



MAV

VERTICAL AUTOMATED WAREHOUSE

/ GOAL: OPTIMISATION

ONCE AGAIN WE HAVE PUT THE CUSTOMER AT THE CENTRE OF OUR IDEAS.

WE INVEST IN INNOVATIVE PROJECTS BECAUSE WE BELIEVE THAT BY OPTIMISING PROCESSES WE CAN IMPROVE SERVICE.

WE HAVE AUTOMATED GOODS HANDLING AND MADE IT MORE EFFICIENT, WE ARE DEDICATING MORE CARE TO SHIPMENTS AND ARE REDUCING OUR RESPONSE TIMES.

THIS BOOKLET EXPLAINS HOW WE MANAGE TO ACHIEVE ALL THIS IN THE BRAND NEW FACILITY THAT STANDS BEHIND OUR PRODUCTION PLANTS IN FONTANETO D'AGOGNA.

/ WHY MAV?

THE DRIVE TOWARDS CONTINUOUS IMPROVEMENT AND INNOVATION PERMEATES THE ENTIRE CALEFFI SYSTEM AND IS APPARENT IN THE NUMBER OF PROJECTS AIMED AT OPTIMISING WORKFLOWS, PRODUCTION PROCESSES AND MANAGEMENT ORGANISATION IN GENERAL.

THE MOST RECENT OF THESE PROJECTS IS THE VERTICAL AUTOMATED WAREHOUSE.

THE NEED FOR A LARGE WAREHOUSING SPACE FOR FINISHED AND SEMI-FINISHED PRODUCTS LED TO THE CONSTRUCTION OF A VERTICAL FACILITY THAT INCORPORATES DIFFERENT LEVELS OF AUTOMATION, EXTERNAL TO THE PRODUCTION AREA BUT FULLY INTEGRATED WITH SHIPMENT ACTIVITIES.

A FACILITY THAT, SINCE IT WAS BUILT DIRECTLY BEHIND OUR HEAD OFFICE, ENABLED US TO AVOID HAVING TO IDENTIFY AN OFFSITE CONSTRUCTION LOCATION.

A DESIGN THAT ALLOWS US TO INCREASE THE EFFICIENCY OF OUR LOGISTICS PROCESSES AND TO FURTHER IMPROVE THE LEVEL OF SERVICE THAT WE OFFER TO THE CUSTOMER.

BEGUN IN 2008, AND COMPLETED IN SEVERAL STAGES, THE WAREHOUSE WAS PUT INTO OPERATION AND TESTED IN DECEMBER 2009.

THE FACILITY WAS FULLY OPERATIONAL FROM JANUARY 2010.

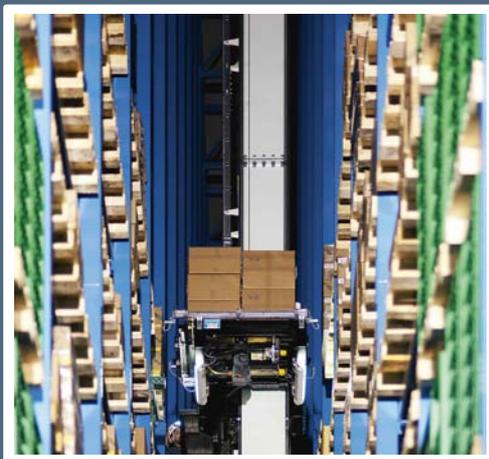


/ HOW IT WORKS

1. BATCHES OF RAW MATERIALS AND SEMI-FINISHED PRODUCTS ARRIVE AT THE WAREHOUSE FROM THE CALEFFI FACTORIES OR FROM CERTIFIED SUPPLIERS. MEANWHILE FINISHED PRODUCTS ARRIVE FROM OUR INTERNAL PRODUCTION DEPARTMENTS. THEY ARE STORED IN THE WAREHOUSE AND THEN SHIPPED TO THE FINAL RECIPIENTS. THEY ARE HANDLED USING FULLY AUTOMATED MEANS, CONTROLLED BY THE MANAGEMENT SYSTEM. THE ENTIRE PROCESS IS SUPPORTED BY WI-FI AND RF TECHNOLOGY.

INNOVATION. RELIABILITY AND IMPROVEMENT ARE THE DIRECT RESULT OF OUR DECISION TO INVEST IN TECHNOLOGICAL INNOVATION. RIGOROUS INFORMATION MANAGEMENT ENSURES COMPLETE PRODUCT TRACEABILITY AND ENHANCED CONTROL OVER PROCESSES. TAKING US A STEP CLOSER TO THE CUSTOMER.





2. THE VERTICAL AUTOMATED WAREHOUSE IS COMPRISED OF FREE-STANDING METAL STRUCTURES COMPLETE WITH AUTOMATED HANDLING SYSTEMS. INSIDE THERE ARE TWO SEPARATE ACTIVITY AREAS: A PALLET WAREHOUSE AND A MINILOAD WAREHOUSE FOR PRODUCTS ARRANGED IN CASES. EACH AREA IS ORGANISED INTO 4 CORRIDORS WITH SINGLE-DEPTH SHELVING, EACH OF WHICH IS SERVED BY ITS OWN STACKER CRANE AND POWER RECOVERY SYSTEM, GIVING A TOTAL OF 8 CORRIDORS AND 8 STACKER CRANES WITH INTEGRATED SHUTTLE CARS.

AUTOMATION. REDUCTION IN LEAD TIMES AND DECREASED POSSIBILITY OF IDENTIFICATION AND RECORDING ERRORS, ELIMINATION OF PAPER-BASED DOCUMENTATION AND TIME-INTENSIVE ARCHIVING AND RETRIEVAL SYSTEMS IN FAVOUR OF COMPLETE INFORMATION AVAILABLE IN REAL TIME. ACCELERATED SHIPMENTS.

3. THE PALLET WAREHOUSE IS COMPLEMENTED BY A DYNAMIC BUFFER, WHICH IS ESSENTIALLY A WAITING AREA FOR HIGHER-FREQUENCY PICKED LOAD UNITS, PREVENTING THE NEEDLESS RECIRCULATION OF GOODS. AT THE SAME TIME, A ROBOTIC DEPALLETISER EQUIPPED WITH A VIEWING SYSTEM FOR DESTACKING CASES REPLENISHES THE MINILOAD WAREHOUSE, WHICH HAS DYNAMIC "SYNCRON" BUFFERS AT THE EXIT THAT TEMPORARILY HOLD THE CASES READY FOR THE NEXT PICKING CYCLE.

SYNCHRONISATION. INTEGRATION OF HUMAN MANPOWER WITH STATE-OF-THE-ART TECHNOLOGY AND MAXIMUM USE OF AUTOMATION TO INCREASE PRODUCTIVITY. MINIMISED OPERATIONS, MORE EFFICIENT GOODS MOVEMENTS, SIMPLIFIED OPERATING PROCEDURES.

4. THE FACILITY HAS 6 HIGHLY ERGONOMICAL AND EFFICIENT PICKING BAYS FOR SYNCHRONISED PICKING OF FINISHED AND SEMI-FINISHED PRODUCTS. THE INFORMATION SYSTEM GUIDES THE OPERATOR IN IDENTIFYING ITEMS, COUNTING, WEIGHING AND PREPARING ORDERS FOR SHIPPING.

OPTIMISATION. IMPROVEMENT OF ALL LOGISTICS PROCESSES AND DRIVE TOWARDS SERVICE EXCELLENCE.

/ THE FACILITY AT A GLANCE

YEAR OF ENTRY INTO OPERATION	12/2009
WAREHOUSE FUNCTION	STORAGE AND DISTRIBUTION
TYPE OF GOODS HANDLED	RAW MATERIALS, SEMI-FINISHED PRODUCTS/COMPONENTS, FINISHED PRODUCTS
TYPE OF CUSTOMERS	WHOLESALERS/DISTRIBUTORS
TYPE OF LOAD UNIT STORED (DIMENSIONS, MAXIMUM QUANTITY IN STOCK)	PALLETS (800X1200X1220 MM AND 1000X1200X1220 MM; UP TO 14,000) CASES (600X400X320 MM; UP TO 51,000)
TYPE OF CONSTRUCTION	NEW BUILD
COVERED SURFACE AREA	3120 M²
HEIGHT BELOW CHAIN LINE	32,70 - 21 M
LENGTH	96 M
HANDLING EQUIPMENT	4 STACKER CRANES FOR PALLETS, 4 STACKER CRANES FOR CASES WITH 4 STATIONS, 8 SVLS
HOW AND WHERE PICKING IS CARRIED OUT	PER ORDER, SIMULTANEOUS PICKING FROM PALLETS AND CASES IN 6 PICKING BAYS
OPERATIONAL MANAGEMENT	COMPUTERISED
GOODS IDENTIFICATION SYSTEMS	BARCODE
SYSTEMS FOR TRANSMITTING DATA TO OPERATORS	BATCH TERMINALS, RADIOFREQUENCY, FIXED TERMINALS



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