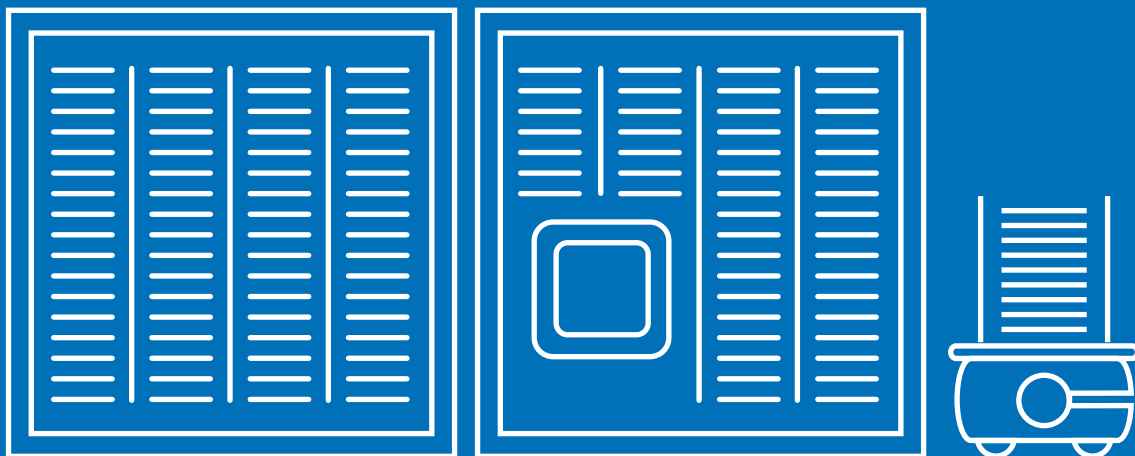


ESSEGI
AUTOMATION

focus on storage solutions

ISM UltraFlex Series

Smart Warehouses





AUTOMATED, MODULAR, AND SCALABLE STORAGE SYSTEM

In the electronics sector, smooth management of the production process is a critical factor for success. Essegi Automation **develops integrated solutions for intelligent logistics** to create a comprehensive system for component handling and management throughout the entire production cycle.

Extensive experience in the electronic assembly and production processes sector has led Essegi Automation to focus on **storage management** to

make workflows in **EMS and ODM companies** more efficient and competitive.

The Ultraflex automatic warehouses are the ideal solution for component storage and management for production lines. The **ISM Ultraflex system** enables material flow **automation** and **traceability** from receipt to storage and withdrawal from the warehouse for supply to the production lines, significantly **improving company productivity**.

THE SERIES OF PRODUCTS ISM UltraFlex →

Essegi Automation has developed an **innovative storage management system** through **automated warehouses** capable of tracking and handling components for organized and efficient supply to **SMT and THT production lines**.

The ISM Ultraflex system is **flexible and open, capable of interfacing with all major management software systems**. Our software seamlessly integrates into highly interconnected production environments, in line with the ongoing digital transformation.

Our range of products includes **several solutions for storage** of electronic components.



ISM UltraFlex 3600

Independent or integrated tower systems, with a capacity of up to 3600 reels per module.



ISM UltraFlex 3600 F.A.

Independent tower systems or integrated with other warehouses for automatic or manual front-loading and unloading.



ISM UltraFlex 3900

Expansion systems, ideal for increasing storage space and increasing component variety up to 3900 reels.



ISM UltraFlex 1800

Low-capacity systems suitable for industrial settings with lower production volumes, up to 1800 reels.

Other Extensions



ISM UltraFlex MIM

Connection system between storage warehouses and elevator modules.



ISM UltraFlex EEM

Elevator modules that enable fully automatic loading and unloading of components.



ISM UltraFlex CASE Carrier

Designed to transport Ultraflex series cases and enable automatic material delivery, loading, and unloading.



ISM UltraFlex Front AMR

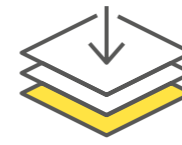
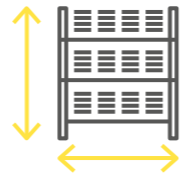
Carrier system integrated with AMR (Autonomous Mobile Robot) designed for the automatic transport and loading/unloading of Ultraflex series cases.



Advantages

LARGE CAPACITY

The standard version of the Ultraflex series has an extraordinary storage capacity for the floor space used, capable of handling a maximum of 3624 reels.



SPACE SAVING

Thanks to the dynamic management of components within the warehouse, all positions and sectors of the various units are utilized efficiently, making the most of all available space. Components can be allocated to any available position with each movement without losing traceability. In summary, the ISM software finds a place for every single component and records exactly where it is located.

DYNAMIC MANAGEMENT

The case height configuration is virtually infinite. Each case has a range of 8mm to 88mm in height. The warehouse can dynamically manage the allocation of internal spaces, much like a hard disk, allowing for the quick and automatic storage of cases with different heights. With the Ultraflex series, there is no need to preconfigure the internal positions' heights to accommodate components.



HUMIDITY CONTROL (OPTIONAL)

The Ultraflex series can regulate and monitor humidity to maintain a consistent environment below 5% relative humidity. With a range of dehumidification options (HCU 2.0, FRU, DRY BOX), it can rapidly reduce humidity. The ISM software ensures monitoring of the "Remaining Floor Life" of each component according to industry standards. The system provides a full history for every material prevents the use of components that have expired.

TOTAL INTEGRATION

The Ultraflex series is designed for seamless integration with various and common enterprise management systems (ERP or MES). Our solutions have been integrated to Juki, Fuji, ASM, Yamaha, Panasonic, Universal, Europlacer, Hanwha, Mycronic, Essemtec, Oracle, SAP and many other systems. Essegi Automation is capable of providing powerful integration solutions to accelerate the transformation of electronic manufacturing companies into true smart factories.

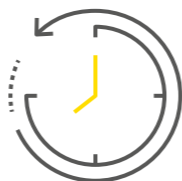


TRACEABILITY

The system collects real-time images and data and generates reports that allow tracking of reels, labels, components, and many process-related details in acceptance, logistics, or production. The software offers a complete range of fast traceability queries: serial number, code, date, location, product, supplier, expiration dates, and MSD status. All images and data are stored within the database for easy access and sharing at any time.

TIME SAVINGS

Extraction: 27 reels in 60 seconds (operator time). Insertion: 54 reels in 60 seconds (operator time). Thanks to the FAST EXIT door, retrieving a urgently needed reel, even during the loading and unloading phase of the warehouse, is very simple. Materials designated as "priority" will automatically pause general insertion or extraction and send them to the fast exit.



ESD SAFE

The Ultraflex series is finished with anti-static paint. The cases are ESD certified, ensuring that sensitive electronic components remain safe and are not damaged by electrostatic discharges.

ISM UltraFlex 3600

Module with a
**capacity of up
to 3600 reels**
in independent
or modular
towers.

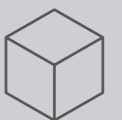


This model comes equipped with:

- ✓ Multiple Exit Doors
- ✓ Internal computer
- ✓ Fast exit door
- ✓ Integrated PC with a touch screen display
- ✓ Included ISM Console Software
- ✓ Touch screen, keyboard, and mouse
- ✓ External 1D/2D barcode scanner
- ✓ ESD certification
- ✓ Internal Dehumidification System (optional)



Technical Sheet with Different
Storage Capacities



Independent Module

→ Fully functional, independent storage tower or base module for more towers.

ISM UltraFlex 3600 F. A. Front Automation

Module with **Front Automation for automatic or manual insertion and extraction of materials** in independent or modular towers.

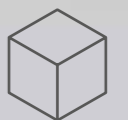


This model comes equipped with:

- ✓ Automatic hands-free lift door
- ✓ Fast exit door
- ✓ Automatic recognition and management of all case formats
- ✓ Automatic loading and unloading with Autonomous Mobile Robots (AMR)
- ✓ Integrated PC with a touch screen display
- ✓ Included ISM Console Software
- ✓ Touch screen, keyboard and mouse
- ✓ External 1D/2D barcode scanner
- ✓ ESD certification
- ✓ Internal Dehumidification System (optional)



Technical Sheet with Different Storage Capacities



Independent Module

→ Fully functional, independent storage tower or base module for more towers.

ISM UltraFlex 3900

**Ideal extension
for doubling
storage space
and increasing the
component mix.**

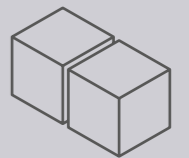


This model comes equipped with:

- ✓ Integrated PC with touch screen display
- ✓ ESD certification
- ✓ Connectors for connection to ISM 3600 or another ISM 3900 Ultraflex
- ✓ Internal Dehumidification System (optional)



Technical Sheet with Different Storage Capacities



NON-independent Module

Must be connected to an Ultraflex 3600 or an ISM 3900

ISM UltraFlex 1800

Low-capacity module
suitable for industrial
settings with **lower**
production volumes.
Can hold up to
1800 reels.

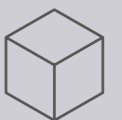


This model comes equipped with:

- ✓ Multiple exit doors
- ✓ Fast exit door
- ✓ Integrated PC with a touch screen display
- ✓ Included ISM Console Software
- ✓ Touch screen, keyboard, and mouse
- ✓ External 1D/2D barcode scanner
- ✓ ESD certification
- ✓ Internal Dehumidification System (optional)



[Technical Sheet](#) with Different Storage Capacities



Independent Module



Does not necessarily need to be connected to another warehouse



Any size, from 7" to 15"



Any height, from 8 to 88 mm

Any parts - Not just reels



Traceability of multiple reels and multiple THT components with a single ID (unique code)



Any reel, from 7" to 13" to 15", without the need for tape or vacuum bags



Each case can become a box with a lid

NEW

Cases or no cases?



Guaranteed Speed

10 seconds of operator time to extract 54 reels from the Multiple Exit Door.

Flexible and Intelligent Design

Cases can accommodate reels and other components ranging from 7" to 15" and can vary in height. Thanks to a system of stackable spacers, case height capacity can be increased from 8 to 88 mm.

No Problems with Damaged Reels

Chipped, cracked, or deformed reels are not a problem since the towers only handle the case, not the reel.

Containment of Contents

Each reel or component is housed in a dedicated space within the antistatic case.

Simple and Safe Handling

ESD approved cases can be easily moved in kits and form neat, uniform stacks that are easily transportable.

Automatic Loading

The towers handle and stack up to 54 reels without the need for the operator, who only has to remove the materials prepared by the machine. For material loading, the handling is even faster - the operator simply needs to stack the trays in the elevator and press a button.

Essegi Automation's Ultraflex series is based on the movement of robust antistatic cases, ensuring the highest safety and flexibility.

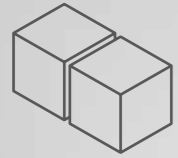
Towers come equipped with a standard assortment of cases depending on the version.

Unlike most intelligent storage systems that handle reels directly, Essegi Automation's Ultraflex series of intelligent storage systems use cases to contain and move the materials inside the tower.

CASE BOX Functionality

The Case Box option allows multiple unique codes to be combined into a single tray or container, creating useful kits for processing or managing small parts in the warehouse. A single barcode on the Case Box is used to manage the storage location of all the materials contained.

ISM MIM



NON-independent Module

Must be connected to an ISM 3600 or an ISM 3900 or ISM EEM



Connection System Between Storage Towers and Elevator Modules.

The MIM serves as the connector between UltraFlex series storage towers and EEM elevators for fully automatic component loading.

It supports up to three EEMs or two EEMs and an X-ray component counter.

The module can be integrated with conveyor and roller systems.

This model comes equipped with:

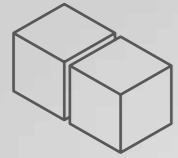
- ✓ Integrated PC with a touch screen display
 - ✓ Two shuttle connectors for connection with an ISM 3600 or another ISM 3900
 - ✓ Internal Dehumidification System (optional)
-



Technical Sheet with Different Storage Capacities



ISM EEM



NON-independent Module

Must be connected to a MIM



Automatic Component Loading and Unloading Elevator Modules.

The EEM enables automatic loading and unloading of materials from UltraFlex towers. The material loading/unloading is carried out by the **Case Carrier transport trolley**, which can be manually operated or by an AMR.

This model comes equipped with:

- ✓ Integrated elevator (up to 27 trays)
- ✓ Support for a 10 MPX or 20 MPX camera
- ✓ Integrated PC with a touch screen display
- ✓ ESD certification



[Technical Sheet](#) with Different Storage Capacities



ISM CASE Carrier



Transportation system between the Storage towers and various locations within the factory.

To cover the distance between the warehouse and the lifting modules, Essegi Automation has designed **reels transport trolleys**. These connection systems can be manually operated by the operator or fully automated by one or more **AMRs (Autonomous Mobile Robots)**.

This model comes equipped with:

- ✓ Parking Brake
 - ✓ Latches
-



[Technical Sheet](#) with Different Storage Capacities



ISM Front AMR



Automatic transportation system between the Storage towers and various locations within the factory.

Designed for ISM Ultraflex 3600 F.A., this system is made up of a unit carrying **all case formats**, fully **integrated with AMR** (Autonomous Mobile Robot).

This model comes equipped with:

- ✓ Automatic recognition and management of all case formats
 - ✓ Automatic loading and unloading with ISM 3600 F.A.
 - ✓ Automatic alignment radar
-



[Technical Sheet](#) with Different Storage Capacities



Configurations

Systems that **grow with the company**

Essegi Automation's smart towers allow **total configuration freedom** and offer **numerous combination possibilities**. The components of the Ultraflex Series are designed to create modular, flexible, and scalable systems to adapt to various production environments and grow with companies. Each solution **can be modified over time** to meet any requirements for adaptation, expansion, and relocation to other departments or sites.

ISM 3900 + ISM 3900 + ISM 3600



ISM 3600 + ISM 3600



ISM 3600 + ISM 3900 + ISM MIM + ISM EEM



ISM MIM + ISM EEM + X-RAY



ISM 3600 F.A. + ISM 3600 F.A. + Front AMR



ISM Software

The heart of integration

Essegi Automation clearly understands the factors that drive the competitiveness of assembly companies in a global market: **managing storage, planning, and timely response.**

To achieve these goals, a reliable infrastructure for coordinated management of all phases of the production process is required, from receiving to movement and delivery to production lines.

Born out of the need for warehouse management and control, Essegi Automation **ISM software** has evolved over time to become a powerful tool **open to all types of integration and real-time data exchange with all major management systems in the company**, from ERP to MES, to Pick & Place production lines. The integration is key to reducing duplicate data entry, decreasing time spent on data entry, and eliminating human errors and is critical to a lean operation.

Essegi Automation has developed user-friendly, intuitive, and flexible software with data recording capabilities through image scanning, data acceptance from handheld devices, and label printing, as well as MSL management and external position management. An advanced material flow control system that can be further **customized through APIs and custom projects.**



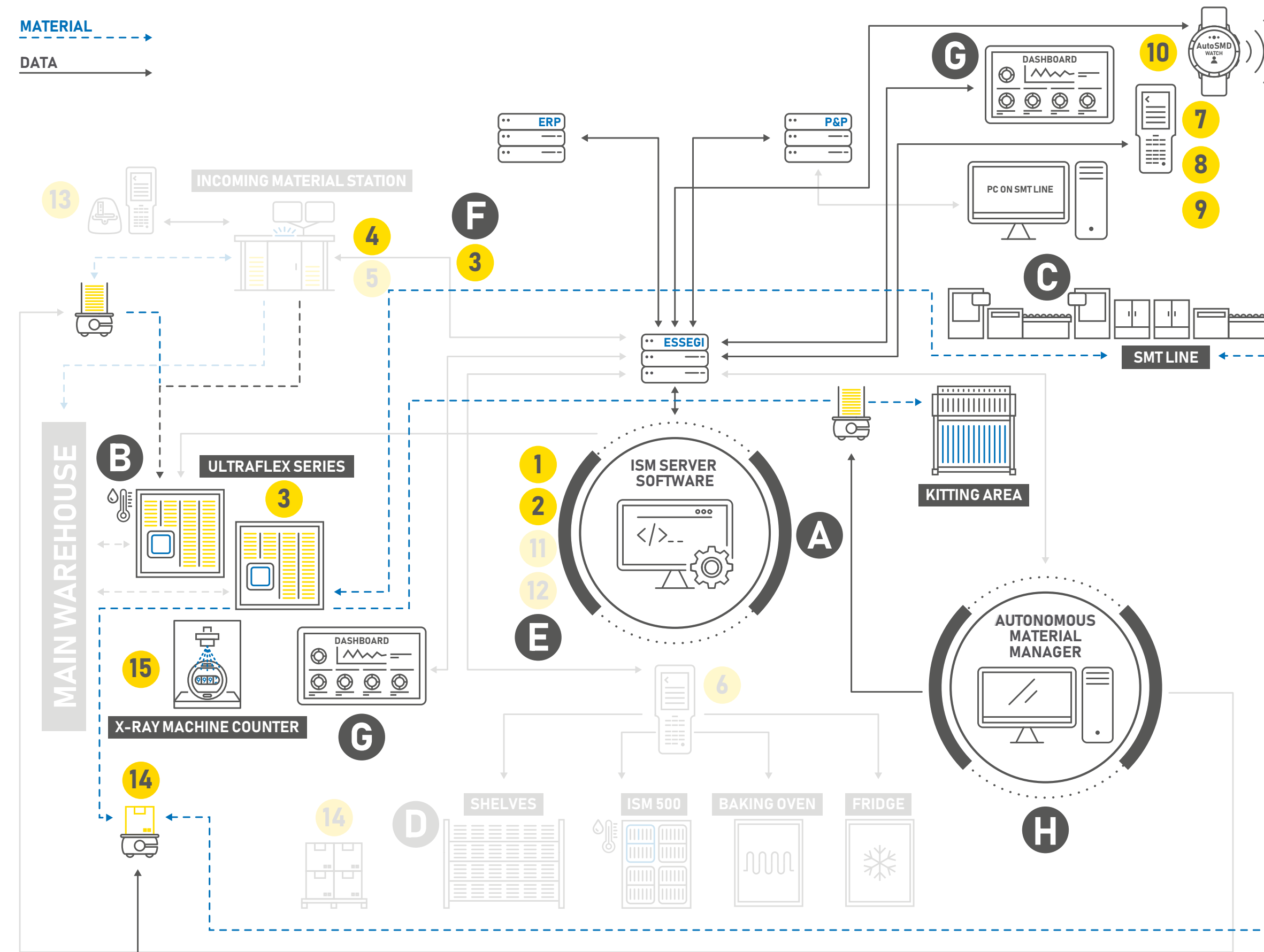
A ISM Server software

Modules

- B** MSL Management
- C** Connections with Pick & Place
- D** Dynamic Warehouse Management
- E** Buffer/Supermarket Management
- F** Advanced Material Receiving Operations Management
- G** Dashboard
- H** Automated Material Handling Management

Options

- 1** Work Order Control
- 2** Alternative Parts Management
- 3** Traceability with Photographic Archive
- 4** Approved Vendor List (AVL) management
- 5** PO matching during receiving/labelling
- 6** Location tracking with mobile devices
- 7** Material picking with mobile devices
- 8** Verification of the correct feeder setup locations
- 9** Visibility of feeder information from handheld devices
- 10** Smart Watch App
- 11** Solder Paste Management
- 12** Baking Management
- 13** Mobile scanning with handheld and label printing
- 14** Traceability of Boxes, Pallets, Trays with CASE BOX functionality
- 15** Connection to X-ray inspection systems



→ UltraFlex version



Open and ready for integration with all company software systems

Advantages

- ✓ Up-to-date and comprehensive inventory of all available material information.
- ✓ Efficient organization of materials in the warehouse.
- ✓ Availability of materials at the right time and place without waiting times.
- ✓ Material traceability and the ability to determine the storage period.



SMART
STORAGE
SOLUTIONS

DESIGNED TO OPTIMIZE
THE ENTIRE COMPONENT
FLOW, FROM RECEIPT
TO PRODUCTION

ESSEGI AUTOMATION

focus on **storage solutions**

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