



CORPORATE PRESENTATION

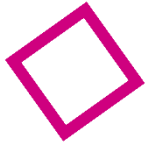


Who we are

We design and develop software solutions for the pharmaceutical industry with a continuous commitment to Research & Development, to provide highly innovative and customized projects:



**VISION INSPECTION
AND PAT TOOLS**



**SERIALIZATION AND
AGGREGATION**



**4.0 PHARMA
SOFTWARE SUITE**



VISION

To be acknowledged as the best pharmaceutical vision systems provider



MISSION

To provide pharmaceutical industry with the highest-quality vision systems



QUALITY

To provide satisfactory products and services



Software points of strength and references



Over 25 years of experience
100% Life Science focused



Full in-house software development -
Proprietary Algorithms



In-house electronic and
mechanical design



Full stack solution for Track&Trace
and Brand Protection



Wide Experience and Consultancy for
digitalization processes

+ 2000

Lines Managed in the
world

+ 7000

Vision systems
installed worldwide
(+18000 cameras)

SEAVISION
SPAIN

SEAVISION
FRANCE

SEAVISION
RUS

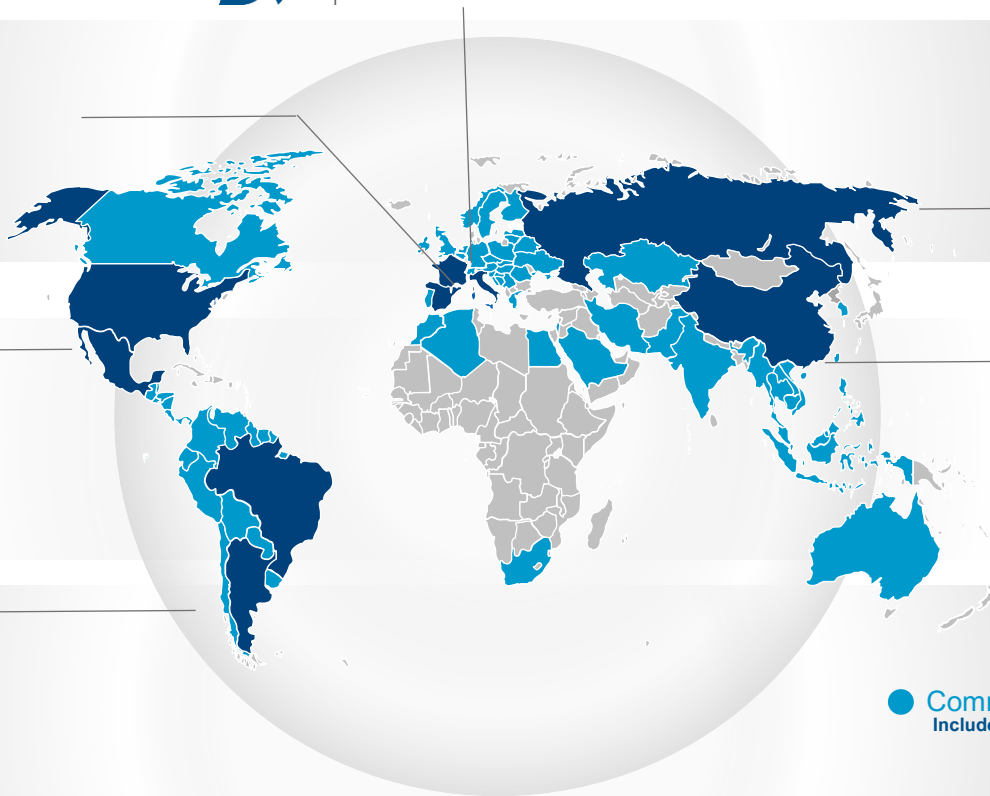
SEAVISION
USA

SEAVISION
MEXICO

思研视

SEAVISION
LATAM

SEAVISION
BRASIL



● Commercial & technical partnership
Include SEA Vision Switzerland

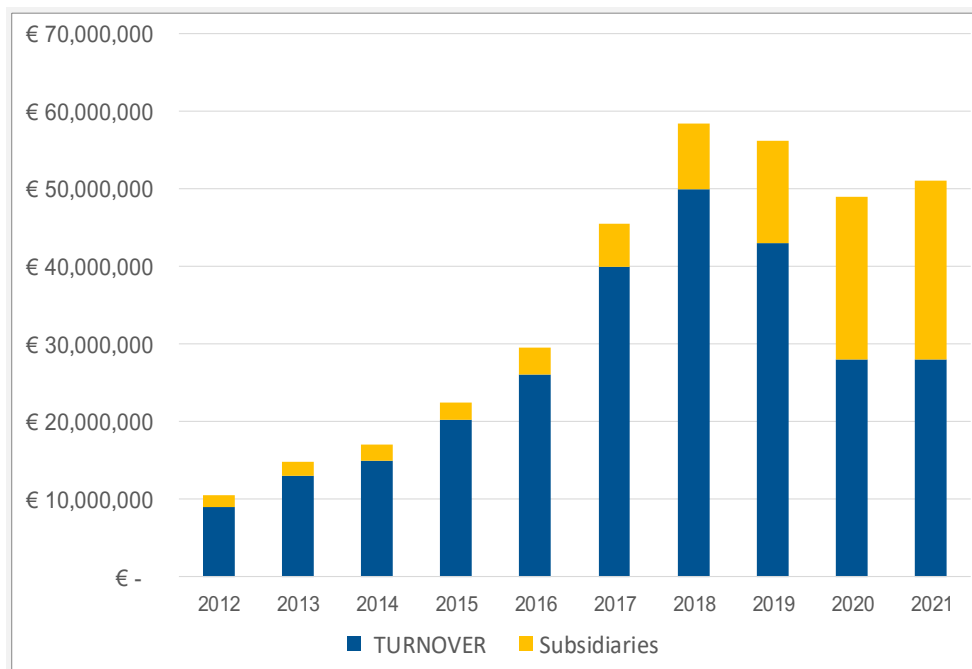
FINANCIAL RESULTS 2022

Financial data 2021

SV Group 2021 Turnover: 51.000.000 €
SV Group 2021 EBITDA: 20.465.000 €

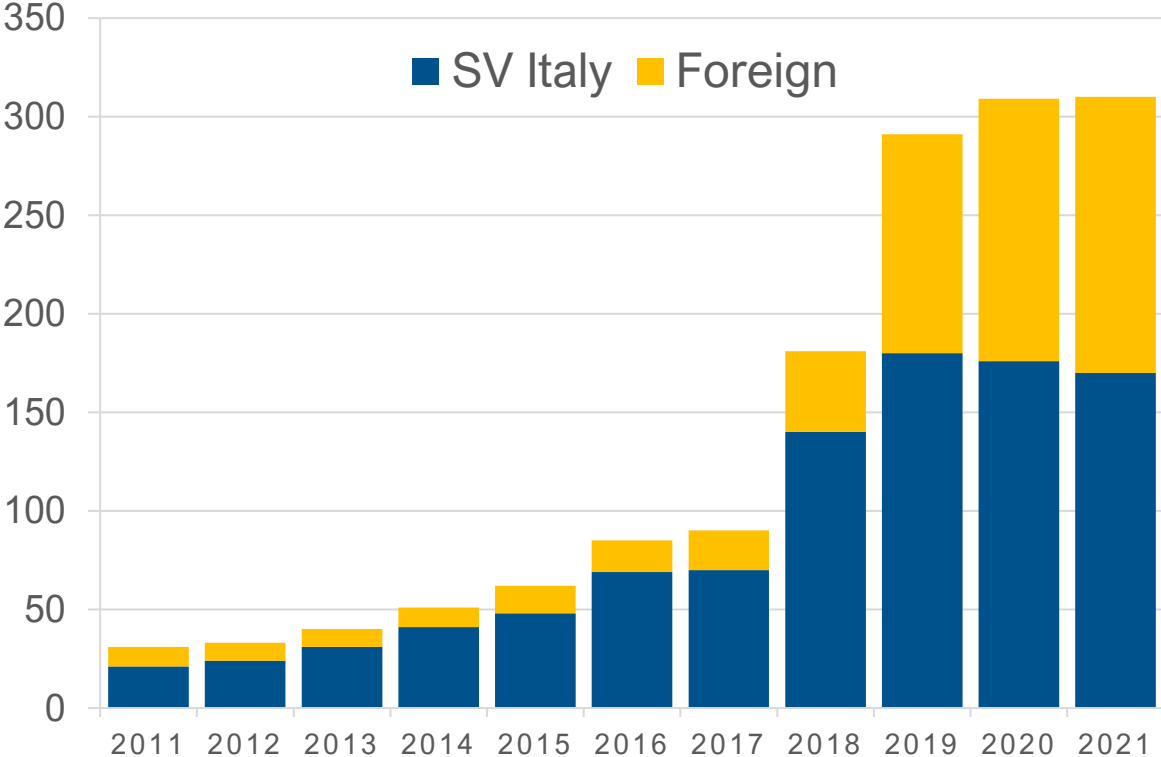
ROS: 30,29 %
ROE: 17,15 %
ROI: 16,46 %

Max single client/group
weigh $<7\%$



SALES RESULTS: **blue bars** are related to SEA Vision Italy. **Yellow bars** represent conglomerate results. Sales do not include packaging machines. Only cameras, software and services (SEA Vision core products).

Group Employees





330+ people
worldwide offices



Local presence for prompt
commercial and technical
support

Local
language
support



71% personnel
technical
background
degree

**Service
Team for
technical
support
24/7**





DELPHARM



Committed To Your Success



Some of our
Best Pharma
Customers



Some of our
best OEM
Customers

THE NEW ITALY HEADQUARTERS, a step in the future

Opened: October 2020

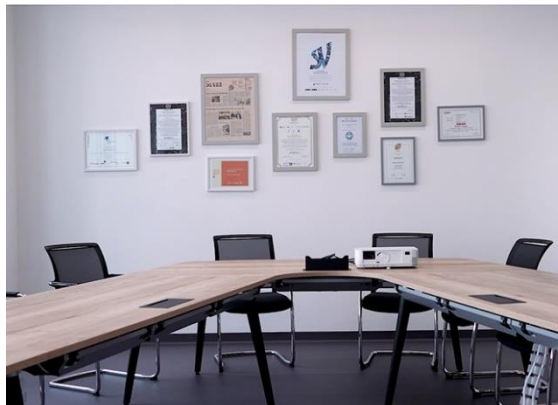
Location: Pavia (Italy)

Surface: 4000 sqm

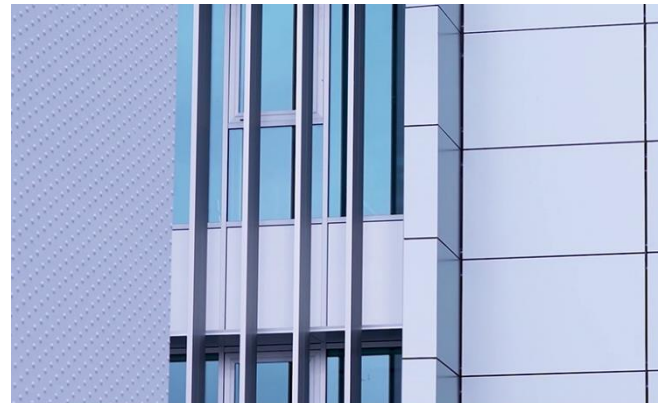
Investment: 8,3M€



THE NEW ITALY HEADQUARTERS, a step in the future

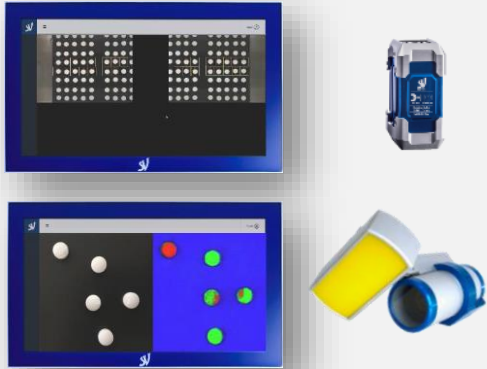


 A sustainable and
innovation
oriented
institutional
campus



Business areas

Vision inspection systems



harleblister_
harletray_ harleNIRc_

Serialization and Aggregation solutions



tracker_

4.0 Pharma Software Suite

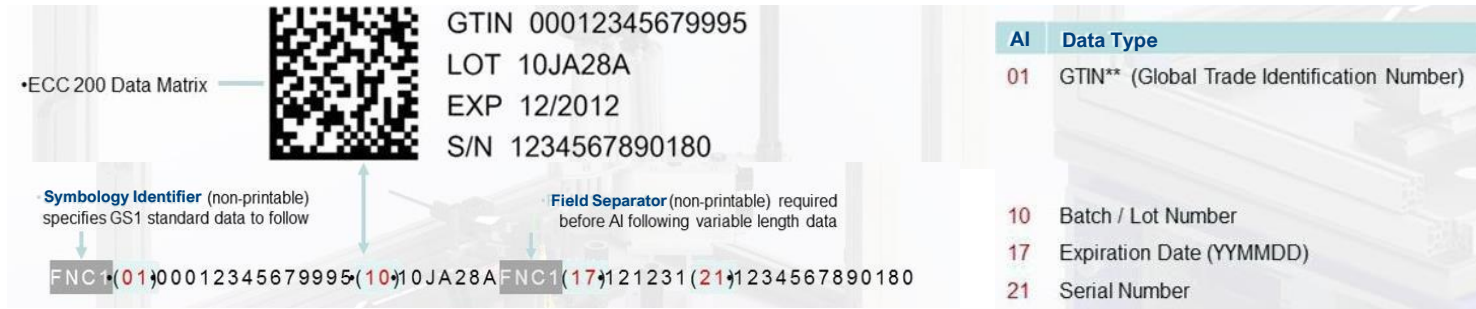


yudoo_

Serialization and aggregation overview

What is serialization? A definition

Serialization means to apply a unique random serial number to an item to allow its tracking along the supply chain according to GS1® standard.



- ✓ Serial number provisioning
- ✓ Marking
- ✓ Verifying
- ✓ Commissioning data



Every Stock Keeping Unit (SKU) of same GTIN shall have its own unique fingerprint code.

What is GS1 standard?

GS1 is a global non-profit organization dedicated to the design and implementation of global standards and solutions to improve the efficiency and visibility of supply and demand chains globally and across sectors. The GS1 system is the most widely used supply chain standards system in the world.

To identify a serialized item (with a 128-code or data matrix) GS1 has standardized typical Application Identifier. Every AI indicates specific product information.

Code	Description	Data length (without AI)
00	Serial Shipping Container Code (SSCC)	18 digits, numeric
01	Global Trade Item Number (GTIN)	14 digits, numeric
10	Batch number	variable, up to 20 digits
11	Manufacturing date	6
17	Expiry date	6
21	Serial number	variable, up to 20 alphanumeric

How can you identify an item with a unique code?

Saleable products

GTIN-14 + SERIAL NUMBER
SGTIN

EXAMPLE:

(01)12313247561234(21)123456789012

GTIN

Serial number

1: Indicator Digit

231324: Company Prefix

756123: Item code

4: Check digit



Not saleable products such as shipper, pallet

SSCC

EXAMPLE:

(00)123132475612341234

1: Extension Digit

2313247: Company Prefix

561234123: Serial number

4: Check digit



Serialization vs Aggregation. A definition.

Serialization

Authentication at carton level



- ✓ Serial numbers provisioning
- ✓ Printing
- ✓ Verification
- ✓ Data are commissioned

✓ **SERIALIZATION DONE**

Aggregation:

The authenticated cartons (optionally grouped into a bundle) are aggregated to their case, then cases to their pallet.



- ✓ Case label printing
- ✓ Case label verification
- ✓ Cartons-to-case aggregation

✓ **CARTONS - CASE
AGGREGATION DONE**



- ✓ Pallet label printing
- ✓ Pallet label verification
- ✓ Cases-to-pallet aggregation

✓ **CASES - PALLET
AGGREGATION DONE**

Serialization vs Aggregation. A definition.

There are three types of serialization:

PoDA

- ✓ Cartons serial numbers commissioning



PoDA +

- ✓ Cartons and cases serial numbers commissioning (in general commissioning of more than one logistic level)



NO RELATIONSHIP
AMONG SERIAL NUMBERS

Aggregation: Track and Trace

- ✓ Carton to case aggregation
- ✓ Cases to pallet aggregation



RELATIONSHIP
AMONG SERIAL NUMBERS

Why traceability?

“This industry requirement cannot be ignored, it is not a case of “if” or “when”, it is a case of how best to implement it.”



Protecting consumers against counterfeit products.

Delivering consumers confidence in products.

Improving visibility across the supply chain.

Tightening control around:

- Theft
- Illegal diversion
- Unregistered product











Reducing the potential risk for brand by protecting the authenticity of product and brand reputation.

Complying with future regulations.




Improve the operation of the supply chain by using the new data and barcodes on the product.

Working with GS1 or other standards to optimize the way cosmetics are delivered globally.

Where is serialization applied? Middle East

		Serialization	Aggregation
	Bahrain	Dec 2019	Sep 2021
	Jordan	Dec 2021	Not mandatory
	Qatar	Jan 2021	Not mandatory
	Saudi Arabia	Mar 2017	Aug 2020
	Tunisia	Jan 2019 (batch coding only) <small>serialization under discussion</small>	Not mandatory
	UAE	Dec 2022	Dec 2022
	Iran	Jan 2015	Not mandatory
	Lebanon	Dec 2019	Not mandatory
	Oman	Mar 2019	Not mandatory
	Turkey	Jun 2010	Jan 2012

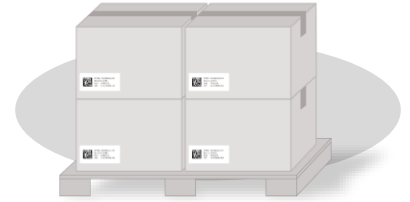
Where is serialization applied? Asia & Africa

		Serialization	Aggregation
	Indonesia	Jan 2023	Not mandatory
	Pakistan	Dec 2025	Dec 2025
	Egypt	Dec 2018	Not mandatory

How serialization works?

Print&Verify Serial number on the drug package

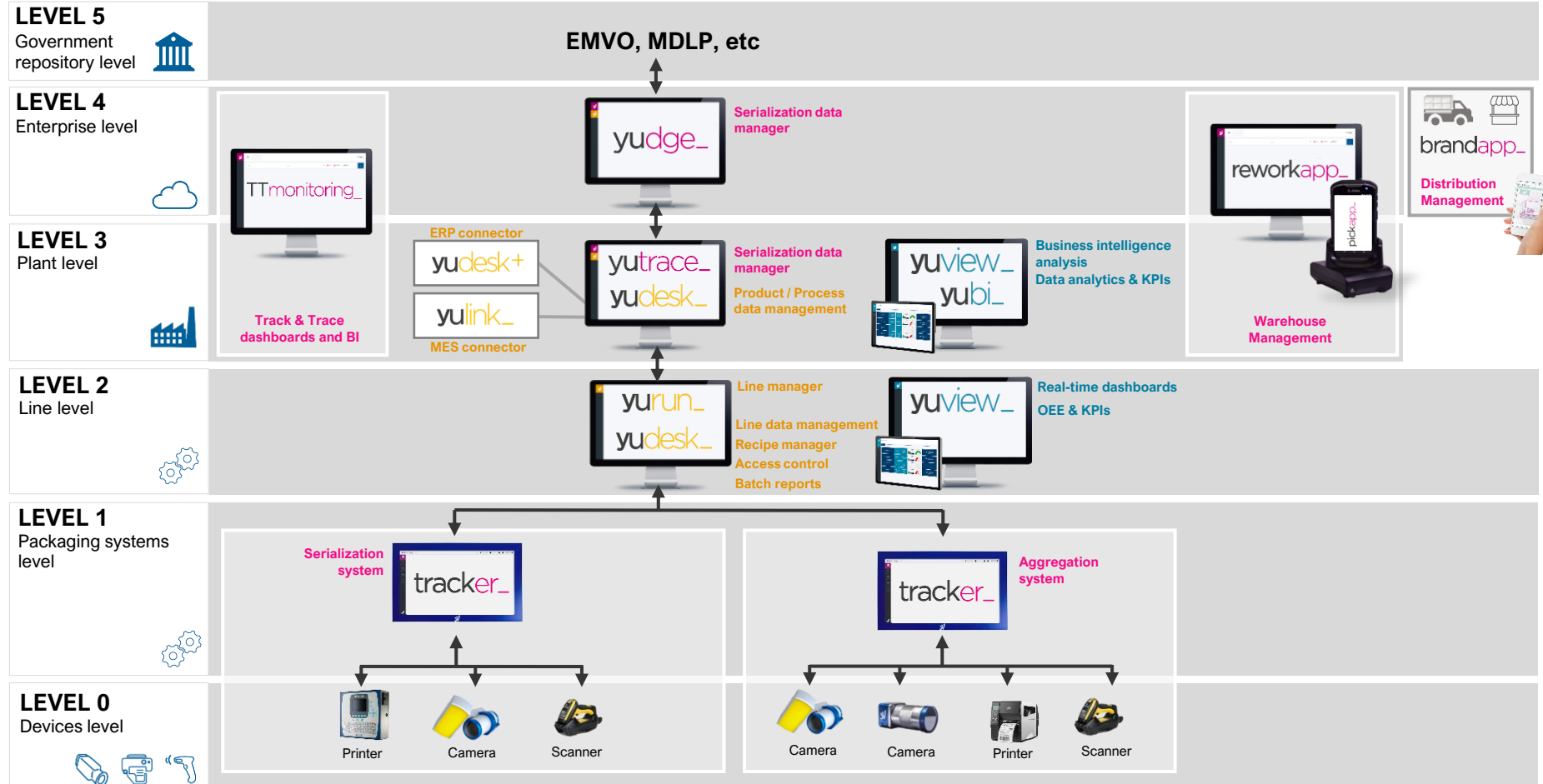
- Serial number **provisioning** (Level 4 Serial Numbers repository and regulatory agencies)
- **Marking** (serial numbers supplied by Level 4 are printed on each unit)
- **Verifying** (the serial numbers printed are checked using OCV vision system)
- **Commissioning** data (the good units that pass the OCV check are commissioned)



Serialization and aggregation hierarchy model

(according to ISA 95)

rev.2 2023



SEAVISION serialization and aggregation solutions



With more than 6000 vision systems worldwide SEA Vision today is a **market leading player**.

SEA Vision offers **tailored solutions** for cutting-edge projects.

As **interoperability** between hardware of different manufacturers is a crucial factor, SEA Vision is an active member of **OPC Foundation** and **OPEN-SCS** (Serialization Communication Standard) **workgroup**.



Serialization and aggregation business unit

SERIALIZATION AND AGGREGATION

SYSTEMS

WORKSTATIONS

WAREHOUSE – SUPPLY CHAIN

SOLUTIONS

yudge_
yutrace_

trackbay_

TTmonitoring_



trackroll_

trackpca_

trackscan_

tracklayer_



reworkstation_

reworkapp_



brandapp_



tracker_



trackbundle_

trackpeeler_

track360_

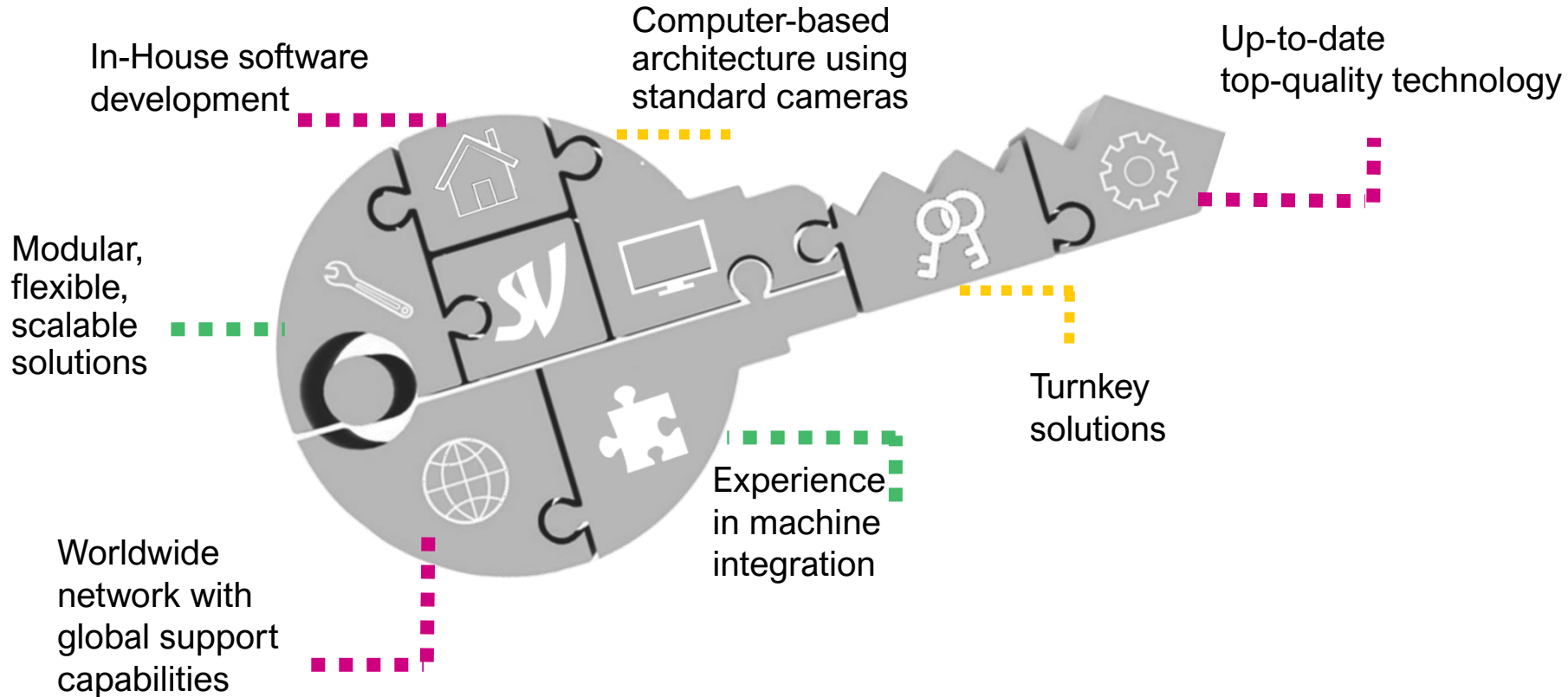


pickapp_

LEVEL 3 - 4

LEVEL 0 - 1 - 2

Products key points



Tracker

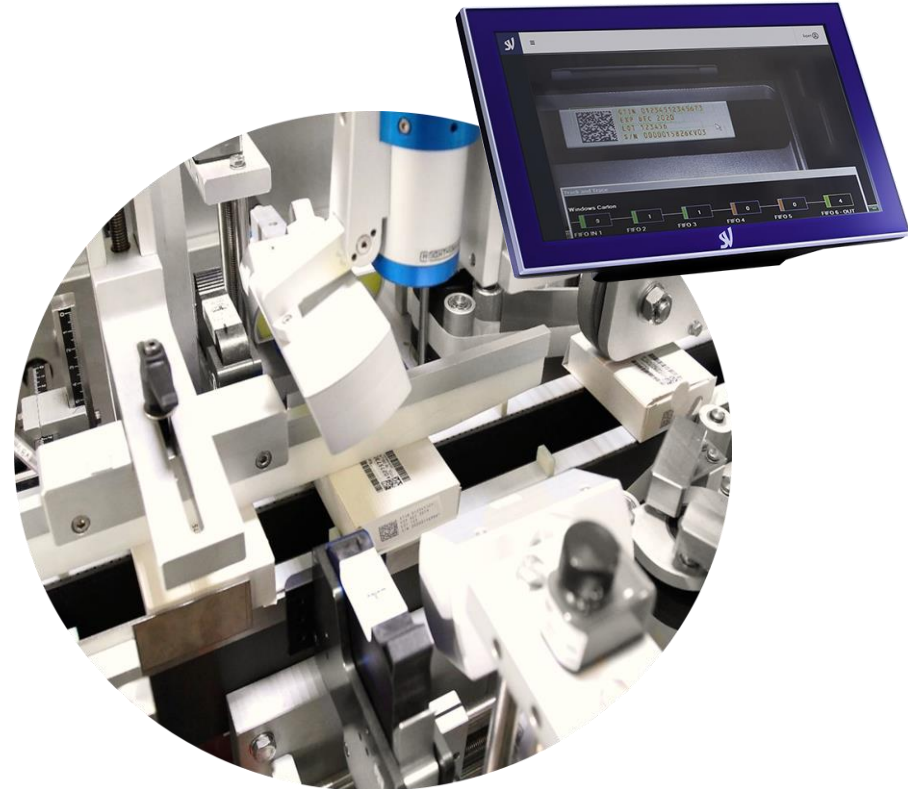
Tracker | Print and verify serial number

Tracker is the SEA Vision

LEVEL 1|2 solution for Track and Trace.

Tracker is a camera-based vision system performing several controls, managing serialization and aggregation operations.

When Track and Trace is required, several Tracker are installed on the line to achieve multi level aggregation production on different packaging machines.



Tracker | How does it work?

Tracker reads every unit (100%) with cameras or hand-held scanner.

In order to pass the inspection, each unit must match a complete set of acceptance criteria.

The inspection criteria are fully configurable.

When a good unit (carton, case or pallet) passes the inspection it is commissioned.

The different Tracker installed on the line are in constant communication with each other and with the packaging machines and perform several checks to avoid errors due to handling or reinsertion of rejected products.



Serial numbers supplied by Level 4 are printed on cartons, cases and pallets labels



serial numbers are checked using Tracker

Tracker | Software main features

- **Serialization management**
- **Aggregation management**
- **Characters check**

Tracker performs OCV – Optical characters verification and OCR Optical characters recognizing checks

- **Codes check**

Tracker performs control on 1D and 2D codes

- **ANSI grading for codes**

Tracker control ANSI Grading parameters of codes to grant their print quality and readability.



Tracker | Other functions performed

- **Print management**

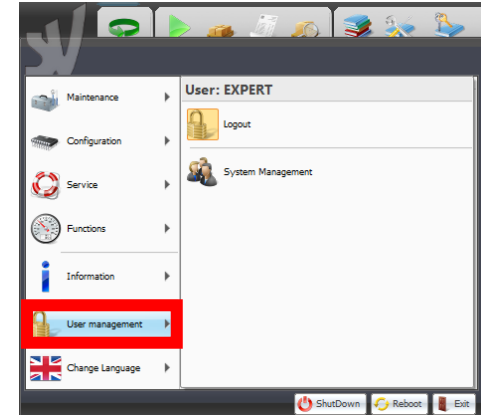
Tracker manages serialized data printing on-line at run-time.

- **CFR21 Part11 Management**

Tracker is compliant with the requirements of the document FDA 21 CFR Part 11 concerning closed systems.

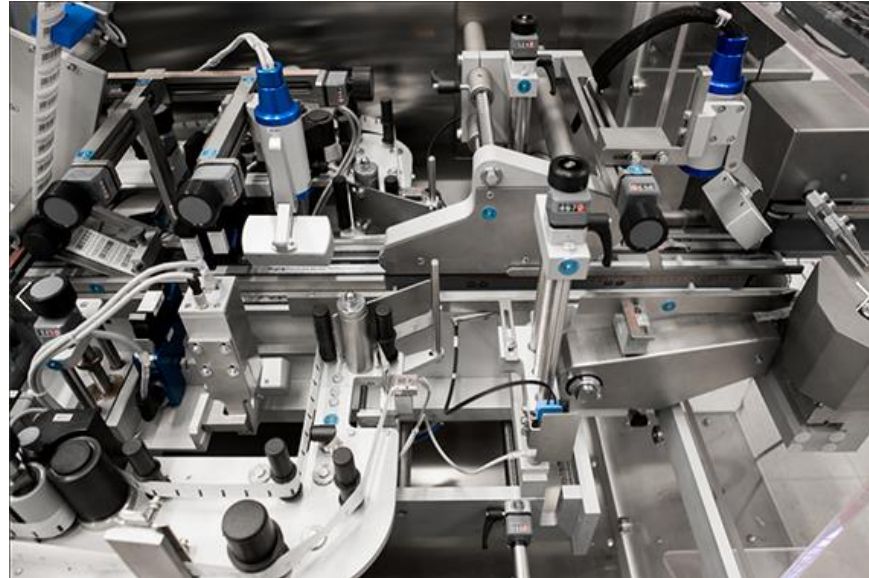
- **Active directory**

Allow the access only for authenticated and authorized users of the company network.



Tracker system for Serialization

Tracker system for serialization is dedicated to the serialized codes inspection on print&check machines, enabling to check the uniqueness of the packaged product.



Tracker system for Aggregation

Thanks to a consolidated expertise, SEA Vision can integrate Tracker aggregation system on different case packers - palletizers. The hardware is developed in collaboration with the main OEMs to be perfectly integrated with the packaging machines mechanical design.



Tracker | Proven flexibility of integration

Tracker can be integrated on machines and lines of **different manufacturers independently from their level of automation.**

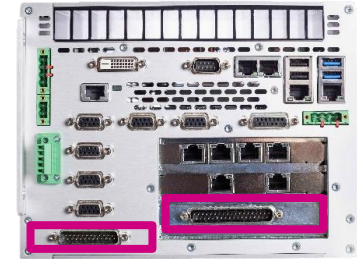
It has maximum flexibility of integration proven on field.



Machine with high level of automation



Machine without PLC



Additional I/O board
I/O board

I/O board is used to exchange signals between Tracker and the machine PLC

yudoo.

for track and trace

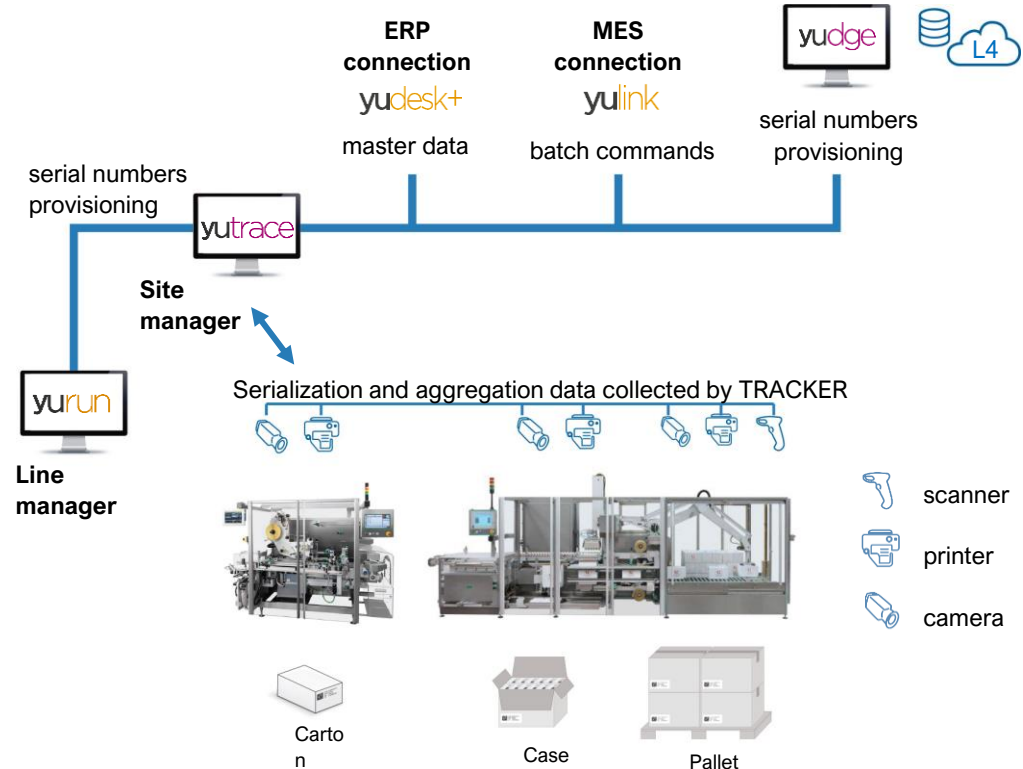


yudoo integrated on packaging lines and site IT

yudge and **yutrace** are part of **yudoo** software suite.

yudoo is the complete software suite that allows the operator to:

- manage serial numbers life cycle;
- monitor and process the line data, in order to improve machine efficiency, productivity and safety;
- collect data in real time, allowing for focused intervention on machines;
- reduce and improve the efficiency of manual activities carried out by operators on the line.



yudoo integrated on packaging lines and site IT



● yudesk

Master data (recipe & PO) management;

● yurun

Batch operations (batch start, hold, resume and closure of a batch);

● yuview

Real-time production data visualization;

● yudrive

Saving production data to Historian Database;

● yubi

Business intelligence analysis on data stored on the yudrive module;

● yutrace

Track & Trace functionalities;

● yudjudge

Level Four (L4) serialization layer.

TRACK
AND
TRACE

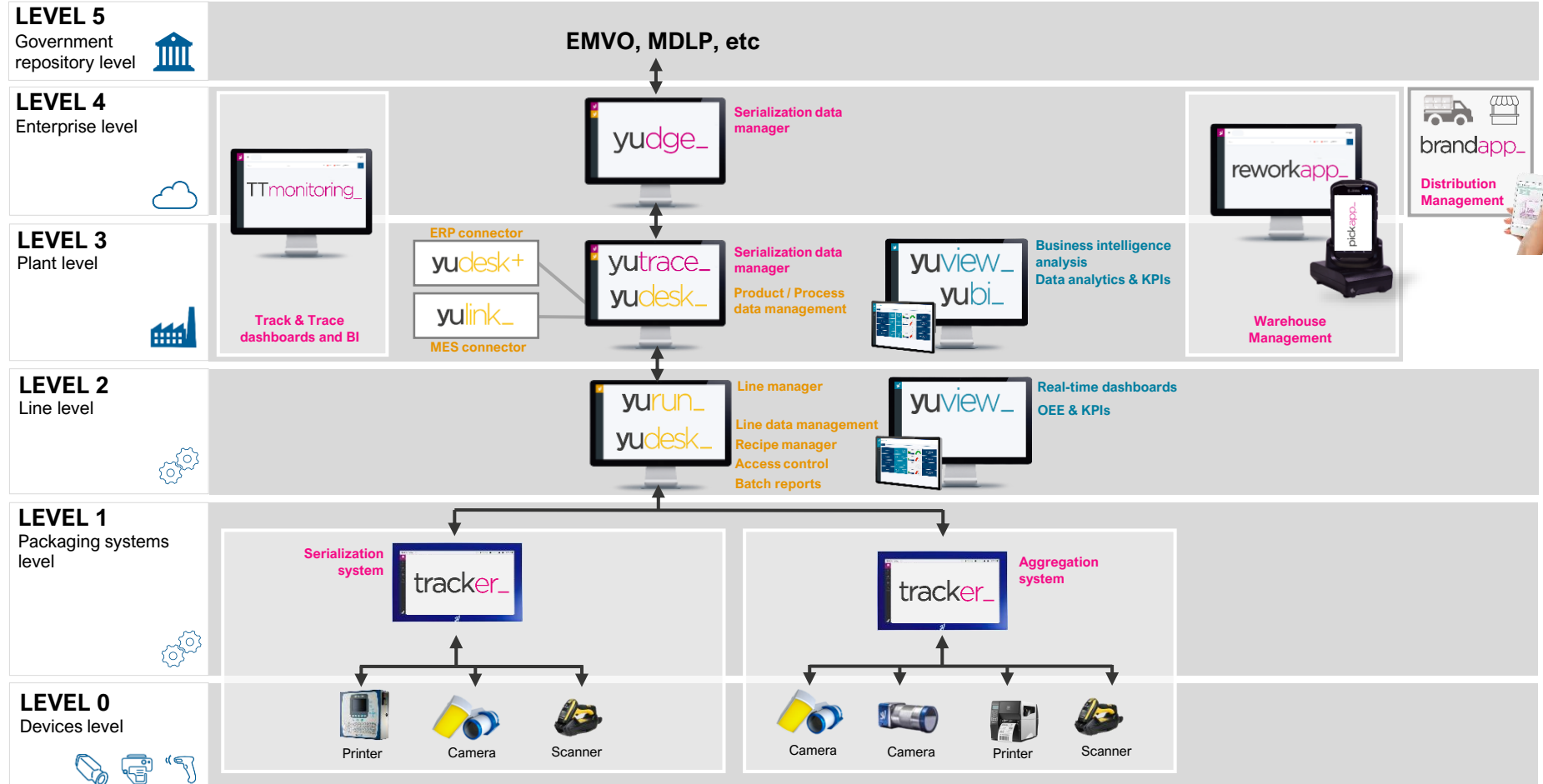
Additional modules:

- **yulink**: performs the interconnection with an existing MES;
- **yudesk+**: performs the interconnection with an existing ERP.

Serialization and aggregation hierarchy model

(according to ISA 95)

rev.2 2023





yudge is the SEA Vision level 4 Solution able to manage:

- Serial numbers generation configurable for each SKU, with modular and reusable profiles and rules;
- Serial number import from other level 4 or regulatory agencies file;
- Connection to regulatory agencies (EMVO, Markirovka) for Master and Pack data upload, Verification and many other use cases (batch recall etc.);
- Serial numbers and Events Long Terms Repository;
- Communication with Third parties Track&Trace Solutions.



yutrace is the SEA Vision level 3 solution able to manage:

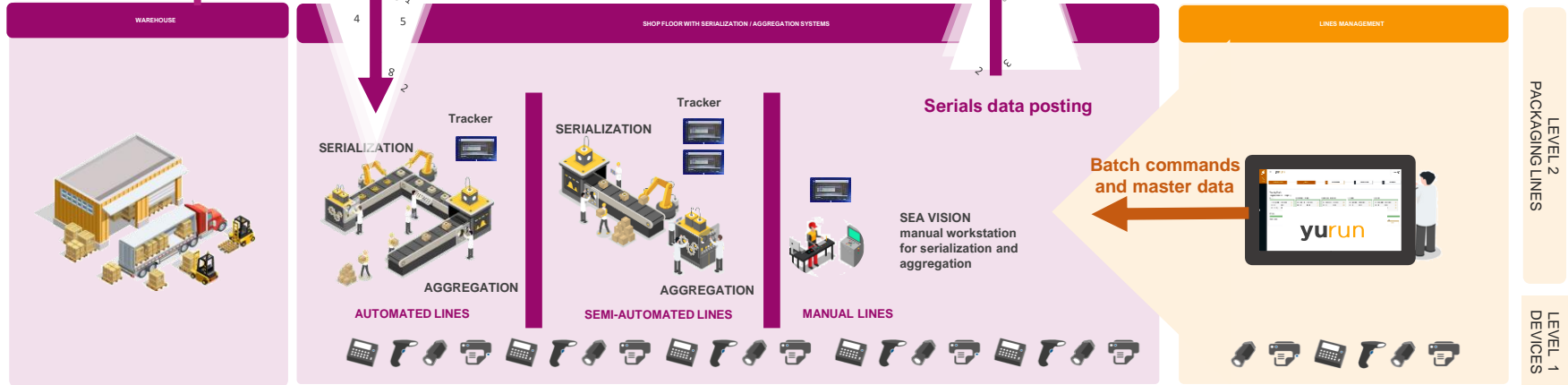
- Serial number generation or provisioning from Level 4 solutions;
- Serialization master data parameters management;
- Warehouse functionalities for reworking operations (Desktop or Mobile versions available);
- Serial number notification such as export of commissioning, aggregation, decommissioning, disaggregation and transfer shipment events.

yudoo

T&T solution

is composed of:

- **yudge**
- **yutrace**
- **yudesk**
- **yurun**
- **TRACKER**
- **vision system**



SEAVISION

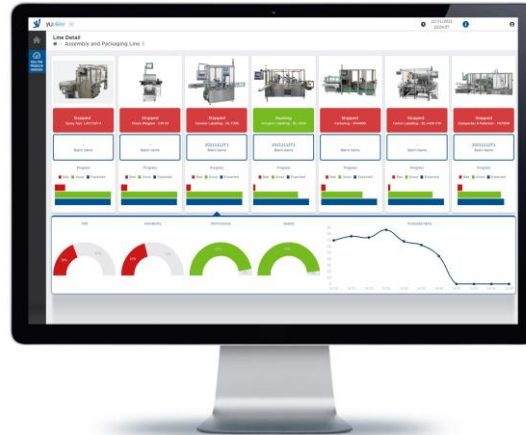
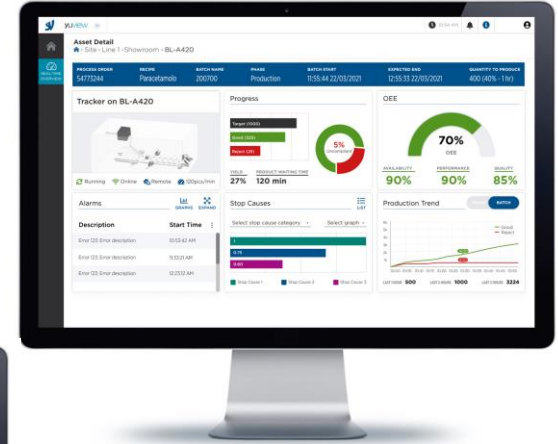
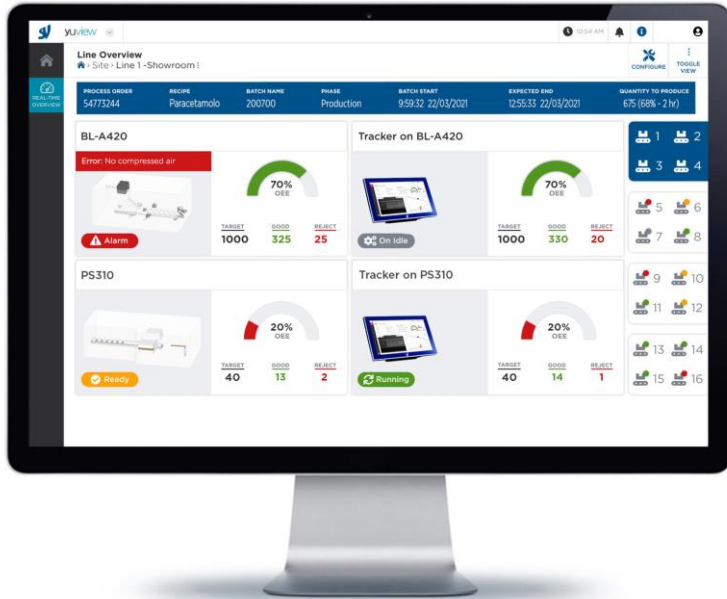
TTmonitoring_

Solution for serialization data monitoring: keep everything under control in a simple way through **dashboards** that show in real-time the provisioning and usage status of the serials and perform advanced business intelligence **analysis** on **historicized data**.

SOLUTIONS



Realtime dashboard



Monitor the efficiency in real time



Track and trace workstations



SERIALIZATION AND AGGREGATION

TRACK AND TRACE WORKSTATIONS



trackroll_



trackpca_



trackscan_



tracklayer_



trackbundle_



trackpeeler_



track360_

Workstation for label reels printing and serialization.

It provides in-house, on-demand, and high-quality inspected labels reels, ready to be then applied on products such as bottles, vials, cartons, etc



WORKSTATIONS

SERIALIZATION



Workstation that manages the print and checks of variable data and codes to serialize cartons.

The aggregation modules allows to perform parent-child aggregation up to pallet level, handling partial cases and pallets too.



WORKSTATIONS

SERIALIZATION

AGGREGATION



Commissioning and aggregation operations with a scanner-based system.



WORKSTATIONS

COMMISSIONING

AGGREGATION



Stand alone workstation for the inspection of multiple layers of serialized cartons and their aggregation to cases and pallets.



WORKSTATIONS

AGGREGATION



Version with loading elevator platform



Version with movable camera

Workstation for a quick and easy implementation of bundle-to-case and pallet aggregation.



WORKSTATIONS

AGGREGATION



Automatically prints, controls and eases the peeling of labels for cases and pallets, doing ANSI grading control in real-time thanks to the vision system with a dedicated camera and light unit that includes. Performs carton-to- case and case-to-pallet aggregation.



WORKSTATIONS

AGGREGATION



track360_

Track360 machine resolves the complexity of reading a pre-printed serialized code on the side of a randomly oriented round container. The automatic machine prints the helper code in an easy-to-read position for the downstream case packer or bundling machine, allowing the direct aggregation of bottles-to-case or bottles-to-bundle.



AUTOMATIC MACHINE

**HELPER CODE
FOR EASY AGGREGATION**





Warehouse Supply chain



SERIALIZATION AND AGGREGATION

WAREHOUSE – SUPPLY CHAIN

trackbay_



reworkstation_



reworkapp_



pickapp_



brandapp_

Software solution for managing cases coming from different lines in a centralized palletization area.



WAREHOUSE – SUPPLY CHAIN



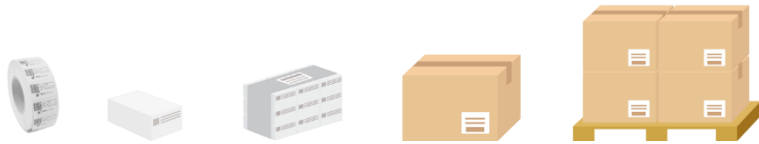
Warehouse workstation to execute rework and shipping operations.



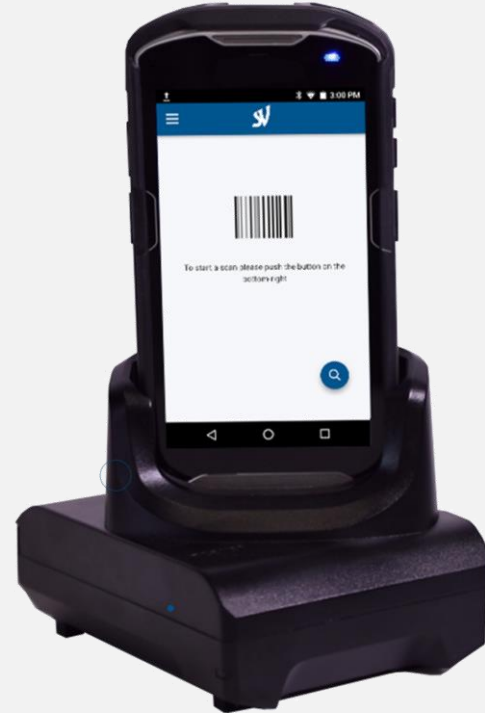
WAREHOUSE – SUPPLY CHAIN



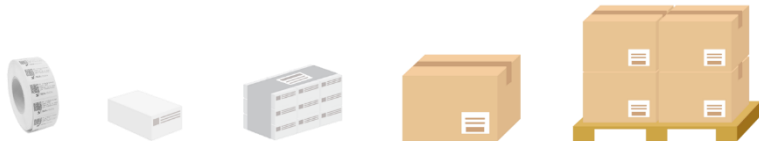
Mobile app solution to perform reworking operations in the warehouse.



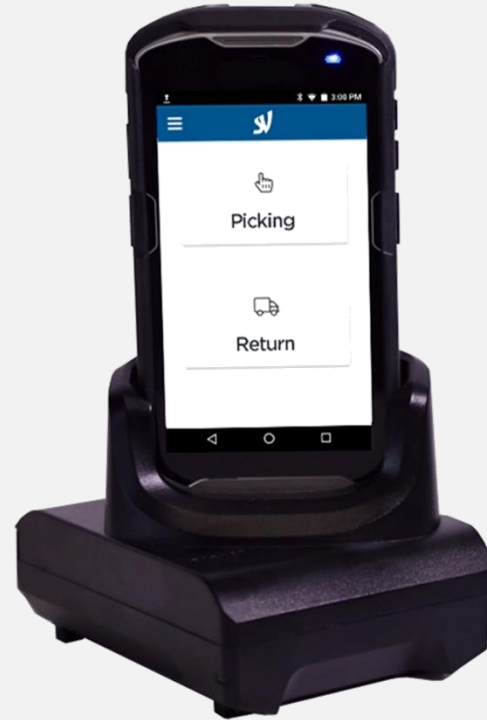
WAREHOUSE – SUPPLY CHAIN



Mobile app solution to perform picking/shipment operations in the warehouse.



WAREHOUSE – SUPPLY CHAIN





Via Treves, 9 E Pavia (Italy)
Ph. +39 0382 529576



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