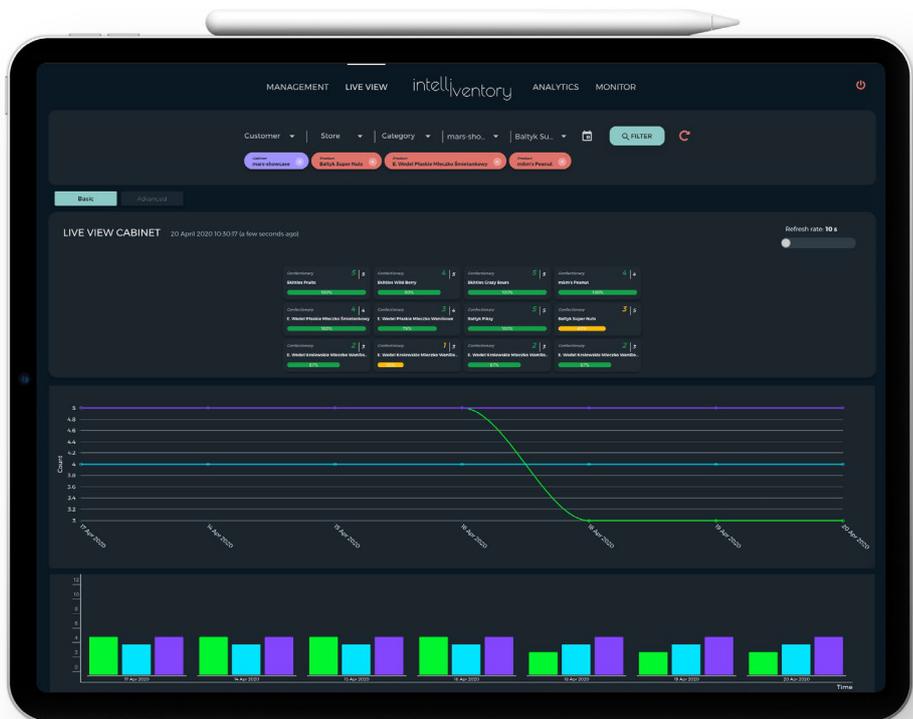# intelliventory®

smart stock monitoring

*"**intelliventory®** is dedicated to ensuring the right product is in the right place at the right time."*

Globally, up to one trillion[1] dollars in annual revenue is lost due to shoppers encountering out-of-stock events as often as in one-in-three trips to the store. This translates to 40% of shoppers abandoning the store without any purchases and heading to a competitor instead. On the other hand, if they had found what they were looking for, "impulse buying" makes customers more likely to buy several other items in addition to what they had originally planned to purchase. The question here is – how do you make sure that your shelves are not just stocked, but that you have a smooth supply chain that ensures that they are always stocked? *intelliventory®* uses modern IoT-enabled technology and extensive data analytics to bring you the solution.

How it works

intelliventory® smart stock monitoring is an end-to-end solution that allows customers to monitor goods throughout the distribution chain, through tracking the movement of products not only on the shop floor but also in the warehouse. This level of visibility greatly enhances sales efficiency of FMCG (Fast Moving Consumer Goods) products. In other words, intelliventory® is dedicated to ensuring the right product is in the right place at the right time.

The intelliventory® solution is the result of continuous discussions with customers. There's a lot of buzz regarding digitisation of industries in general and you can see the ongoing movement where companies are focussed on optimising processes in all verticals: production, transportation, retail, etc.

Because intelliventory® is a solution offered by the parent company cthings.co, the technological prowess to support digitisation of retail from a shop floor to a warehouse were already in place. Instead of focussing on any one part of the chain, the intelliventory® solution is able to assume a much broader perspective. While it is not the whole puzzle, it is one very big piece of it.

The main goal is to improve logistics and sales efficiencies of fast-moving products. First there is the sales front and monitoring goods on shop floors to understood how they move in real time. Then, the IoT building blocks that are used allow to not just monitor them, but to also gain insight on the amount of goods that should be produced or ordered. So, the information at the sales-end impacts the whole value chain, including the production process.

> **"What we learned is that personal data privacy regulations mandated by GDPR essentially do not allow for monitoring of customer behaviour, so the only way to optimise sales and efficiency is to monitor movement of stock."**

The Customers

There are two types of customers who benefit from the intelliventory® solution: retail chains, such as supermarkets, convenience stores, and discount stores, as well as pharmacies and producers of FMCG and drugs products.

It's important to sellers to have a good overview, because their margins are often small, and when we're supermarkets are also considered, perishable goods are involved. Producers can often go hand-in-hand with sellers. A lot of stores have dedicated areas that are 'reserved' by the producer, who might be providing their own shelves, cabinets, refrigerators, etc. It's their own island within the store that they're responsible for with their merchandising partner. So, the seller can improve sales with our solution on the shop floor, and so too can many producers, because whenever they have control of the PoS (Point of Sale), they can improve their logistics using intelliventory®.

The Platform

The intelliventory® platform provides data for everything from stock levels to viability of perishable goods. The data is collected by sensors on the shelves.

With legacy systems, the visibility was based on what was rung up at the cash register. Retailers knew what was going through the door, but also didn't know what was out of stock, or where it was out of stock in any quantifiable way other than someone physically checking.

Having this platform does away with human error. Having someone on the shop floor trying to constantly keep an eye on stock levels isn't optimal. It consumes a focus of staff unnecessarily. The technology solves this already now. The platform ensures Retailers can gauge how quickly things are rotating and order before stock runs out. And when it comes to long-term planning, additional analytics and predictive models help to prepare for them. Being able to see patterns means that Retailers and Producers of goods can adjust ordering accordingly, and not only to avoid running out of stock, but also to prevent over-stocking. You also get alerts when goods are about to go out of stock, so that you can ensure proper stock rotation, reducing the number of out-of-date goods and putting things on special when the expiration date is close so that they move quickly, letting you make the best use of your assets.

intelliventory® also helps with planning the real estate of shops, with analytics giving insights into how physical placement of goods impact sales. Previous solutions were based on cameras that monitored different areas, but it was not very precise. With intelliventory® sensors installed on shelves, all goods are tracked, giving shop owners much better overall visibility concerning factors related to product movement. You can also compare and contrast how goods move in different outlets, further adjusting your ordering to best meet the needs of your customers.

Data is combined on the Platform and as a result users can start to see correlations between sales and what is stocked to get the full picture. Moreover, the open API standards allow users to access their raw data and process them in any way that they would like to, greatly adding to the flexibility of the system.

" *Analytics is the sweet sauce of our solution, because it helps you build a picture of how the goods are moving and assists in analysing trends, whether it's on the shop floor or at the warehouse.*"

"*The solutions allow you to zoom in or zoom out – so you can look at a particular product, store, or you can look at an entire continent.*"

IoT is the Foundation

The entire intelliventory® solution is based on wireless cellular connectivity delivered from Mobile Network Operators. The Technologies of LPWAN-LTE as well as coming 5G, connect sensors in the shop shelves or at the warehouse, means the movement of goods can be tracked and sales can be analysed for optimisation.

The Customers do not buy sensors or devices only, the intelliventory® system provides integration of the solution and management of the connectivity service. It assures both: the orchestration and the management, offering both products and services. The package with integration and management services is keeping the complexity of the solution on our end so that customers can have globally available benefits without struggle.

What customers are getting is actionable reports and analytics about factors impacting their business, all of which rely on connected sensors on the ground. intelliventory® installs the sensors and then the platform gives customers the insights they need. The sensors are managed remotely via connectivity and are automatically upgraded when needed.

The differentiator Combining information from the IoT Hub allows us to manage devices and troubleshoot when needed. When it comes to security, intelliventory® hardware possesses modern cryptography algorithms and bootloader security that prevent devices from being tampered with or used for other purposes.

Two-factor authentication is being used and thanks to the OAuth solution and standardised cellular connectivity, that is inheriting established security standards, it works great when it comes to ensuring data security for the customers. Global coverage and roaming is assured by partners - market leaders in IoT connectivity. The solution is independent from the local environment, which is a real difference comparing to competitors, who are often relying on local Wi-Fi or ethernet connectivity. intelliventory® is a fully plug-and-play solution that can be shipped globally, and the system can be adapted to any locale configuration.