

LOGICAL SYSTEM

MES

Production Management and Control



Logical System



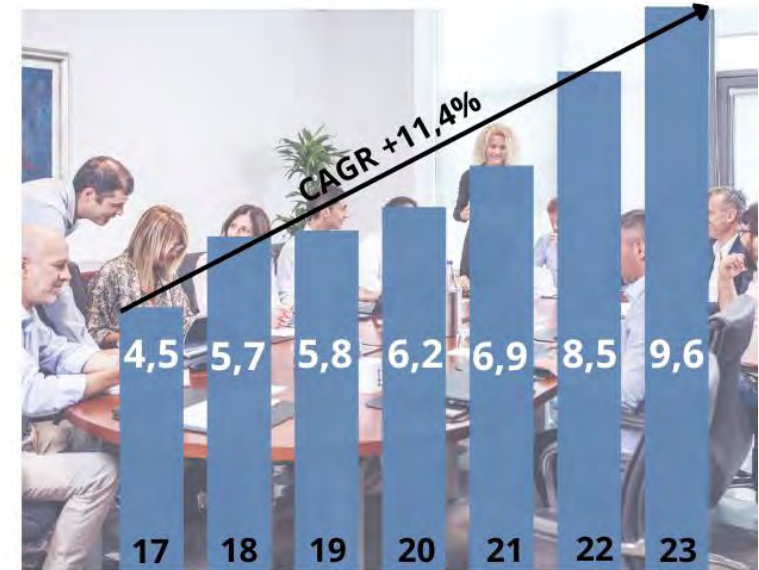
Company Founded in 1983



Company Leadership



Team of 67 Resources



Revenue in Mln€

M.E.S. (Manufacturing Execution System)

MES - MANUFACTURING EXECUTION SYSTEM



MES (Manufacturing Execution System) è un sistema informativo finalizzato alla gestione e al controllo della funzione produttiva di un'azienda.

MES coinvolge gli ordini, gli avanzamenti in quantità e tempo, il magazzino, nonché i dispositivi installati a bordo macchina, per dedurre informazioni utili ad integrare l'esecuzione della produzione ed al suo controllo.

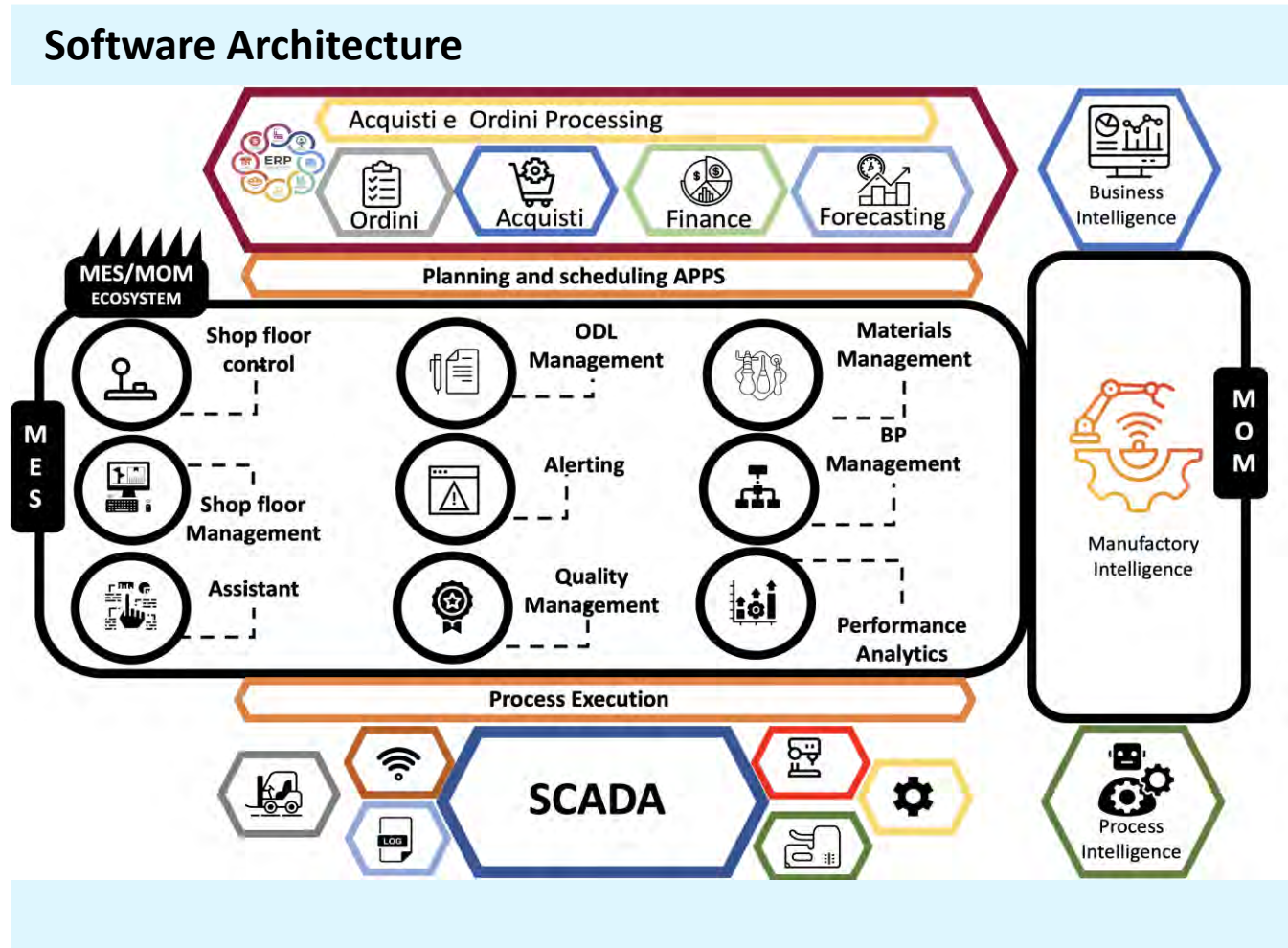
MES di Logical System è un link fra il sistema di controllo in tempo reale dei reparti di produzione ed il sistema informativo ERP di alto livello, al quale si integra per analizzare tutti i dati relativi al programma di produzione da monitorare. **MES**, attraverso **THRON**, trasmette tutte le informazioni che consentono di ottimizzare le attività di produzione, dal lancio degli ordini ai prodotti finiti. Inoltre grazie a **T.O.F.** che esamina i dati di produzione in maniera accurata ed istantanea, **MES** pilota e risponde alle esigenze delle attività dell'impianto produttivo, monitorandole nella loro esecuzione.

MES è quindi un insieme integrato di funzioni che collegano pianificazioni e sistemi di controllo, progettazione e produzione, forza vendita e spedizioni, clienti e logistica .

M.E.S. Ecosystem

M.E.S. Ecosystem

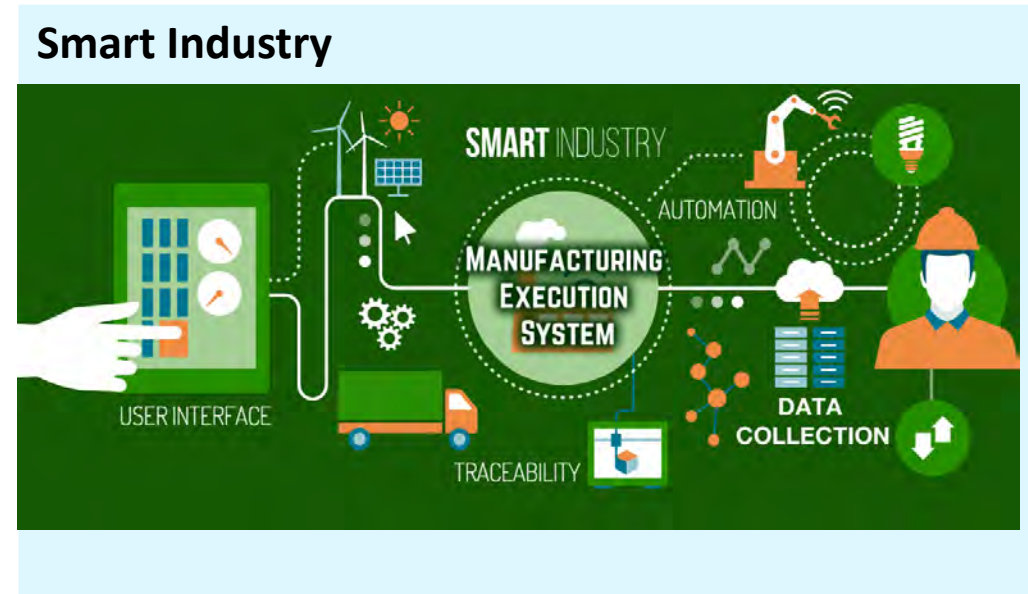
- MES represents a software **ecosystem composed of a collection of hardware/software** components that allows the management and optimization of production activities from order initiation to finished product.
- MES ecosystem stands between two main systems, the **ERP and the SCADA**, integrating the necessary components for the **digitalization of typical processes for production management and Shop Floor control**.



Fundamental Elements

Logical System's MES Ecosystem is the result of production-oriented experience supported by technological research.

- **Experience** in production processes
- **Cloud, on-premise, or hybrid** system
- Experience in **quality management**
- Multi-Device platform and autonomous distributed components
- Easy **integration** with third-party systems
- Industry 4.0, IoT integration
- Strong company and dedicated support team
- Product scalability
- **Continuous development and applied research**





iMES

Within the MES ecosystem, Logical System's iMes represents the core component capable of managing the following functionalities:

- Shop Floor Control e Management System
- Assistant
- ODL Management
- Material Management
- Alerting
- BP Management
- Performance Analitytcs

iMes – Main Target

- Accurately manage man and machine operations.
- Identifying KPIs is an essential factor for effectively managing production operations.



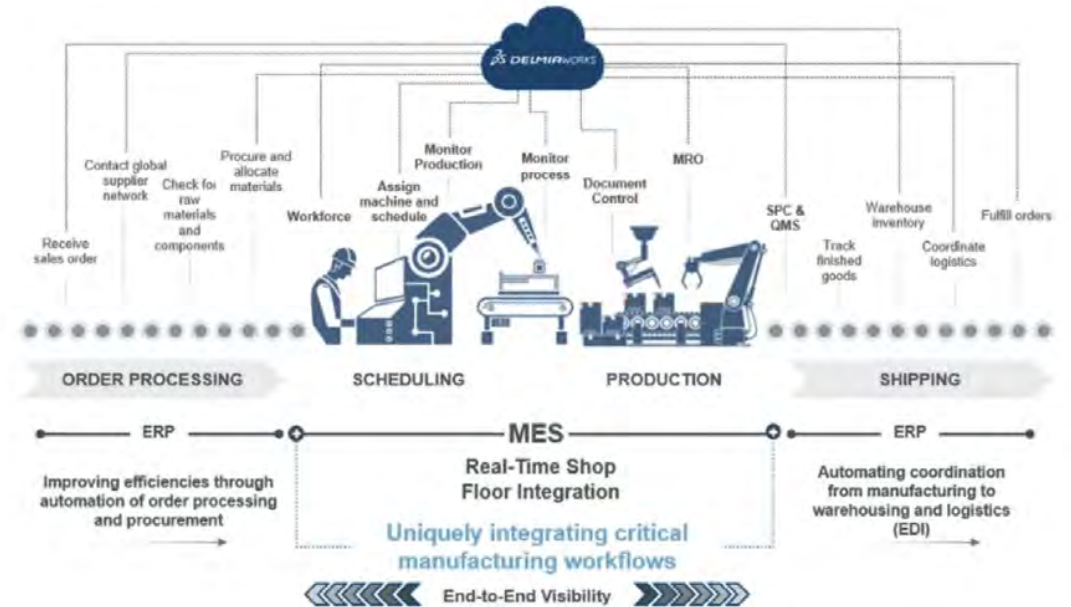


iMES

With **iMes**, you are able to:

- **Assist** operators in reporting production activities, downtime reasons, material usage, waste, and other events through interaction with on-machine dashboards;
- **Integrate** with machine tools and field devices for bidirectional data and operation management;
- **Monitor** production comprehensively using data analysis tools;
- **Integrate** with quality management system
- Generate notifications to mobile terminals via SMS/WhatsApp/Telegram/Teams for **immediate situational control** and event awareness;
- Provide management with a **directional overview** for production decisions;
- Define **production control processes** specific to individual machines or work orders.

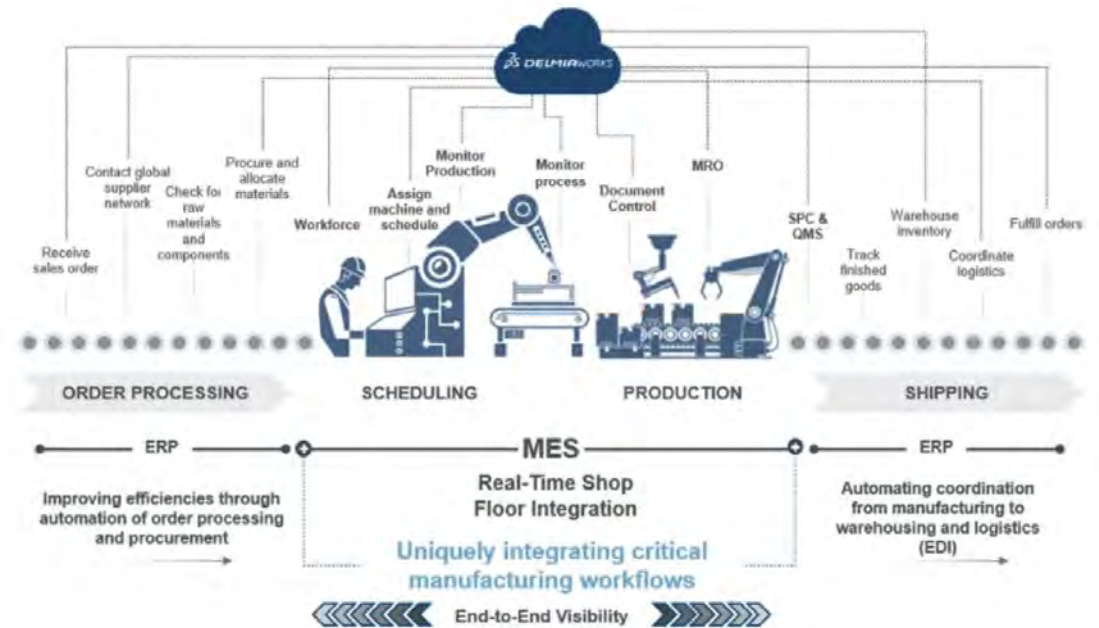
Digital Production life-cycle



iMES – Shop Floor Management & Control

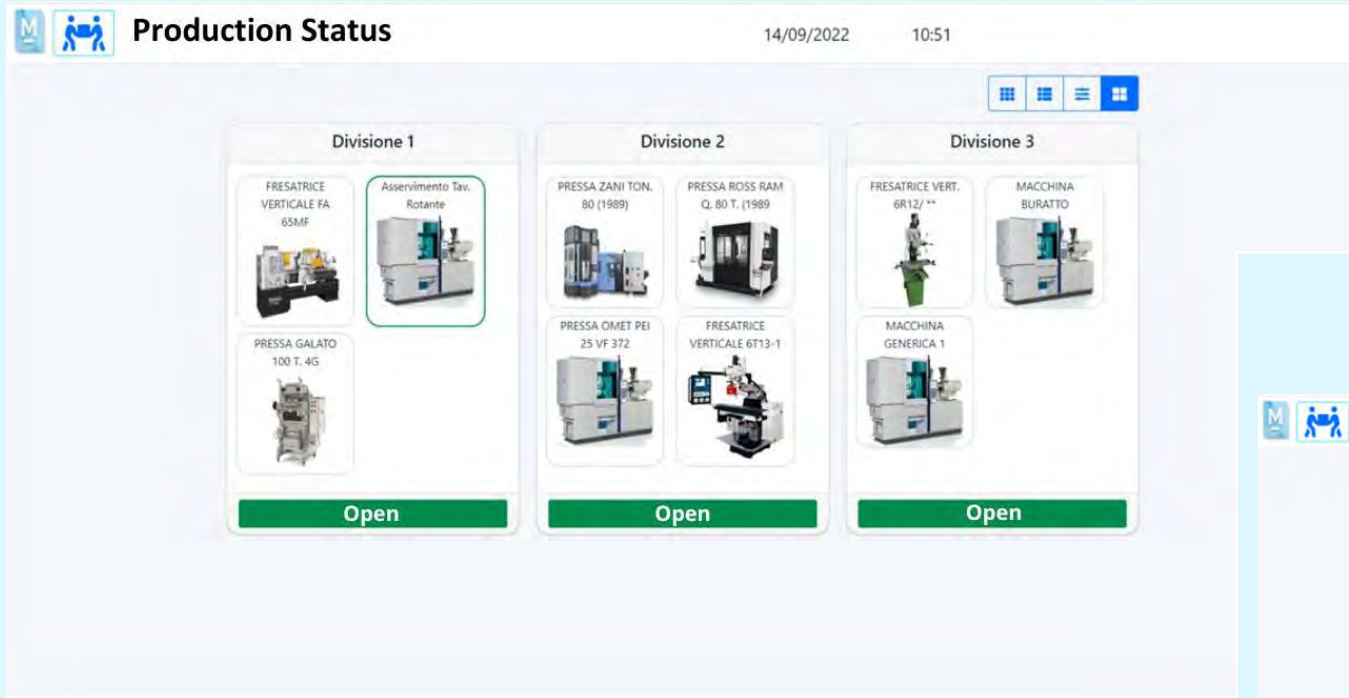
- **iMES** provides the operator with a **Human Machine Interface (HMI)** oriented interface capable of managing the operations that the operator performs at the workstation.
- With **iMES**, the operator can specify their operational activities, such as quality control, signaling the start and end of processes, managing the start and end of production, managing downtime reasons, unloading finished pieces, printing labels, and other typical operational tasks in the production process.

Digital Production life-cycle



iMES - Operator Interface

Machine selection modes (e.g., division, type, functionality, etc.)



Ungrouped Machine Selection Mode



iMES – Operator Interface

Operator-Machine Interface HMI

The screenshot displays the iMES Operator Interface HMI for the production of TOMASSETTI. The interface is organized into several sections:

- Header:** Includes a menu icon, a user icon, the title "Avanzamento Produzione", the date "07/09/2022", the time "15:38", and a green button labeled "Asservimento Tav. Rotante" with a QR code.
- Production Details:** Shows "73716 - TOMASSETTI", "MANUT. IMPIANTO 4 - TOMASSETTI", and "21 - COLLAUDO".
- Operational Metrics:**
 - Attrezzatura e Qualità:** Includes icons for a wrench, a medal, and a document.
 - Operatore:** Displays "Operatore 10029" with a red status indicator.
 - Note e Link:** Includes icons for a document, a speech bubble, and a lock.
- Production Progress:**
 - Ora Inizio:** 15:34
 - Tempo Ciclo:** 216000m
 - Target:** 0
 - OEE:** 0%
 - Tempo Lavorazione:** 00:04
 - Tempo Ciclo Reale:** 0m
 - Prodotti:** 0
 - Causali sospensione:** 0 causali
 - Avanzamento:** A progress bar showing "Quantità ordinata" (24), "Quantità prodotta" (0/24), "Quantità imballata" (0/24), and "Quantità scartata" (0/24).
- Task Management:** A "Cambio rapido task" section with four buttons labeled "Fase: 21 - COLLAUDO TOMASSETTI". The first button is highlighted in yellow.
- Footer:** A row of icons for various functions: a trash can, a wrench, a list, "Fine produzione", "Sospendi", a person icon, a plus sign, a trash can, a person icon, and a square icon.

Alerting & Assistant - IFTTT (IF THIS THEN THAT)

Rule Management Interface

The screenshot displays the 'IFTTT' rule management interface. On the left, a sidebar titled 'Sezioni' contains navigation links: 'Situazione fabbrica', 'Gestione Causali', 'Gestione Fabbrica', 'Gestione Centri di lavoro', 'Gestione Commesse', 'Gestione Operatori', and 'Impostazioni'. Below these are icons for 'Home', 'Lavorazione', and 'Documentazione'. The main area is titled 'IFTTT' and features an 'Aggiungi Regola' section with a form for creating new rules. The form includes dropdowns for 'Macchina' (set to 'FRESATRICE VERTICALE I'), 'Misurazione', 'Condizione' (set to '>'), 'Valore' (set to 'Valore'), and 'Evento' (set to 'Manda notifica toast'). A blue '+' button is next to the form. Below the form is a search bar labeled 'Ricerca'. A table lists existing rules with columns for 'Codice CDL', 'Misurazione', 'Condizione', 'Valore', and 'Evento'. Two rules are shown: one with 'Temperatura' and '>' condition, and another with 'Temperatura' and '>=' condition. Each rule has an 'Attivato' button and a red 'X' button. At the bottom, there are navigation buttons: '← Indietro', 'Precedente', '1', and 'Successivo >'.

Codice CDL	Misurazione	Condizione	Valore	Evento	Attivato
2	Temperatura	>	45	Manda notifica toast	Attivato
2	Temperatura	>=	50	Manda messaggio su telegram	Attivato

Specification of **rules** to trigger conditional actions. E.g., machine lock, sending messages via Telegram, Teams, email, etc...



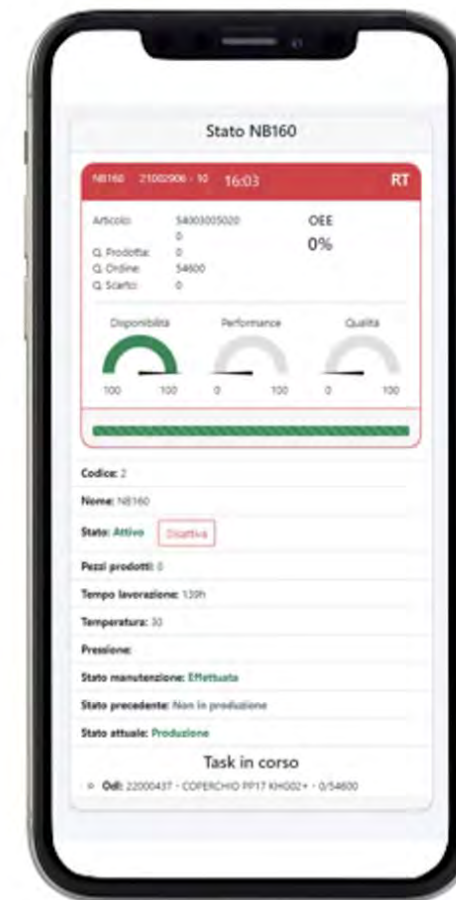
iMES APPS - Alerting & Assistant

Shop Floor Control and Safety App

Support App

Provides a variety of **control and management** features distinct from iMES:

- Enables machine interfacing (QR Code)
- View machine status and performance
- Reactivate the machine in case of stop =>
 - Enhanced safety
 - Control by the production manager



ODL Management - Short-term planning and guided task access

1- Local Planning 2 - Operator Management 3 - Operator Activities (TO DO)

The screenshot displays the ODL Management interface, divided into three main sections:

- 1 - Local Planning:** A calendar view showing tasks assigned to operators. The task "Asservimento Tav. Rotante" is highlighted in yellow. The interface includes a sidebar with navigation options like "Situazione fabbrica", "Gestione Causali", "Gestione Fabbrica", "Gestione Centri di lavoro", "Gestione Commesse", "Gestione Operatori", and "Impostazioni".
- 2 - Operator Management:** A "Modifica operatore" (Edit operator) form. It includes fields for "Codice Operatore" (10020), "Pin" (20), "Descrizione" (Operatore 10020), "Nome", "Cognome", "Orario" (0), "Skill", and "Ruoli". A grid of operator avatars is visible on the left. Buttons for "Salva" (Save) and "ANNULLA" (Cancel) are at the bottom.
- 3 - Operator Activities (TO DO):** A section titled "Attività extra" (Extra activities) with buttons for "Pulizia pavimento" (Clean floor), "Inventario" (Inventory), and "Supporto attività magazzino" (Warehouse activity support). Below this is a "Task da fare" (Task to do) section with two tasks: "PRESSA ROVETTA 600 T. - LAMIERA SUPERIORE TRATTATA SCIROCCO TRANC. 86145 - STAMPAGGIO 1" and "Asservimento Tav. Rotante - TOMASSETTI 73716 - COLLAUDO 21". A large blue "CHIUDI" (Close) button is at the bottom.

Short-term local planning with the ability to assign operators to individual activities/tasks

MES – Material management

The image displays three overlapping screenshots of a MES (Material Management System) dashboard, illustrating various views of a warehouse's material management.














- Top Left Screenshot:** Titled "Visualizzazione scaffali esplosi" (Exploded Shelf Visualization), it shows a grid of shelves with individual items represented by colored squares (e.g., 111-1, 111-2, 111-3, 211-1, 211-2, 211-3, 311-1, 311-2, 311-3, 411-1, 411-2, 411-3, 511-1, 511-2, 511-3, 611-1, 611-2, 611-3, 711-1, 711-2, 711-3, 811-1, 811-2, 811-3, 911-1, 911-2, 911-3). A vertical bar on the left indicates shelf levels A through I.
- Top Right Screenshot:** Titled "Visualizzazione scaffali" (Shelf Visualization), it shows a grid of shelves with a color-coded status indicator (red triangle) next to each shelf. To the right, there are three summary cards: "Posto sopra il carico" (162%), "Scaffale sopra il carico" (144%), and "Scaffalatura sopra il carico" (119%). A gauge chart titled "Carico complessivo magazzino" (Overall Warehouse Load) shows a needle pointing to approximately 85% on a scale from 80 to 100.
- Bottom Center Screenshot:** Titled "Visualizzazione scaffali" (Shelf Visualization), it shows a detailed view of a specific shelf (J1) with a search function. The search results show "Ricerca di Sedia" (Search for Chair) and list three products found in the J1|3-2 position. Each product has a "RITIRA" (Withdraw) button, and there is an "APRI CORSLA" (Open Cart) button at the bottom.

WhMS (Warehouse Management System: Material control, availability, and logistics system)



IKNOW



QMS	<p>Incoming Inspection Controls</p> 	<p>In-Production Controls</p> 	<p>Non-Conformities, Complaints, Corrective and Preventive Actions</p> 	<p>APQP . FMEA . PPAP</p> 	<p>Audit Management</p> 	<p>Report 8D</p> 
CMMS	<p>Scheduled and Unscheduled Maintenance</p> 	<p>Predictive Maintenance</p> 	<p>KPI e Business Intelligence</p> 	<p>Calibration of Measurement Instruments</p> 		
HR	<p>Human Resources Management</p> 	<p>Training and Safety Management</p> 	<p>Competency Matrix and Assessment Questionnaires</p> 			

Modulo CMMS

Computerized Maintenance Management System



Thanks to the integration between iknow and Imes, it is possible to define periodic maintenance interventions, allowing a constant planning in line with the real production activity of the asset.

The screenshot displays the CMMS interface with two main panels. The left panel shows a list of maintenance plans for various assets, including details like 'Laser TRUMP WSP100', 'Laser TRUMP WSP100 + LENO WELTER', and 'Laser TRUMP WSP100'. The right panel shows a detailed view of a maintenance plan for 'Macchine plegatura acciaio' (steel folding machines), listing specific tasks such as 'Macchine plegatura acciaio', 'Macchine plegatura acciaio', and 'Macchine per trancio lamiera'. A sidebar on the right shows a 'Segnalazione Guasto' (Fault Report) form with fields for 'Entità', 'Autore Segnalazione', 'Descrizione Sintetica', 'Anomalia', 'Data Segnalazione', and 'Stato Segnalazione' (Aperta).

CMMS:

- Management of Company Assets (machines, plants, equipment, measuring instruments, etc.)
 - Specification of Planned Maintenance Plans
 - Monitoring and Fault Management
 - Intervention and Control Planning (mandatory) for Operators
 - Schedule Management of Interventions via Web Interface or Mobile App
 - Activity Reporting through Web Interface or Mobile App

Modulo QMS

Quality Management System



SPECIFICA DEI CONTROLLI DELLE DUE ORE OT-CT-CQ

N° 726

Pag. 1 di 1

CLIENTE
1098000173 - S.P.A. ()

ARTICOLO

N° Comm.
20181820

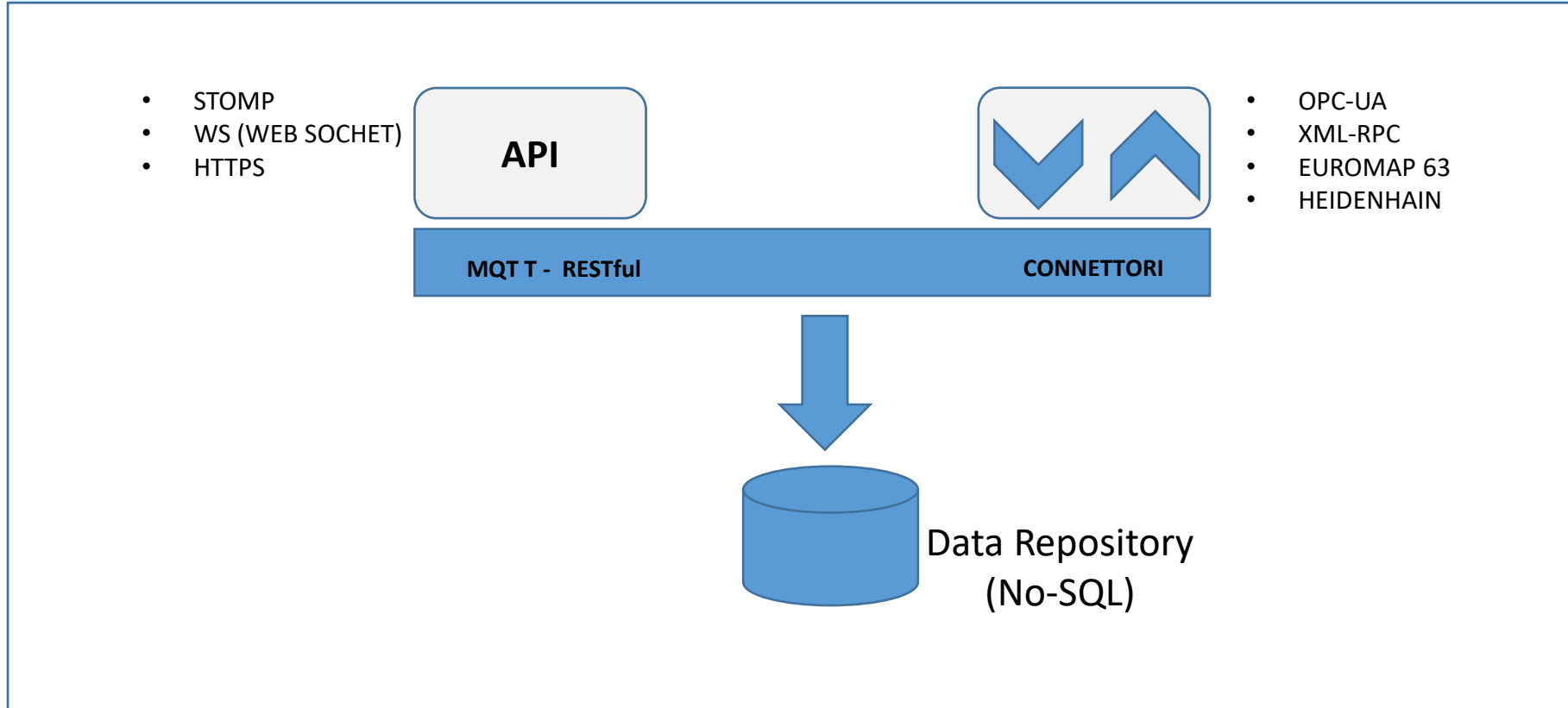
Nota: ad ogni ripartenza vengono rifatti i campioni e le prime 5 stampate (10pz.) devono essere accantonati per analisi CQ

Controllo	LSI	MIN	MAX	Frequenza	Tipo	Articolo	CHK.1	CHK.2	CHK.3	CHK.4	CHK.5	CHK.6	CHK.7	CHK.8	CHK.9	CHK.10	CHK.11	CHK.12	CHK.13	CHK.14	CHK.15		
1. DATI DEVONO ESSERE AGGIORNATI				AVVIO	VISUALE		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
2. CODICE E/O VERSIONE DEVONO ESSERE AGGIORNATI				AVVIO	VISUALE		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3. NON CI DEVONO ESSERE BAVE, ETIRI, SPRAZZI, TRAGGI O MACCHIE DI MATTE NEL PIZZO				100% / 2s	VISUALE		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
4. PIZZO DEVE ESSERE COMPLETO DI OGNI SUA PARTE				100% / 2s	VISUALE		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
5. LA FINESTRELLA DEVE CHIEDERSI IN MODO O CORRETTO E DEVE ESSERE COMPLETA				100% / 2s	VISUALE		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
6. IL PARTITOLARE SI DEVE AGGIANTARE ALL' APPONITA BASE DI MODO NATURALE SENZA FOLLAURA				2s - 1 stampato	MANUALE		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

The QMS module in iKnow allows the planning and execution of quality checks on products and materials, starting from acceptance of goods, in-process/production controls, and concluding with final inspections as a release before shipment.

iMES System Integration

Broker & Edge Between Machines and iMES Platform

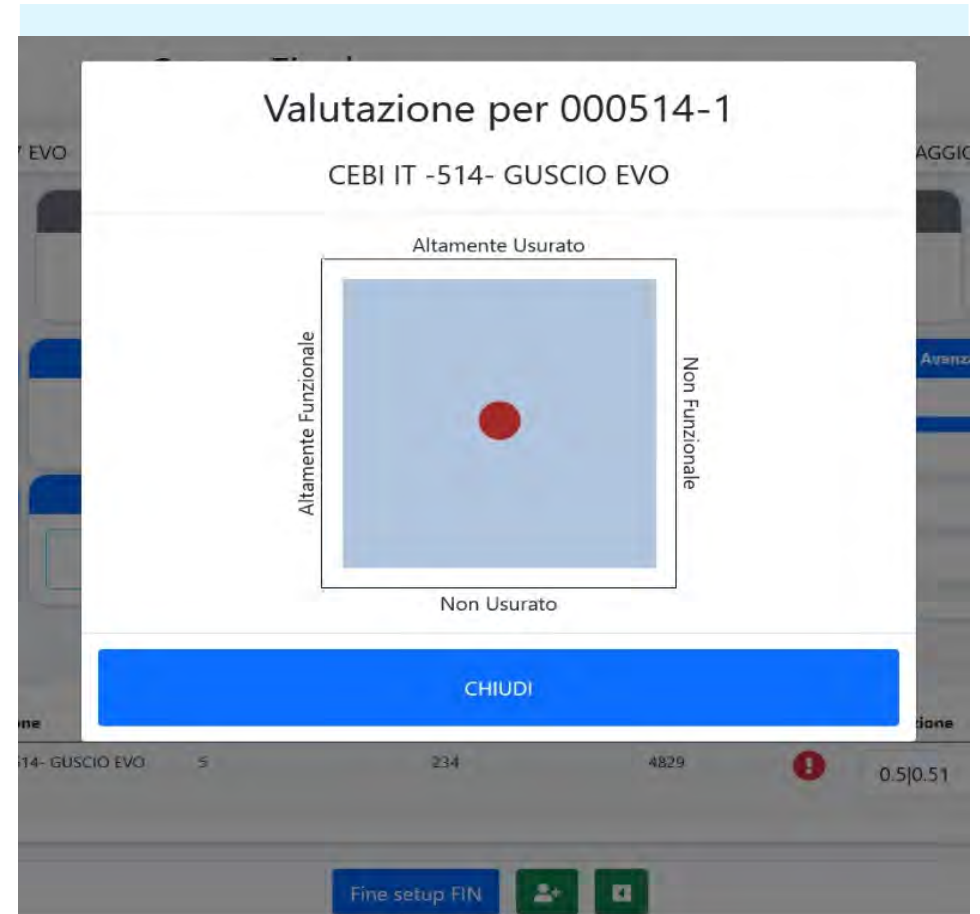


Enables Industry 4.0 integration with machines, using specific protocols. MQTT methodologies and REST services allow integration with third-party applications.

MOM - Manufacturing Intelligence

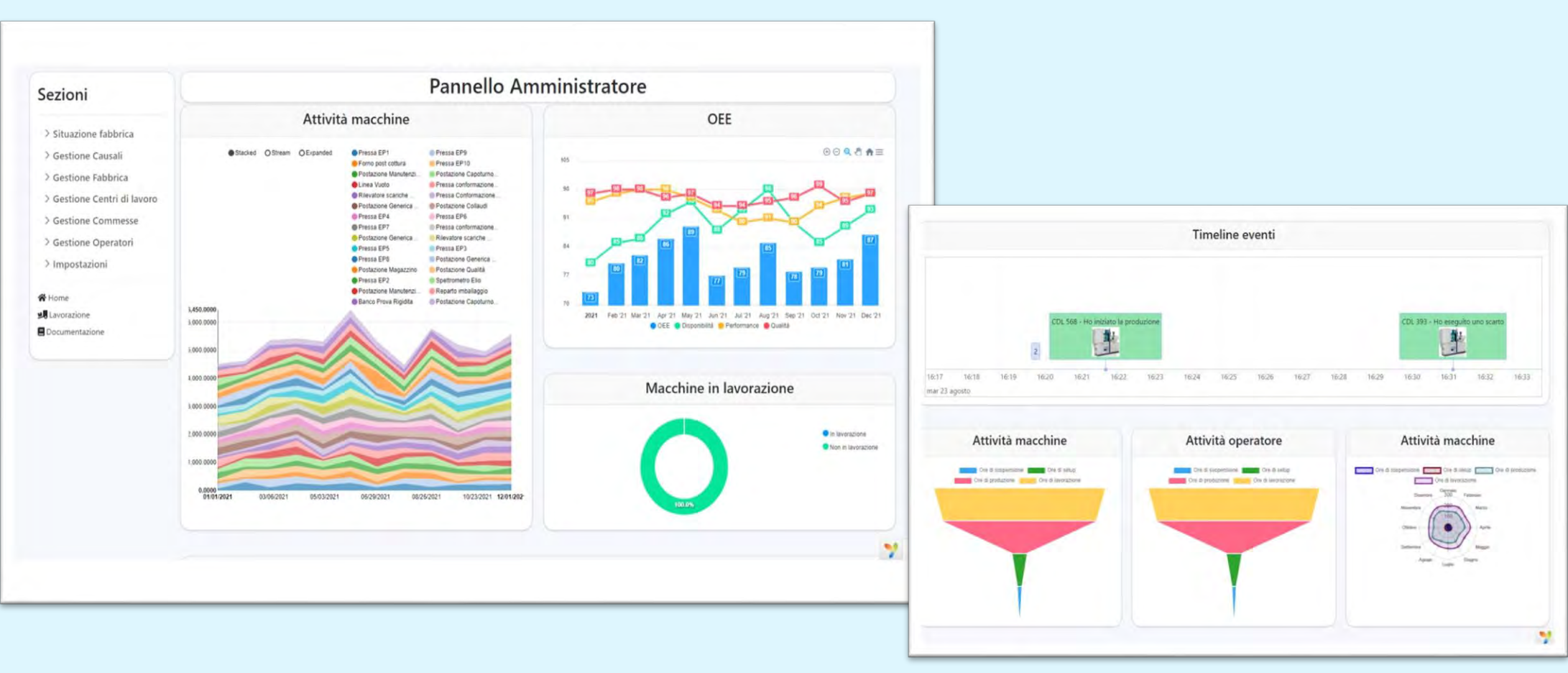


Reporting of Failures, Anomalies, Regular and Unscheduled Maintenance



AI-Based Systems using Machine Learning for Predictive Classification and Regression Models

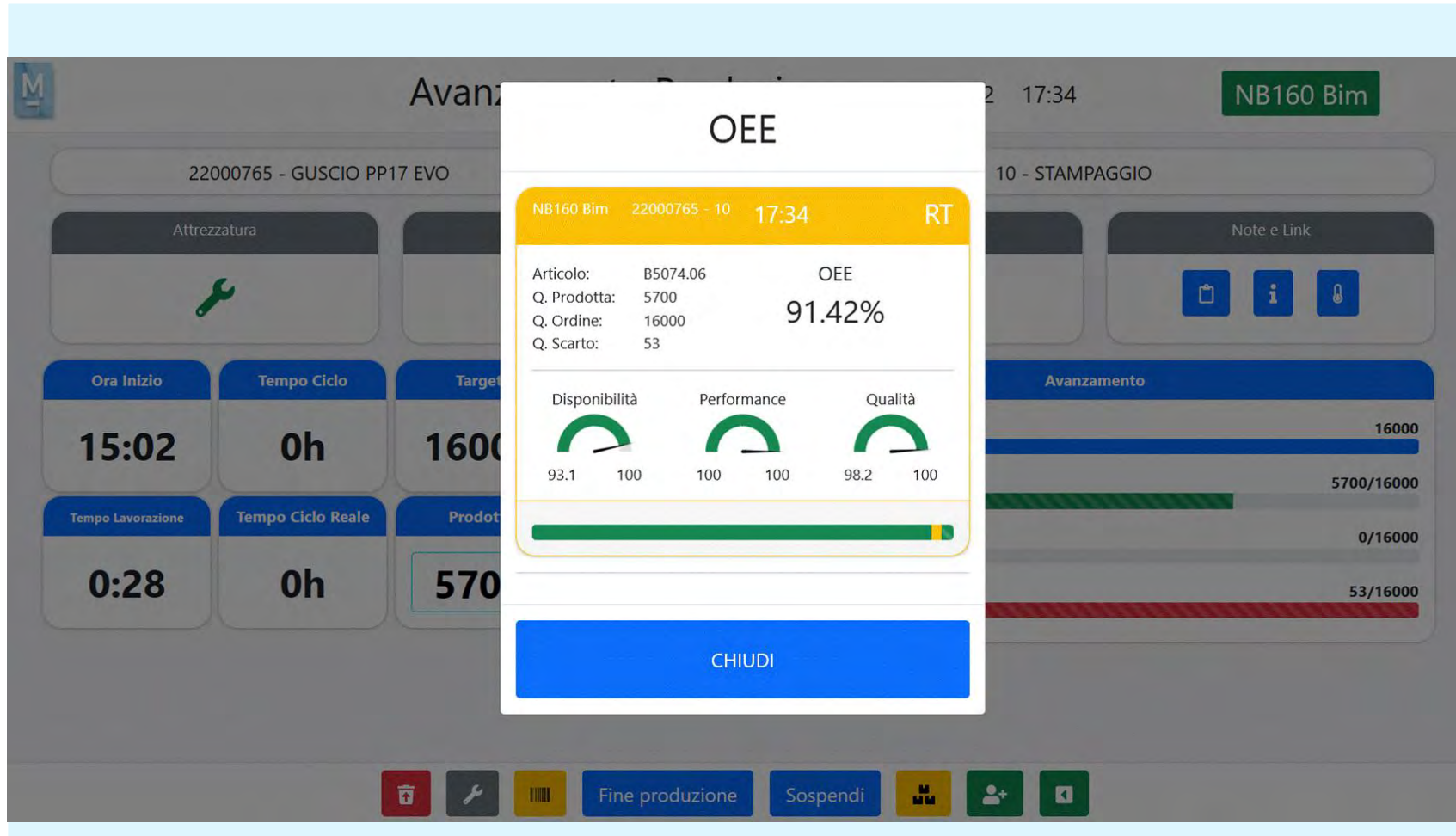
Local Performance Analytics



Allows MES Management (setup totems, flows, etc.). Monitors machine performance and event timelines.



Performance Analytics



Operator-Machine Interface for Monitoring and Control (displaying OEE - Overall Equipment Effectiveness)



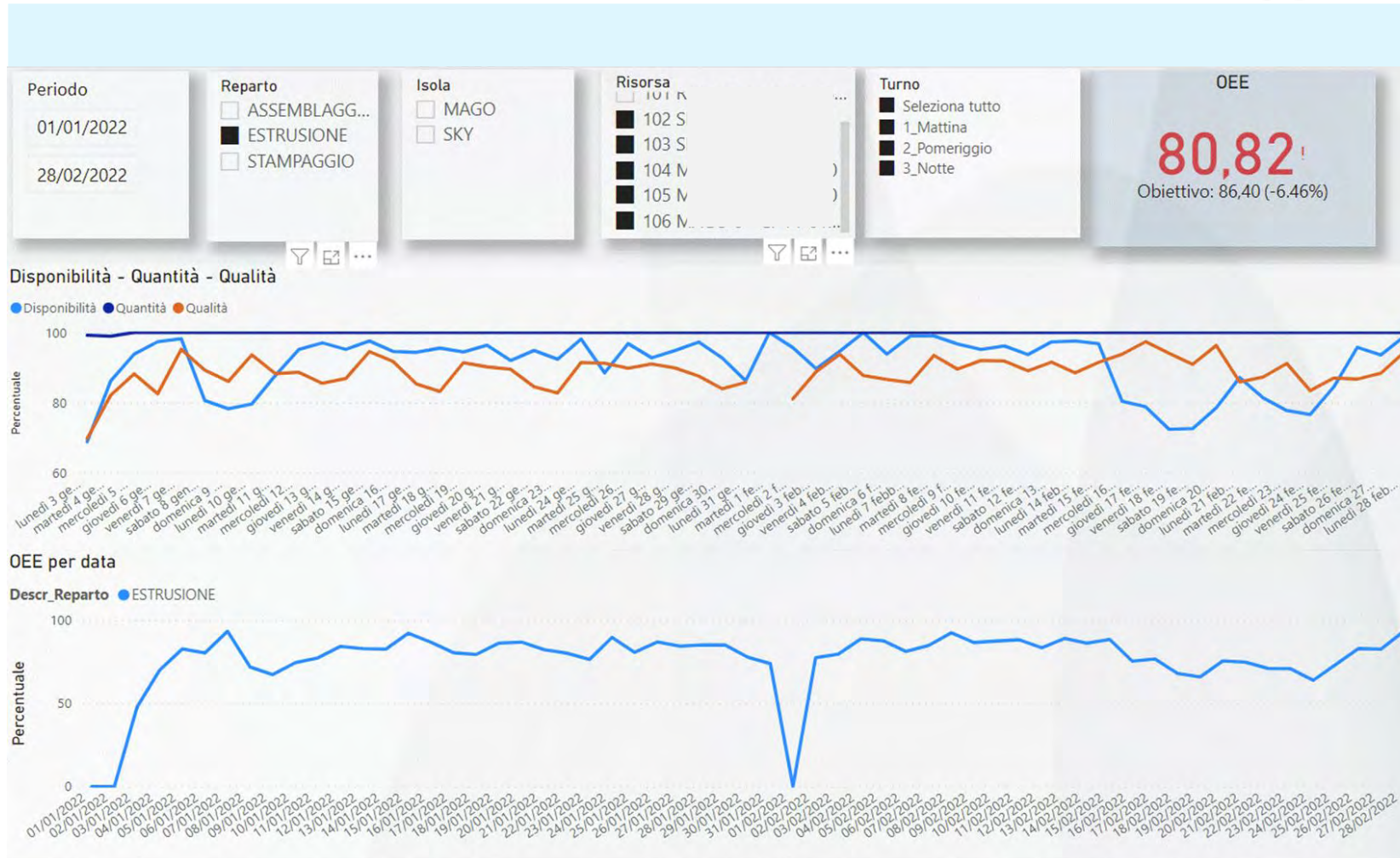
Data Analysis



Data Analysis for Company/Department/Machines



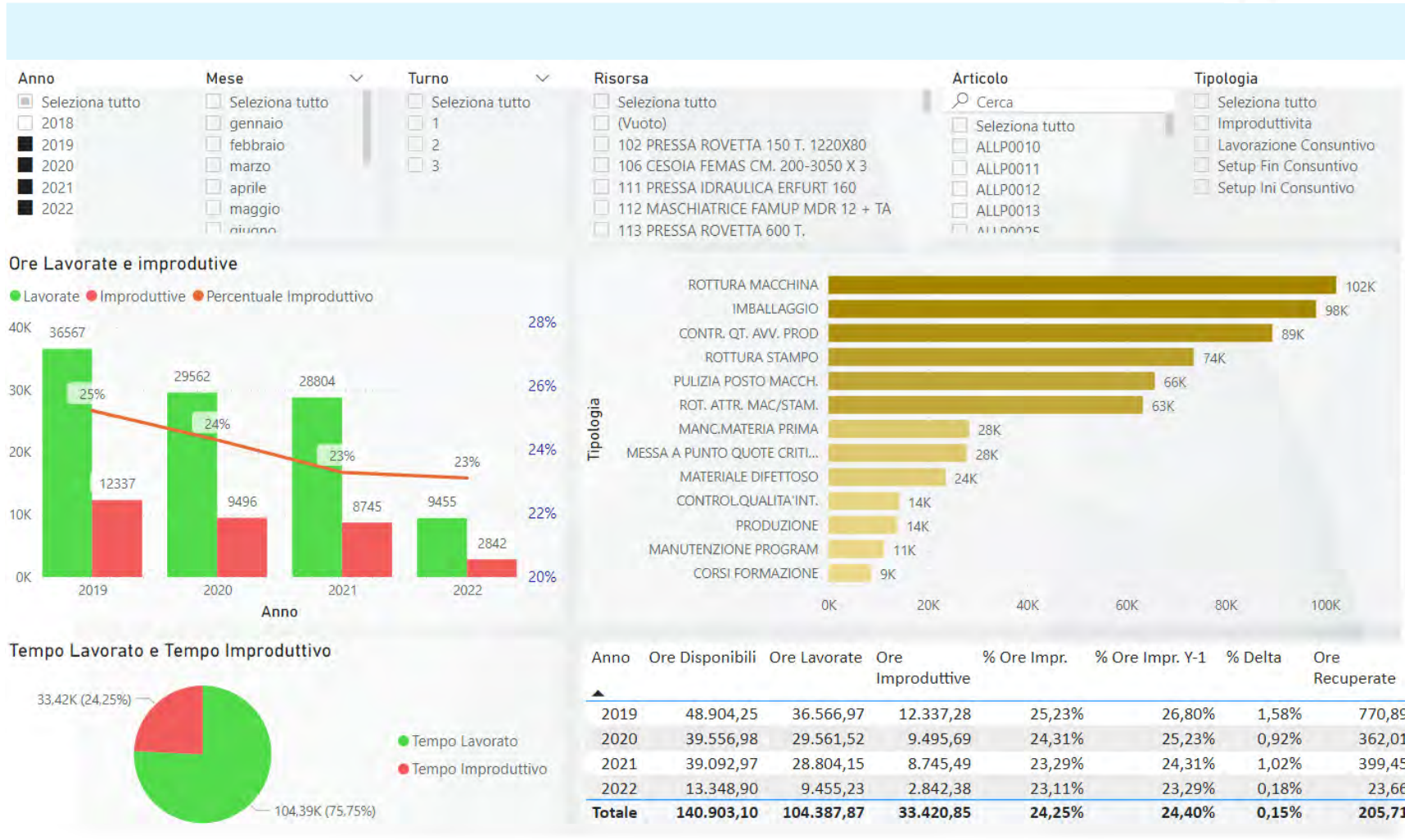
Data Analysis



Analytical Analysis of OEE Composition



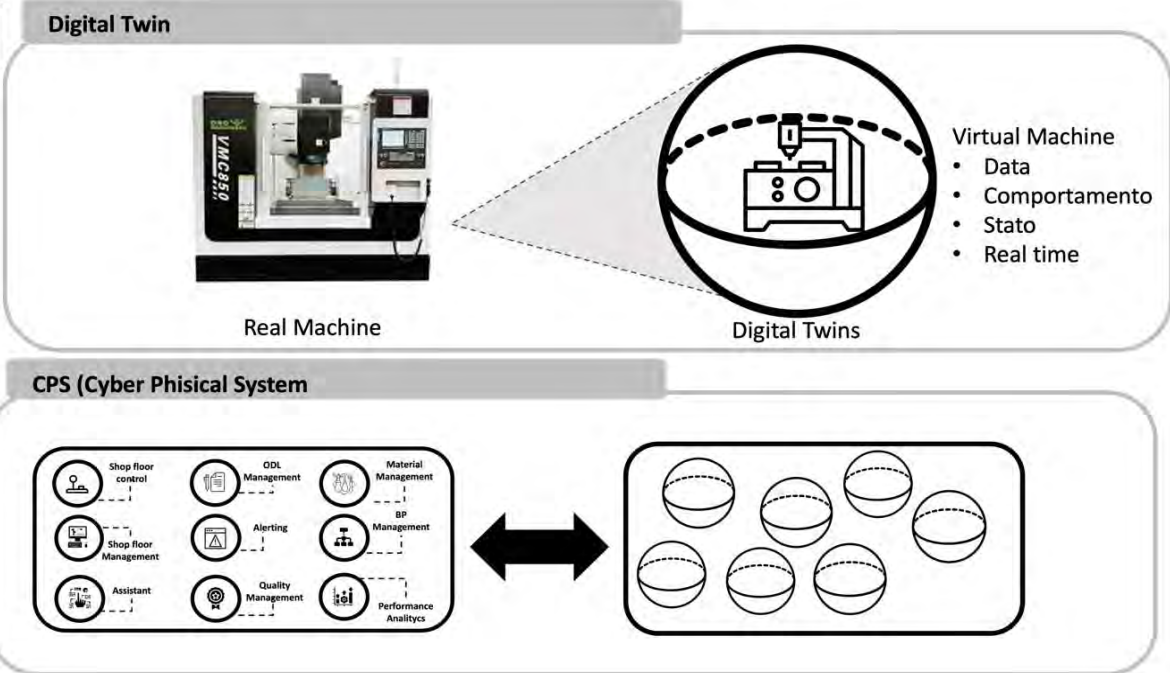
Data Analysis



Monitoring of Inefficiency Trends

MES - Cyber Physical System

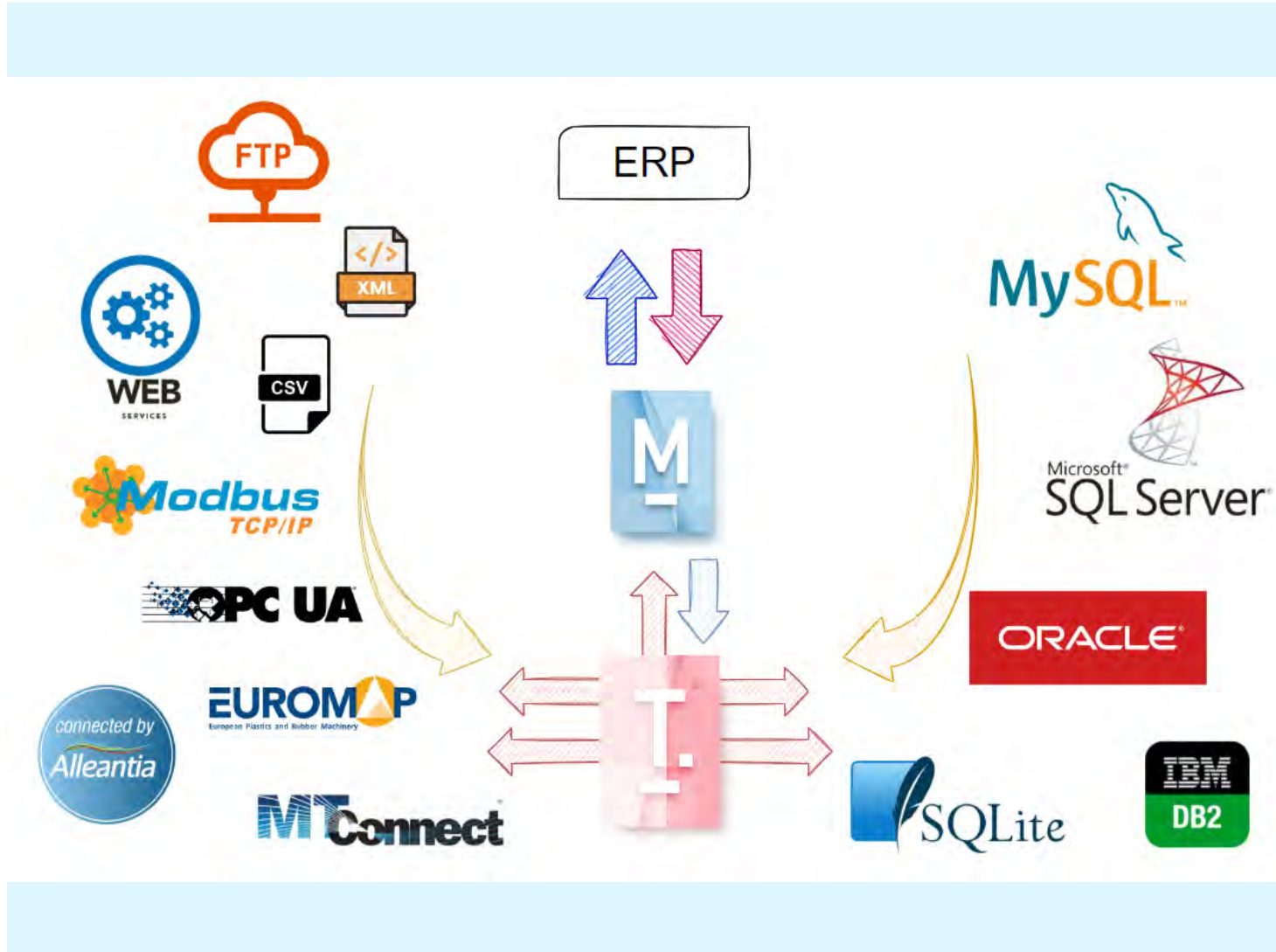
M.E.S.
Ecosystem



Cyber Physical System: Real-Time Process Control

For each hardware component (**physical**), a corresponding software part (**cyber**) is identified. Specifically, each machine is associated with a digital twin. Thanks to this approach, communication between different parts can occur in real-time, making the system responsive and autonomous, capable of making the best strategic decisions possible.

MES - Interconnection and Bidirectional Data Exchange





MES: Application Examples

Monitoring, Event Recording and Event Response

Dati di: 3 Linea Estrusio

Dati di: 131 Forno tempera EFCO F38 Energymeter alle 10:11

NUM	DATA_ORA	codcom	Macchina	Tensione_UL1_N [V]	Tensione_UL2_N [V]	Tensione_UL3_N [V]	Corrente_L1 [A]	Corrente_L2 [A]	Corrente_L3 [A]	Fattore DiPotenzaComplessivo_L1L2L3	Frequen [Hz]	1	DATA_ORA	codcom	#Virt Contametri totale	Weight_per_meter_Act	Weight_per_hour_Line_Act	Weight_per_hour_Line_Se
1	2023-03-08 10:11:19	23002266	F38	232.5067	230.0402	232.6306	358.2584	355.9992	323.8681	0.3398457	50.01954	3	2023-03-07 16:11:02	23000976	12874534903	0.07102186	340.1	340.0
2	2023-03-08 10:10:51	23002266	F38	232.5675	230.4808	231.9871	252.244	245.2211	248.7386	0.2762793	50.0	2	2023-03-07 16:13:04	23000976	12874616697	0.070994176	339.9	340.0
3	2023-03-08 10:10:24	23002266	F38	231.8439	229.1548	232.1557	385.6304	383.3658	352.3613	0.340419	49.99023	4	2023-03-07 16:09:02	23000976	12874453270	0.070993364	340.30002	340.0
4	2023-03-08 10:09:52	23002266	F38	233.4532	231.7019	232.0957	193.97	191.0264	188.2976	0.1577489	49.98048	5	2023-03-07 16:06:59	23000976	12874371797	0.07098156	339.7	340.0
5	2023-03-08 10:09:25	23002266	F38	231.3199	228.572	228.5986	352.6368	350.7224	348.1207	0.1457974	49.98048	6	2023-03-07 16:04:55	23000976	12874290489	0.07099454	340.1	340.0
6	2023-03-08 10:08:56	23002266	F38	234.0606	232.5961	232.7772	150.647	144.8621	144.6862	0.1331306	49.98048	7	2023-03-07 16:02:56	23000976	12874209345	0.07093725	339.4	340.0
7	2023-03-08 10:08:28	23002266	F38	233.8757	231.9735	232.639	184.167	177.5055	178.4333	0.2187915	49.97072	8	2023-03-07 16:00:53	23000976	12874128361	0.071001664	340.30002	340.0
8	2023-03-08 10:08:00	23002266	F38	232.4648	230.1073	232.9637	356.9396	356.1364	324.2428	0.3393755	49.97072	9	2023-03-07 15:58:52	23000976	12874047540	0.0710309	340.1	340.0
9	2023-03-08 10:07:32	23002266	F38	233.9173	231.9177	233.0924	229.2569	222.0514	224.7361	0.2624662	49.97072	10	2023-03-07 15:56:51	23000976	12873966880	0.07099248	340.1	340.0
10	2023-03-08 10:07:04	23002266	F38	231.8156	229.0678	232.2711	412.0367	410.8154	379.0306	0.3418445	49.96097	11	2023-03-07 15:54:49	23000976	12873886382	0.070993036	339.80002	340.0
11	2023-03-08 10:06:36	23002266	F38	231.6841	229.0108	232.0473	385.8471	384.0628	352.3351	0.3407329	49.95122	12	2023-03-07 15:52:49	23000976	12873806047	0.07100078	340.1	340.0
12	2023-03-08 10:06:08	23002266	F38	233.298	231.6422	232.0944	191.1227	188.634	186.2427	0.1571179	49.96097	13	2023-03-07 15:50:48	23000976	12873725871	0.07101183	340.0	340.0
13	2023-03-08 10:05:40	23002266	F38	233.8221	232.4591	232.7292	151.2468	146.1879	145.8091	0.1352564	49.94147	14	2023-03-07 15:48:48	23000976	12873645856	0.07097487	339.6	340.0
14	2023-03-08 10:05:12	23002266	F38	234.2798	232.6587	233.0928	166.2758	160.5767	161.1502	0.1831776	49.96097	15	2023-03-07 15:46:48	23000976	12873566001	0.07100665	340.4	340.0
15	2023-03-08 10:04:44	23002266	F38	233.4224	231.7609	232.4081	185.6196	179.7934	181.3706	0.2195862	49.95122	16	2023-03-07 15:44:49	23000976	12873486305	0.07099928	339.9	340.0
												17	2023-03-07 15:42:47	23000976	12873406768	0.07098427	340.1	340.0

Dati di: 3 NB210 Bim 3 Parametri Euromap

NUM	DATA_ORA	codcom	Temperatura Fuso	Efficienza	Contapezzi	Tempo Ciclo Impostato	Num. Cavità	Stampo Attivo	Tempo Riempimento	Cuscino	Pressione Max Iniezione	Pre Sca
1	2023-03-08 09:31:14	23000194	230.0	98.1	192396	36.00	4	"1024"	2.11	10.42	96.5	83.
2	2023-03-08 09:30:53	23000194	230.0	98.1	192392	36.00	4	"1024"	2.11	10.42	96.5	83.
3	2023-03-08 09:30:14	23000194	230.0	98.0	192388	36.00	4	"1024"	2.17	10.46	96.1	82.
4	2023-03-08 09:29:28	23000194	230.1	98.0	192384	36.00	4	"1024"	2.16	10.38	96.0	82.
5	2023-03-08 09:28:46	23000194	230.0	98.0	192380	36.00	4	"1024"	2.09	10.53	97.3	84.
6	2023-03-08 09:28:08	23000194	230.0	97.9	192376	36.00	4	"1024"	2.19	10.48	96.5	83.
7	2023-03-08 09:27:28	23000194	230.0	97.9	192372	36.00	4	"1024"	2.09	10.37	96.6	83.
8	2023-03-08 09:26:48	23000194	229.9	97.9	192368	36.00	4	"1024"	2.19	10.60	96.6	83.
9	2023-03-08 09:26:28	23000194	229.9	97.8	192364	36.00	4	"1024"	2.11	10.39	96.7	83.
10	2023-03-08 09:25:53	23000194	229.8	97.7	192364	36.00	4	"1024"	2.12	10.92	97.0	85.
11	2023-03-08 09:25:09	23000194	230.0	97.5	192364	36.00	4	"1024"	2.09	10.34	96.6	83.



Event Monitoring, Recording, and Response

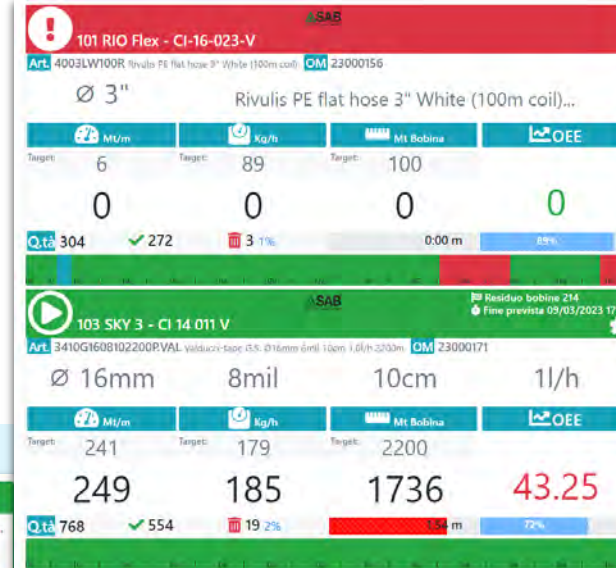
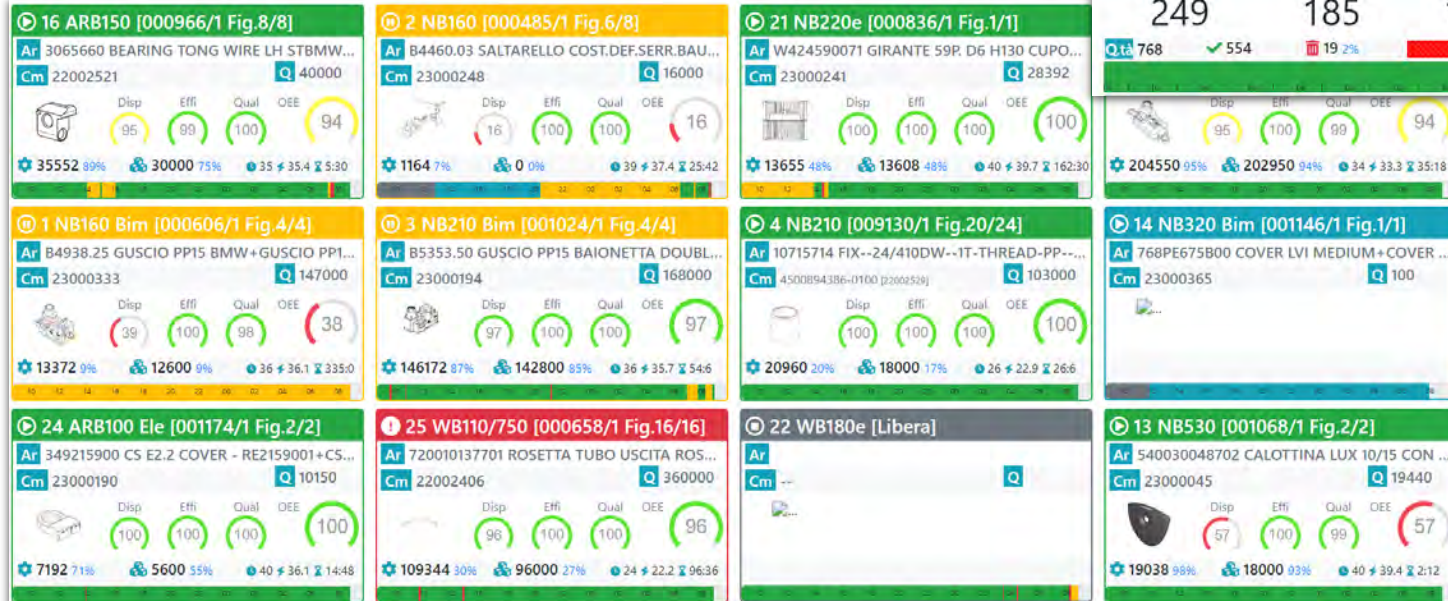
Machina	Operatore	Stato	Contatore
5 NB70 Mecc St.000796/2 T. ultima: 32.7s	1241 GIANNELLI GG SARA Peso Imballo 6,214 Kg Qta Imballo: 650pz Data Pesata: 2023-03-03 18:25:51	LAVORAZIONE Articolo: B4448.21 COPERCHIO PP17 KHG02+ Commessa: 23000422 Qta: 83200 / 29900 Cliente: Fase: 1 - STAMPAGGIO - Qta Prod: 32624 Scarti: 129 32624 / 31850 Etichette Stampate: 49 Etichette Rimanenti: 73 Pezzi da Imballare: 643 Max. Etic. da Stampare: 0 Qta Imballo: 650	Tempo Teorico Tempo medio Residuo su teorico Residuo su medio Disponibilità Efficienza Qualità
6 NB160. Bim St.000573/1 T. ultima: 35.6s	1217 SIMIN CLAUDIA ELENA Peso Imballo 3,192 Kg Qta Imballo: 800pz Data Pesata: 2023-03-03 18:10:43	LAVORAZIONE Articolo: B4646.10 SUPPORTO GOMMA X ATT. SC5 ANGOL. Commessa: 23000263 Qta: 192000 / 68000 Cliente: CEBI ITALY S.p.A. Società a Socio Unico Fase: 1 - STAMPAGGIO - Qta Prod: 71255 71255 / 68000 Etichette Stampate: 85 Etichette Rimanenti: 155 Pezzi da Imballare: 3255 Max. Etic. da Stampare: 4 Qta Imballo: 800	Tempo Teorico Tempo medio Residuo su teorico Residuo su medio Disponibilità Efficienza Qualità
9 NB110 Mecc St.000718/4 T. ultima: 35.2s	1009 PILATO NOENI Peso Imballo 5,950 Kg Qta Imballo: 560pz Data Pesata: 2023-03-07 08:39:48	LAVORAZIONE Articolo: B6769.10 COPERCHIO P110 DAIMLER - COD. D Commessa: 23000424 Qta: 16000 / 7000 Cliente: Fase: 1 - STAMPAGGIO - Qta Prod: 8936 Scarti: 95 8936 / 8000 Etichette Stampate: 16 Etichette Rimanenti: 16 Pezzi da Imballare: 841 Max. Etic. da Stampare: 1 Qta Imballo: 500	Tempo Teorico Tempo medio Residuo su teorico Residuo su medio Disponibilità Efficienza Qualità
10 NB110. Mecc St.000569/2 T. ultima: 35.5s	9005 OPER FITT SABTIN SET UP INIZIALE	SET UP INIZIALE Articolo: B7511.03 COPERCHIO PP17 M50 KHG02+ Commessa: 23000445 Qta: 60400 / 0	06:53

3	4	5
154 Wade Cheikh Articolo: TMHM001402.0R01500RF MINTUBO 10/14 R1500 BANDA ROSSA PER MULTIMINTUBO Commessa: 23000976 Qta: 1440000 / 207000 Rif Commessa: #5549537 Cliente: NEW F.O.N.T. S.P.A. Fase: 1 - Estrusione - Qta Prod: 288144 Ordinato: 1440000 m/960 pz Prodotto: 288144 m/192 pz Magazzino: 0 m/0 pz Versato: 169500 m/113 pz 960 / 0 / 113	154 Wade Cheikh 165 Dominici Pier Secondo Articolo: AHXX016012.5B00012BR TUBO PE100 DE160 PH12.5 B12 SYSTEM PIPE B. ROUGE Commessa: 23000978 Qta: 7400 / 960 Rif Commessa: #5549582 Cliente: SYSTEM GROUP SICILIA S.R.L. Fase: 1 - Estrusione SOSPESA DA LAVORAZIONE CAUSA FERMO AUTOMATICO 13:57	232 Ibishi Nedjadi Articolo: PTN1001602.0R00200PR MULTISTRATO PERT DE16 SP2 R200 NUOVO PERSONALIZZATO Commessa: 23000547 Qta: 270000 / 87800 Rif Commessa: #5535872 Cliente: PRANDELLI S.P.A. Fase: 1 - Estrusione - Qta Prod: 201038 Ordinato: 270000 m/1350 pz Prodotto: 201038 m/1005 pz Magazzino: 0 m/0 pz Versato: 104400 m/522 pz 1350 / 0 / 522
Tempo teorico Tempo medio Residuo su teorico Residuo su medio Produttività Efficienza Qualità	Tempo teorico Tempo medio Residuo su teorico Residuo su medio Produttività Efficienza Qualità	Tempo teorico Tempo medio Residuo su teorico Residuo su medio Produttività Efficienza Qualità



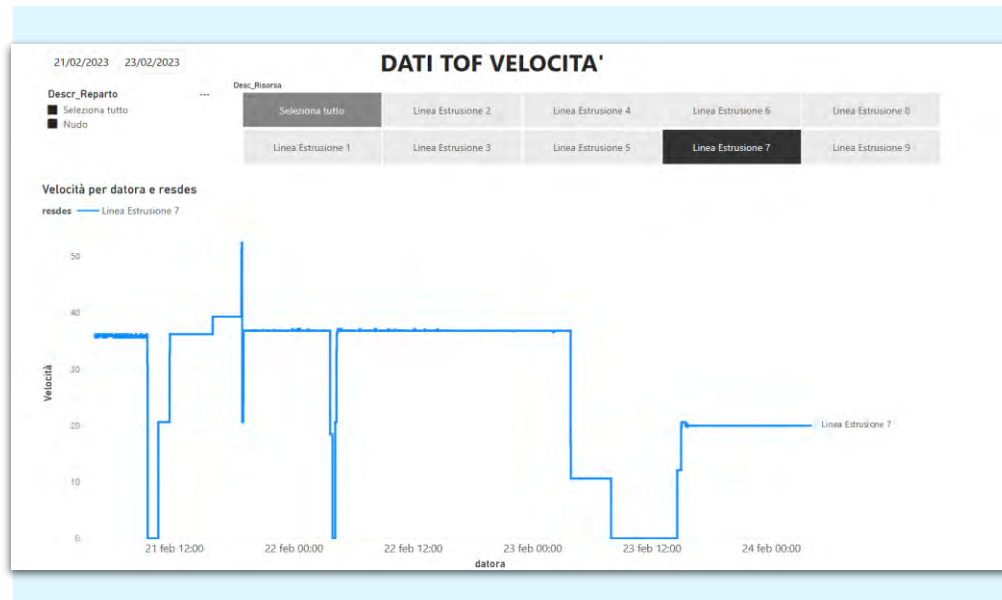
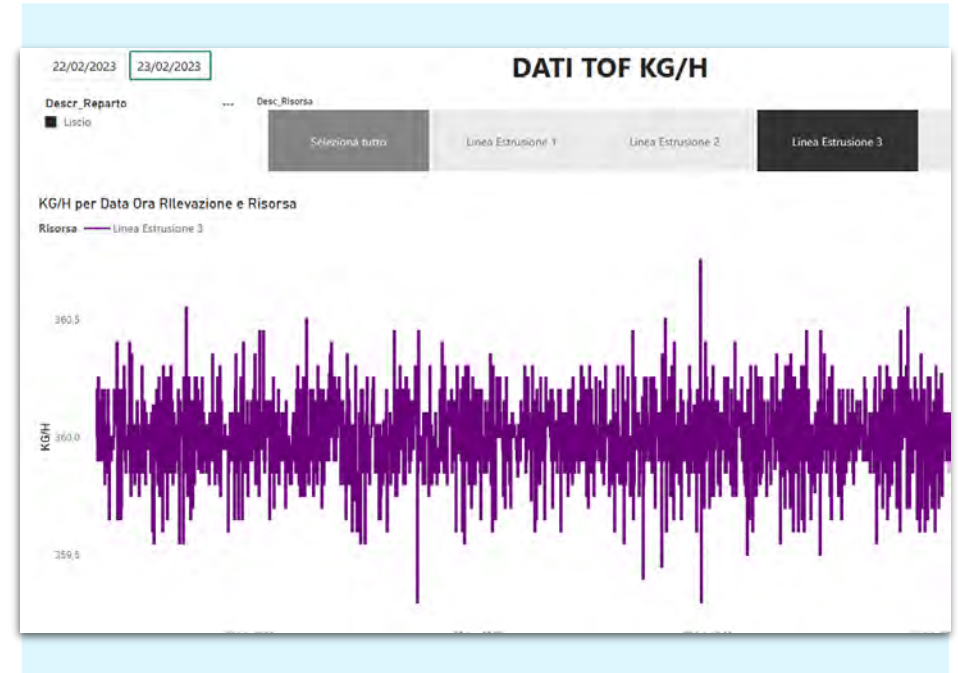
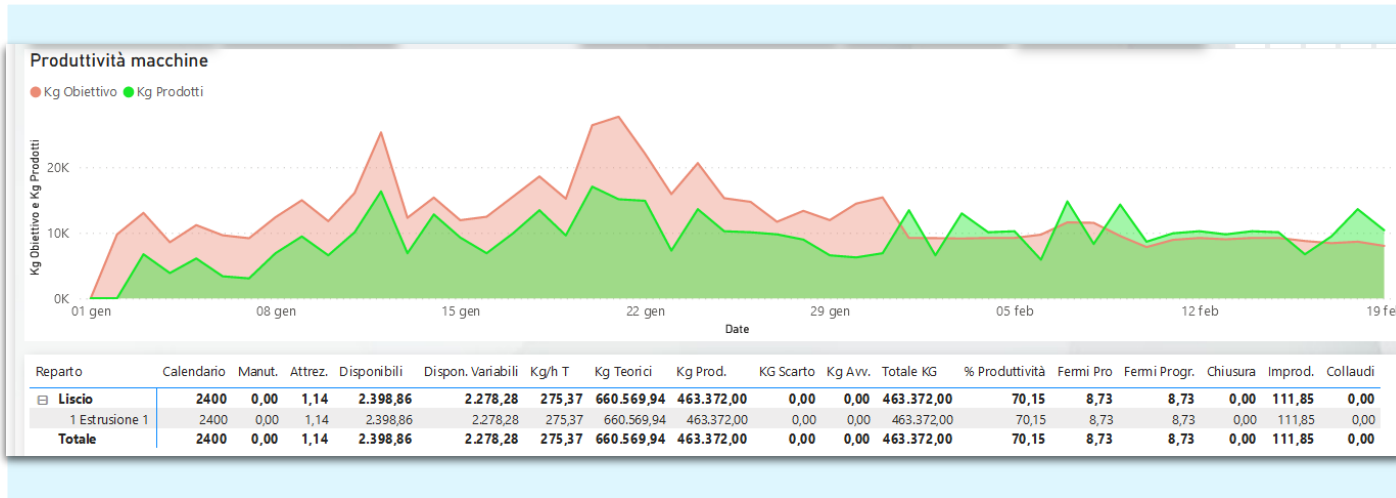


Data Visibility





Data Analysis



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