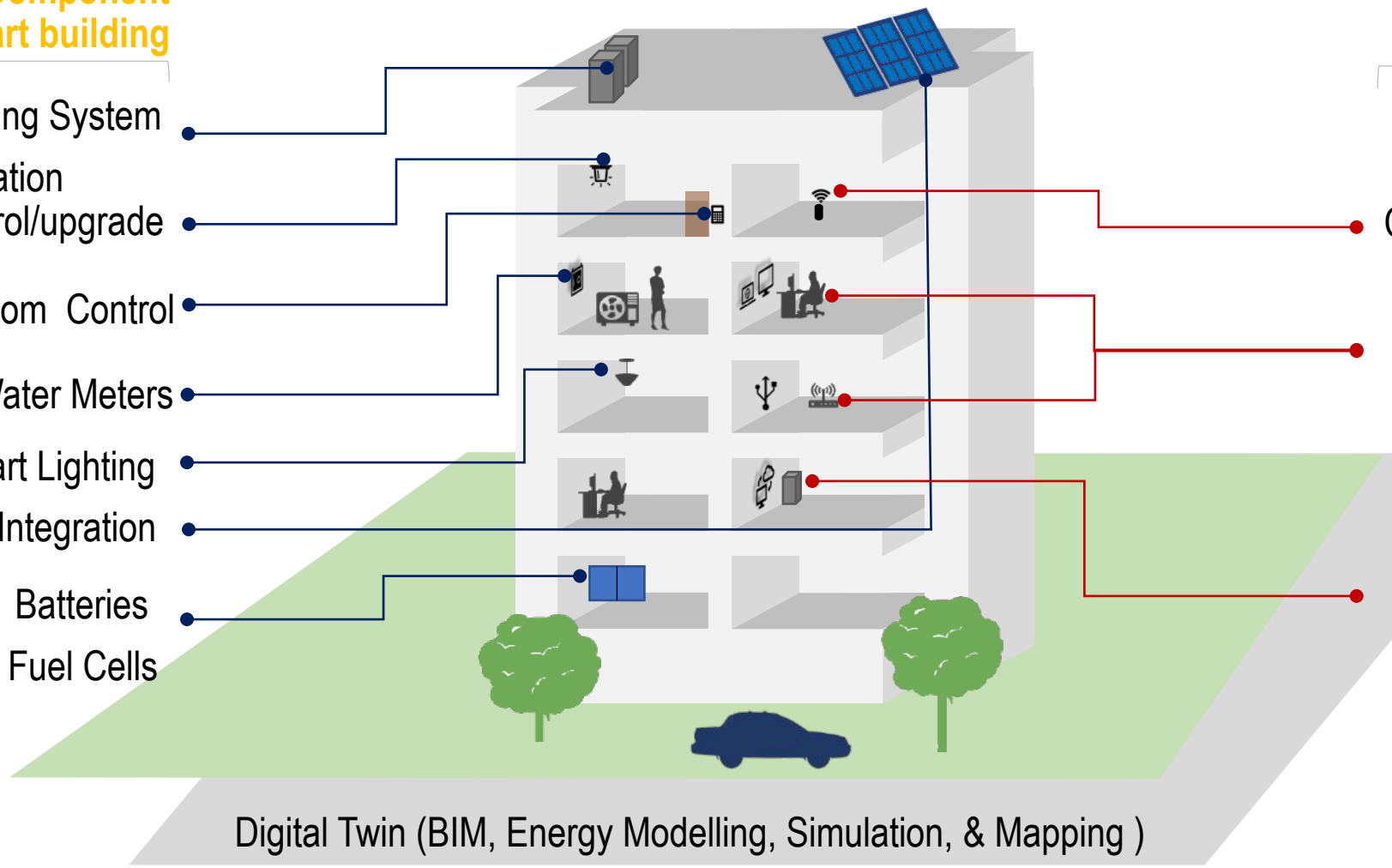
Sustainability Technology Stacks

Energy Efficiency Component of Smart building

- Cooling & Heating System optimization
- Appliance's control/upgrade
- Smart Room Control
- Energy/Water Meters
- Smart Lighting

Green Components of Smart building

- RE Integration
- Batteries
- Fuel Cells



Intelligent Component of Smart building

- Connected Buildings

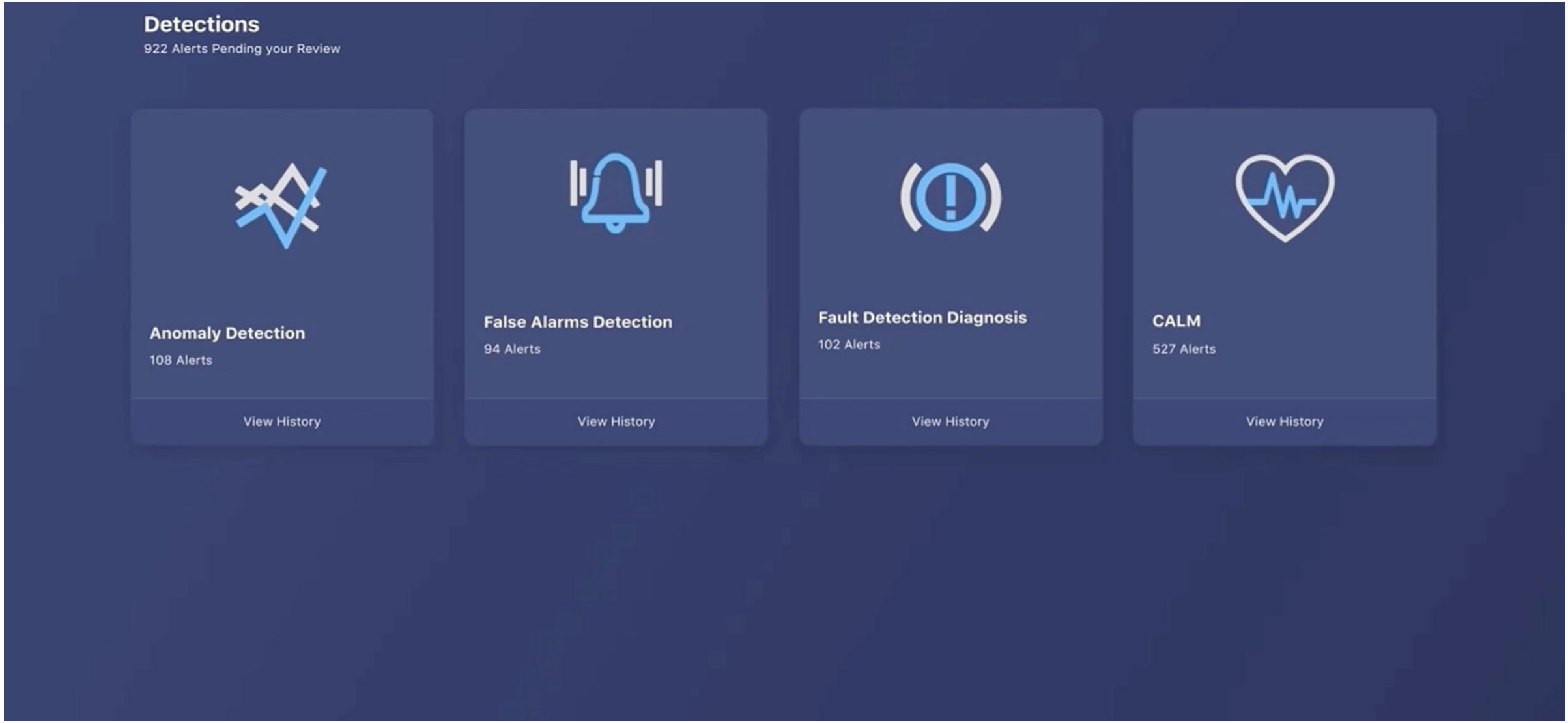
Digitalization platform

- AI (NILM)
- Wi-Fi
- Smart meters
- Plug loads control
- User Behavior
- Data collection & Analysis

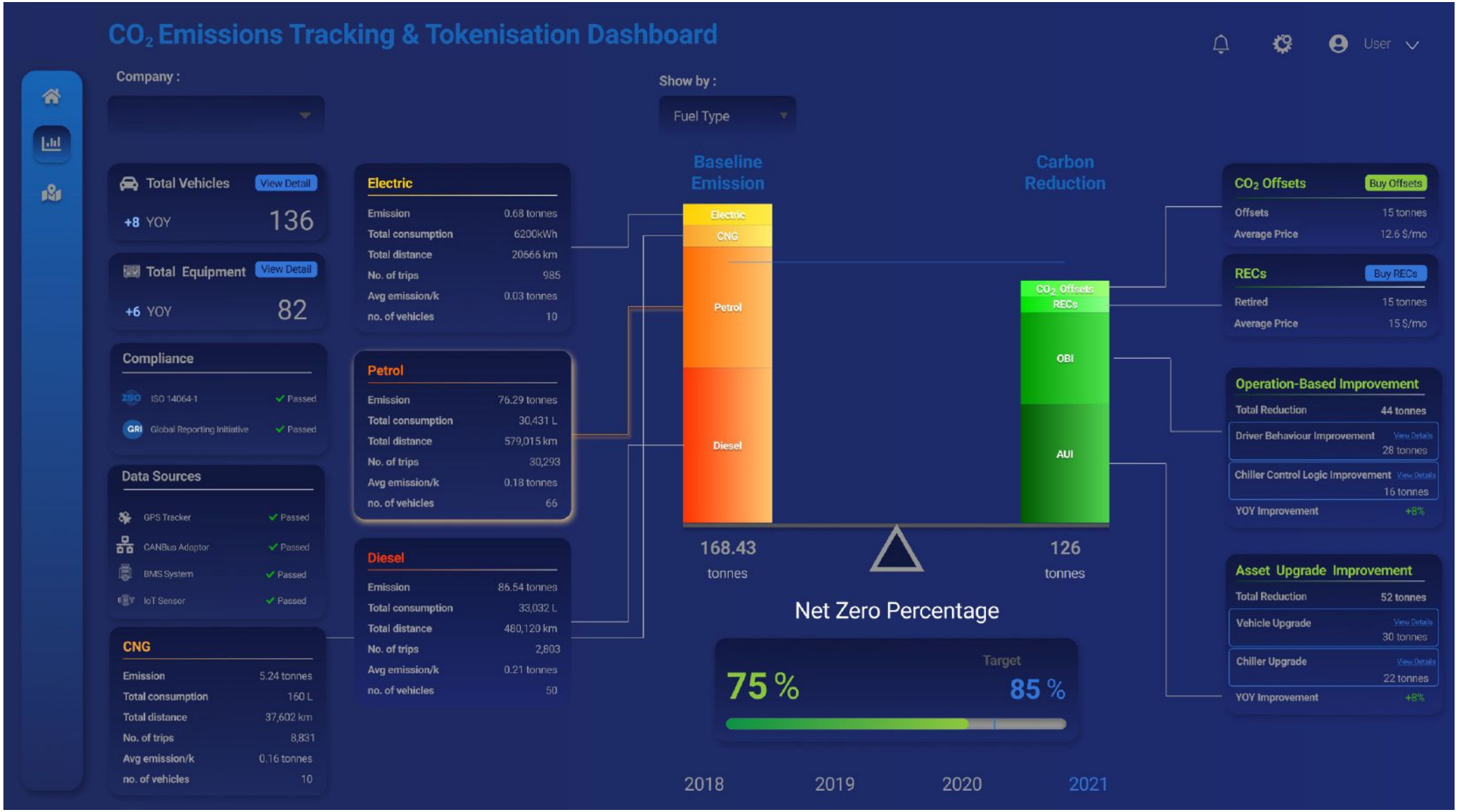
- Cyber Security

Digital Twin (BIM, Energy Modelling, Simulation, & Mapping)

Applying AI Modules to Existing Data



Carbon Abatement Commitment Management



Closing The Sustainability Loop With Consumer Participation

Raw Data → **Processed** → **Tokenized**

Reducing Carbon Footprint & Wastage

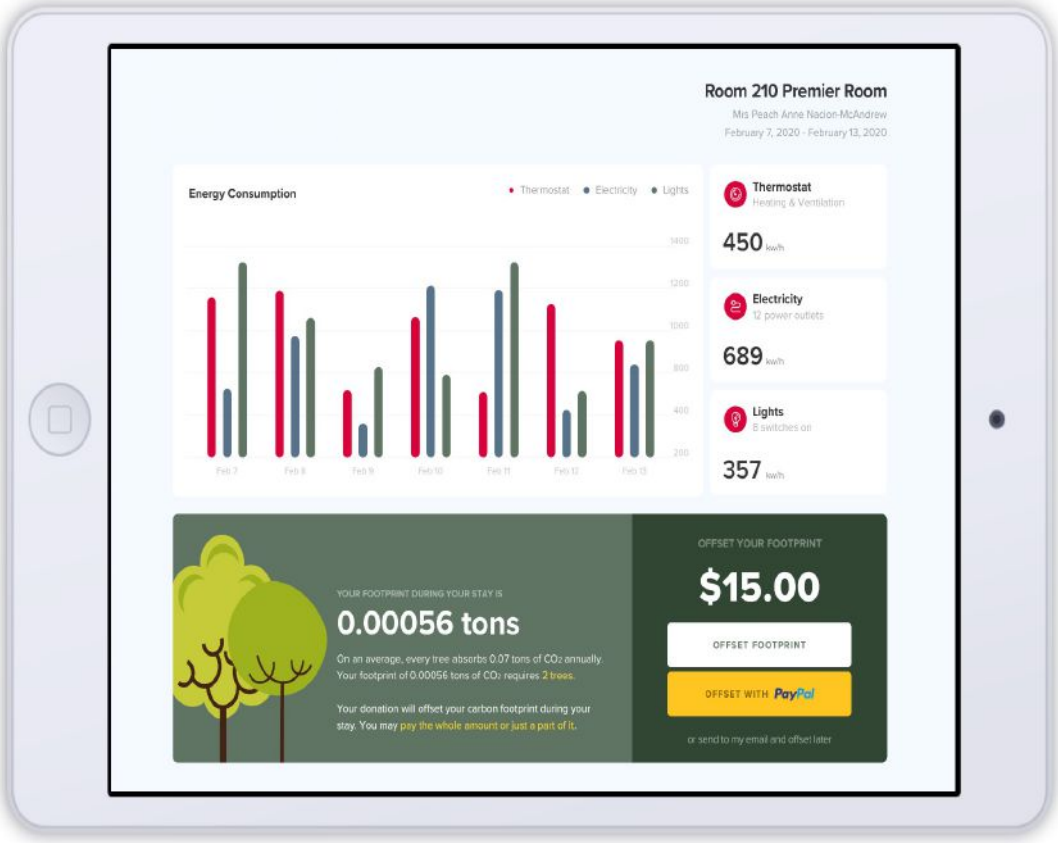
Productivity & Predictive Maintenance

Carbon Offset, Credits & Avoidance Certificate Trading

Equipment

Manpower /Vendor

Customer/ Government



Carbon Offset Feature Work-in-Progress to Accelerate Green Tourism (Hotel Buildings)

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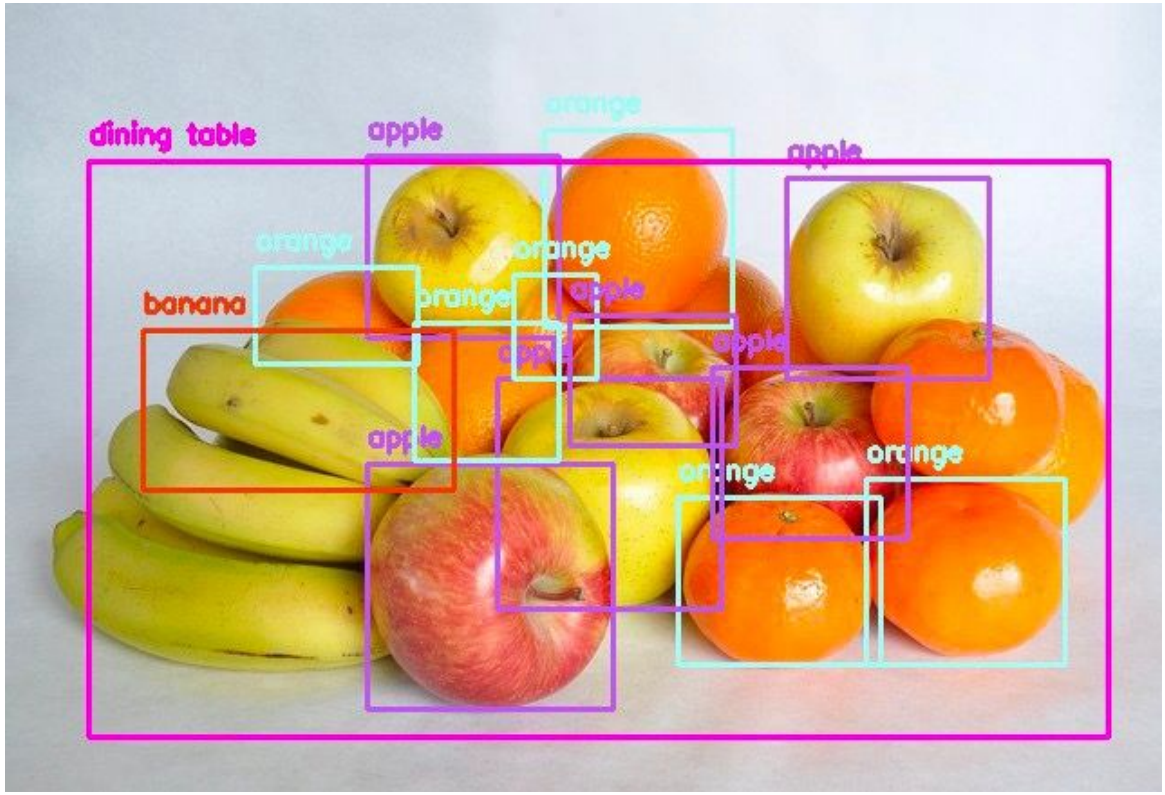
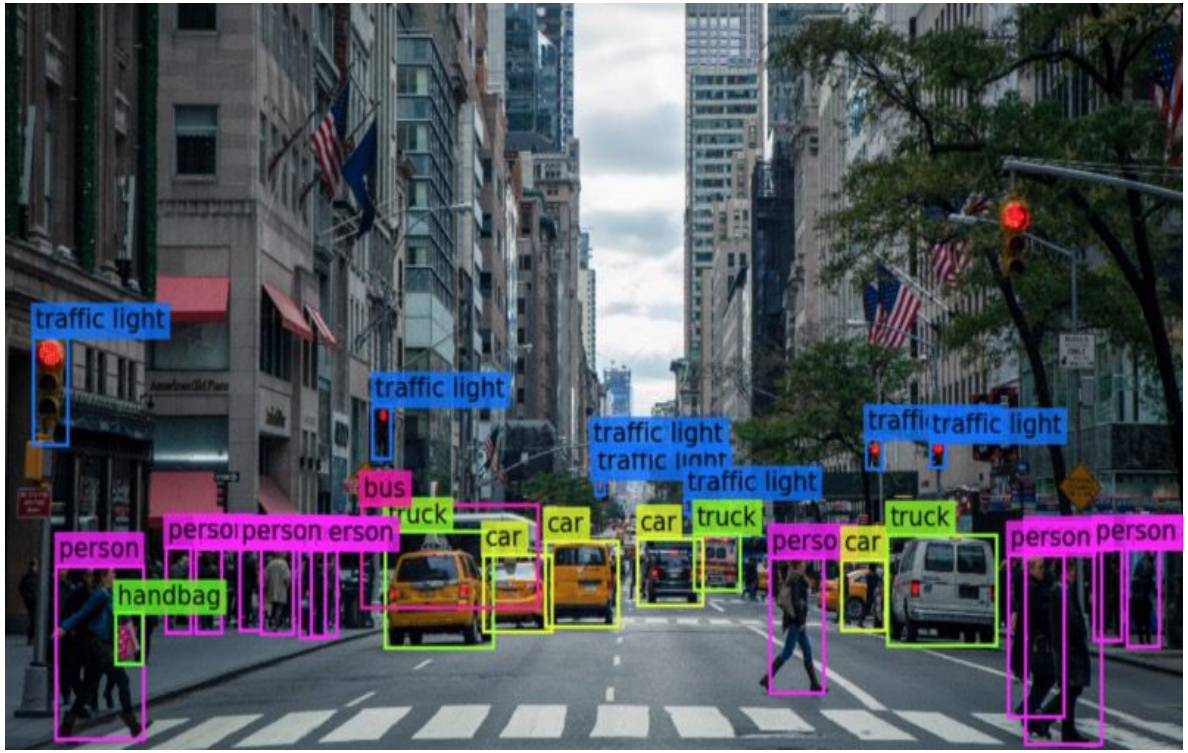
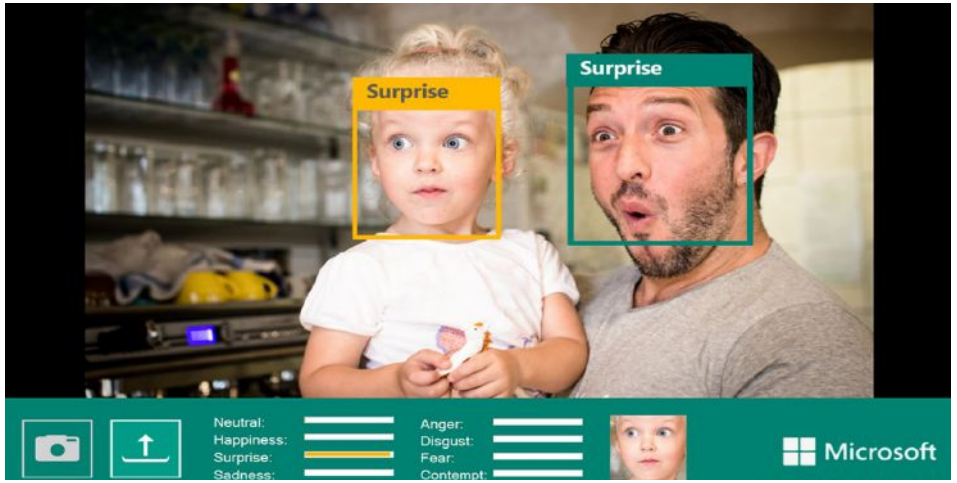
Digitizing Food Waste

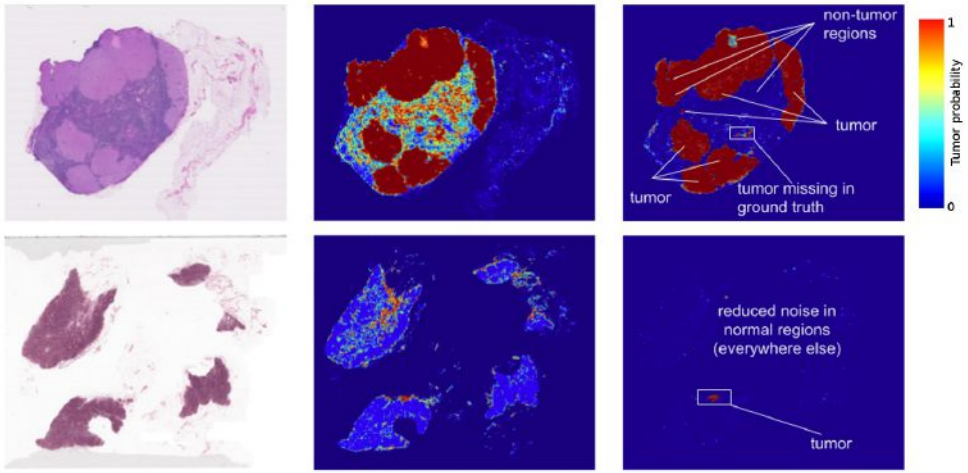
Applying Computer Vision



Digitizing Food Waste







Digitizing Food Waste

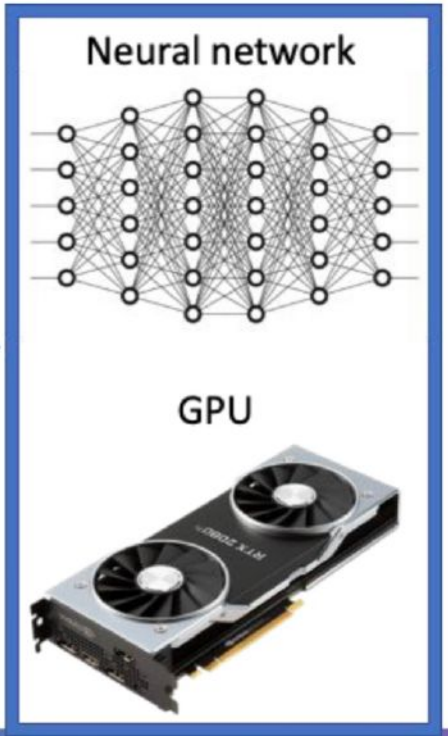
Training data:

Images of food at different percentage/amount remaining

100%/300g 75%/225g 50%/150g 25%/75g 0%/0g

Training process:

Machine learning algorithm



Closing The Food Waste Loop With Consumer Participation

Fundamental Supply & Demand Communication Gap

Most solutions in the market captures waste here

Existing Challenges to Bridge the Fundamental Gap:

- Too Tedious & Labor Intensive
- Too Expensive
- Restaurant Priority: Service-first/Customer-centric

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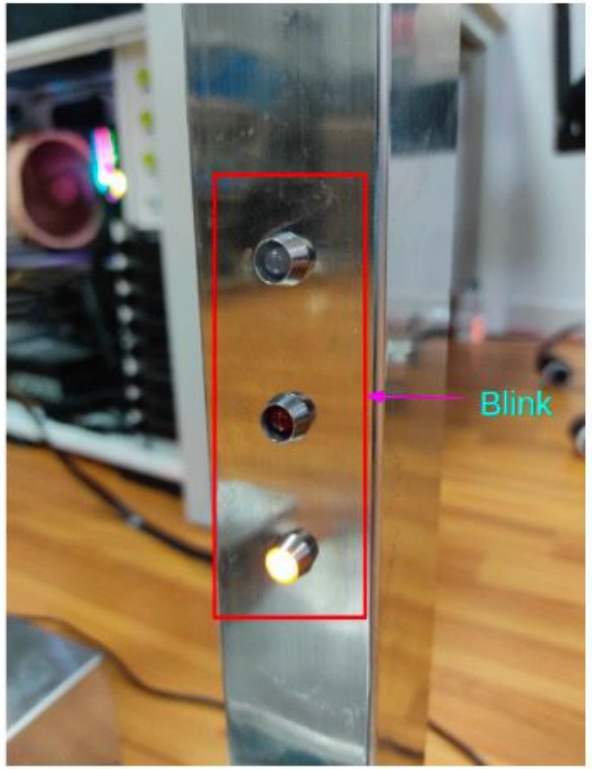
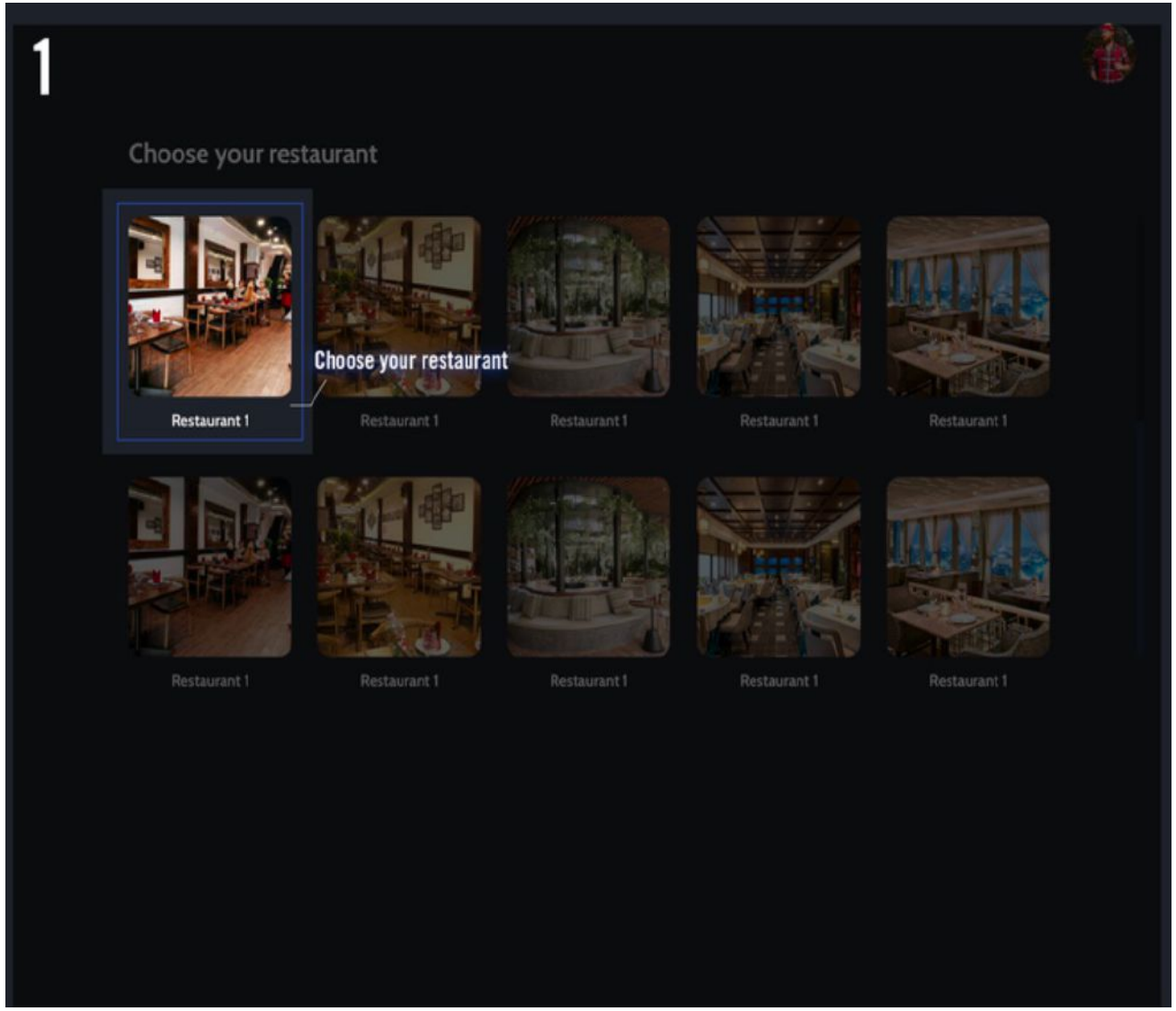
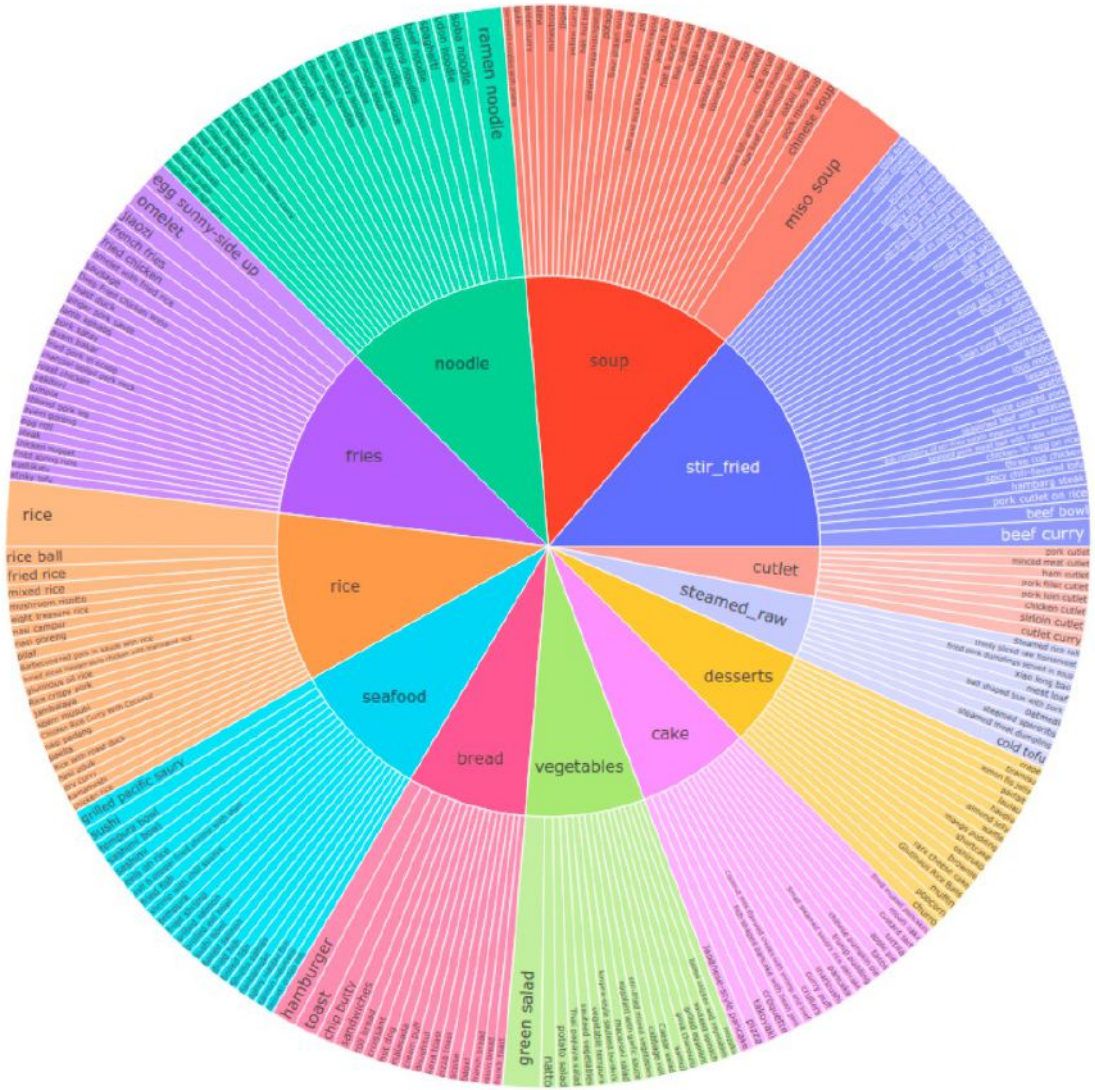
Camera & App

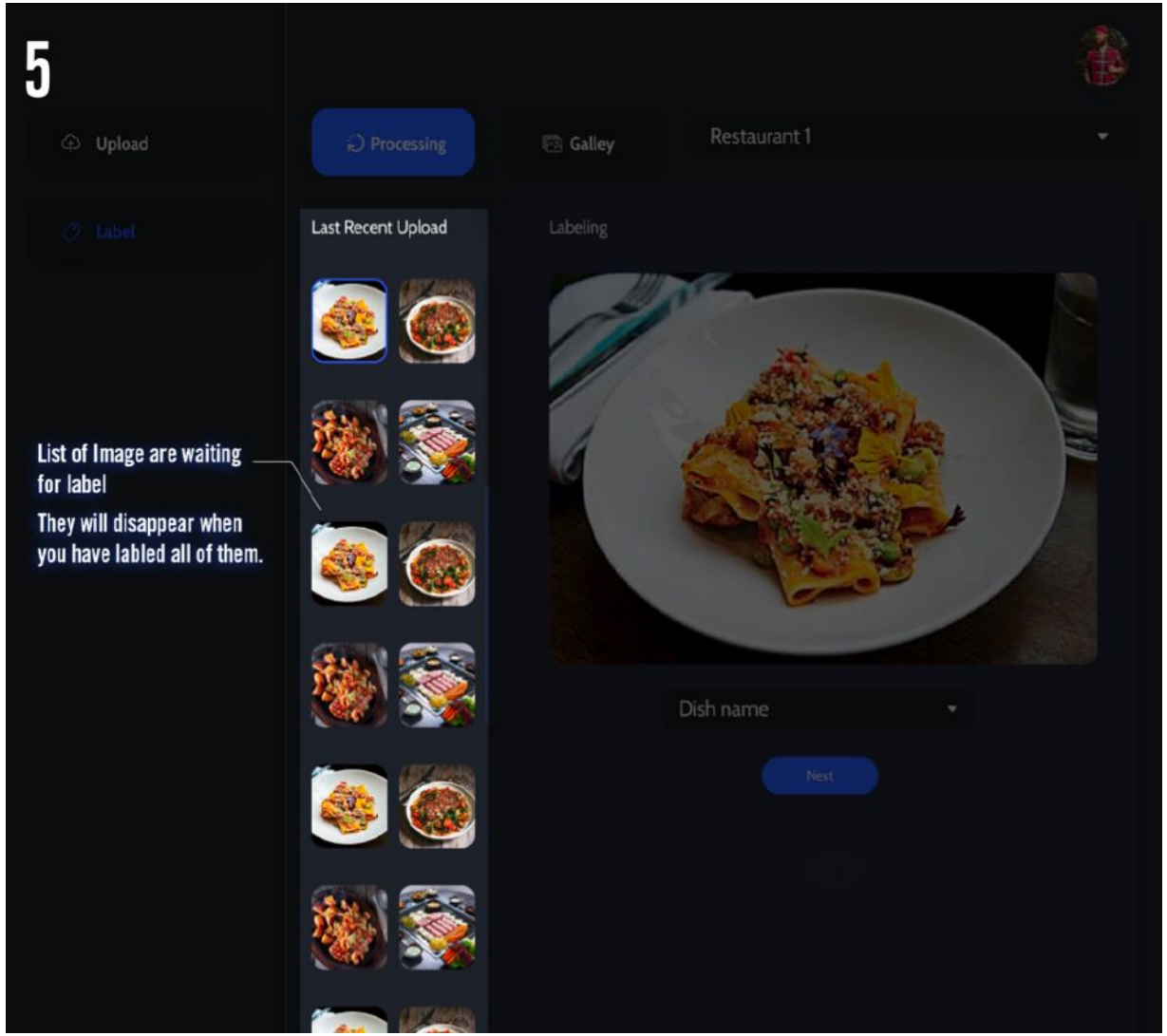


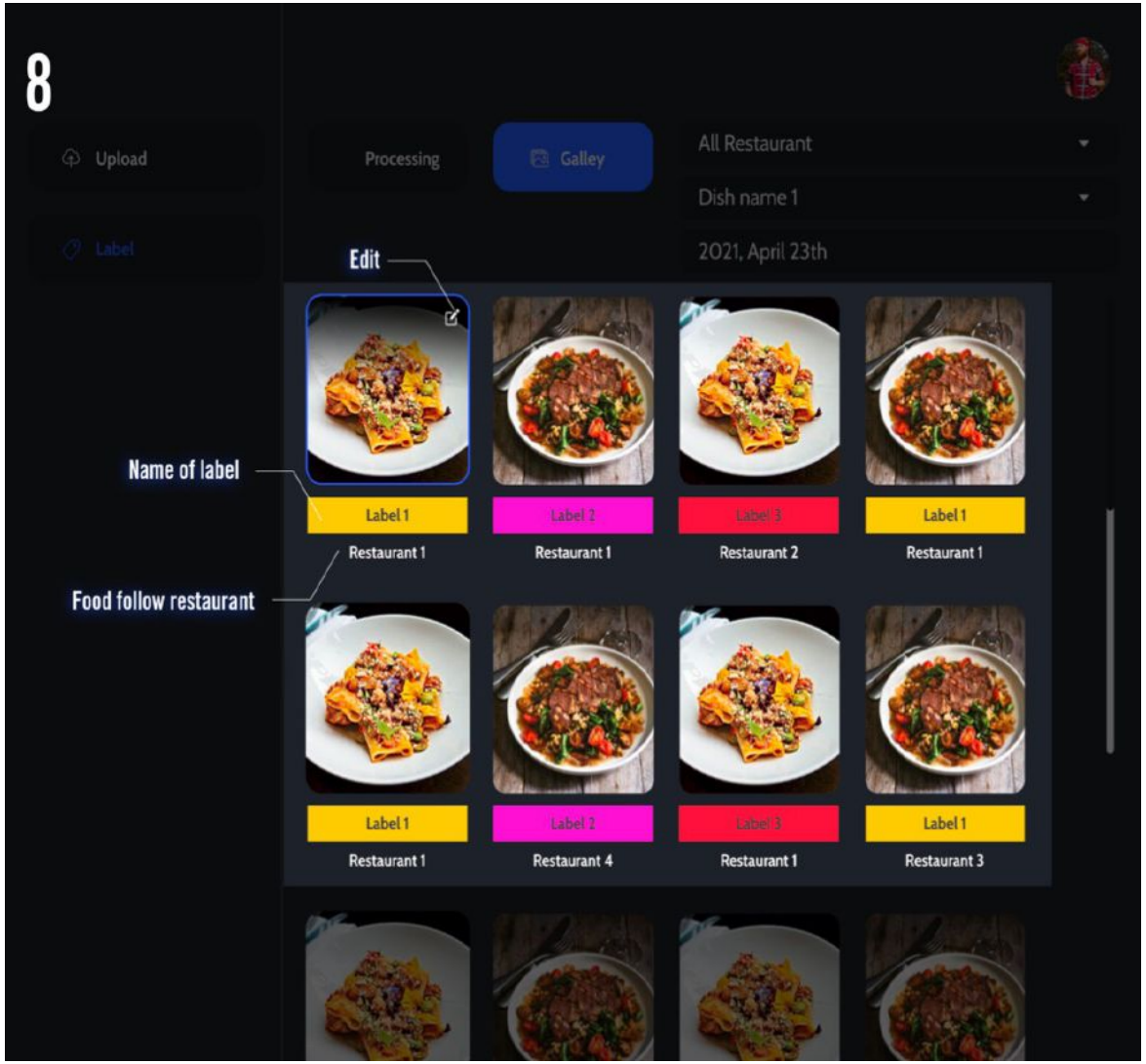
Setting Up Restaurants & Food Menu Digital Library





Applying Computer Vision & Machine Learnings





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Designing Insights Reporting with the Team

THANK YOU!

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