

A photograph of the interior of an ICA-Roslagstull grocery store. The store is brightly lit with modern track lighting and warm pendant lights. In the foreground, there are stacks of black crates. The background shows well-stocked shelves of fresh produce, including various fruits and vegetables. A large, stylized logo for 'ROSLAGSTULL' is overlaid on the left side of the image, with 'MATMARKNAD' written below it in a smaller font. The overall atmosphere is clean, organized, and inviting.

# ROSLAGSTULL

MATMARKNAD



ICA-Roslagstull makes in-store shopping  
easy, smart and enjoyable

Avanade's Intelligent Store framework empowers employees to deliver moments that matter

Online orders, home delivery, curbside pickup – customers today have many ways to get their groceries. In-store shopping, however, is the only option where you can browse displays of fresh produce and shelves of your favorite snacks.

It's the only place where you can touch, smell and maybe even sample select items, raising its status as a preferred shopping choice. To add an extra touch to the in-store experience, Swedish grocer ICA-Roslagstull sets itself apart by adopting intelligent technology to delight both customers and employees.

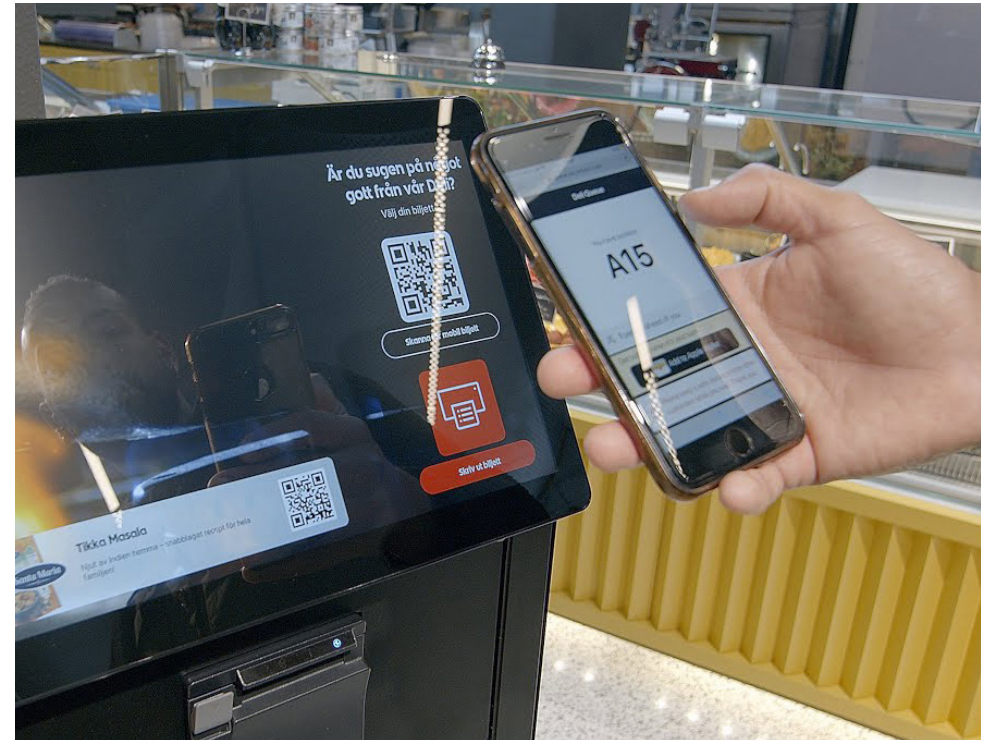


# Business situation

## In search of a better store experience

Based in Stockholm, ICA-Roslagstull is a leading grocery retailer that employs a knowledgeable, service-oriented team to satisfy the needs and wishes of its customers. In a competitive market, store owner Peter Dinehage wanted to know: How can we elevate our workplace experience to deliver a better, easier and more innovative customer experience while addressing key moments that matter for employees?

To help answer this question, ICA-Roslagstull partnered with Avanade to implement our new [Intelligent Store framework](#). Built using [Microsoft Azure](#), Azure IoT Edge, Azure Digital Twins and [AI technology](#) in partnership with Ombori, our [Intelligent Store framework](#) is designed to help our clients accelerate time to value and unlock value at scale. For ICA-Roslagstull, this provided an opportunity to simultaneously enhance in-store customer experiences and increase employee efficiency.



# Solution

## Stocking up with intelligence

ICA-Roslagstull chose to focus on a few well-defined solutions designed to yield positive results. Our shared journey started with a specific goal in mind: to improve the customer experience and empower employees to be their best.





## Shelf attention

Select parts of the store are now equipped with cameras that, coupled with vision AI algorithms, detect when there's a need to tend to a gap on a shelf. If a gap is recognized, employees receive a near-real-time alert on an app on their device, along with a live map of the shelf and product SKU. This prompts employees to address on-shelf availability or accessibility, giving customers confidence that their desired selection will be available when they're shopping.

"Typical Swedish stores today communicate with customers only on price. I want to use the new technology so they have a real experience when they shop at ICA-Roslagstull. I really believe that's the future of retail."  
– Peter Dinehage, ICA-Roslagstull Store Owner.



## Customer attention

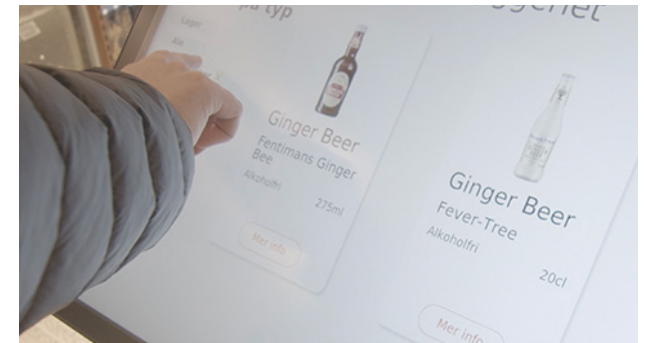
ICA-Roslagstull's shelf-signal capability also connects with the OmboriGrid, a platform provided by Ombori to deliver digital experiences in physical spaces. Digital screens are conveniently placed throughout the store, allowing customers to request immediate support and guidance, check product availability and get near-real-time status updates on shelf conditions. If they have a question, all they have to do is touch the screen to request service.

Signals are shared as alerts with employees either via a web application on their phone or a smartwatch. Each signal contains metadata that matches the task with the right employee to take corrective action.

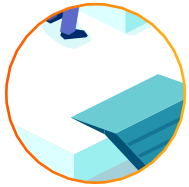
"This drives a more cohesive and better customer experience and makes my team more efficient as they can act based on true or sometimes unseen needs rather than random schedules."  
– Peter Dinehage, ICA-Roslagstull Store Owner



[Play video](#)



[Play video](#)



## Floor attention

Having operated grocery stores for over 35 years, Dinehage knows that the appearance of the physical store is a key factor in providing a delightful shopping experience. In addition to being a safety concern, spills and obstructions on the floor take away from the shopping experience and can impact sales.

In response, Avanade created a floor detection algorithm, which uses the camera's field of vision to recognize unexpected items on the floor, triggering an employee notification for corrective action.

"Clean aisles are good for business. Customers aren't deterred by obstacles, and the favorable appearance encourages sales."  
– Peter Dinehage, ICA-Roslagstull Store Owner



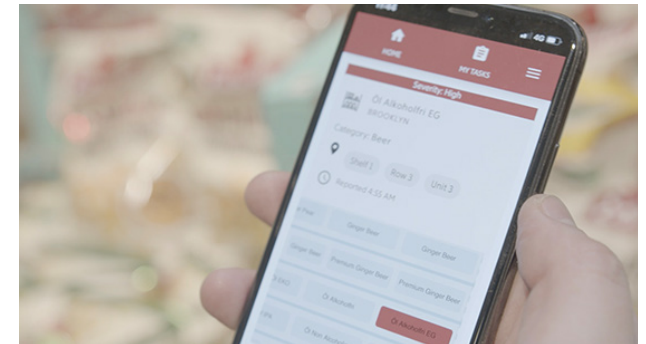
## Employee empowerment

To help employees perform at their best, ICA-Roslagstull now makes use of IoT-connected devices that allow them to notify other team members when they need assistance or a break. For example, Bluetooth Low Energy (BLE) buttons that are mounted at the register and wearable IoT devices are connected to the Intelligent Store framework, which then matches each signal to the right employee for each task requested. The device options tailor to the specific needs of the employees.

"While a simple notification on a wearable device may be enough for some tasks, some team members may need a larger screen to access additional insights and information. Different interface options ensure employees can take the right action at the right time."  
– Joakim Björk, Avanade Delivery Lead



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## Queue management

To ease the frustration of waiting in line, line-counting cameras trigger near-real-time alerts when long queues increase the probability of customers deciding not to wait and leave the store. This data feed uses technology that complies with the General Data Protection Regulation (GDPR) and Personal Identifiable Information (PII) to give ICA-Roslagstull insights that enable immediate action to decrease wait times and reduce average queuing lengths. For example, an alert on their wearable device can let employees know to open a new register when queues get too long.

“I believe that these types of near-real-time notifications give us the opportunity to create a better experience, because no one enjoys waiting in line.”  
– Peter Dinehage, ICA-Roslagstull Store Owner.



## Sustainability support

ICA-Roslagstull takes pride in its environmental sustainability initiatives, including organic offerings, recycling and energy efficiency. To further build on this commitment, we integrated some of the store’s existing physical assets into the Intelligent Store framework. Refrigerators, freezers and recycling machines already produce third-party telemetry. By infusing this telemetry into Avanade’s Intelligent Store framework, employees can now receive important status alerts from legacy equipment on their wearable devices, allowing them to take action when the freezer temperature suddenly rises or the recycling machine is full.

“Now the ice cream doesn’t have to melt and customers don’t have to walk away with their recyclables because of a full machine. We can act before there is an issue. That’s immensely powerful.”  
– Peter Dinehage, ICA-Roslagstull Store Owner.

## The value of visibility

Retailers want clarity on the business value of their investments. Avanade’s Intelligent Store framework allows ICA-Roslagstull team members to focus on the journeys that matter as they continually plan and reprioritize tasks during the course of the day. Any team member can use the web app on their phone to see the exact location, nature and severity of the alerted task, empowering them to take the right remedial action. All signals are aggregated and presented in a store-specific dashboard. This visualization enables ICA-Roslagstull to better understand the performance of various experiences and services in the store, recognize trends and even test for potential new scenarios – all of which can help with planning and improving the customer and employee experience, operations inventory, labor and more.

## Activity-based intelligence for scalability

To further harness the power of analytics and meet the desires for more granular operational insights, Avanade’s Intelligent Store makes use of Microsoft Azure Digital Twins and Azure Maps. These technologies provide leadership with a digital representation of physical assets, allowing for comprehensive, near-real-time insights into the status of all connected solutions in every store.

# Results

## A personal touch to the retail experience

Avanade's [Intelligent Store](#) framework is about improving experiences, and it benefits all those involved:

**For customers:** Increased product and service accessibility and access to knowledge combined with safer shopping environments help customers more confidently complete their grocery shopping. They can avoid a long line at checkout, get shopping done faster or savor the browsing experience.

**For employees:** Actionable, role-specific notifications make it easier and faster to complete prioritized tasks, allowing employees to spend more time focusing on increasing customer value and satisfaction.

**For management:** Real-time notifications enable more immediate remediation, remove safety concerns, increase product accessibility and reduce lost sales. More insights about products and service availability can lead to new, high-value experiences that can keep customers coming back for more.

Just like ICA-Roslagstull, other retailers can use Avanade's Intelligent Store framework and its modular, experience-in-a-box approach to choose which experiences they want to add to their stores. This ability to provide a people-centered workplace experience – with the agility to respond to changing customer behavior – sets up organizations like ICA-Roslagstull to thrive in the future of retail.



“Our customers want to spend more time in our store, and I think when they spend more time here, they’re shopping more.”  
– Peter Dinehage, ICA-Roslagstull Store Owner



