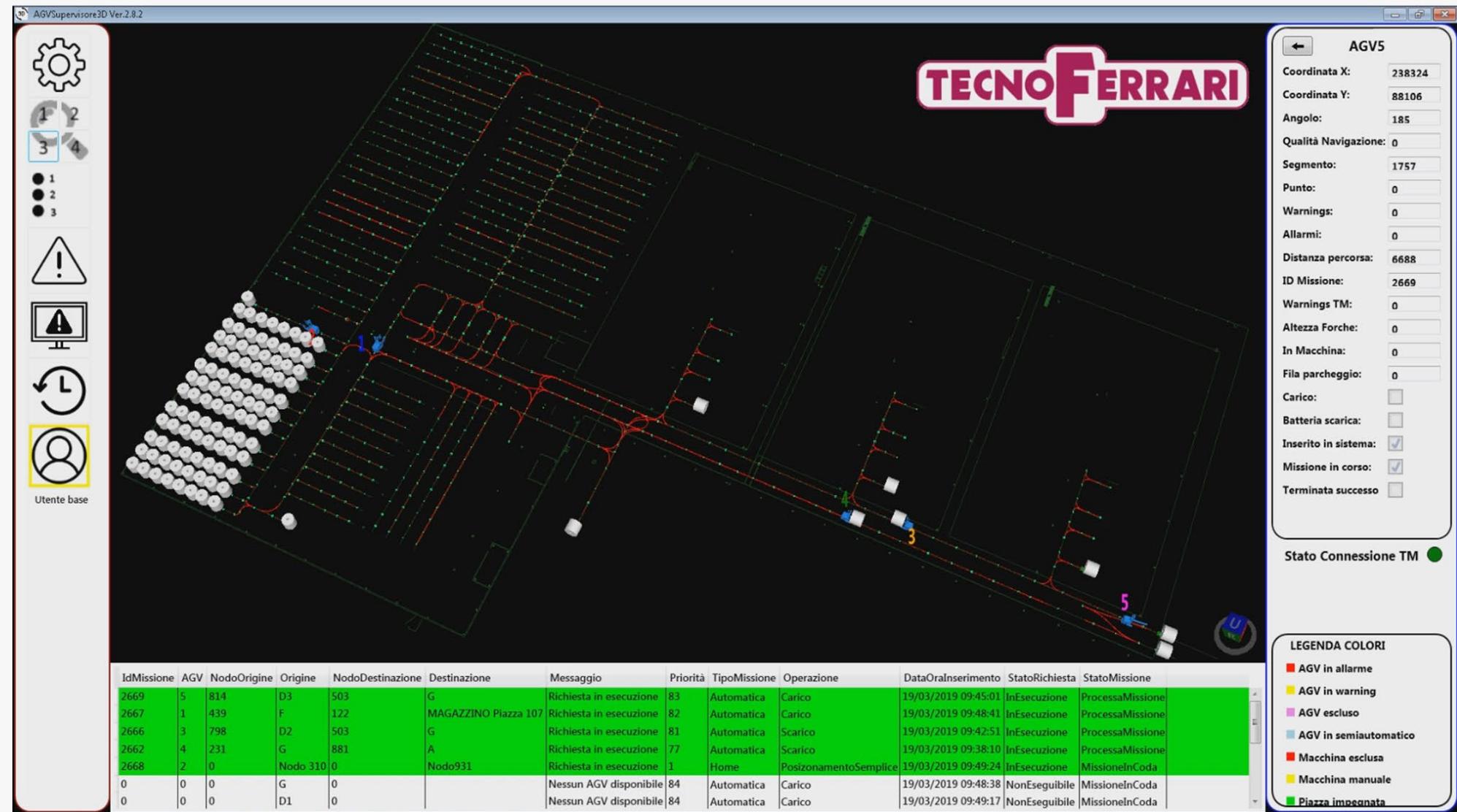


TF SIMULATION SYSTEM

TECNOFERRARI

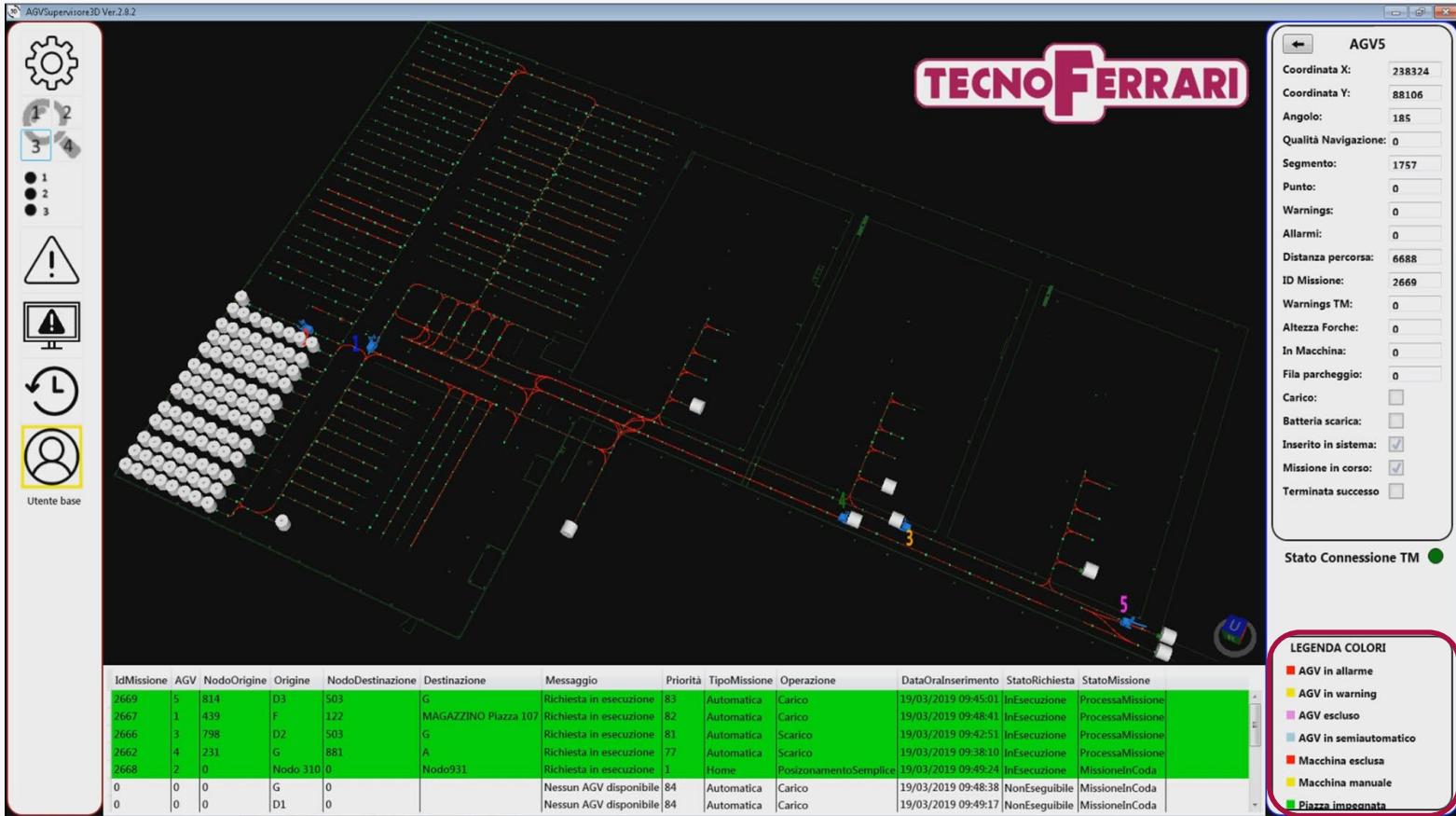
TECNOFERRARI



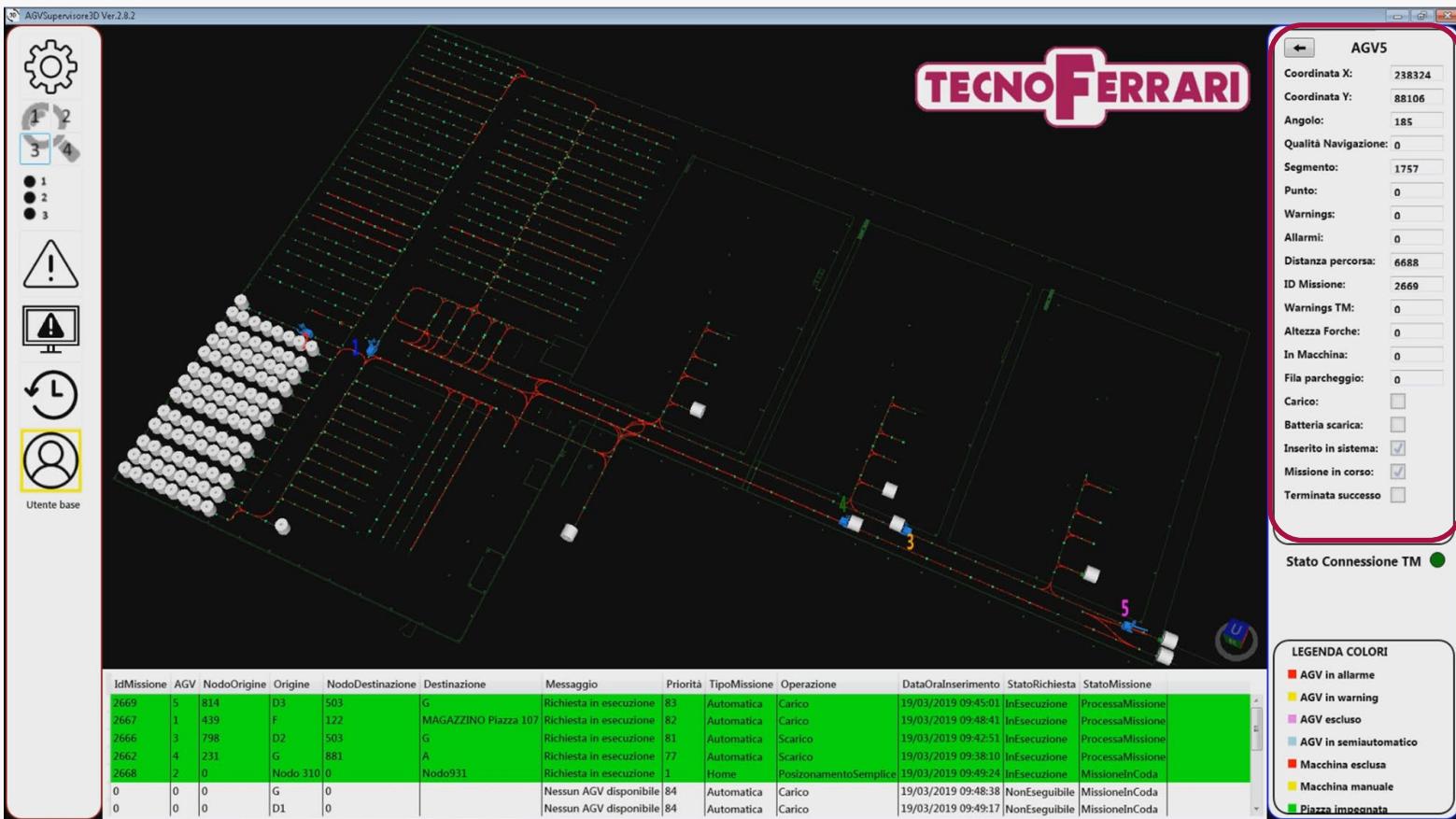
CONTROL



USERS TOOLS

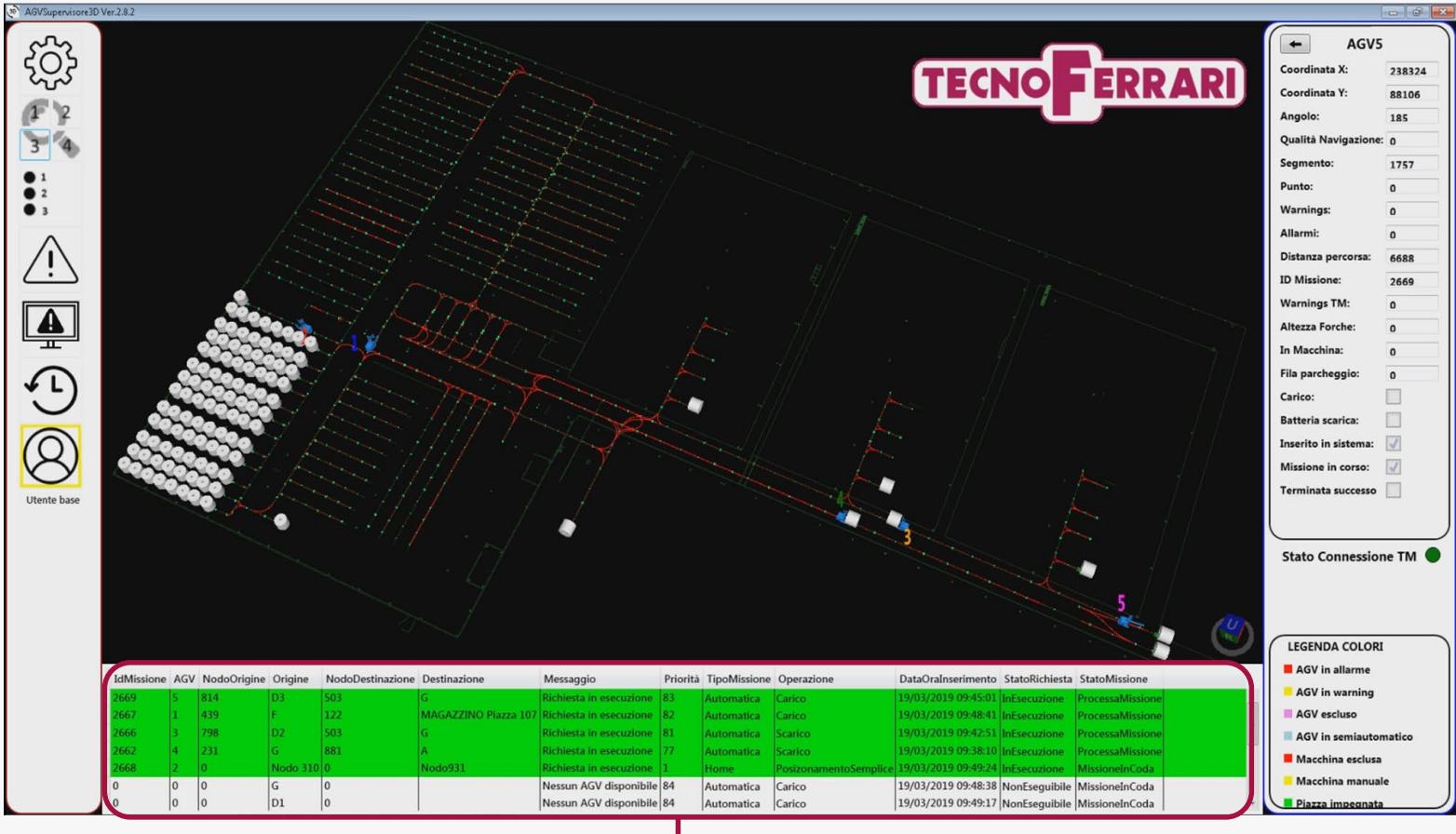


AGV color legend

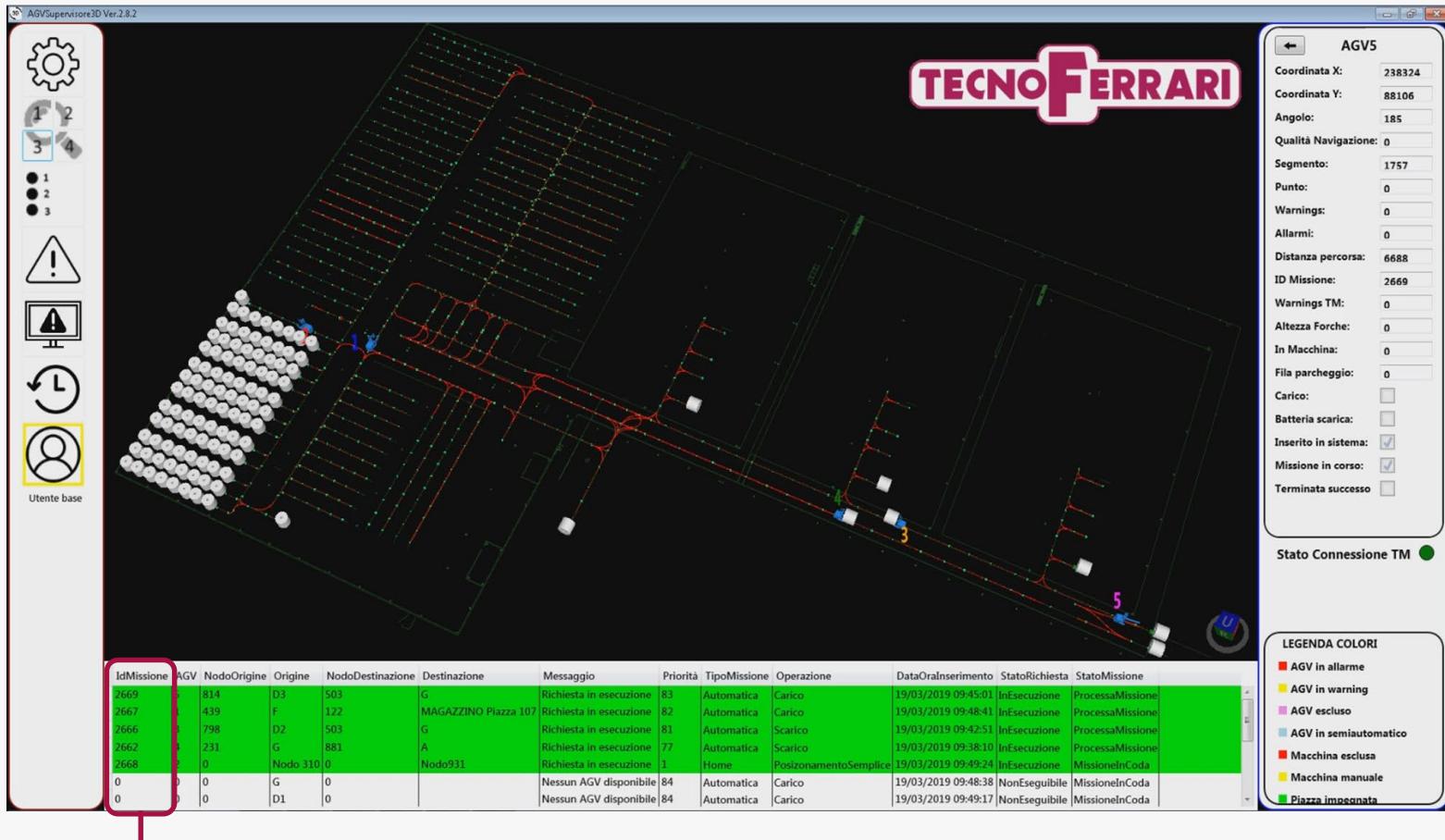


AGV status information
(coordinates, warining,
alarm...)

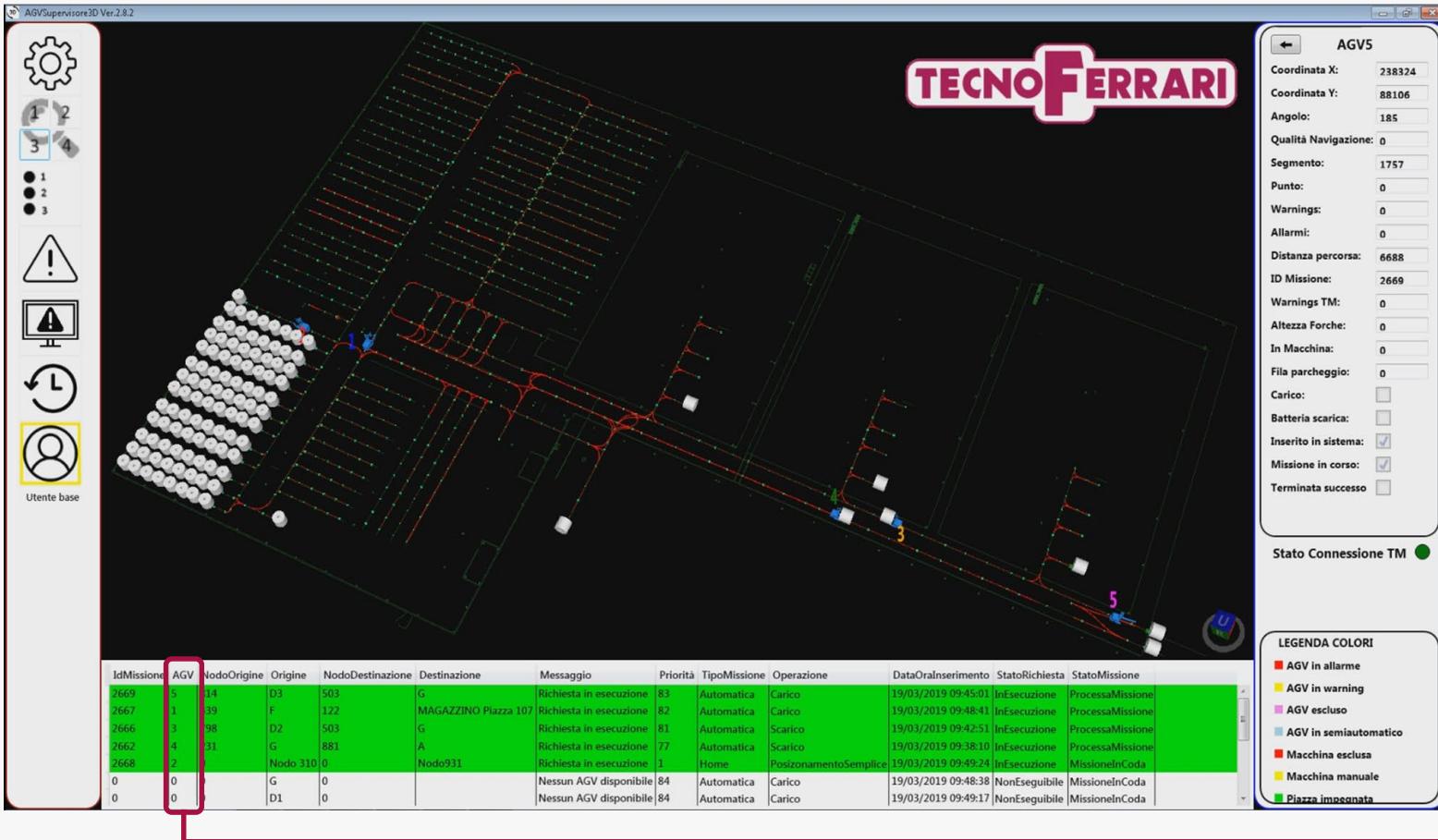
#AGV



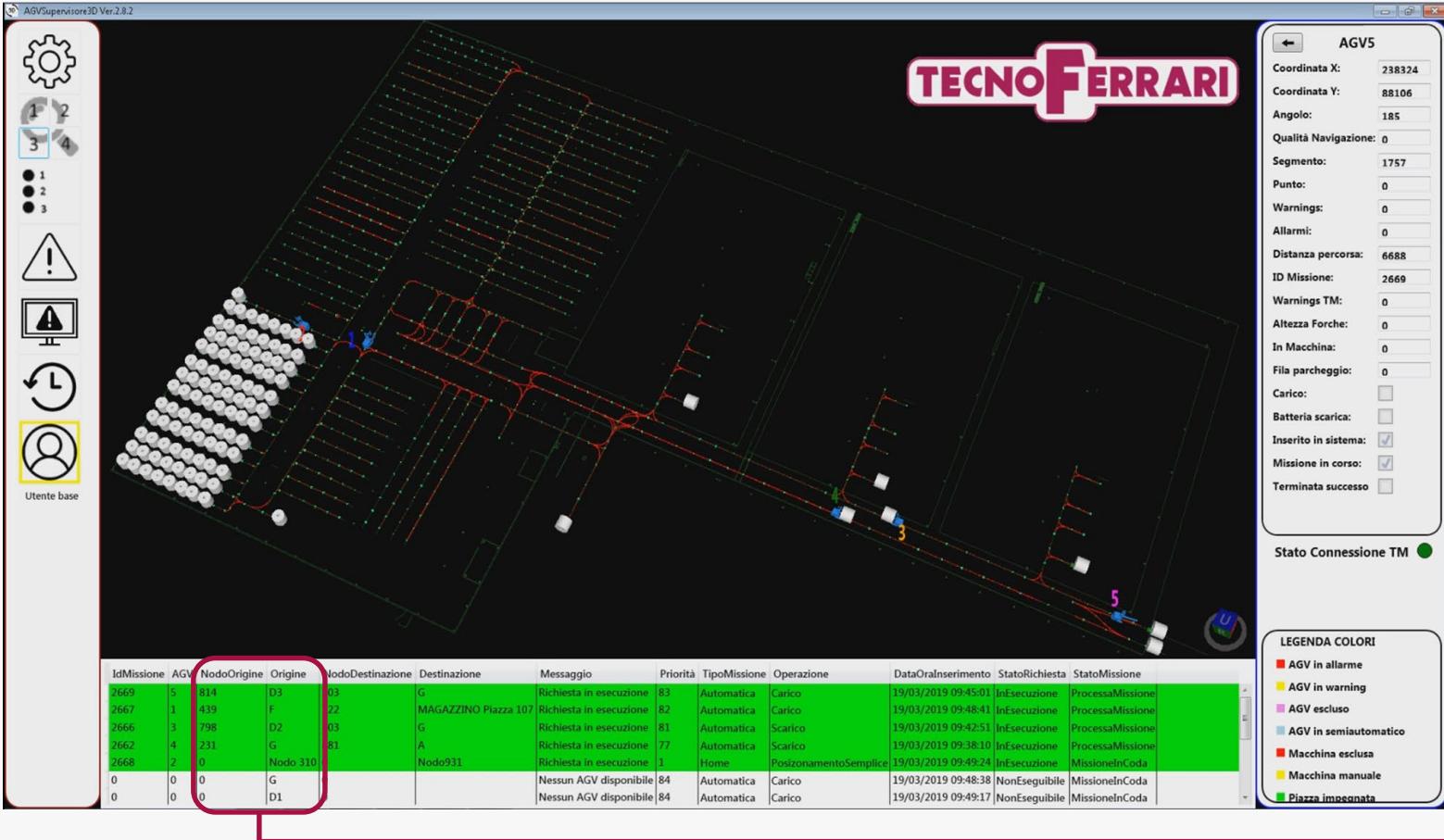
List of AGV missions
(green missions in progress)



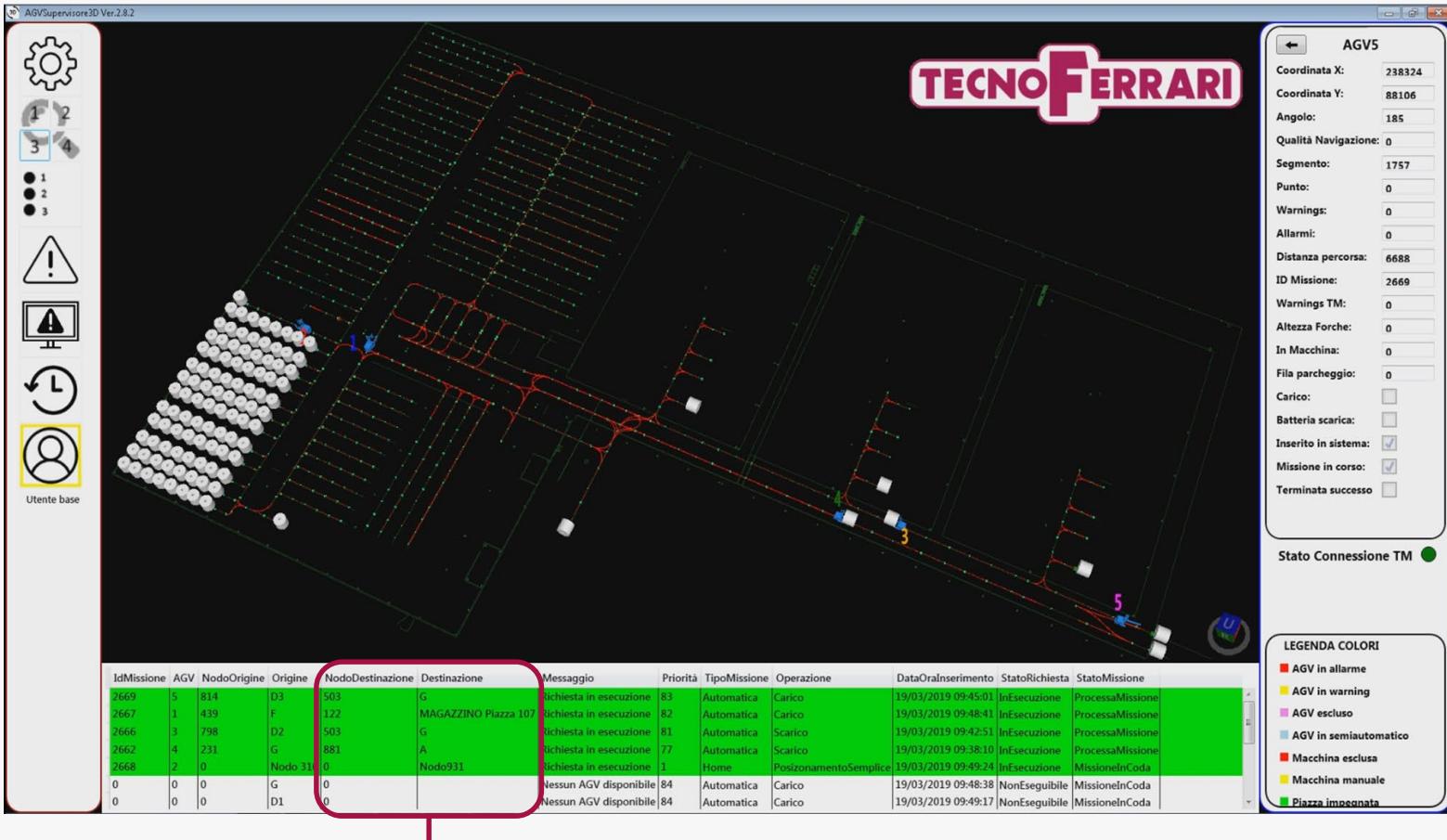
Missions ID



AGV ID

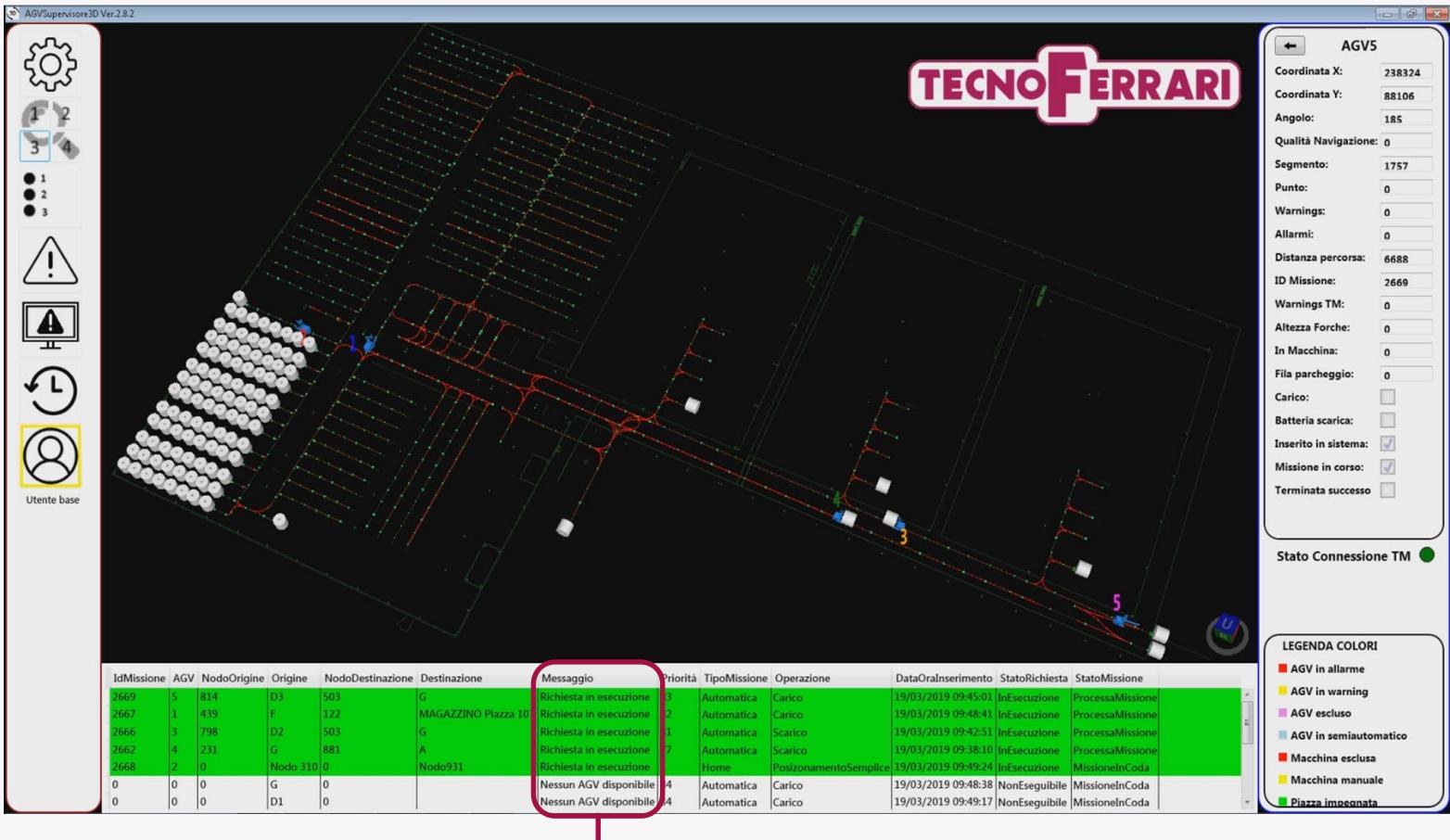


Start point:
 ▪ Logical node number
 ▪ Machine ID

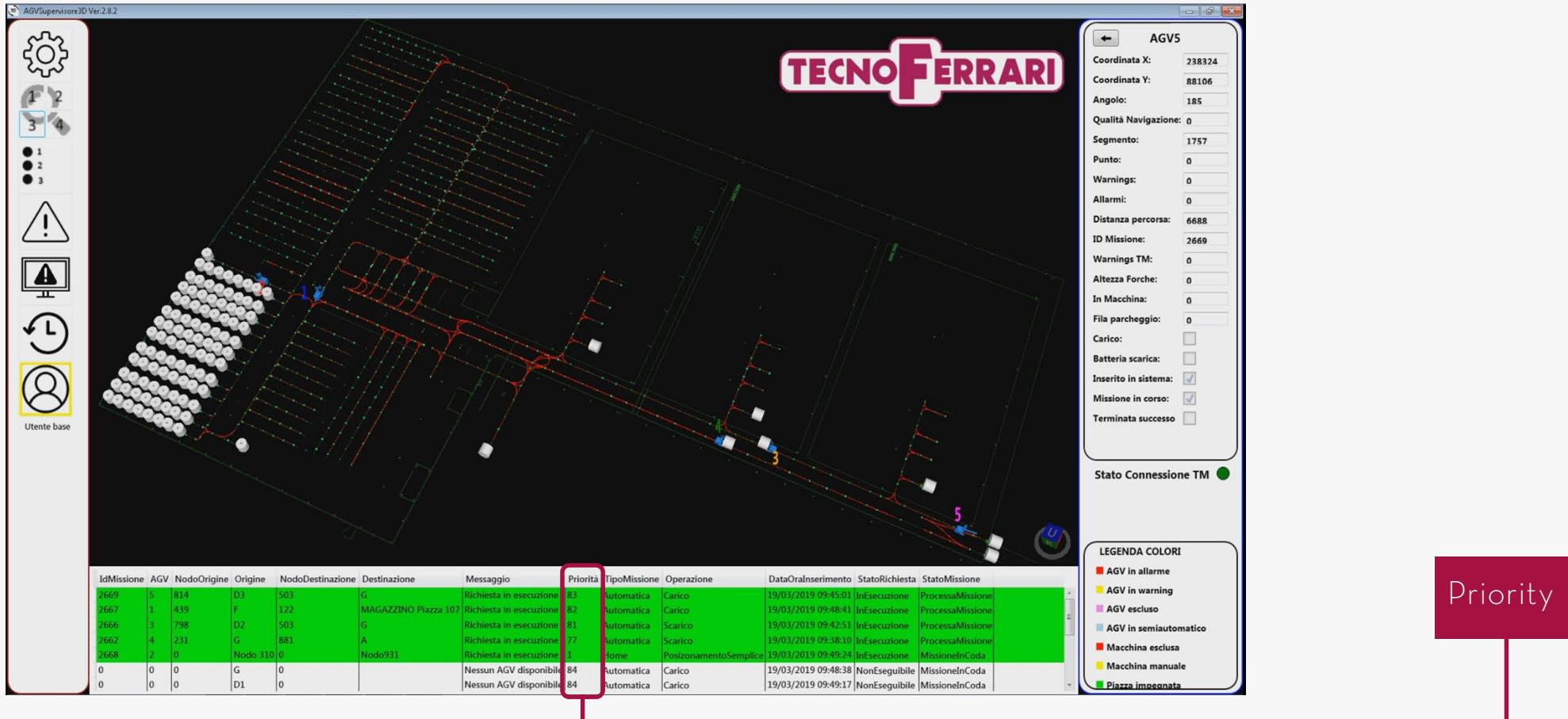


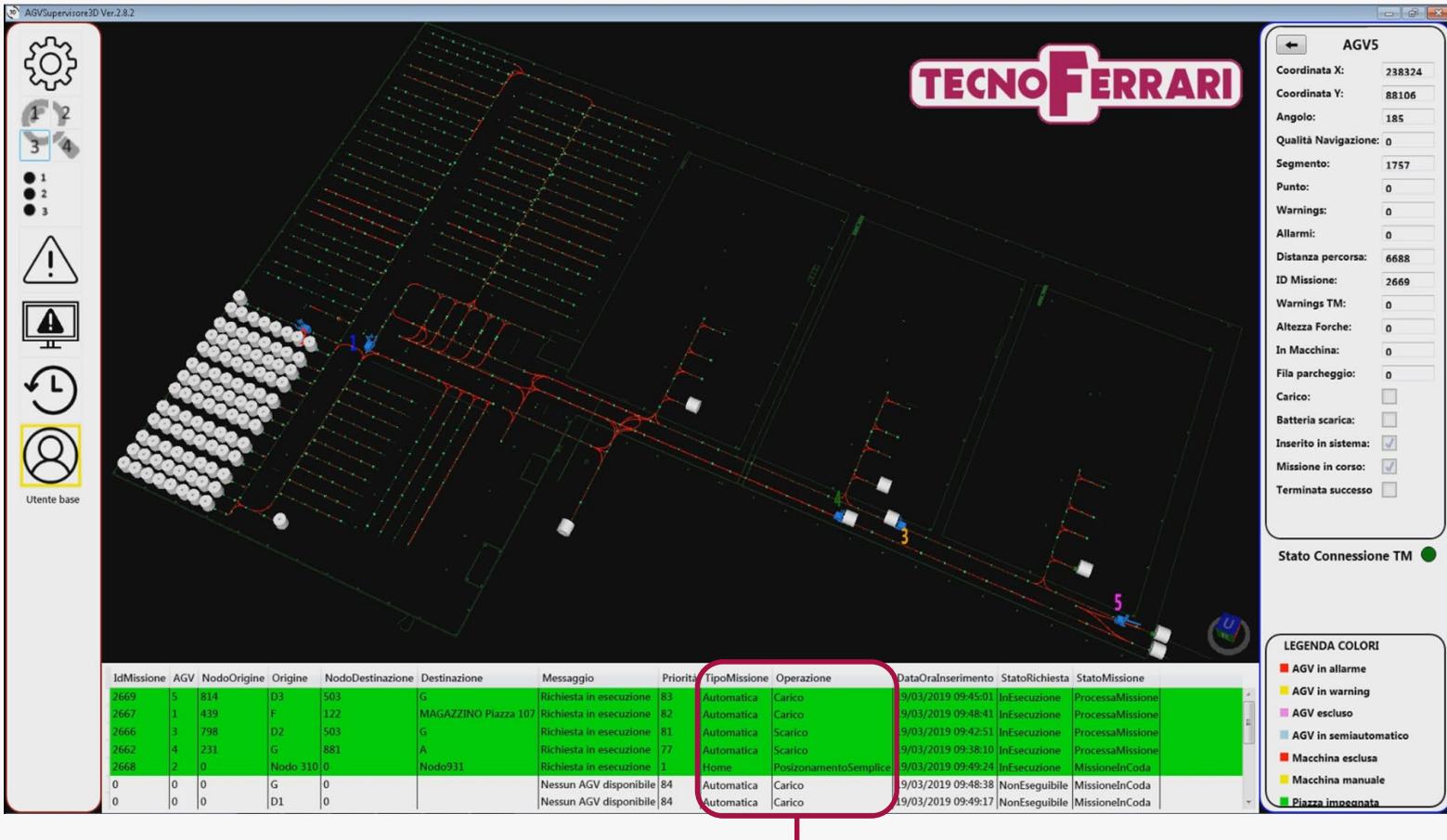
End point:
 ▪ Logical node number
 ▪ Machine ID

#MESSAGE

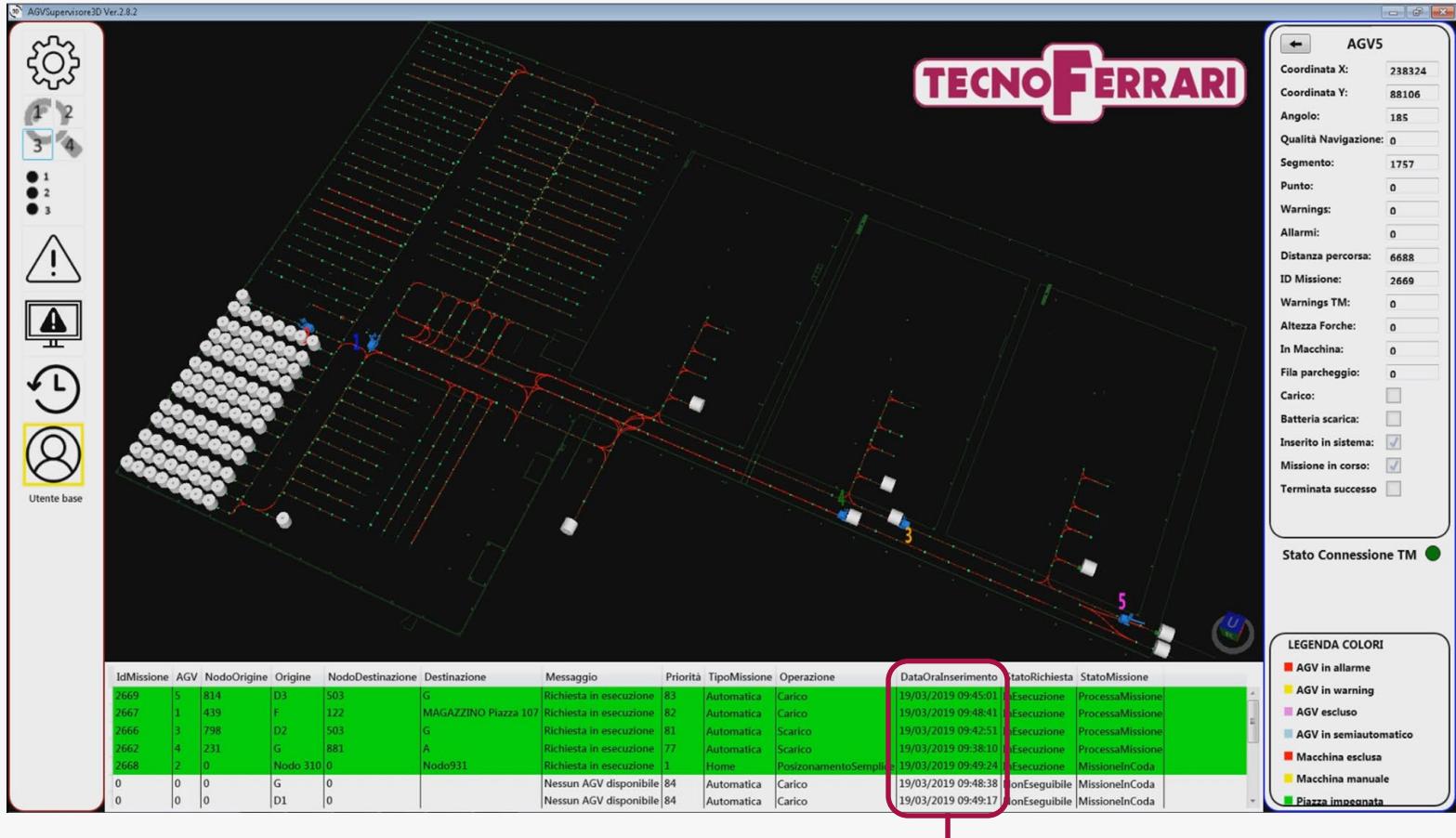


Message

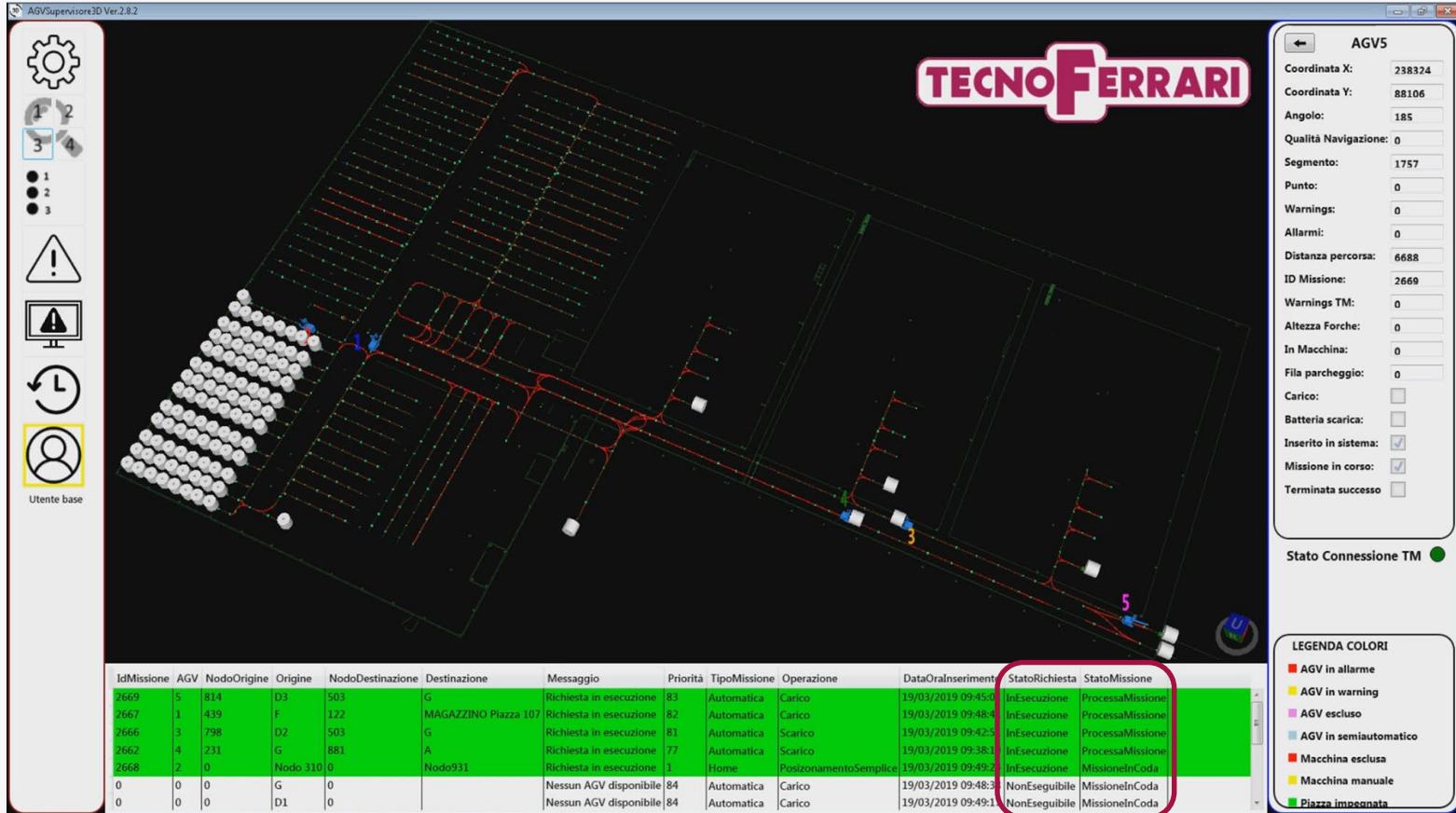




Type of missions,
description



Time and date of missions request



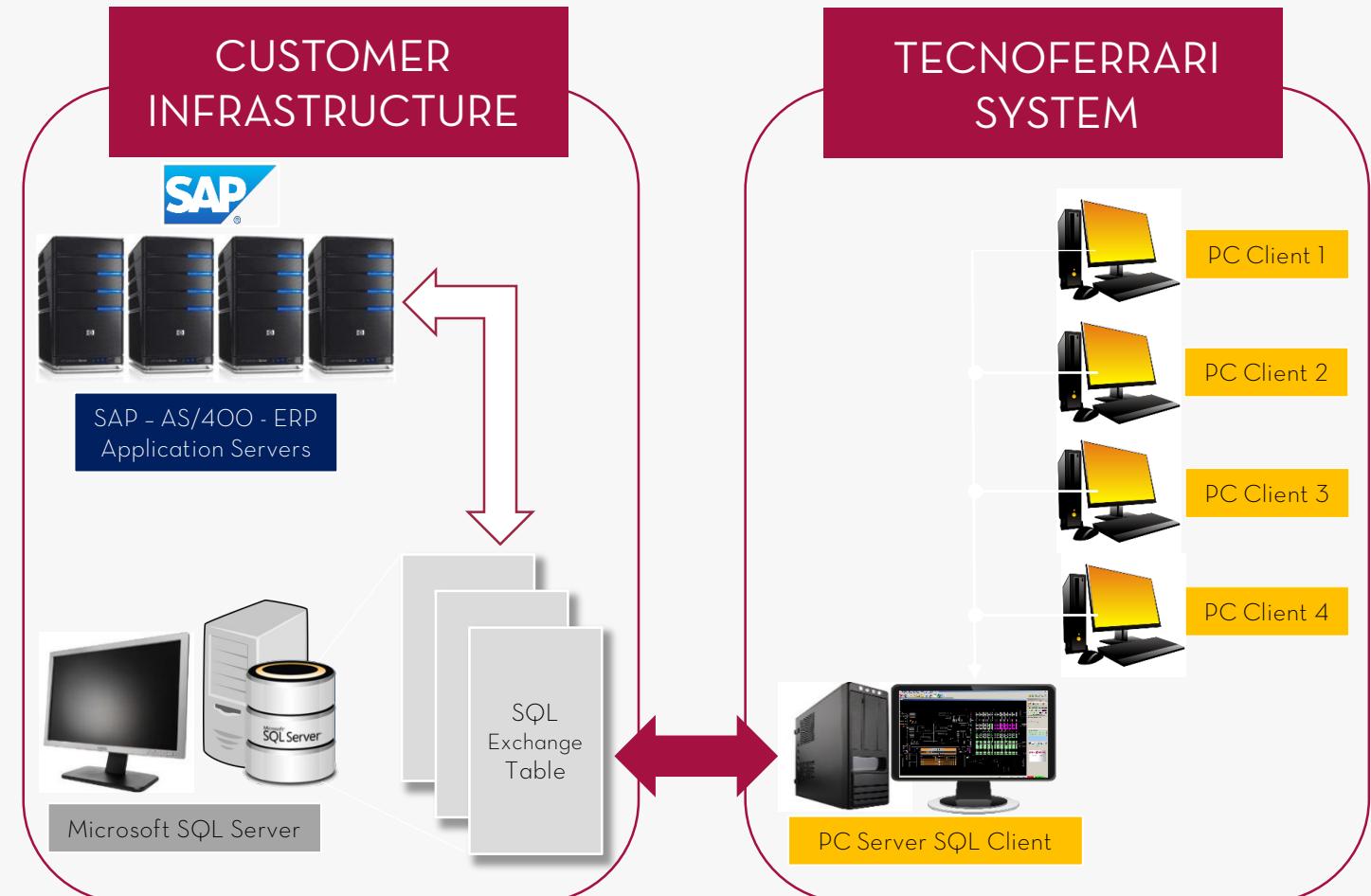
Request and
Missions status

SQL SERVER

ALL INFORMATION CAN BE EXCHANGED VIA
MICROSOFT SQL TABLES:

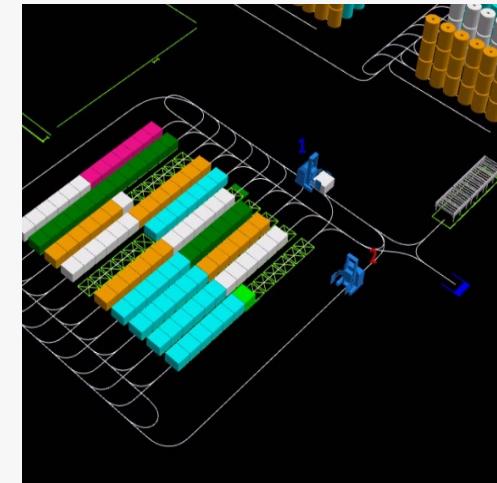
- LOCATION STATUS
- UNIT LOAD INFORMATION (UDC)
- PRODUCTION ORDERS

UDCs CAN BE UNIQUELY CODED TO BE
IDENTIFIED WITHIN THE ENTIRE PLANT
(SOMETIMES CORRESPONDING TO THE SSCC
CODE).



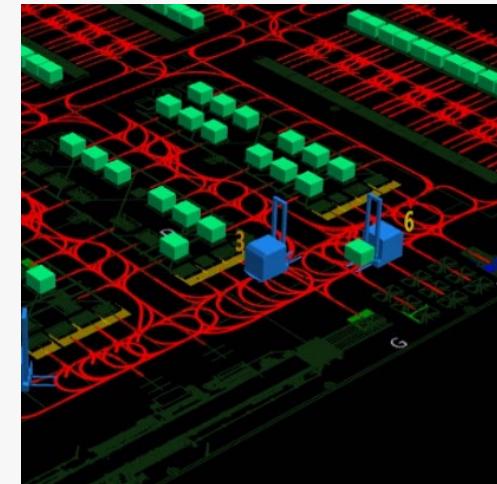
INTERFACING WITH PICK-UP/STORAGE BAYS

- PALLETS CAN BE LOADED/UNLOADED FROM ROLLER CONVEYORS
- INPUT/OUTPUT
- COMMUNICATION WITH PLC MACHINES
- PALLET DATA DOWNLOAD: PRODUCT CODE, PALLET TYPE, UDC,
- A SCANNER ON THE LINE ENSURES DATA RETRIEVAL VIA A BARCODE PLACED ON THE PALLET

#**BAY**S

INTERFACING WITH WAREHOUSE/GROUND BAYS

- THE PALLETS ARE POSITIONED WITH A FORKLIFT AND THE OPERATOR READS THE BARCODE (UDC) WITH A HAND SCANNER
- UDC ASSOCIATION OF THE PALLET WITH THE LOCATION IN THE PLANT WHERE THE PALLET IS LOCATED
- COMMUNICATION WITH TGVs SUPERVISOR SERVER
- TGVs SUPERVISOR RETURNS DATA FROM SQL EXCHANGE TABLE USING THE UDC AS AN INDEX
- THE LOAD/UNLOAD MISSION IS GENERATED (IF ALL CONDITIONS ARE MET) AND THE TGV IS INSTRUCTED TO PERFORM THE OPERATION



BAYS

The image displays three separate software windows, each with a red border, showing different aspects of location management:

- Left Window: Configura Piazza**

MAGAZZINO 1, Piazza: 1, Nodo: 88

Piazza Esclusa

Presenza pallet

Controllo qualità

Timeout richiesta ingresso 90

Quota Arrivo 0

Quota Salita / Discesa 250

Quota apertura forche 0

Distanza di ricerca 0

Distanza di Arresto 6000

Priorità:
Attributi Missione
Deposito in appoggio Disabilita oper. su Punto

Buttons: Visualizza dati (highlighted with a red box), OK, Applica, Chiudi.
- Middle Window: Dati UDC**

MAGAZZINO 1, Piazza: 1, Nodo: 88

Codice articolo Scelta

Descrizione articolo Tono

Lotto Calibro

Codice UDC pallet Qualità

N° scatola pallet 0 Pezzi per scatola 0

Codice reggiatura H 0 V 0 Codice scatola 0

Pallet Completo Pallet da avvolgere

Catasta Vuoti Pallet da non etichettare

Reggiante Tgv 0 Abilità pressore

Tipo pallet 1 Ora deposito P 18:03:24 17/12

Espulsione Magazzino

Buttons: Salva, Chiudi.
- Right Window: Unloader Table Rewinder**

Nome macchina, piazza: X

Ribbon Code	12345	Roll Code	44328
Roll Width	100	Work Order	767693
Roll Diameter	800	Part Number	12125
RollWeight (Kg)	25	Lot Number	73261
Defect Present	<input type="checkbox"/>	Customer Code	88W001
Stack Identifier	789655	Core Size ID	1
Rolls for Bundle	5	Use Robot	<input checked="" type="checkbox"/>
CoreLabel	<input checked="" type="checkbox"/>	Bundle Wrap Program	3
ReelLabel	<input checked="" type="checkbox"/>	UpperHeader	<input checked="" type="checkbox"/>
BundleLabel	<input type="checkbox"/>	LowerHeader	<input checked="" type="checkbox"/>
N of Bundle Label	3		

Buttons: OK, Chiudi.

For easy access to the pallet/location data, click the mouse over the location, and the location editor (in this case, a loading machine) opens. On this page, you can see the basic pallet information and other information concerning the location/machine. To access the complete report about the pallet, click on the 'view data' button and in the new editor, you can watch or change values.

UDC

SQL UDC Table

Udc	CodiceArticolo	LottoCQ	Descrizione	LottoFornitore	PesoLordo	PesoNetto	Quantita	DataProduzione	DataUltimoMov	DataScadenza	DataIngresso	Colli	UnitaMisura	Bio	PalletType	Altezza	TipoUDC
0000052554	02135	L44126	NOCI USA J. NAT.SACC.25KG		55,00	25,00	500,00	11/12/2014 00:00:00	20/01/2015 14:35:18	11/10/2015 00:00:00	20/01/2015 12:42:51	1	KG	0	0	0	3
0000052990	02135	L44126	NOCI USA J. NAT.SACC.25KG	L4284E	55,00	25,00	500,00	11/12/2014 00:00:00	20/01/2015 15:55:08	11/10/2015 00:00:00	01/01/2000 01:00:00	1	KG	0	0	0	3
0000053002	02135	L44126	NOCI USA J. NAT.SACC.25KG	L4284E	55,00	25,00	500,00	11/12/2014 00:00:00	{null}	11/10/2015 00:00:00	{null}	1	KG	0	0	0	3
0000052804	901153		FILM NOCI 2014 NOBERASCO 500G NOATM	L00276C	1,00	1,00	353,00	11/12/2014 00:00:00	16/12/2014 18:13:07	01/12/2016 00:00:00	01/01/2000 01:00:00	10	KG	0	1	1	4
0000052826	901632		CRT CASSA NOCI GUSCIO AVANA T666		0,49	0,49	240,00	11/12/2014 00:00:00	{null}	27/11/2016 00:00:00	{null}	1	N.	0	3	0	5
0000019745	901233		CRT NOBERASCO BIO 100G		0,12	0,12	580,00	11/12/2014 00:00:00	01/01/2000 01:00:00	27/12/2014 00:00:00	01/01/2000 01:00:00	1	N.	0	0	0	9
0000053228	06007	L4331A	SEMILAVORATO DATTERI DENOCCHIOLATI		5,00	5,00	447,00	11/12/2014 00:00:00	10/02/2015 15:01:51	27/11/2015 00:00:00	19/12/2014 17:27:24	32	KG	0	0	0	2
0000051843	01995	L4330A	MACEDONIA SEMILAVORATO X LAVOR.		10,00	10,00	479,00	11/12/2014 00:00:00	01/01/2000 01:00:00	30/11/2015 00:00:00	01/01/2000 01:00:00	40	KG	0	0	1	2
310	0008	pippo	Anacardi USA sacc. 1KG		25,00	25,00	500,00	{null}	10/02/2015 15:01:41	{null}	19/12/2014 17:15:37	1	KG	0	1	1	1
100	0001		Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:42:48	{null}	19/12/2014 10:00:00	180	N.	0	1	1	1
900	0009	L0009	Misto Frutti di Bosco		25,00	25,00	500,00	{null}	{null}	{null}	{null}	1	KG	0	1	1	1
200	0002	L0002	Arachidi salatae		25,00	25,00	500,00	{null}	16/01/2015 19:06:00	{null}	19/12/2014 15:50:42	1	KG	0	1	1	1
300	0003	L0003	Arachidi NON salatae		25,00	25,00	500,00	{null}	19/12/2014 16:30:25	{null}	19/12/2014 16:30:10	1	KG	0	1	1	1
400	0004		Nocciole Piemontesi DOLCI		25,00	25,00	500,00	{null}	16/01/2015 15:44:37	{null}	19/12/2014 16:48:41	1	KG	0	1	1	1
500	0005		Nocciole Torinesi Amare		25,00	25,00	500,00	{null}	09/02/2015 16:37:54	{null}	19/12/2014 16:51:36	1	KG	0	1	1	1
600	0006	L0006	Prugne secche stagionate		25,00	25,00	500,00	{null}	01/01/1970 00:59:59	{null}	01/01/1970 00:59:59	1	KG	0	1	1	1
800	0008		Anacardi USA sacc. 1KG		25,00	25,00	500,00	{null}	22/12/2014 09:38:05	{null}	01/01/2000 01:00:00	1	KG	0	1	1	1
101	0001	test	Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:47:44	{null}	19/12/2014 11:00:00	170	N.	0	1	1	1
102	0001		Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:45:15	{null}	19/12/2014 12:00:00	160	N.	0	1	1	1
103	02135	L44126	Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	21/01/2015 17:28:38	{null}	19/12/2014 12:24:26	100	N.	0	1	1	1
104	0001		Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:47:35	{null}	19/12/2014 13:00:00	150	N.	0	1	1	1
105	0001		Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:48:50	{null}	19/12/2014 14:00:00	140	N.	0	1	1	1
106	0001		Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:49:10	{null}	19/12/2014 15:00:00	130	N.	0	1	1	1
107	0001		Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:49:45	{null}	19/12/2014 16:00:00	120	N.	0	1	1	1
108	0001		Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:50:12	{null}	19/12/2014 17:00:00	110	N.	0	1	1	1
109	0001		Ballerine per Datteri		25,00	25,00	100,00	19/12/2014 14:22:16	19/12/2014 15:50:29	{null}	19/12/2014 18:00:00	100	N.	0	1	1	1

- FOR EACH SAP/AS400/ANOTHER TRANSPORT UNIT, IT ENTERS ITS UDC CODE IN THIS TABLE
- THE TECNOFERRARI SYSTEM RETRIEVES DATA FROM THIS TABLE USING THE UDC CODE AS AN INDEX IN THE TABLE
- THE TECNOFERRARI SYSTEM CAN UPDATE SOME DATA WHEN THERE ARE CHANGES

LOCATIONS

- EACH POSITION IN THE SYSTEM HAS A UNIQUE LOCATION (NUMERICALLY CODED)
- ALL THE LOCATIONS ARE MAPPED IN THIS TABLE, WHERE EACH ROW REPRESENTS A LOCATION IN THE INSTALLATION
- IF THE LOCATION IS OCCUPIED THE CORRESPONDING UDC APPEARS IN THE 'UDC' COLUMN
- THERE ARE 2 FIELDS TO SYNCHRONISE UPDATES BETWEEN THE CUSTOMER AND TECNOFERRARI:
 1. WHEN TECNOFERRARI MAKES AN UPDATE, IT WRITES TO 1 IN THE FIELD TECNOCHANGE THEN THE CUSTOMER PUTS THIS FIELD TO 0 FOR CONFIRMATION.
 2. WHEN THE CUSTOMER MAKES AN UPDATE, HE WRITES TO 1 IN THE FIELD CUSTOMERCHANGE THEN TECNOFERRARI PUTS THIS FIELD TO 0 FOR CONFIRMATION

SQL Location Table												
Location	LocationType	Group	GroupType	TecnoChange	CustomerChange	Exclusion	State	Asservimento	Priority	GroupDest	LocationDest	Udc
100	0	0	0	0	0	0	0	0	0	0	0	0 A032B011C001
101	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C002
102	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C003
103	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C004
104	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C005
105	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C006
106	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C007
107	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C008
108	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C009
109	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C010
110	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C011
111	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C012
112	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C013
113	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C014
114	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C015
115	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C016
116	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C017
117	2	7	1	0	0	0	0	0	0	0	0	0 A032B012C018
118	0	0	0	0	0	0	0	0	0	0	0	0 A032B012C019
119	2	7	1	0	0	0	0	1	0	0	0	0 A032B022C020
120	2	7	1	0	0	0	0	1	0	0	0	0 A032B022C021
121	0	0	0	0	0	0	0	0	0	0	0	0 A032B022C022
122	0	0	0	0	0	0	0	0	0	0	0	0 A032B022C023
123	2	8	1	0	0	0	0	0	0	0	0	0 A032B022C024
124	2	8	1	0	0	0	0	1	0	0	0	0 A032B022C025
125	0	0	0	0	0	0	0	1	0	0	0	0 A032B022C026

PRODUCTION ORDERS

SQL Production Order Table

IdOrdine	IdRiga	Sequenza	DataOra	TimeStamp	CodiceArticolo	LottoCQ	Udc	Typ	AreaPrelievo	GroupDest	ProdDest	Urgenza	QtaRichiesta	QtaMovimentata	Stato	TecnoChange	CustomerChange	Err	
1550400	1	1	12/02/2015 16:42:42	20150212	04297	L44249		G1		3	6	9	1	2400,00	2400,00	3	0	0	0
1550400	2	1	12/02/2015 12:45:57	20150212	04297	L44559		G1		3	6	2	1	1850,00	2400,00	3	0	0	0
1570419	1	1	12/02/2015 16:48:48	20150212	900253			G1		9	18	0	1	1010,00	0,00	1	0	0	1
1570419	2	1	12/02/2015 16:48:48	20150212	900254			G1		9	18	0	1	1,00	0,00	1	0	0	1
1570420	1	1	12/02/2015 16:48:48	20150212	901530			G1		9	6	0	1	8320,00	368,00	0	0	0	0
1570420	2	1	12/02/2015 16:48:48	20150212	902258			G1		9	6	0	1	8080,00	24216,00	4	0	0	0
1570420	3	1	12/02/2015 16:48:48	20150212	964504			G1		9	6	0	1	21,00	31,00	3	0	0	0

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GRUPPO TECNOFERRARI S.P.A.

con socio unico

VIA GHIAROLA NUOVA, 105-107
41042 FIORANO MODENESE (MO), ITALY

TEL +39 0536 915000

FAX. +39 0536 915045

INFO@TECNOFERRARI.IT

WWW.TECNOFERRARI.IT

