



Alsense[®] Food Retail Less waste. More sense.

Optimize performance of your food retail operations with Alsense[®]. The IoT software enables cloud-based monitoring and management through data and insights. Built on the tried-and-trusted Microsoft Azure platform, Alsense[®] offers the security and scalability you need to stay ahead of the curve and helps you achieve:

- Reduced food waste
- Increased operational efficiency
- Improved energy efficiency



[Learn more >](#)

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Improve Operational efficiency

Typically, **5% - 8%** opex savings on HVAC-R.

- Data transparency
- Global commands
- Diagnostic assistance
- Improve asset performance

Reduce Cost

Up to **30%** food loss reduction and up to **15%** energy savings in your refrigeration system.

- Energy consumption
- Service calls
- Food loss
- Refrigerant leaks

Achieve Peace-of-mind

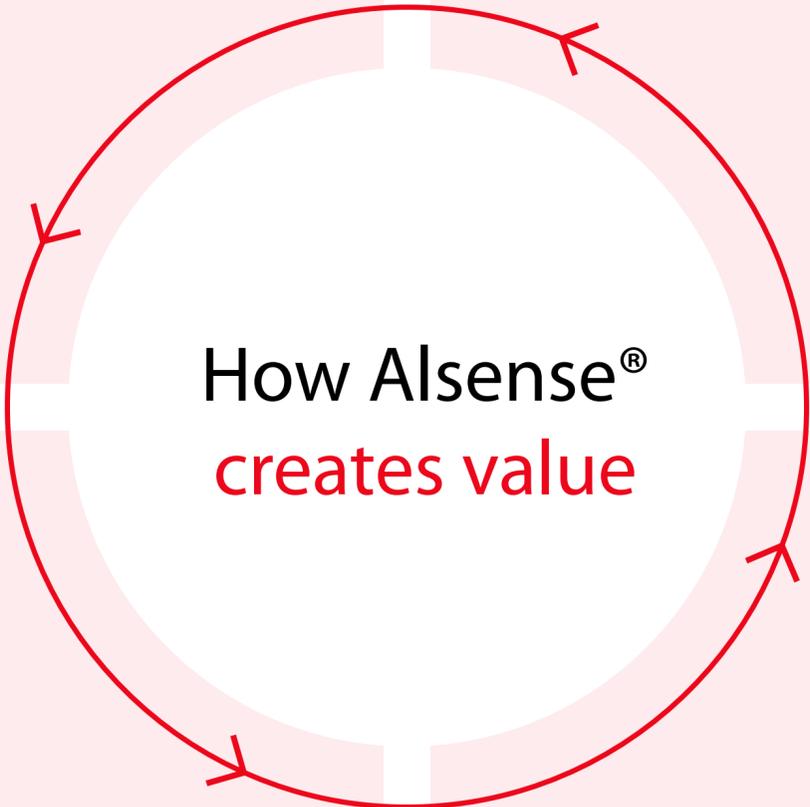
Guaranteed up to **99.95%** up-time availability.

- Access management
- Business continuity / disaster recovery
- Event logs
- System Manager backups

Maintain Compliance

Up to **3-years** food safety audit-ready reports available on demand.

- Food safety
- Auditable reports
- Temperature thresholds
- Setpoint benchmarks



How Alsense®
creates value

One solution. Multiple stakeholders.

Whether you are responsible for your supermarket's **operational efficiency**, **asset performance** or **energy efficiency**, you probably sometimes wish you had a sixth sense for knowing exactly how to prioritize your efforts. Not to mention the ability to seamlessly view data and deliver precise reporting.



Store Manager

"Alsense® ensures the optimum temperatures are maintained for all food types, and that I have audit-ready food safety reports."

Helen, Store manager



Service Manager

"Alsense® identifies my problem stores and where I need to focus my attention."

Allie, Service manager



Technical Manager

"When looking after a chain of over 400 stores, routine actions that used to take the team days to complete, we now do in minutes."

Jeffrey, Technical manager



Technician

"Before making the journey to the store, I will check the real-time status of the alarms and see any can be resolved remotely. Triaging alarms save me time, the customer money, and environment unnecessary transport emissions."

Todd, Technician



Energy Manager

"Although I can't control the prices our store pays for energy, I can for sure help them minimize energy waste"

Tom, Energy Manager

What does Alsense® deliver for me?



Helen, Store manager

Jobs to be done

- Ensure comfortable shopping experience.
- React quickly to non-technical alarms.
- Ensure cabinets are operating at the correct temperature.
- Ensure minimal food loss.
- Improve efficiency of staff.
- Retain auditable Food safety report.

Key Alsense® features

- Active alarm list.
- Cabinet temperature overview dashboard.
- Access Storeview Web for real-time alarm and temperature statuses.
- Alarm Analysis dashboard and reports showing volume of behaviour-related alarms (door open alarms).
- Daily HACCP Report review and storage.



Allie, Service manager

Jobs to be done

- Ensure communication to all stores.
- Capture and prioritise alarms.
- Triage alarms to recommend if action needs to be taken immediately.
- Confirm proposed service visit with Supervisor before creating workorder.
- Share insights with the business to drive change.

Key Alsense® features

- Health Check notifies if any connection to a store is lost.
- Alarms received in near-real-time and automatically assigned a severity level.
- Agents can investigate critical alarms by accessing in-store System Manager with one-click.
- Analyse all aspects of alarms, by region, store, asset even duration.



Jeffrey, Technical manager

Jobs to be done

- Review the list of alarms that resulted in a service call.
- Identify alarm trends originating from different asset types.
- Act on non-curable temperature exceptions.
- Ensure in-store systems are setup correctly to reflect changes in operating hour and/or lighting schedules.
- Establish global broadcasting rules.

Key Alsense® features

- Alarm report showing the most critical alarms.
- Alarm Analysis dashboard shows the alarm volume by asset type.
- Daily HACCP Exception Report clearly shows me the exceptions that are likely due to a faulty temperature sensor or asset.
- GCM allows for rules to be created centrally and pushed to multiple stores in one action, to change schedules and setpoints.



Todd, Technician

Jobs to be done

- Review work orders received from the Monitoring center.
- Investigate issues remotely and decide if site visit is required.
- Attend site and resolve issue.
- Conduct routine maintenance visits to site and complete standard checklist items.
- Conduct adhoc analysis of asset performance as part of preventative maintenance tasks.

Key Alsense® features

- Critical alarm notifications received from Monitoring Center.
- Login to Alsense® using SSO to authenticate secure access.
- Access Storeview Web via Alsense® to see the real-time status.
- Attempt to diagnose and resolve issue remotely (when possible).
- Resolve issue and clear alarm in Alsense®.
- Use Data Explorer to view performance history and benchmark against other stores.



Tom, Energy Manager

Jobs to be done

- Analyse energy consumption trends at main meter level and identify anomalies.
- Identify assets that are consuming more than expected.
- Prepare business case for new capex initiatives.
- Keep up-to-date with energy efficiency best practices in food retail.
- Liaise with local Aggregators to evaluate possible energy curtailment programs.

Key Alsense® features

- Analysis of main and sub-meter energy trends.
- Establish realistic energy baselines at store and application level.
- Identify best and worst performing stores compared to baseline.
- Use Data Explorer to compare performance across multiple stores and/or specific applications.
- Activate Demand Response events to reduce energy consumption and maximize available incentives.

Everything you need under one roof

Danfoss is your full-service provider of flexible solutions for all food retail applications. If you are in search of digital tools for remote setup and diagnostics, we've got you covered. Alsense® offers enterprise-wide optimization, by connecting electronic components, control systems, and energy meters in your store.

Enterprise level



Store level



System manager



Storeview web



Application level



Case controllers



Pack controllers



Programmable controllers



Gas sensors



Energy meters



Gateway

Alsense® is Enterprise-ready and secure



Alsense® is an enterprise suite, designed to provide analytics and management tools across all your sites. This enables you to compare sites to quickly identify outliers and where action is needed. However, to gain maximum benefit from Alsense®'s enterprise readiness, you also need to be ready.

We understand your challenges

- No standardised governance process.
- Essential focus on minimizing risk of security breaches.
- Lack of visibility into your enterprise controller landscape.
- Multiple tools, multiple passwords.

"Alsense® has enabled us to implement a secure access point for both internal users and our external contractors so we can control who has access to our sites controllers, which features they can use whilst having an audit trail to track their actions."

Christian, IT Department

Get a sixth sense with Alsense®

Alsense® provides a secure, scalable and fully supported platform. The platform is fully cloud-based and uses the services provided by our partner Microsoft, to ensure maximum uptime and business continuity in the case of unplanned downtime.

Enterprise features

- Secure, user federated access (SSO).
- User permission management.
- Unlimited number of sites and users.
- System Manager access management.
- and more...

Less waste. More sense.

In food retail, food safety is the number one priority. However, as the need for decarbonization and energy optimization increases in step with the green transition, smart solutions are key to success.

Alsense® intelligent retail hubs offer a comprehensive approach to optimal performance, energy efficiency, and operational savings. Empowering you with a sixth sense to identify issues before they occur. Meeting compliance requirements and propelling you towards the future of retail.

Achieve optimal results by integrating all four service hubs and assigning clear responsibilities to different stakeholders.



Less waste.
More sense.



AlarmHub

Supports one of the core fundamentals of food retail by ensuring critical assets operate as expected, guaranteeing the highest possible uptime.



TempHub

Reduces food loss, enhances temperature quality, and supports full adherence to food safety regulations.



EcoHub

Provides full energy consumption transparency, whilst identifying irregularities in energy performance.



ServiceHub

Equips technicians with maintenance tools across the enterprise, enhancing efficiency and consistency of settings.



AlarmHub

Get the basics right

AlarmHub supports one of the core fundamentals of food retail by ensuring critical assets operate as expected, guaranteeing the highest possible uptime.

We understand your challenges

- Increasing alarm counts.
- Critical alarms not being acted upon.
- Noise alarms causing a distraction.
- Unnecessary truck rolls and associated costs.



“Alsense® identifies my problem stores and where I need to focus my attention.”

Allie, Service manager

Get a sixth sense with Alsense®

In food retail, ensuring the reception, prioritization, resolution, and analysis of alarms is business critical. Whether managed internally or through an external monitoring partner, a resilient and user-friendly platform is imperative. The Alsense® AlarmHub meets this need.

AlarmHub features

- Enterprise-wide capture and prioritization of alarms.
- Performance tracking of alarm resolution.
- Identification of outlier stores and assets.
- Notification when action is required according to your process needs.



AlarmHub

Alarm ID	Severity	Location	Asset	Category	Priority	Created	Resolved	Status
4052424	High	1234 Main St	ATM	ATM Malfunction	High	2023-10-23 10:00	2023-10-23 10:05	Active
4052425	Medium	5678 Elm St	Camera	Camera Offline	Medium	2023-10-23 09:30	2023-10-23 09:35	Active
4052426	Low	9101 Oak St	Door	Door Open	Low	2023-10-23 11:15	2023-10-23 11:20	Active

Active Alarm List

“The service center has a real-time view of all active alarms from any store, sortable by severity, and viewable by the agent’s preference in either list or map view.”

Alarm details

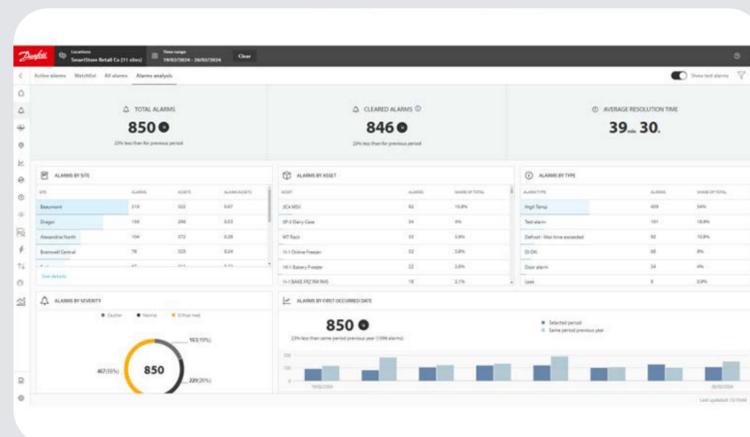
Alarm ID: 4052424
 Severity: High
 Location: 1234 Main St
 Asset: ATM
 Category: ATM Malfunction
 Priority: High
 Created: 2023-10-23 10:00
 Resolved: 2023-10-23 10:05
 Status: Active

ACTION

Assign, Acknowledge, Clear, Add comment, Remove from dashboard, Remove from list, Remove from map, Remove from calendar

Alarm Management

“My service agents can manage the alarm directly from Alsense®, without the need to log into the System Manager remotely, enabling a more efficient, time-saving process.”



Alarm Analysis

“Alarm Analysis enables me to identify alarm trends and see which of my stores and in-store assets consistently have the most issues, and the root causes.”



Allie, Service manager

“I have a team of five monitoring agents per shift providing around-the-clock coverage. Alsense® enables my team to react to alarms and analyse trends to provide feedback and recommendations to the business on introducing initiatives that can help improve store efficiency.”



TempHub

Less food waste,
increased
temperature control



TempHub reduces food loss, enhances temperature quality, and supports full adherence to food safety regulations.

We understand your challenges

- Reliance on manual temperature readings.
- Data integrity.
- Benchmark temperature quality.
- Documentation for food safety compliance.

“Alsense® ensures the optimum temperatures are maintained for all food types, and that I have audit-ready food safety reports.”

Warren, Store manager

Get a sixth sense with Alsense®

Securing food safety and reducing food waste are prerequisites for success in the food retail sector. With Alsense® hubs, the entire food safety process can be easily automated, freeing up labor for more value-focused tasks.

TempHub features

- Comprehensive temperature data capture across the enterprise.
- Exception identification based on specific food types.
- Generation and distribution of daily HACCP reports.
- Recognition of exceptions affecting data integrity.



TempHub

 **Allie,**
Service manager

“It is my team’s responsibility to deliver cabinet temperature reports to Store Managers daily and highlight any exemptions.”

 **Helen,**
Store manager

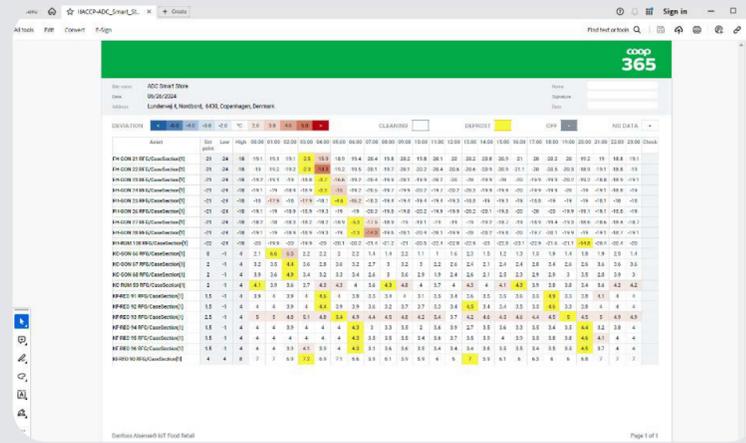
“It is my responsibility to review the report and investigate any issues in the cabinets and take action to prevent food loss.”

 **Jeffrey,**
Technical manager

“The temperature exception report highlights potential issues so I can decide if a service call is required.”

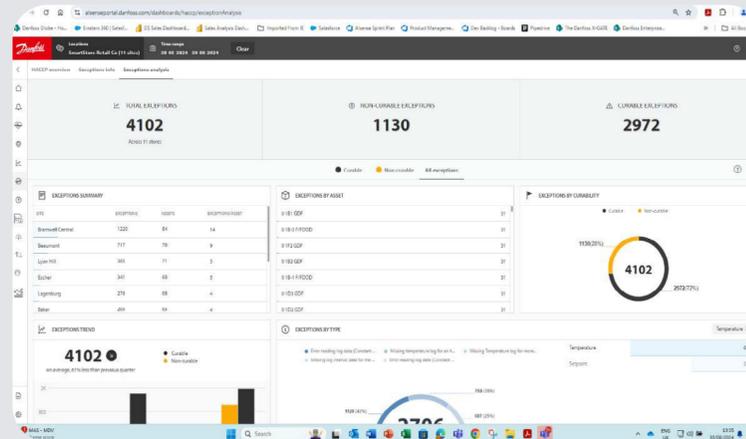
 **Tom,**
Energy manager

“I will review the TQI and SPV dashboards monthly to identify any stores that are unnecessarily over-cooling cabinets resulting in energy waste.”



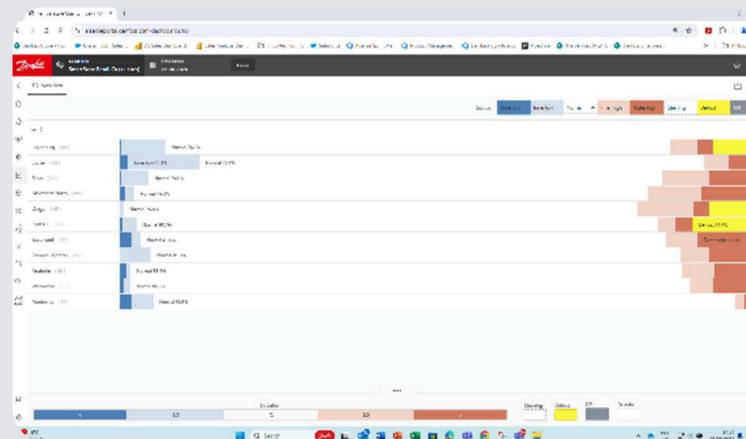
Cabinet temperature report

“Having an easy-to-understand report that shows me the average hourly temperatures per cabinet is a great insight provider. Firstly, it helps to identify whether a cabinet is undergoing too many defrosts. Secondly, following a defrost, it shows how long it takes the cabinet to return to normal, and thirdly, whether any cabinets are being overcooled or undercooled.”



Temperature Exception Analysis

“Without Alsense®, it would be impossible for me to investigate all four hundred stores to see which ones had temperature exceptions that required a site visit from a technician. Only when we had food loss would we truly know. Alsense® saves me hundreds of hours of labor, and many thousands of dollars in food loss prevention.”



Temperature Quality Index (TQI)

“TQI enables me to compare all stores in a region over a specified date range so I can see which stores are over/undercooling their cabinets, and which cabinets are causing the biggest impact.”



ServiceHub

Optimize asset management



ServiceHub equips technicians with maintenance tools across the enterprise, enhancing efficiency and consistency of settings.

We understand your challenges

- Contractors frequently change settings.
- Difficulties in preventing changes in decentralized setups.
- Routine changes across multiple sites are time-consuming.
- Ensuring up-to-date backups to safeguard against loss.

“When looking after a chain of over 400 stores, routine actions that used to take the team days to complete, we now do in minutes.”

Jeffrey, Maintenance manager

Get a sixth sense with Alsense®

With a digital toolkit capable of implementing changes across the entire enterprise, your technicians save significant time during routine maintenance activities. Plus, it guarantees the optimum setup is maintained to minimize the risk of energy waste.

ServiceHub features

- Benchmark crucial setpoints for quick identification of deviations.
- Easily accept or revert local setting adjustments.
- Make changes in one location and replicate them across the entire fleet.
- Establish back-up schedule for ultimate peace of mind.



ServiceHub



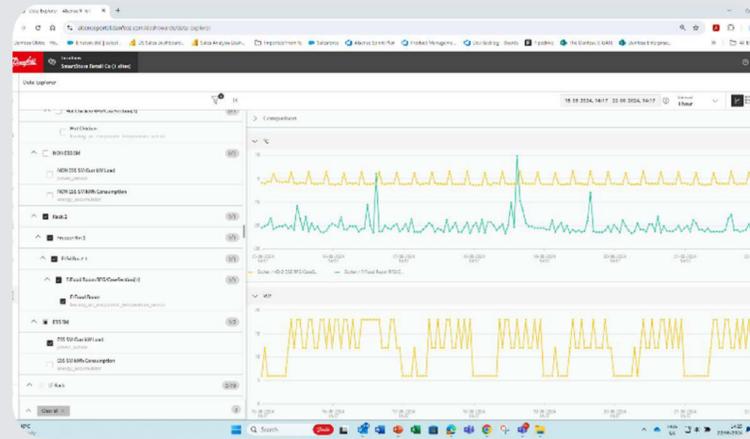
Jeffrey,
Technical manager

“Alsense® has enabled me and my team to save countless hours by automating routine tasks and applying them to multiple stores at the same time.”



Tom,
Energy manager

“Admittedly, I’m no refrigeration engineer, but with the help of Alsense®, I can quickly identify when incorrect settings in the system are causing higher-than-expected consumption compared to historical data or similar store setups.”



Data Explorer

“Having all critical data points for all stores available to track trends allows me to select multiple points to find the root cause of any issue. I’m often surprised by how seemingly identical assets can perform very differently from one store to the next.”

Jeffrey, Technical manager



Setpoint benchmark

“With the assistance of Jeffrey, I’ve been able to assign benchmark values to the most critical settings in our Refrigeration and Air Conditioning systems, so that I get notified when these change. Prior to Alsense®, a technician would regularly change these settings without any awareness of the impact on energy costs. With the help of Alsense®, I am now back in control of my energy spend.”

Tom, Energy manager



Schedule and setpoint broadcasts

“Even with the simplest of tasks, like changing the operating hours of a store, or changing light schedules, when humans are involved, mistakes can happen. Even more so, when the action needs repeating multiple times across many stores. Alsense® has delivered a success rate of over 95% on all schedule and setpoint broadcasts – saving tens of man-hours every time.”

Jeffrey, Technical manager



EcoHub

Identify energy savings

EcoHub provides full energy consumption transparency, whilst identifying irregularities in energy performance.



We understand your challenges

- Increasing energy costs.
- Lack of transparency into sub-meter consumption.
- Realization of energy waste when it's too late.
- Inability to show the impact of energy saving measures.

"Although I can't control the price our stores pay for energy, I can for sure help them minimize energy waste."

Tom, Energy manager

Get a sixth sense with Alsense®

Managing energy should be straightforward. With the right tools, meters, and time, you can uncover questions that pave the way for energy-saving solutions.

EcoHub features

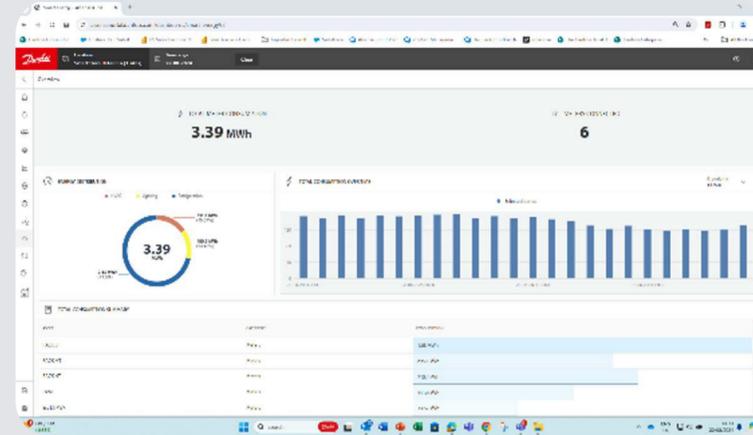
- Overview of main and sub-meter consumption trends.
- Energy profile display (refrigeration, HVAC, lighting, etc.).
- Estimation of energy costs based on consumption.



EcoHub

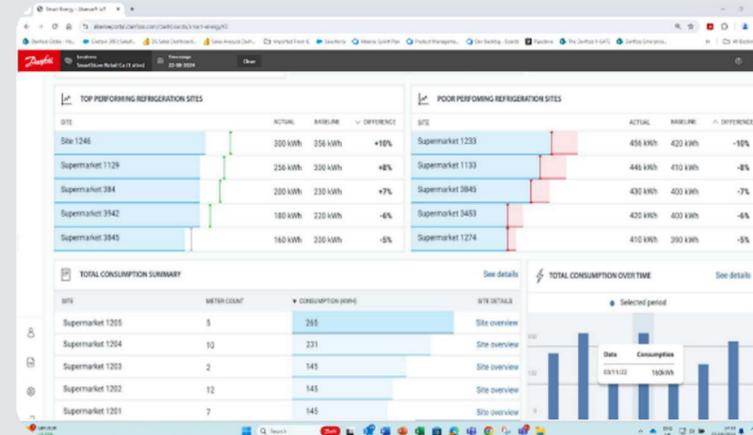
Tom,
Energy manager

“Spending capex on the latest energy efficient technologies is not something I can do across my four hundred stores. I am therefore responsible for monitoring energy consumption across existing stores and trying to find ways in which we can be more energy efficient with what we have, and then drive these initiatives across the business to maximize savings.”



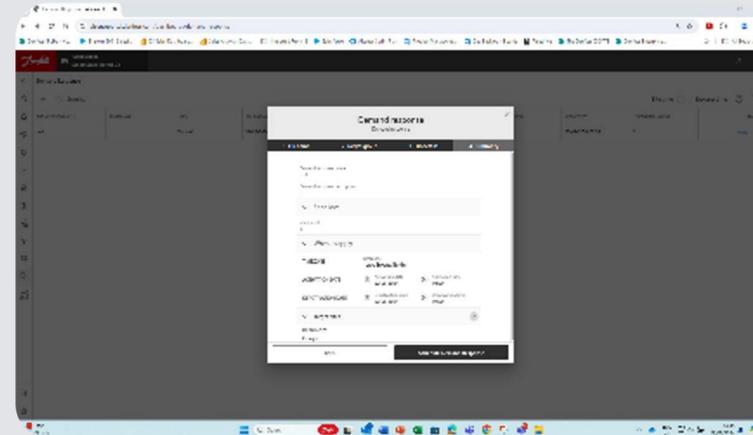
Energy consumption

“The first step is understanding what our stores are consuming, when and how. We have an adequate level of sub-metering in place and so Alsense® helps to see the as-is energy picture”



Energy baseline

“The Alsense® baseline model has enabled us to compare energy consumption against a dynamic baseline, that takes into account historical consumption and key temperature variables allowing me to accurately determine if my savings are real.”



Demand Response

“Our Utility Suppliers are working with a consultant to inform me which energy curtailment programmes are available to me, and which offer the best incentives and lowest risks. The Alsense® demand response feature minimizes the effort of preparing for these events, allowing us to maximize the rewards”



Digital service add-ons

Fine-tune your system

AlarmHub

SMS alarm notification

Receive alarm notifications by SMS for specific alarm types ensuring the most critical alarms are received and actioned without delay.

TempHub

HACCP Report Auto regeneration

Regenerate and send HACCP reports that contained curable exceptions for a period of 7-days, allowing time for curable exceptions to be rectified.

Secure access

Virtual Private Network

Connect all sites to the Alsense® cloud via a secure VPN. This allows for a safe and secure two-way communication from System manager to cloud.

Access Management

SSO (Single-Sign On)

Users will be federated against an approved list managed by the customer, allowing only authorised users access into Alsense® and the System Manager.

Digital Tools

Storeview Web

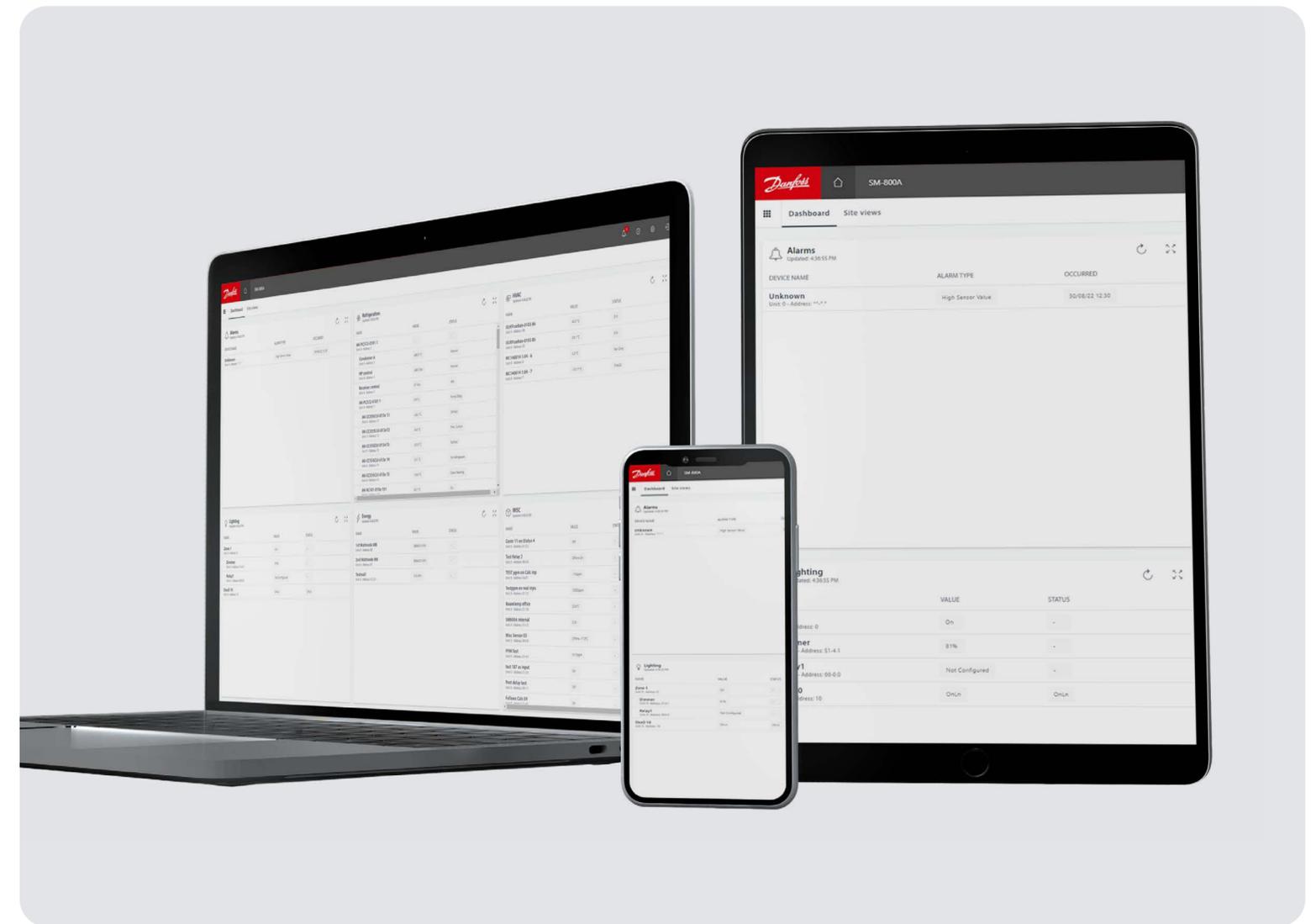
Full web access and easy overview

Storeview Web (SvW) is a software platform that offers a secure and modern user interface for full web access to the AK-SM 800A and other selected legacy front-ends.

Storeview Web is built on the same software architecture as our Alsense® cloud services uses common elements ensuring the same look-n-feel across application. This makes it possible for Storeview Web to benefit from common features, and as a user you will experience a seamless user experience across the two platforms.

- Direct integration with the Alsense® platform for a seamless and connected user experience
- Using industry best practice and technologies for IT security
- Multiple deployment options – browser, desktop or mobile
- Single sign-on and role-based access for easy and secure authentication
- Constant evolution of features and enhancements, based on customer feedback and usage analytics

[Learn more >](#)





ManagedHub

Focus on what you do best, and let us do the rest



ManagedHub provides expert resources to keep an eye on your stores and react quickly to notify or intervene to prevent issues escalating and resulting in food loss, energy waste or simply saving you time.

We understand your challenges

- Lack of available, competent resources.
- No robust monitoring infrastructure.
- Need for out-of-hours support.
- Monitoring technician's activities.

"Knowing we have 24/7 support from experienced staff who manage thousands of stores every day, across multiple retailers, delivers 'peace-of-mind' that we are in safe hands."

David, Store Operations

Get a sixth sense with Alsense®

Alsense® provides the digital tools platform that underpins our ManagedHub services. Our customers can also have access to ensure full transparency and provides a close-loop system when local action is required.

ManagedHub features

- 24/7/365 alarm monitoring.
- Maintenance support (Database backups, restore, firmware upgrades).
- System Manager access management.



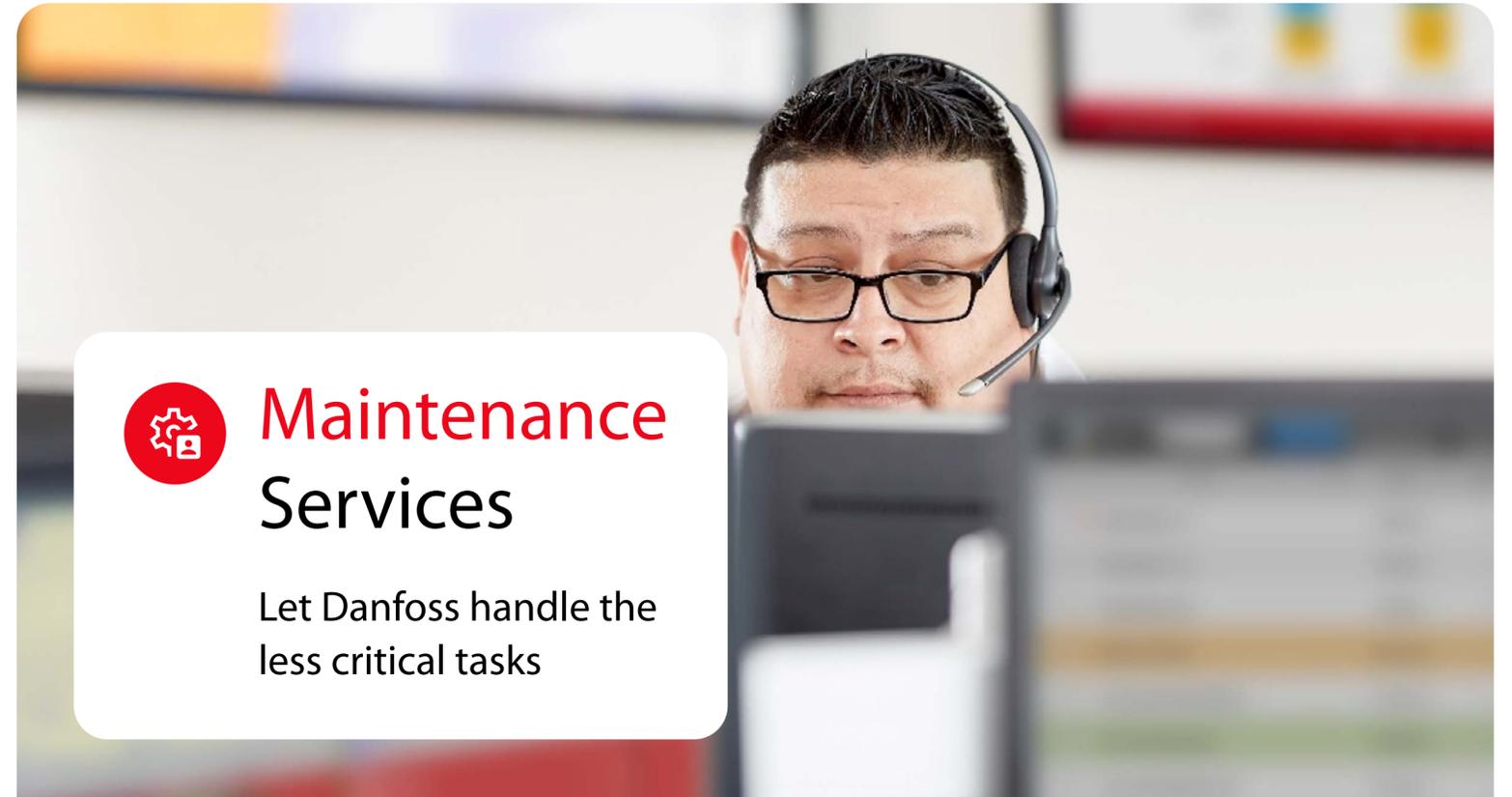
Monitoring Services

Alarm and temperature monitoring

Danfoss has invested in the alarm monitoring infrastructure comprising expert agents, call-monitoring software, processes and capacity to handle tens of thousands of supermarkets – so you don't have to.

Services offered

- 24/7 or Outside office Hours.
- Alarm call-out.
- Alarm triage.
- Work order creation and dispatch



Maintenance Services

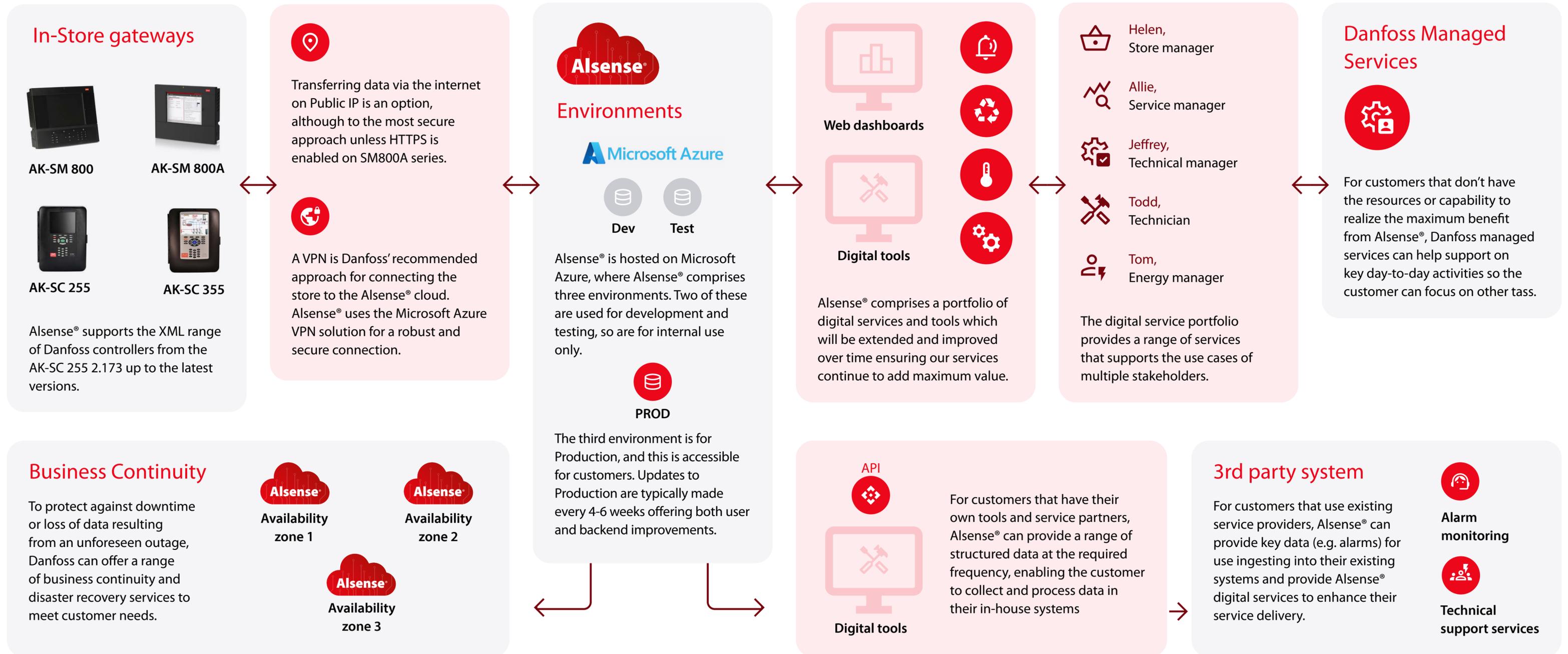
Let Danfoss handle the less critical tasks

Danfoss resources can help to add an extra level of service to complement what is covered under routine maintenance.

Services offered

- Regular System Manager backups and restore.
- Remote assistance for ad-hoc System Manager settings changes.
- Password lockdown to prevent unauthorised access.
- Demand Response setup and event monitoring.

Let's take a look at **the infrastructure**



Value Roadmap

What could this mean to you?

VALUE DRIVERS

	Alsense® helps you...	by...	when implementing...		which could mean...
	↓	↓	Customer self-service ↓	Danfoss can support ↓	Based on Danfoss customer data ↓
reduce operating cost	<ul style="list-style-type: none"> reduce 'noise' alarms and alerts. reduce service call-outs. making setting changes once and deploying across multiple sites. 	<ul style="list-style-type: none"> maximizing uptime of your business-critical assets. ensuring a consistent configuration in the System Manager, estate-wide. identifying critical setting deviations. 			<ul style="list-style-type: none"> €325 per store/month saved from non-standard call-outs per month. 390 hours saved per year across a chain of 430 stores using the Broadcast feature.
improve asset performance	<ul style="list-style-type: none"> preventing or reacting quickly to critical alarms. traceability of all alarm actions from inception to resolution. 	<ul style="list-style-type: none"> establishing benchmark values for critical data points and being alerted of deviations. identifying quickly and acting on problem sites. systematic energy curtailment actions. 			<ul style="list-style-type: none"> 30-minute notification if a System Manager goes offline providing peace-of-mind. 26 settings in every System Manager are monitored to trigger inconsistency alerts.
reduce food waste	<ul style="list-style-type: none"> Automatic generation of daily food safety reports. Identification of reports that contain exceptions, with option to regenerate. 			<ul style="list-style-type: none"> €650 on average per store/month in food waste prevention. 	
reduce energy consumption and cost	<ul style="list-style-type: none"> Automatic generation of daily food safety reports. Identification of reports that contain exceptions, with option to regenerate. 			<ul style="list-style-type: none"> >5% energy reduction potential in refrigeration requiring no capex investment. €1,635 per store /year potential from demand response through curtailment and incentives (based on local tariff rate). 	
improve food safety compliance	<ul style="list-style-type: none"> Automatic generation of daily food safety reports. Identification of reports that contain exceptions, with option to regenerate. 				<ul style="list-style-type: none"> Up to 3 years of food safety reports accessible on-demand (more if required). Audit-ready reports stored in PDF format.



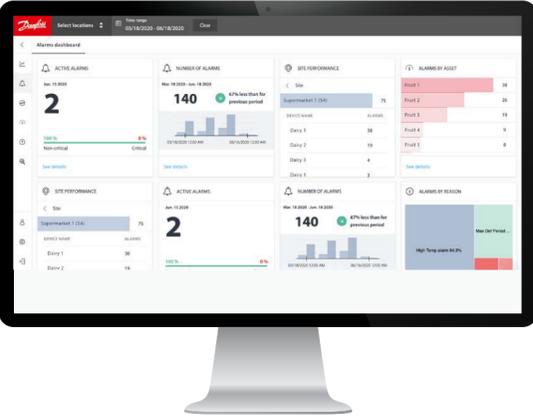
Ready to get started?

To find out more about how Alsense® can help you increase efficiency and achieve operational savings in food retail, reach out to us.

 [Contact us here](#)



Learn more about Danfoss Digital Services



[Alsense® Food Retail →](#)



[Storeview web →](#)

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product. All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.