

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-true 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



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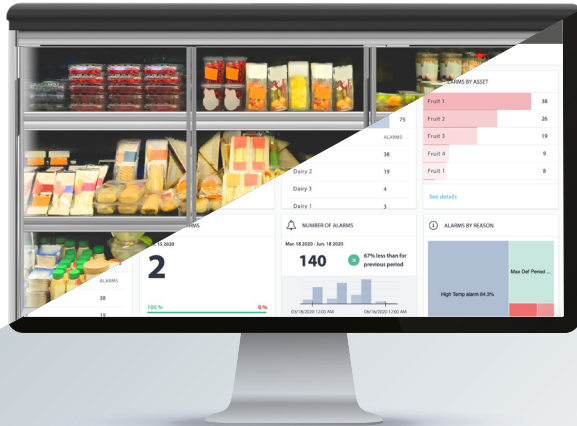
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Scalable, digital, and expert-managed services with a **new level of sense**

Alsense® is our secure IoT cloud platform with three separate service suites. Each suite consists of a number of digital and managed services—intuitively bringing you actionable insights to boost your business while wasting less food, energy, and time.



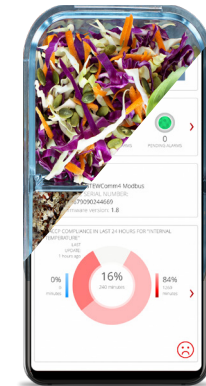
Alsense® Food Retail

Monitor and manage assets and operations in the smartest and most energy efficient way with digital and expert-managed services.



Alsense® Food & Beverage

Reduce loss of equipment, increase sales, and lower maintenance costs with a customizable IoT-solution.



Alsense® Food Service

Safeguard food products in, e.g., cold rooms cost-effectively with remote monitoring, alarm notifications, and data logging.

Alsense® Food & Beverage

Bigger picture. More sense.

Alsense® Food & Beverage is the one IoT platform you need for best-in-class tracking, diagnostics, and profitability of all your assets in the field—as well as full compliance with sector legislation. Throughout our services, real-time data, intelligent features, and connected availability deliver your ideal foundation for making fact-based decisions at all times.



Efficient tracking

Remote blocking and alarms on unauthorized movement help you minimize loss of equipment and related sales. Plus, automatic real-time tracking eliminates the need for manual position verification.



Comprehensive sales insight

With comprehensive data on equipment productivity, you can closely monitor and improve sales performance, predict and manage stock remotely, as well as improve customer experience.



Optimum diagnostics

Alarm monitoring enables preventive maintenance and fewer service calls. Many issues can be solved remotely or by onsite staff guided by the system to minimize downtime.

Alsense® Food Service

Always on, even when you're off

Alsense® Food Service is your go-to IoT platform for seamless temperature monitoring, real-time diagnostics, and system optimization. Designed specifically for food stores, our intuitive solutions ensure the safety and efficiency of your assets. With smart alarms and remote access, you can stay ahead of issues, reduce downtime, and minimize food loss—empowering both operators and installers with superior control and performance.



24/7 real-time temperature data

Monitor all of your refrigeration assets at any time, from anywhere with our mobile app or the web portal.



Alarm by push notifications

Save up to 2000€ / yearly and get alerted instantly when problems are detected. Safeguard your reputation!



Automatic data logging & history in the cloud

Save up to 300€ / yearly with Alsense® IoT automated data logging system. On top of that, you reduce your carbon footprint!

Alsense®

Alsense® app

🔥 Temperature above 10°C for more than one hour. ⚠️

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 **15%** energy savings in your refrigeration system.

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

Achieve Peace-of-mind

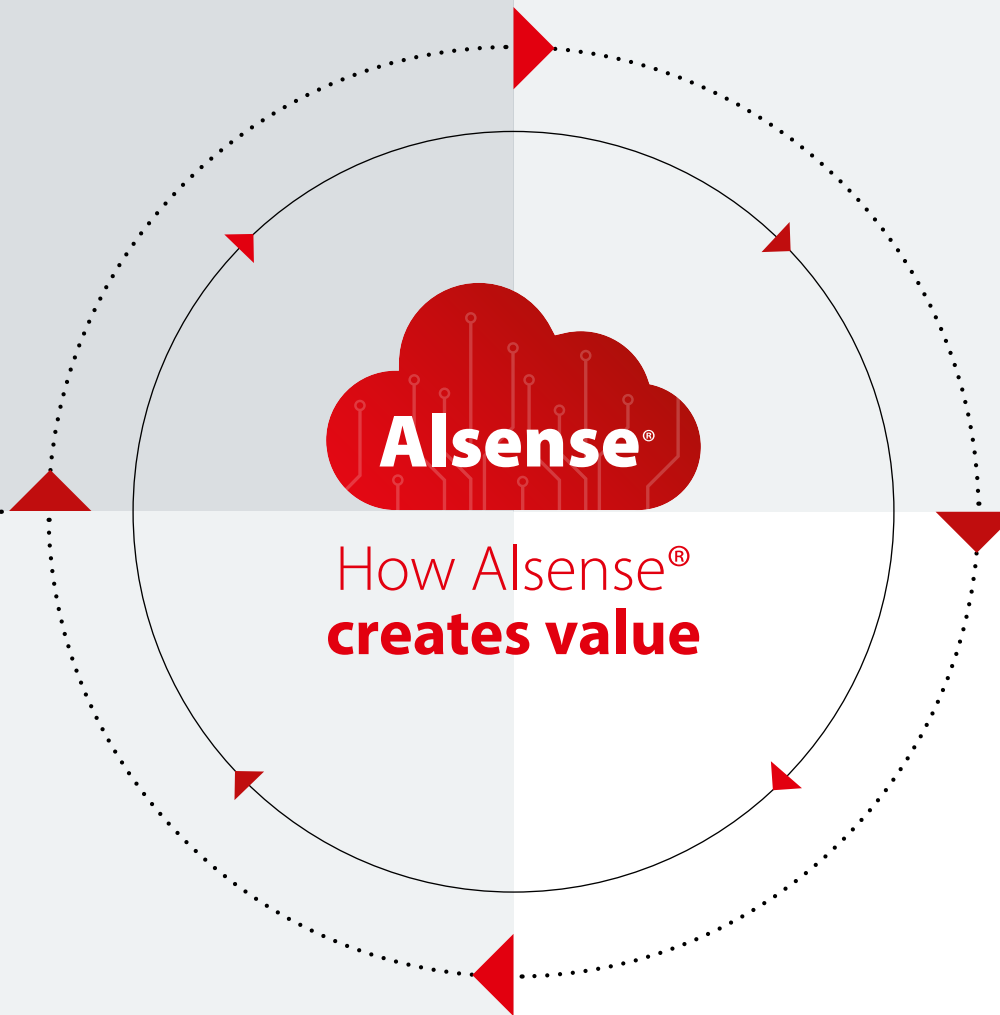
Guaranteed **99.95%** up-time availability.

- **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**



Alsense[®]

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.

Application Level

Store Level

Chain Level



Monitoring and Management



Storeview Web



Danfoss System Manager



Digital tool for X-Gate and Alsmart®



Third party controls



Case Control



Basic TXV



High-End EEV



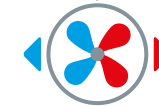
Pack Control



Mid-Range HFC



High-End HFC/CO₂



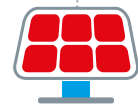
HVAC & Lightning Integration



HVAC Control



Programmable Controllers



Smart Energy



Energy metering
+ support for different
3rd party energy meters

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.

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



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."

Store	Alarm Type	Severity	Status	Created	Resolved	Clear
Store 1	High Temp	High	Active	10/25/2023 10:00	10/25/2023 10:05	Clear
Store 2	Low Temp	Medium	Active	10/25/2023 09:30	10/25/2023 09:35	Clear
Store 3	Door Open	Low	Active	10/25/2023 10:15	10/25/2023 10:20	Clear
Store 4	High Temp	High	Active	10/25/2023 10:05	10/25/2023 10:10	Clear
Store 5	Low Temp	Medium	Active	10/25/2023 09:45	10/25/2023 09:50	Clear

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: 123456789
 Store: Store 1
 Alarm Type: High Temp
 Severity: High
 Status: Active
 Created: 10/25/2023 10:00
 Resolved: 10/25/2023 10:05
 Clear: 10/25/2023 10:05

ACTION

Clear Alarm

Assign Agent

Assign Location

Assign Asset

Assign Category

Assign Priority

Assign Status

Assign Type

Assign Value

Assign Weight

Assign Zone

Assign Zone ID

Assign Zone Name

Assign Zone Type

Assign Zone Value

Assign Zone Weight

Assign Zone Zone ID

Assign Zone Zone Name

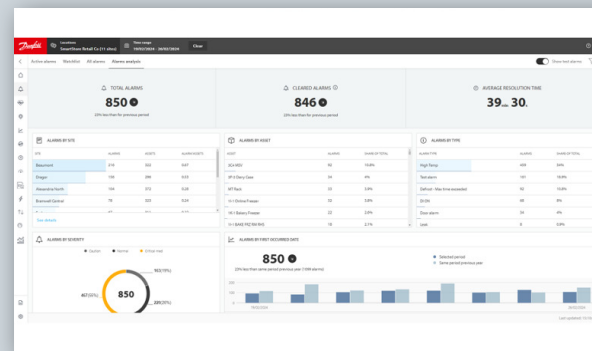
Assign Zone Zone Type

Assign Zone Zone Value

Assign Zone Zone Weight

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"

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

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.

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



Allie, Service manager

"It is my team's responsibility to deliver cabinet temperature reports to Store Managers daily and highlight any exemptions."



Jeffrey, Technical manager

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



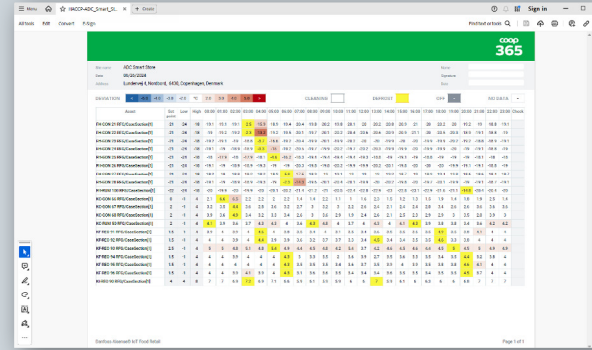
Helen, Store manager

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



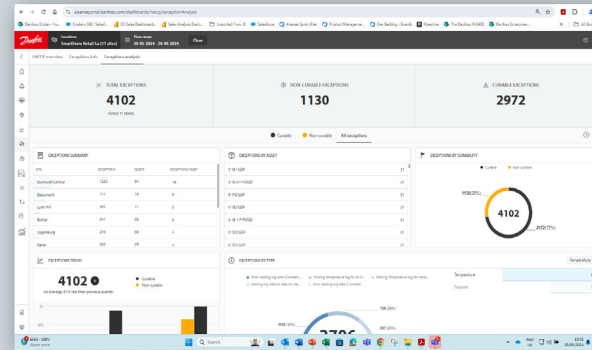
Tom, Energy manager

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



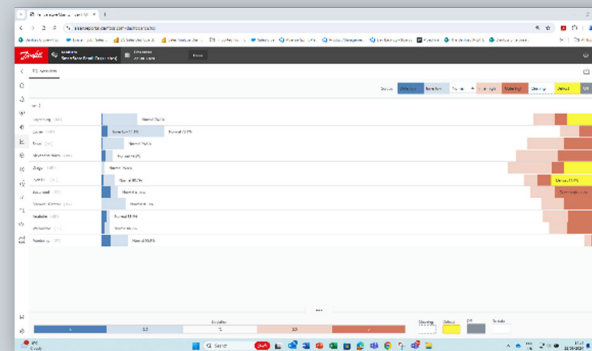
Cabinet temperature report

"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



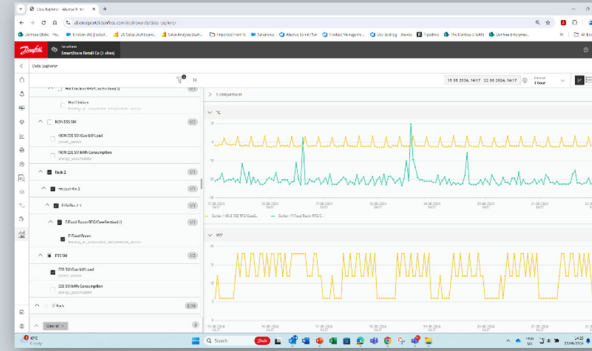
Jeffrey,
Technical manager

"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.

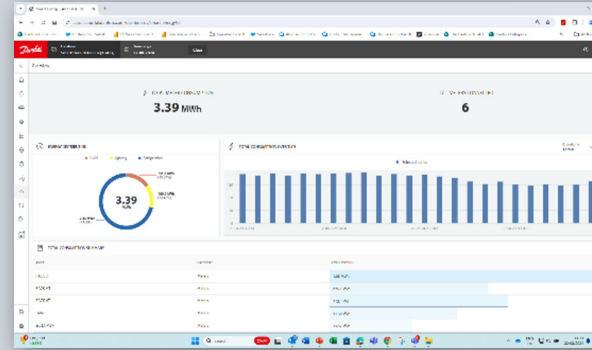


EcoHub



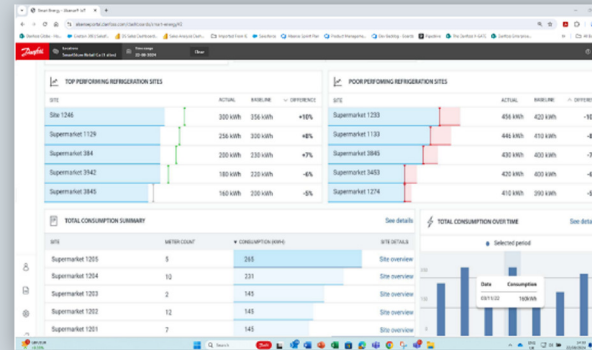
Tom,
Energy manager

"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."



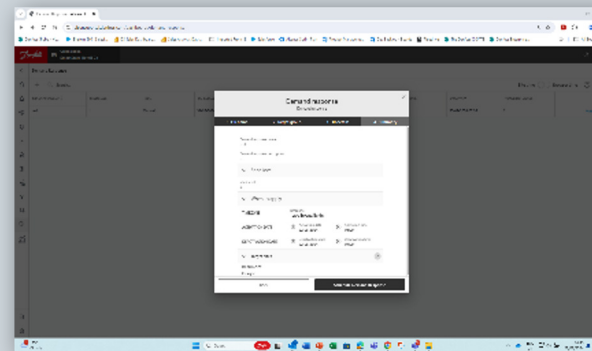
Energy consumption

"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 Alense® helps to see the as-is energy picture"



Energy baseline

"The Alense® 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 Alense® 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.

EcoHub

ADR (Automatic Demand Response)
Maximize the potential for energy savings by enrolling in energy curtailment programs that offer higher incentives by reducing the event notification lead-time.

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.

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 here >](#)



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.



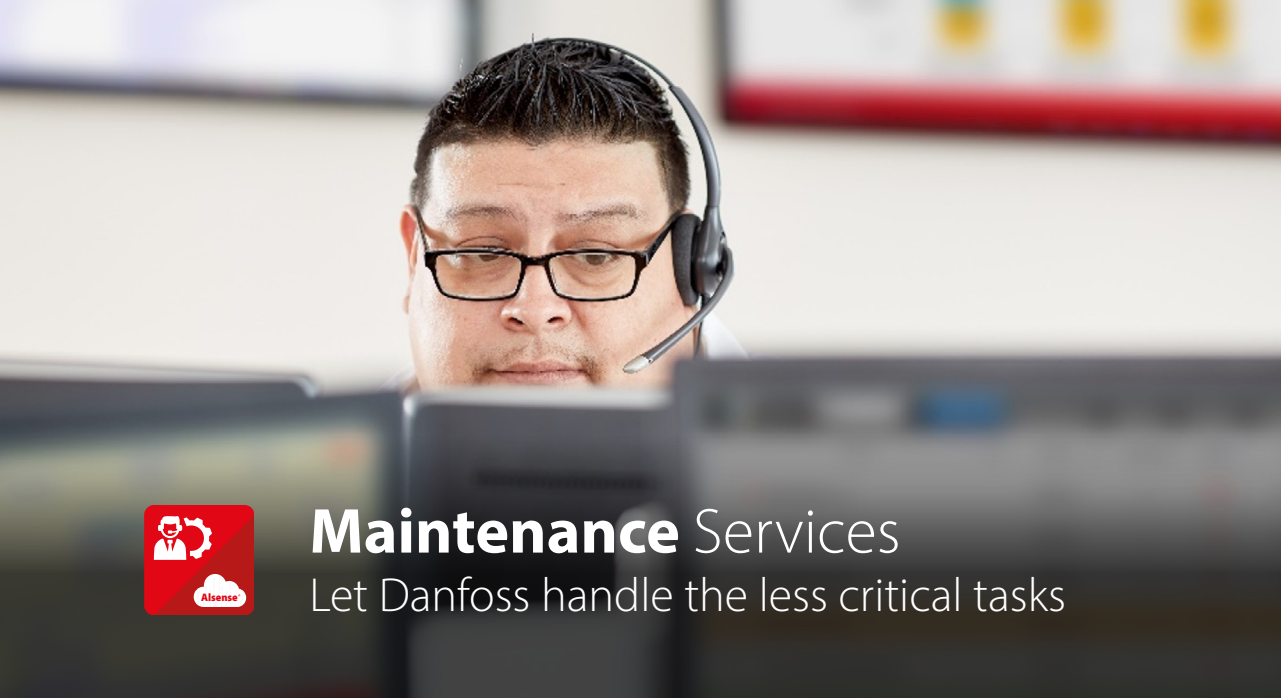
Monitoring Services

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

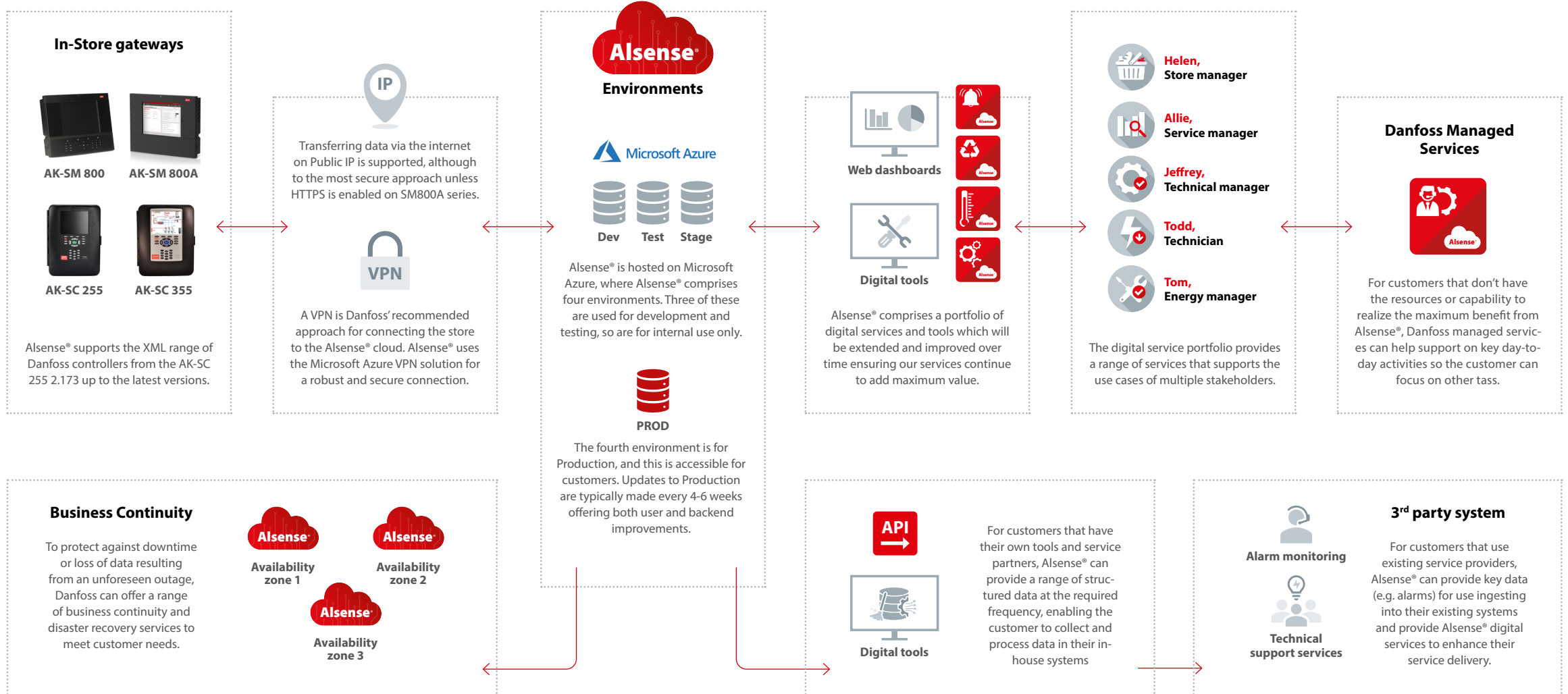
Let Danfoss handle the less critical tasks

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

Services offered

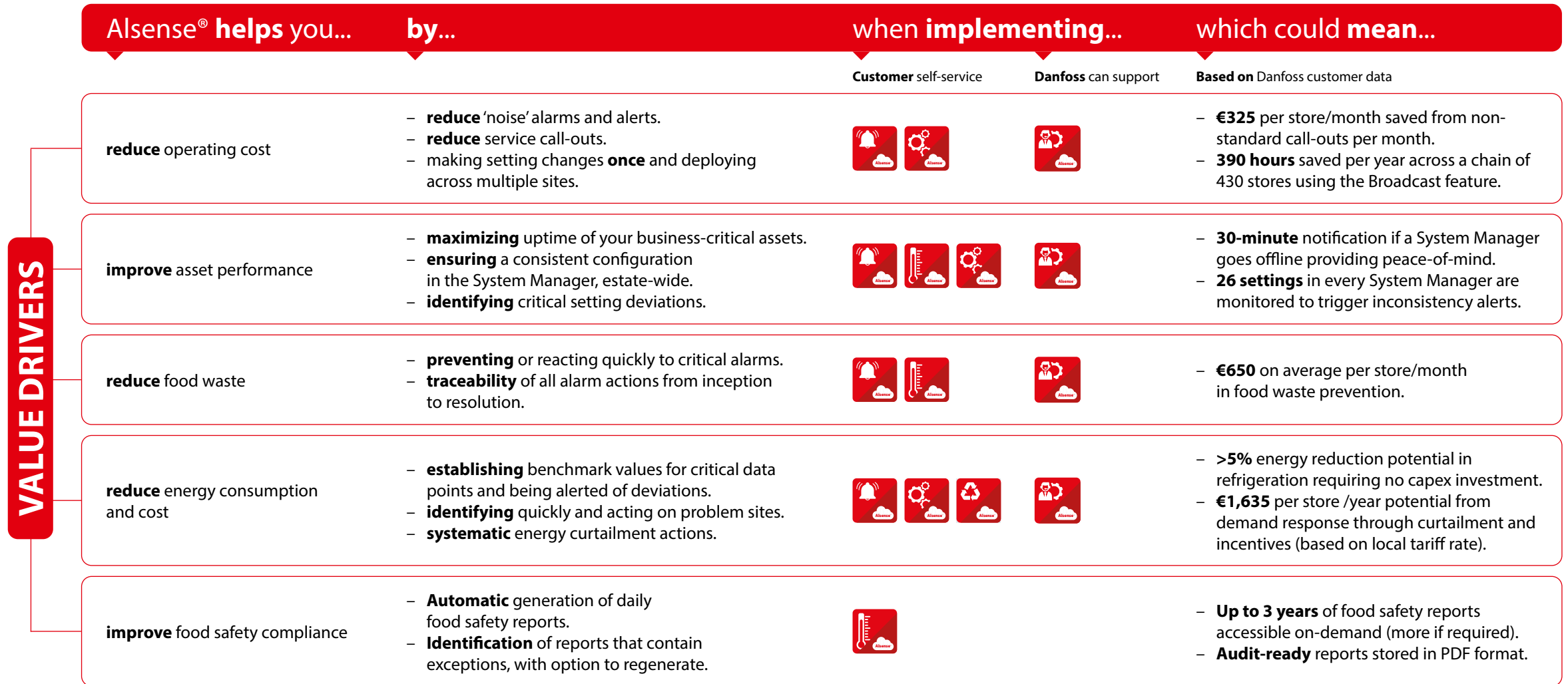
- Regular System Manager backups and restore.
- Remote assistance for ad-hoc System Manager settings changes.
- Password lockdown to prevent unauthorised access.
- Demand Response setup and event monitoring.

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



Value Roadmap

What could this mean to you?



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 >



Alsense® Food & Beverage >



Alsense® Food Service >



Storeview web >

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