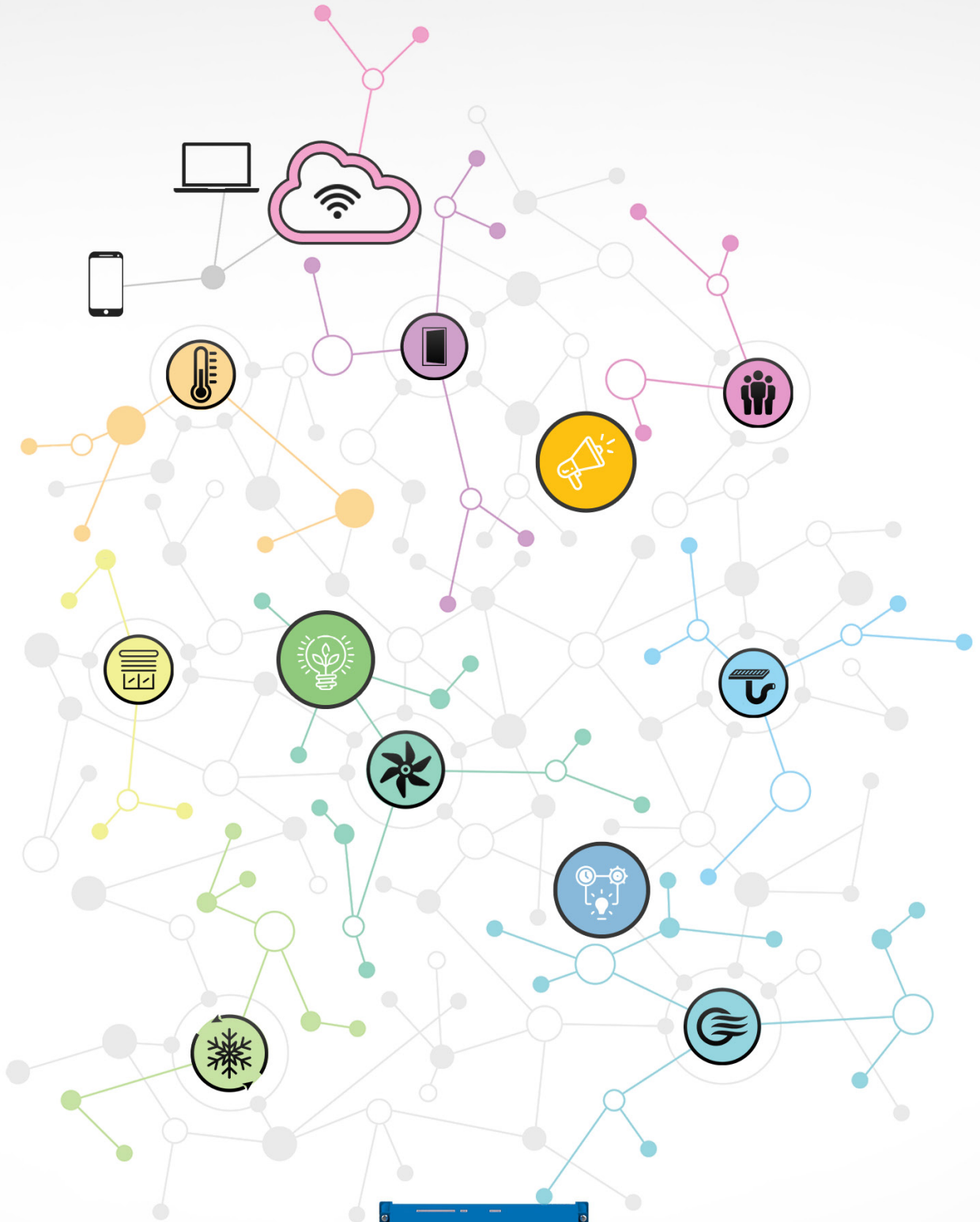# HUSSMART®

BETTER DATA = SMARTER SOLUTIONS

HUSSMART®

2

HusSMART®

PLATFORM & OVERVIEW

HusSMART® Is a Plug & Play innovative technology that is future proof as it allows integration of IoT sensors with   advanced cloud technology into our refrigerated cases for integrating asset management and retail customer engagement.

HusSMART® provides immediate returns by enabling proactive response for service companies and synchronised approach to retail marketing teams based on real-time data.

IMPROVEMENT OPPORTUNITIES

UNKNOWN BLOCKAGES

MOTOR SERVICE

PRODUCT TEMPS

ON DEMAND DEFROST

CUSTOMER FLOW

LEADING TO;

PROACTIVE MAINTENANCE

LOWER OPERATING COSTS

MARKETING INSIGHTS

HusSMART® - An innovative IoT solution that will enable
Better Data = Smarter Solutions.

We see the potential in;
Automating **SMART Maintenance** to **SAVE MORE,**
SMART Energy solutions to **WASTE LESS,**
and incorporating **SMART Sales & Marketing** with live data to **SELL MORE.**

SMART
Proactive Maintenance

SMART
Energy & Sustainability

SMART
Sales & Marketing

HUSSMANN®

HusSMART®
BETTER DATA = SMARTER SOLUTIONS

SAVE MORE;

HusSMART® converts your existing and new cold-chain facilities into smart self-monitoring and self-diagnosis appliances which notifies service staff instantly.

- Enabler to move from preventative to Proactive maintenance contracts
- Proactively measures, self diagnoses and reports on critical equipment and incidences
- Integrates with existing equipment controller and alarms systems to optimise

WASTE LESS;

HusSMART® ensures the optimum level of refrigeration performance and food quality while reducing excessive energy and operational costs.

- Move from conservative pre-set defrosting to demand based defrosting
- Blinds, fans and lights integration to deliver energy savings
- Self monitoring programmes to optimise refrigeration performance including blocked Air returns

SELL MORE;

HusSMART® technology detects customer traffic and provides meaningful insights to know more about your consumers preferences. Live market data enabling you to make more profitable decisions when it comes to product placement, stocking and marketing.

- Real time insights consumer traffic
- Planogram Efficiency
- Real time sales and Marketing Data for selling more
- Electronic Shelf Labels & Video output marketing

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HusSMART®
BETTER DATA = SMARTER SOLUTIONS

First 8 INITIAL IoT SENSORS :

1. DOORS IoT
SAVING YOU ENERGY & COSTS

- Door Open Alarm
- Plannogram Success Measure

2. NIGHT BLIND IoT
SAVING YOU ENERGY & COSTS

- NB Open Alarm
- Fan Motor energy reductions

3. BLOCK AIR IoT
INCREASES CASE EFFICIENCY

- Return Air Block Alarm
- Optimize Performance

4. BLOCK DRAIN IoT
AVOIDS ASSET DOWNTIME

- Automatic Drain Blockage Detection
- Avoids Poor Hygiene & Customer Impact

5. DEMAND DEFROST IoT
SAVING YOU ENERGY & COSTS

- Automatic Drain Blockage Detection
- Adaptable To High Humidity Environments

6. MOTOR SERVICE IoT
SAVING YOU ENERGY & COSTS

- Maximise Equipment Uptime
- Avoid Unsafe Product Temp & Waste

7. PRODUCT TEMPERATURE IoT
SAVING YOU ENERGY & COSTS

- Monitor Case Temp in Real Time
- Prevent Product Wastage

8. PEOPLE COUNTER IoT
SAVING YOU ENERGY & COSTS

- Insights of High Flow Areas
- Plannogram Success Measure

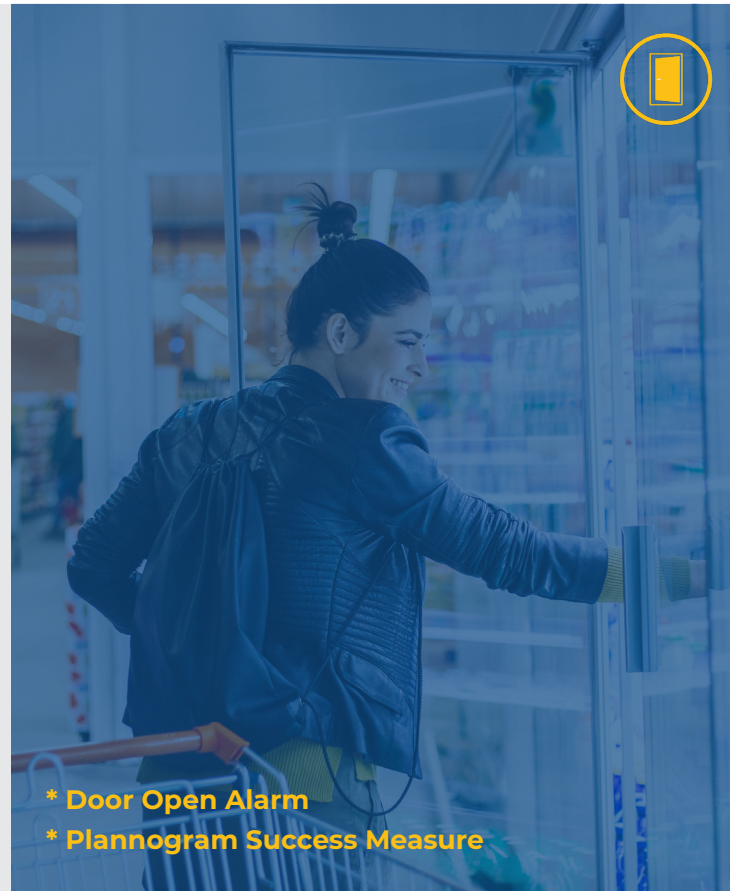**HUSSMANN®**

1. DOORS IoT
SAVING YOU ENERGY & COSTS

Our HusSMART® Door IoT ensures food preservation is maximized by sending an automatic alert notification to your team should a door be left ajar or open.

BENEFITS INCLUDE;

- Case efficiency by ensuring the door is always closed will improve energy savings.
- Improvement in temperature control resulting in better food storage quality.
- Alongside the people counter IoT, the ability to measure of Planograms to understand how many people are opening doors and how they move through the supermarket.

HOW IT WORKS;

This IoT detects if the doors are open/closed using a **Hall sensor** and a magnet, this works similar to a touch sensor. When the doors are closed the Hall sensor will detect the magnet and read closed, when the magnetic is not detected, it will read open.

* Door Open Alarm
* Plannogram Success Measure

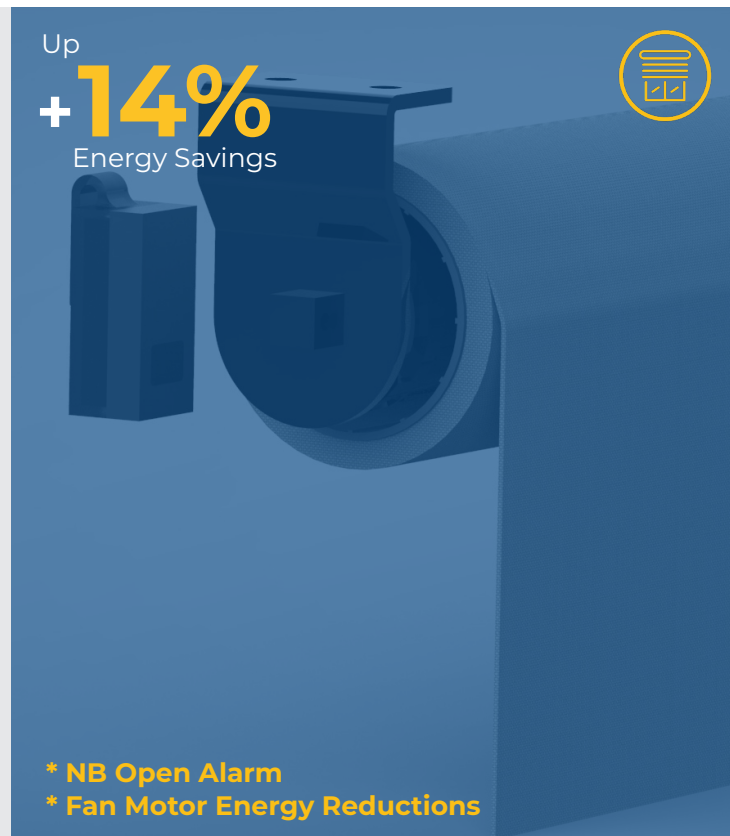## 2. NIGHT BLIND IoT
SAVING YOU ENERGY & COSTS

HusSMART® technology detects the night-blind position and automatically reduces the evaporator fan speed to lower your energy consumption in our new P Series Cases.

BENEFITS INCLUDE;

- Being able to increase case efficiency by ensuring the blind is closed during off hours, which will decrease fan motor speed and cooling usage and increase energy savings.
- Maintain safe internal temperatures at night by decreasing external and air that can interrupt airflow and cause abnormal temperature changes.
- Align with store operating hours for alarm messages.

HOW IT WORKS;

This IoT detects if the night blind is open/closed using an **infrared (IR)** sensor that detects the thickness of the blind by measuring the distance the light returns to the sensor in Volts (V).

Up
+14%
Energy Savings

* NB Open Alarm
* Fan Motor Energy Reductions

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3. BLOCKED AIR IoT
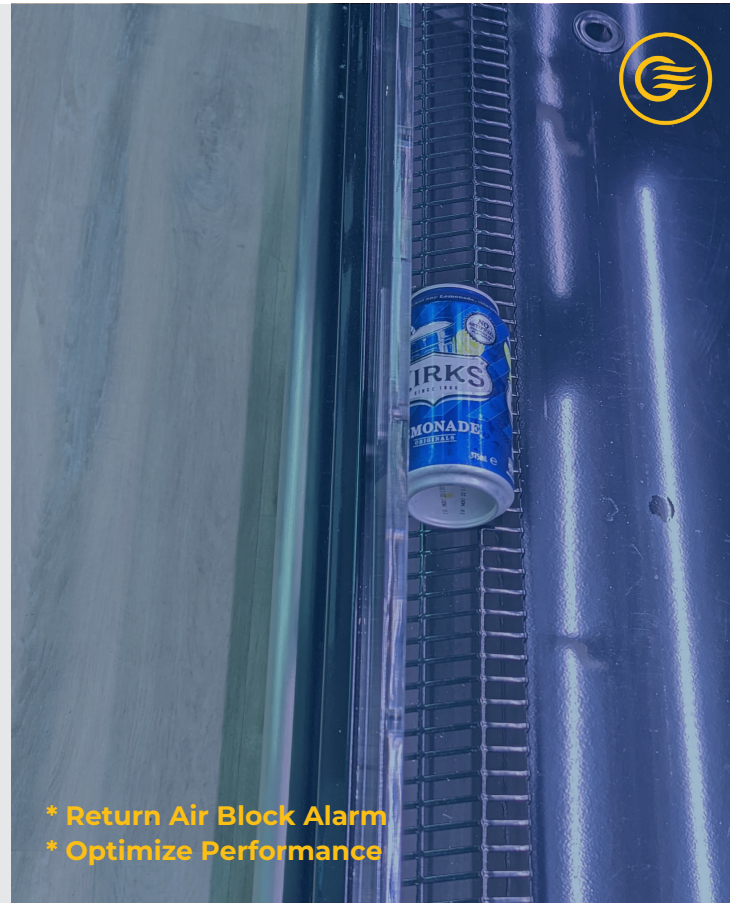**SAVING YOU ENERGY & ENSURING PRODUCT QUALITY**

With HusSMART®, airflow is monitored to ensure optimal air return will automatically generate an alert notification.

BENEFITS INCLUDE;

· Reduces adverse air flow deflection from blockages that could potentially impact case performance and energy efficiency and increases energy consumption.

HOW IT WORKS;

This IoT detects products and object blocking the airflow at air return grill. This works using an infrared light from each end of the case to check if there are any obstacle withing the air inlet and notifies accordingly. These live results can be viewed and tracked through our HusSMART®® Portal.

* Return Air Block Alarm
* Optimize Performance

4. BLOCKED DRAIN IoT
AVOID ASSET DOWNTIME

HusSMART® automatically detects the onset of drain blockages and prevents overflow by notifying your service staff.

BENEFITS INCLUDE;

· Reduce preventative maintenance costs by servicing only the cabinet with a blockage and knowing what the issue is in advance.
· Reduce costs by eliminating the need for expensive chemical drain clearing tablets.
· Avoid the cost of unloading full case line ups
· Minimise customer disruption and lost revenues
· Eliminate flooding and store damage

HOW IT WORKS;

This IoT detects water accumulation in the basin and notify as drain blockage. This is done using a Capsense sensor that will detect the capacitance of the rising water to send an alarm notification in advance.

* Automatic Drain Blockage Detection
* Avoids poor Hygiene & Customer Impact

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5. MOTOR SERVICE IoT
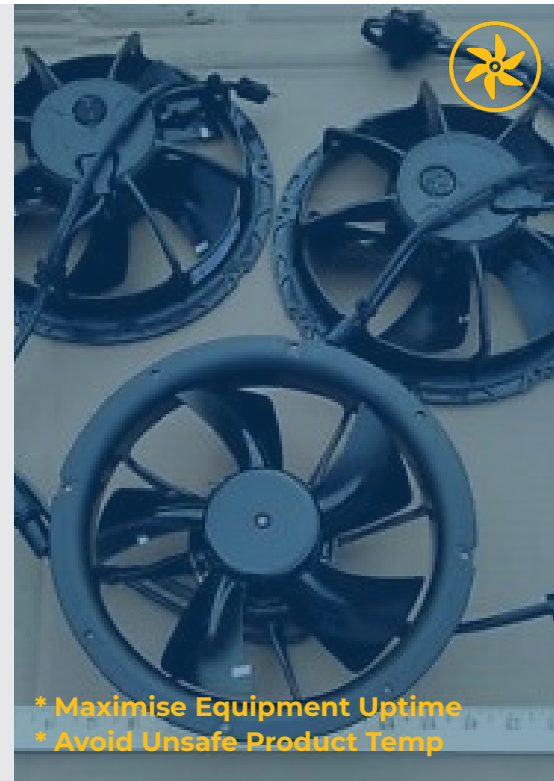**FOCUSED MAINTENANCE & RUNNING**

Fan motors are a key aspect of a refrigeration cabinet to ensure optimal performance and air circulation. HusSMART®® monitors & automatically detects any abnormality in fan motor operation.

BENEFITS INCLUDE;

· Early signs of maintenance & notifications

· Planned service based on total run time.

· Avoid unsafe product temperatures and wastages from abnormal fan speed/action notifications.

· Maximize equipment uptime by monitoring and using the different fan speeds when its actually needed as supposed to full time. Increases energy efficiency.

HOW IT WORKS;

· This IoT monitors the current usage by all fans in the case and report abnormality. This is done by using a **current sensor** to calculate the current passing through to measure speed at which the fan is operating at.

* Maximise Equipment Uptime
* Avoid Unsafe Product Temp

6. DEMAND DEFROST IoT
ENERGY SAVINGS AND NO ADJUSTMENTS FOR SEASONALITY/DEMAND
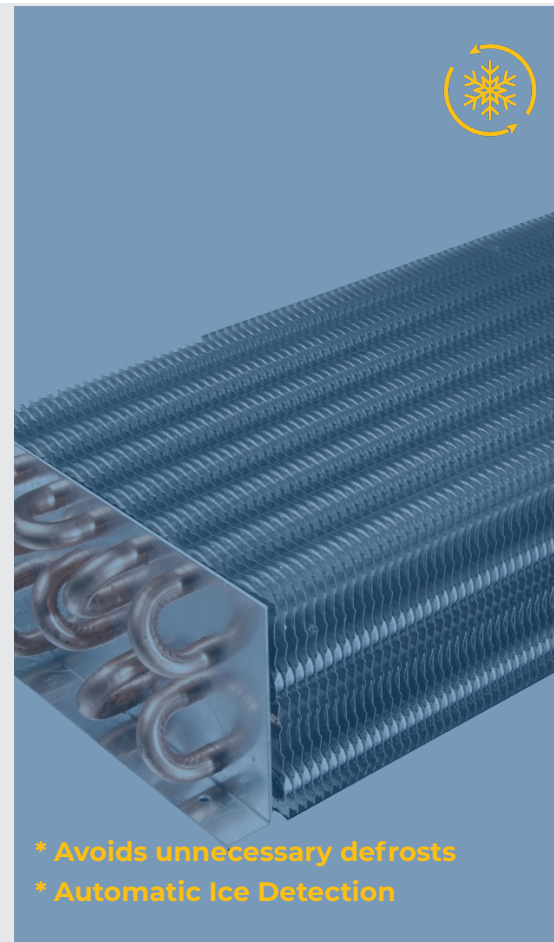
The system uses advanced technology to detect exactly when the evaporator coil requires defrosting, based on the individual case conditions. **We simply measure ICE !**

BENEFITS INCLUDE;

· Increase case efficiency resulting in energy saving and lower overall costs.

· Avoid temperature fluctuations and prevents microbe growth in products.

· Ability to adapt to high humidity environment. Also includes fail safe option when used with Temperature sensor to trigger an on demand defrost.

· Eliminates unnecessary defrosts by detecting best possible times from defrost and allows for defrost cooldown periods.

· Reduce Carbon Emissions through energy savings .

HOW IT WORKS;

This IoT detects Detects ice formation on the evaporator fins to trigger an On-Demand Defrost cycle. This is done via a **Capsense sensor** that will record the capacitance change between sensor and evaporator fins when ice occurs, thus triggering a response to the cases controller.

* Avoids unnecessary defrosts
* Automatic Ice Detection

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7. PRODUCT TEMP IoT
FOOD SAFETY AND COMPLIANCE

HusSMART® intelligent monitoring of operating temperatures in equipment provides alert notifications in cases with abnormal operating temperature conditions. It takes care of compliance costs with minimal increase in cost.

BENEFITS INCLUDE;

- Monitor case temperature in real-time for compliance
- Prevent product wastage
- Detecting unsafe temperature
- Air off Fail Safe for Defrost

HOW IT WORKS;

This IoT is a waterproof digital temperature sensor, that's used to monitor product temperature as well as act as a fail-safe option for the on demand defrost application.

* Monitor Case Temp in Real Time
* Prevent Product Wastage

8. PEOPLE COUNTER IoT
CUSTOMER METRICS

The HusSMART® IoT People Counter monitors the measurement of customer traffic flow.

BENEFITS INCLUDE;

- Insights of high traffic areas
- Assists in-store marketing to better plan and increase sales
- Indications of dwell time and traffic lead to real-time planogram feedback
- Future engagement can be enhanced by integrating Hussmann Digital Labels and Video rails

HOW IT WORKS;

This IoT is used to monitor customer traffics and case usage trends. This works by using **Lidar sensors** that Counts the number of people passing by or stopping by the case ;

* Insights of High Flow Areas
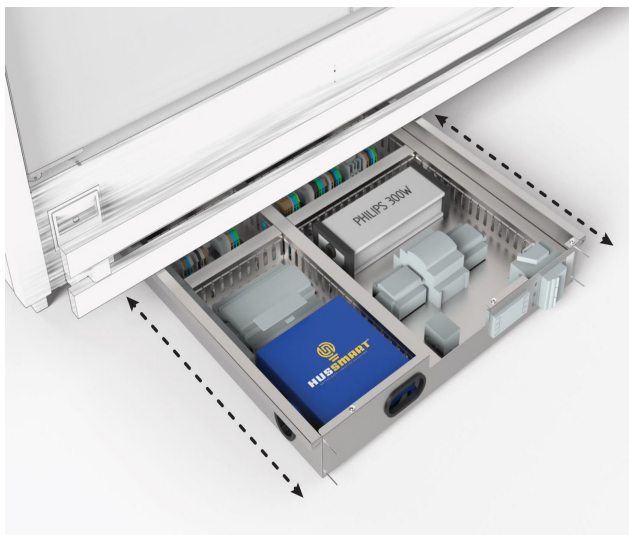*** Plannogram Success Measure**

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IOT SENSORS
HOW IT ALL WORKS

HusSMART®'S First 8 IoT TECHNOLOGIES
Connected to our HusSMART® Controller

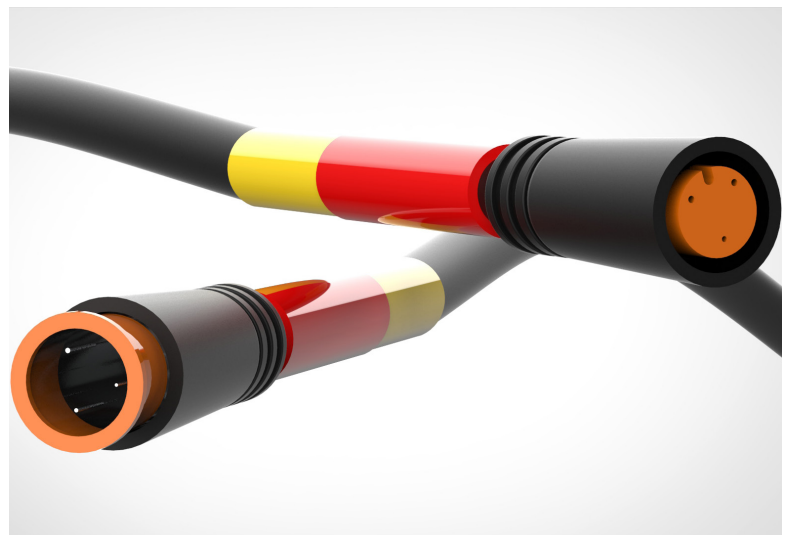| IOT SENSORS	PROACTIVE MAINTENANCE	ENERGY SAVINGS	SUSTAINABILITY	SALES & MARKETING
DOORS	☑			☑
NIGHT BLIND		☑	☑	
BLOCK AIR	☑			
BLOCK DRAIN	☑			☑
MOTOR SERVICE	☑	☑	☑	
DEMAND DEFROST	☑	☑	☑	
PRODUCT TEMP	☑		☑	
PEOPLE COUNTER				☑

INSTALLATION & MAINTENANCE

SERVICIBILITY & MAINTENANCE

· Easy access via Electric box.

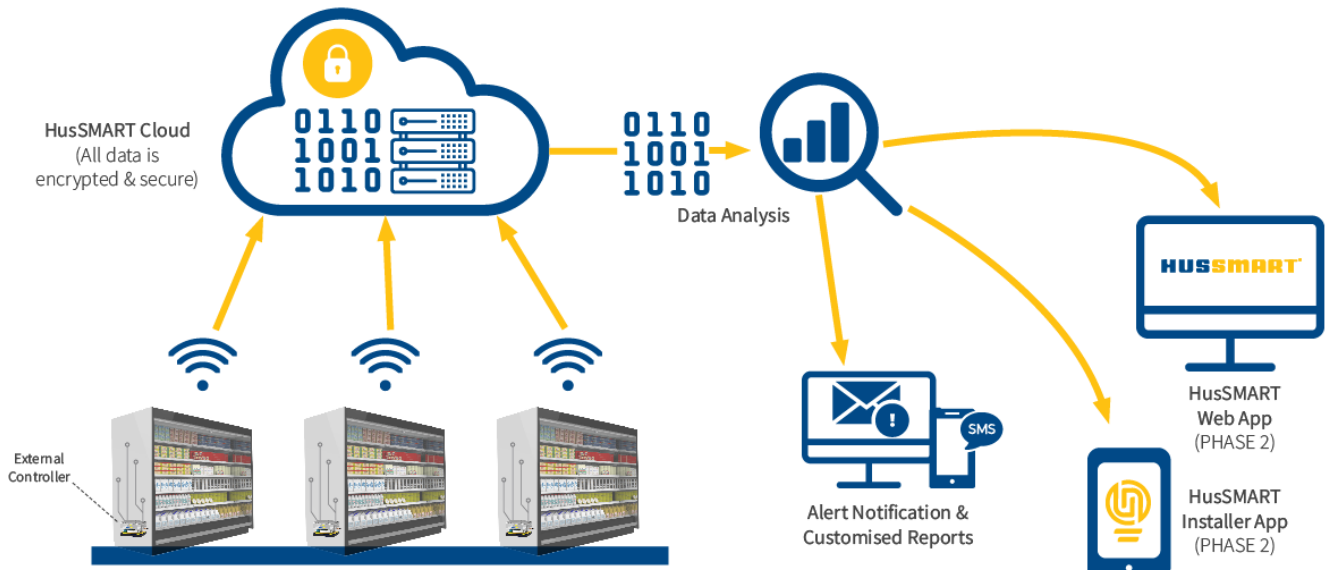· Labelled connection points for quick identification

· Wifi Connectivity

COLOR CODED PROBES

· All wires are labelled with color co-ordinated water proof probes connection points. This increases efficiency & ease for installation and servicings.

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INFORMATION SYSTEM ARCHITECTURE
HOW IT ALL WORKS

HusSMART Cloud
(All data is
encrypted & secure)

Data Analysis

External
Controller

Alert Notification &
Customised Reports

HusSMART
Web App
(PHASE 2)

HusSMART
Installer App
(PHASE 2)

WEBSITE & DASHBOARD
Customers can set-up and customise their reports.

PROACTIVE MAINTENANCE

SALES & MARKETING

ENERGY & SUSTAINABILITY

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HUSSMART®
BETTER DATA = SMARTER SOLUTIONS

THANK YOU!

for your business

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