



Stora Enso Intelligent Packaging

Enabling New Retail and Industrial solutions with item level connectivity and accurate data delivery.



Connects and creates true digital twins for products and packages and provides optimization throughout the supply chain from manufacturing to the end customers. Enables automated, unmanned and always open retail experience.

New Retail & Industrial solution with Intelligent Cabinets

Intelligent Cabinets provided as Smart Vendor Managed Inventory solution or as Point-of-Sales devices in New Retail. In New Retail online, offline, and logistics merge creating a dynamic new world of retailing. The concept turns traditional convenience stores to self-service fulfilment centers located regionally or locally close to homes, jobs, stations and leisure activities.



Actionable, real-time data that lets you uniquely identify, trace objects and directly engage with consumers. Benefits:

- Improve inventory accuracy, by up to nearly 100%
- Slash out-of-stocks, shrinkage and mark-downs
- Aid product authentication – prevent loss and fraud
- Enliven the customer experience, boost brand loyalty and encourage repeat purchases
- Reduce manual labor and costs, and errors due to inaccuracies and inefficiencies
- Increase sales and profit margins

Optimizing manufacturing, and S&O planning

- Releases tied up resources
- Access to real-time supply chain data and the resulting better long-term forecasting allows lower stock levels throughout the supply chain and optimization of manufacturing.

Smart vendor managed inventories

- Supplies always available
- Automated management, no manual cycle counts or ordering
- Data analytics available for driving sales performance:

Consumer experience and opportunity for sustainability improvement

- Unmanned, fully automated Intelligent Cabinets or kiosks for consumer sales.
- More sales, less waste
- More profitable and sustainable business

MORE PROFITABLE

**DEEPER AND MEASUREABLE
CUMULATIVE DATA**

CUSTOMER ENGAGEMENT

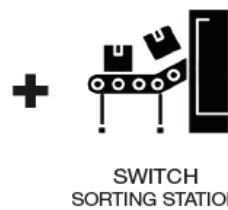
"We were glad for Stora Enso Intelligent Packaging to be involved in NewDada "JD Home Go" unmanned retail business. Stora Enso RFID based unmanned retail system well expanded SKU selection scope. Item-level RFID identification technology made SKU warranty management become realistic. Meanwhile, ECO RFID tag anti-theft feature bring totally new solution for waste control and better shopping experience to the consumer. Thus, NewDada chose Stora Enso as unmanned retail business partner. And RFID technology will offer more benefit to supply chain such as in sorting in DC and replenishment."

Michael, Business case owner NewDaDa "JD Home Go"





HAMMER
TAG INTEGRATION



SWITCH
SORTING STATION

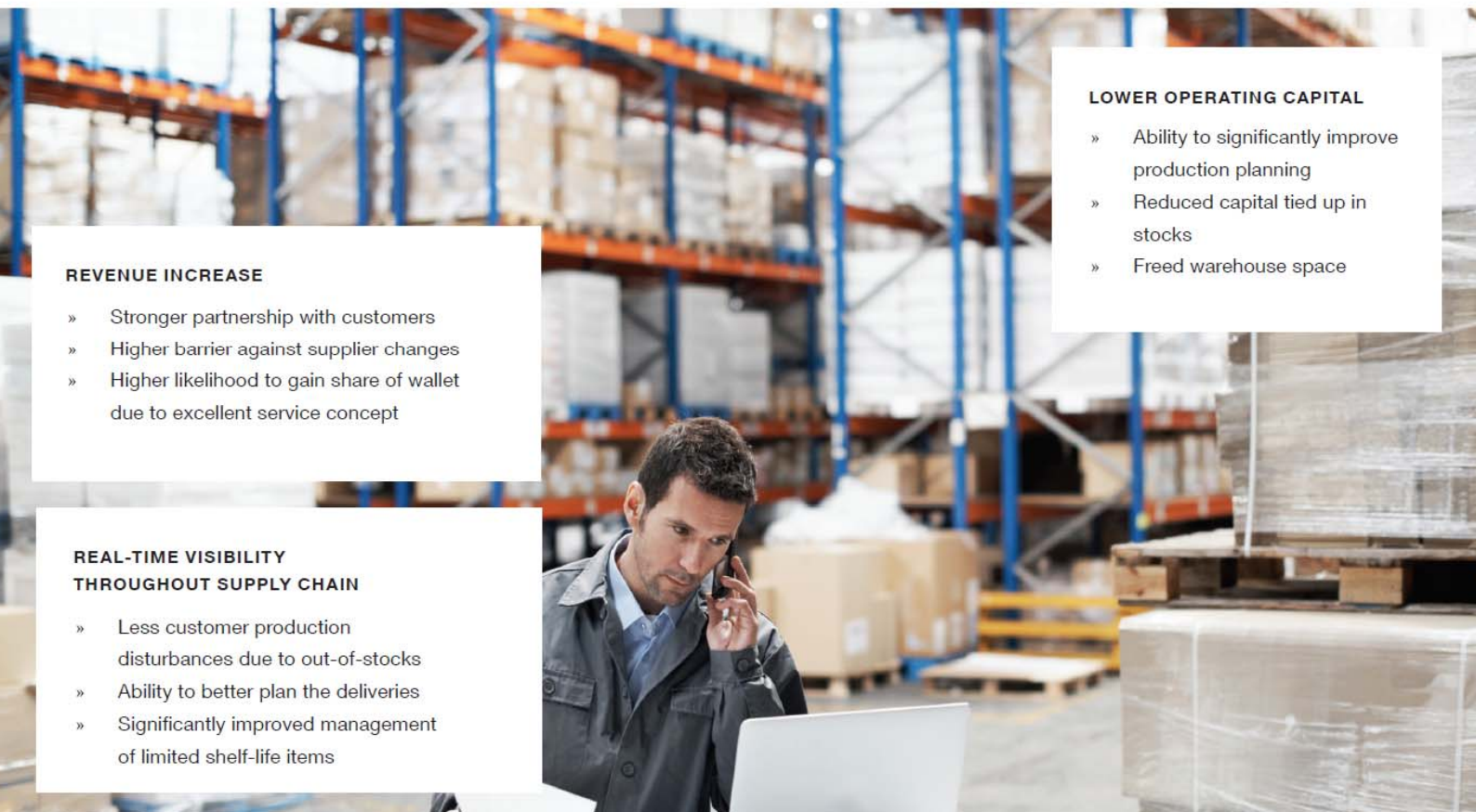


INTELLIGENT CABINET
POINT-OF-SALE

Enabling
automated,
unmanned and
always open
retail experience.

Solutions for New Retail

Our intelligent solutions help you improve your production planning, reduce customers' stock levels and increase sales



REVENUE INCREASE

- » Stronger partnership with customers
- » Higher barrier against supplier changes
- » Higher likelihood to gain share of wallet due to excellent service concept

REAL-TIME VISIBILITY THROUGHOUT SUPPLY CHAIN

- » Less customer production disturbances due to out-of-stocks
- » Ability to better plan the deliveries
- » Significantly improved management of limited shelf-life items

LOWER OPERATING CAPITAL

- » Ability to significantly improve production planning
- » Reduced capital tied up in stocks
- » Freed warehouse space

Intelligent Packaging running on Microsoft Azure for global scalability



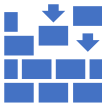
Bridge Cloud built on Microsoft Azure

- Standardized single point of integration to business and consumer applications
- Data collected can be enriched from business applications, for example, combining items with customer orders and shipments and adding more information about items.



High performing reader software Bridge Middleware

- Detects direction of the tags without extra hardware, collects tag information, analyses and filters the information, and sends aggregated information to the Bridge Cloud.
- GS1 EPC Global Standards compliancy



Reliability and ease of operation

- Built-in support for automated RFID reader provisioning and SW version upgrades
- Monitoring of reader operational status and performance metrics
- Managing configurations remotely

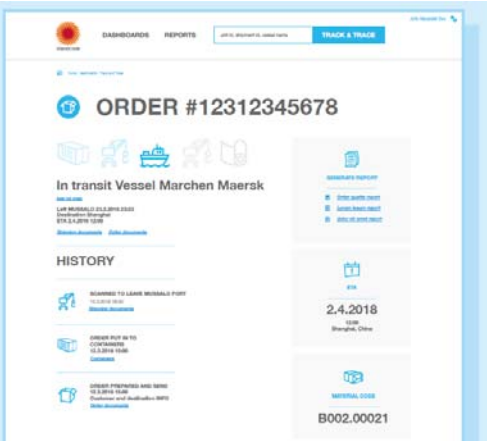
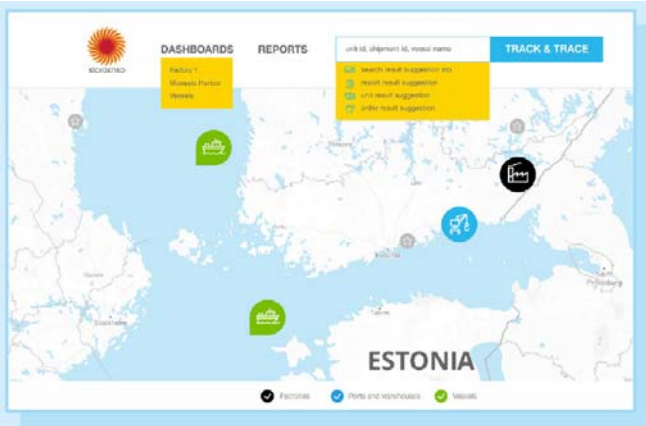
Global scalability and high yield on accuracy

Our promise to you

With Microsoft Azure Intelligent packaging provides high read rates and accuracy to item level digitalization with a sustainable angle

An offer to get you started

- Scalable and connected
- From connectivity tools, tags, to reader systems, software and end use applications
- Intelligent Packaging with their solutions have full control of the end-to-end RFID system.
- ECO RTT is the most sustainable RFID Tag Technology.



Intelligent Packaging reinforces benefits for data delivery and management throughout the supply chain

- A globally scalable, reliable and modern platform suited for small local to large global deployments
- Designed to support multitenancy and protect customer data
- The information is available to business and consumer applications via open interfaces (REST, MQTT and Web socket).

Why Stora Enso Intelligent Packaging

Stora Enso Intelligent Packaging is independent business unit in Stora Enso and drives towards item level digitalization and serving customers for their business benefits. Stora Enso has some 26 000 employees in more than 30 countries, and is publicly listed on the Helsinki and Stockholm stock exchanges. Our sales in 2018 were EUR 10.5 billion, with an operational EBIT of EUR 1.3 billion. Sustainability and renewability or strong drivers for Stora Enso.

