
tentori enzo
AUTOMATION

Case history 01

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Type of crane: N°1 Bridge Crane with forks

Functionality: Automatic - Semiautomatic - Manual

Use: Automatic handling and storage of steel bars and boxes

Location: Italy

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Drive Technology on Board:

Siemens Sinamics – Regenerative Solution
Profinet/PROFIsafe Communication

- Hoist:
  N°1 AC motor (75kW) controlled from N°1 drive Siemens Sinamics G120 PM250 (178A)
- Bridge:
  N°4 AC motors (11kW each) controlled from N°1 drive Siemens Sinamics G120 PM250 (110A)
- Trolley :
  N°2 AC motors (4kW each) controlled from N°1 drive Siemens Sinamics G120 PM250 (32A)

Drive Technology on Ground for conveyors and shuttle

Siemens Sinamics – Standard Solution with G120 PM240
Profinet/PROFIsafe Communication

Control Technology:

PLC Siemens S7-1515 for Operating Function of the crane with remote I/O ET200SP inside electrical cabin and electrical remote I/O (on Trolley – on pallet fork)

PLC Siemens S7-1515 for Operating Function of the converyors and shuttle machine with remote I/O ET200SP inside the control desk

Positioning Control:

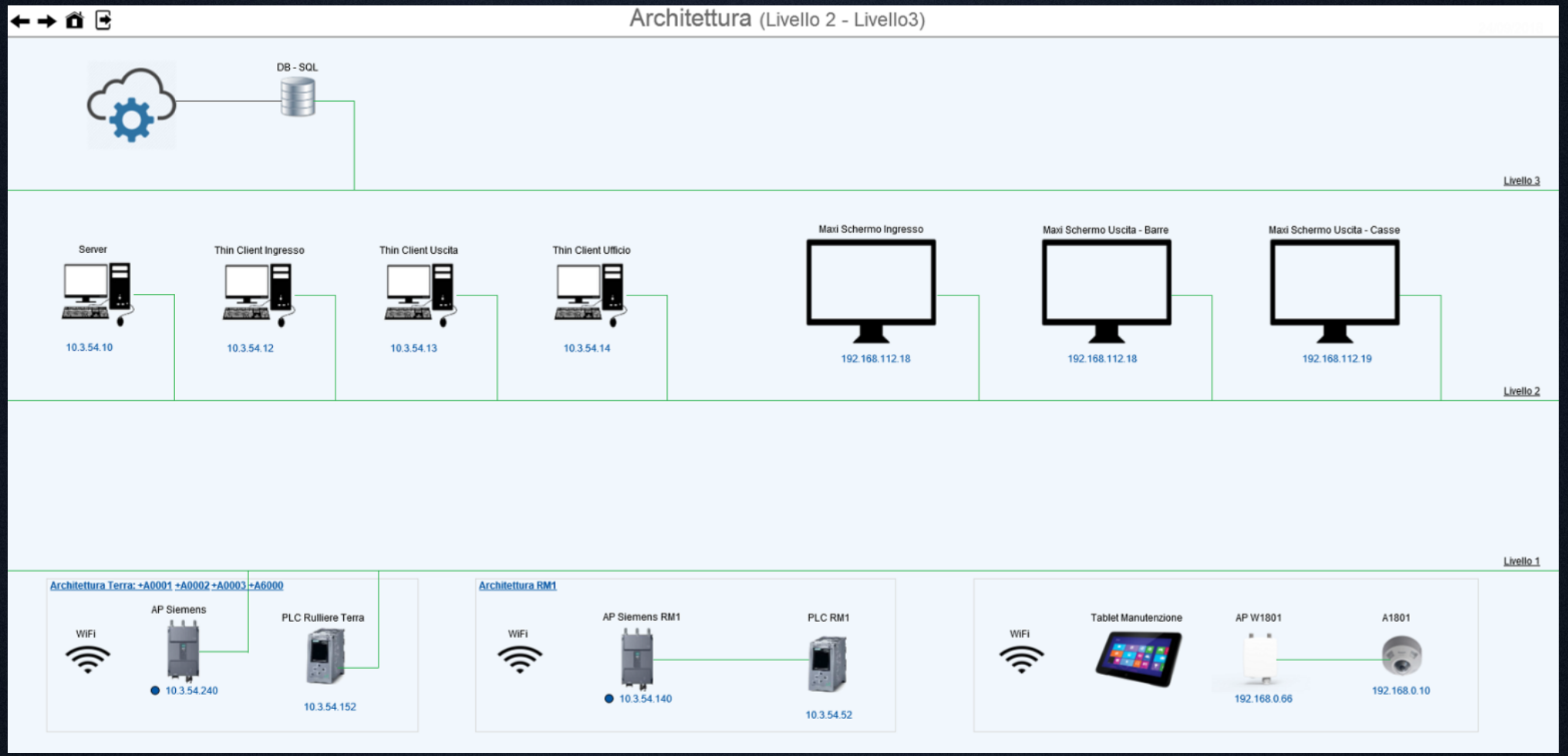
N°1 Absolute laser encoder for Trolley and Bridge;
N°1 Absolute wire draw encoder for Hoist
N°2 Absolute rotary encoder for functional safety;

Supervision Technology:

Siemens Simocrane CMS – developed based on WinCC Professional SCADA 7.4
Visual studio 2017 for automation and management Warehouse functions
SQL Server 2012

Communication Technology:

Wireless between Crane controller and bays controller
Optical Fiber between PLC and CMS


Architettura (Livello 2 - Livello3)
DB - SQL
Livello 3
Server
10.3.54.10
Thin Client Ingresso
10.3.54.12
Thin Client Uscita
10.3.54.13
Thin Client Ufficio
10.3.54.14
Maxi Schermo Ingresso
192.168.112.18
Maxi Schermo Uscita - Barre
192.168.112.18
Maxi Schermo Uscita - Casse
192.168.112.19
Livello 2
Livello 1
Architettura Terra: +A0001 +A0002 +A0003 +A6000
WiFi
AP Siemens
10.3.54.240
PLC Rulliere Terra
10.3.54.152
Architettura RM1
WiFi
AP Siemens RM1
10.3.54.140
PLC RM1
10.3.54.52
WiFi
Tablet Manutenzione
AP W1801
192.168.0.66
A1801
192.168.0.10

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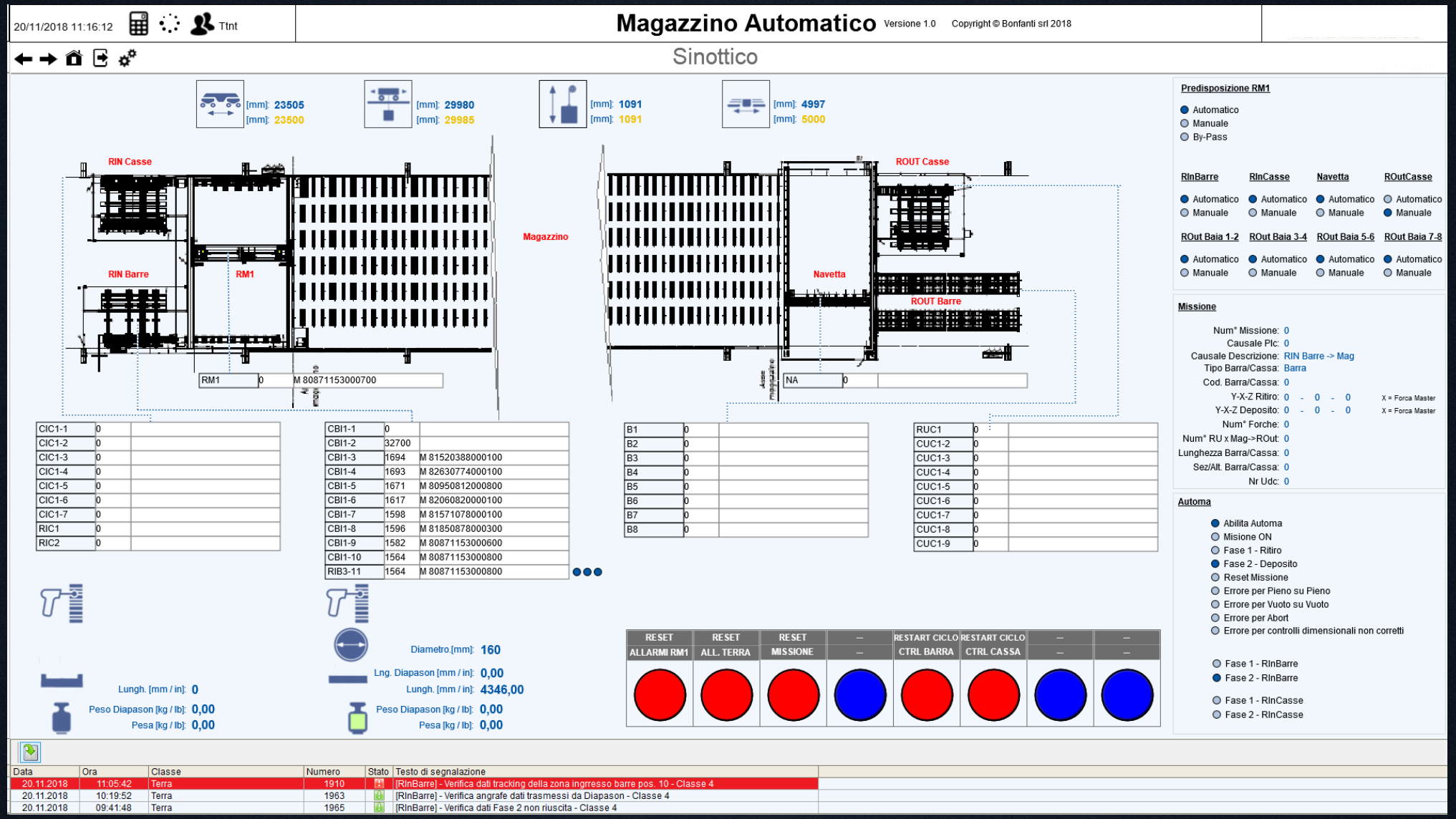
20/11/2018 11:16:12
Ttnt
Magazzino Automatico
Versione 1.0
Copyright © Bonfanti srl 2018
Sinottico
[mm]: 23505
[mm]: 23500
[mm]: 29980
[mm]: 29985
[mm]: 1091
[mm]: 1091
[mm]: 4997
[mm]: 5000
RIN Casse
RIN Barre
RM1
Magazzino
ROUT Casse
Navetta
ROUT Barre
RM1 0 M 80871153000700
NA 0
CIC1-1 0
CIC1-2 0
CIC1-3 0
CIC1-4 0
CIC1-5 0
CIC1-6 0
CIC1-7 0
RIC1 0
RIC2 0
CBI1-1 0
CBI1-2 32700
CBI1-3 1694 M 81520388000100
CBI1-4 1693 M 82630774000100
CBI1-5 1671 M 80950812000800
CBI1-6 1617 M 82060820000100
CBI1-7 1598 M 81571078000100
CBI1-8 1596 M 81850878000300
CBI1-9 1582 M 80871153000600
CBI1-10 1564 M 80871153000800
RIB3-11 1564 M 80871153000800
B1 0
B2 0
B3 0
B4 0
B5 0
B6 0
B7 0
B8 0
RUC1 0
CUC1-2 0
CUC1-3 0
CUC1-4 0
CUC1-5 0
CUC1-6 0
CUC1-7 0
CUC1-8 0
CUC1-9 0
Diametro.[mm]: 160
Lng. Diapason [mm / in]: 0,00
Lungh. [mm / in]: 4346,00
Peso Diapason [kg / lb]: 0,00
Pesa [kg / lb]: 0,00
Lungh. [mm / in]: 0
Peso Diapason [kg / lb]: 0,00
Pesa [kg / lb]: 0,00
RESET ALLARMI RM1
RESET ALL. TERRA
RESET MISSIONE
RESTART CICLO CTRL BARRA
RESTART CICLO CTRL CASSA
Predisposizione RM1
Automatico
Manuale
By-Pass
RInBarre
RInCasse
Navetta
ROutCasse
ROut Baia 1-2
ROut Baia 3-4
ROut Baia 5-6
ROut Baia 7-8
Missione
Num° Missione: 0
Causale Plc: 0
Causale Descrizione: RIN Barre -> Mag
Tipo Barra/Cassa: Barra
Cod. Barra/Cassa: 0
Y-X-Z Ritiro: 0 - 0 - 0
Y-X-Z Deposito: 0 - 0 - 0
X = Forca Master
Num° Forche: 0
Num° RU x Mag->ROut: 0
Lunghezza Barra/Cassa: 0
Sez/Alt. Barra/Cassa: 0
Nr Udc: 0
Automa
Abilita Automa
Misione ON
Fase 1 - Ritiro
Fase 2 - Deposito
Reset Missione
Errore per Pieno su Pieno
Errore per Vuoto su Vuoto
Errore per Abort
Errore per controlli dimensionali non corretti
Fase 1 - RInBarre
Fase 2 - RInBarre
Fase 1 - RInCasse
Fase 2 - RInCasse
Data Ora Classe Numero Stato Testo di segnalazione
20.11.2018 11:05:42 Terra 1910 [RInBarre] - Verifica dati tracking della zona ingrresso barre pos. 10 - Classe 4
20.11.2018 10:19:52 Terra 1963 [RInBarre] - Verifica angrafe dati trasmessi da Diapason - Classe 4
20.11.2018 09:41:48 Terra 1965 [RInBarre] - Verifica dati Fase 2 non riuscita - Classe 4

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Our activities:

- Electric boards engineering
- Electric boards assembling & wiring
- Software PLC engineering & development
- Software PC engineering & development
- Electrical & Software commissioning
- Post sale assistance

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Thank You

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