



Marcantonini Concrete Technology

OMPANY PROFILE

TURNKEY SOLUTIONS FOR CONCRETE INDUSTRIES





Since 1967 we have been managing the complexity of the production cycle, transport and distribution of concrete, developing for the customer **integrated and customized technological systems** in relation to his objectives.

In these first 55 years we have always remained faithful to the vocation for the science of our founder Lamberto Marcantonini who taught us to overcome every challenge with tenacity and rigor.



Today his son Andrea Marcantonini continues to hold the rudder firmly MCT looking proudly at the exceptional company experience and planning an increasingly international and performing future in the providing customized technical solutions. And our mission continues to be clear also for the next years:

providing custom solutions, collaborating with our partners with passion, to attain a common goal: to simplify work as much as possible.

We also want to create an atmosphere of trust and dependability with customers, aiming towards strong personal relations and stable bonds that go beyond the sole execution of the work.

Turnkey solutions for concrete

Our **turnkey solutions** include all the components of the system we build completely customized starting from the detailed design of the functional areas of the site, to get to the realization of the plant and the automation of the processes whose performances we measure, taking care of the maintenance.

We are highly specialized and organized to be the **only point of reference** for our customer who obtains the maximum return from tailor-made systems with flexible and modular technological solutions.

MCT Turnkey Approach



Thorough study of customer's requirements by our engineering departments

Development of the personalized offer

Engineers pool developing mechanical and software design. Automation software fully developed in-house



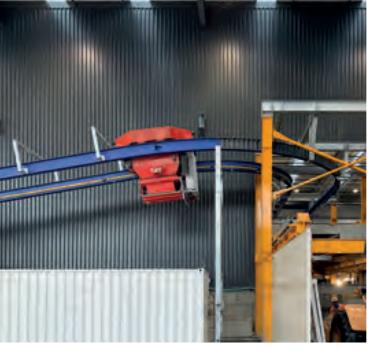
Our **added value** includes research in safety, risk prevention and knowledge that translates into total compliance with national regulations regarding plants, emissions and environmental impact.

Complexity can only be governed if it is understood in its entirety and tackled with research and technological innovation; with this awareness we live our mission of thinking and creating the best concrete plant that the customer has ever used.



Plant Manufacturing in our workshops

Pre-installation, wiring/plumbing and testing in our factory before shipment, by modular assembly Complete installation, commissioning and operators training on site by our specialized crews and engineers After-sales assistance and support directly from our head quartier







Exclusive technology

Research and development are the engine of our technological innovations that we protect with international patents also in order to protect the customer's investment.

Customized solutions

Pre-testing in our Factory before shipment

Optimization of existing sites

Environmental friendly and energy efficient

Fixed and mobile plants

MCT Plants in more than 70 countries include horizontal and tower type batching plants, modular plants, concrete distribution systems.

Faster batches with higher accuracy

Modular assembly

Higher production capacity

Fast erection and easy to replace

Total control

Software automation is developed and realized inhouse, allowing the customer a full control on their plant, the access to the analysis of the working parameters and the production reports, and plan the management of the production and distribution activities, including all the auxiliary platforms of the batch plant.

CONNET

Moisture & Plasticity Control

Wi-Fi Remote Control Web Based HMI



Certified quality

From the first day we have chosen the path of internationalization by adopting internal audit models for quality control and achievement of important certifications valid in all countries where we are present.











Head Office in Italy and international operating centers

Our Head Office is based in Bettona in the province of Perugia and we are present with operating centers located in all strategic countries for shipbuilding and construction engineering.

Installations in 5 continents, over 72 countries

We feel Italians proud of having learned to be citizens of the world thanks to the comparison with the colleagues of our international teams and 55 years of systems designed, put into operation and implemented in over 72 countries and 5 continents.

Headquarter Bettona Italy

Office Reno, Nevada USA Office Dubai UAE Office Algeri Algeria

Office
Florianopolis
Brazil

Office Johor Bahru Malaysia

Office
Adelaide
Australia





Batching plants play a significant role in reducing carbon emissions and contribute to a climate-friendly ecological environment.

(source World Green Building Council)

We achieve this environmental benefit by using **special dust filters with self-cleaning systems for the control of dusty emissions** of silos, mixers and various internal areas present in all MCT plants. As well as the introduction of **new powder coating systems** that significantly reduces the environmental impact.

This type of painting is in fact, 99% recyclable and does not contain any solvents. Compared to liquid paint it allows zero Vocs (Volatile Organic Compounds) and atmospheric emissions of heavy metals, such as lead or chromium.

MCT tower batching plants are fully coated and buffered **to reduce noise emissions** and operate with **very low energy consumption** as the materials are metered by gravity. The container systems built by MCT respect the environment and the existing territory because they don't require special foundation work they can easily be installed and transported so they are reusable from one construction site to another.







Plant for production of panels with colored aggregates.

Paris, france: colossal, giant, impressive and massive tower batch plant.

Another massive batch plant just installed in the northern part of Paris, France with extremely high level of automation. The new plant, fully integrated into an existing building, perfectly combines the requirements of high productivity with the attention to the quality of different types of the concrete. The customer is very famous for the supply of turn key projects of structure and architectural elements with exposed colored aggregates. The distribution and transport system of concrete is carried out with ground trolley, in this way MCT perfectly match customer needs' to deliver concrete inside existing building with low level. Another masterpiece by MCT Italy.



PRE-TESTING IN OUR FACTORY
BEFORE SHIPMENT

OPTIMIZATION OF EXISTING SITES

CUSTOMIZED SOLUTIONS

ENVIRONMENTAL FRIENDLY AND ENERGY EFFICIENT

MOISTURE & PLASTICITY CONTROL



Automatic aggregates loading system

18 Aggregates Storage (840 m³ total capacity – 1.400 ton)

1 Planetary mixer MAV 3750 / 2500

2 planetary mixer MAV 1500/1000

5 powder silo $(375 \text{ m}^3 - 650 \text{ Ton total capacity})$

Humidity and Plasticity control

Automation and CompuNet® Software

2 High Speed Flying Buckets of 2.5 m³ capacity

3 Ground Battery Trolley for Concrete Transpor



< Use QR Code and connect to our web site to learn more about MCT solutions in the Precast field

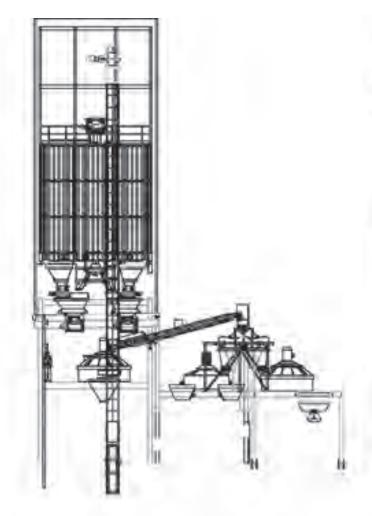


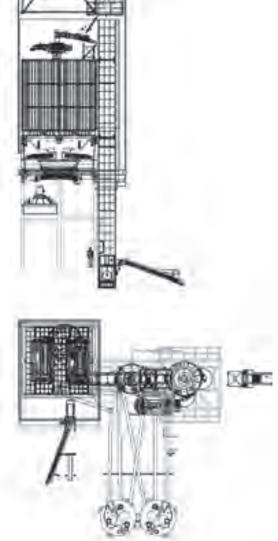
High technology retrofit project consisting of the replacement of a tower dosing plant in the heart of the production building

with significant design requirements due to the configuration of the factory and the layout restrictions. Recover of existing lower structure and mixing section, with new interface for higher section of dosing tower, including dosing sections for aggregates, cement and water, aggregates loading and storage.

Smart aggregates dosing system with 2 scales feeding 3 mixers, fully integrated in the areas between the existing building and the new tower plant. New concrete distribution systems by conveyors into 6 production beds for pipes and concrete elements. New complete cladding for tower plant, fully integrated with existing production building, enclosing also stair tower and aggregates bucket elevator.

Complete automatic control system with central server and 6 satellite stations for the production beds, integrating existing and new equipment in the same automation structure.





Batching Tower

- 6 Aggregate Bins 360 m³ total capacity
- 3 Planetary Mixers MAV 3000/2000
- 2 Aggregate Scales
- 2 Split Cement Silos 240 Ton total capacity
- 1 Aggregates Loading System

Moisture & Plasticity Control System

CompuNet®



< Use QR Code and connect to our web site to learn more about MCT solutions in the Precast field



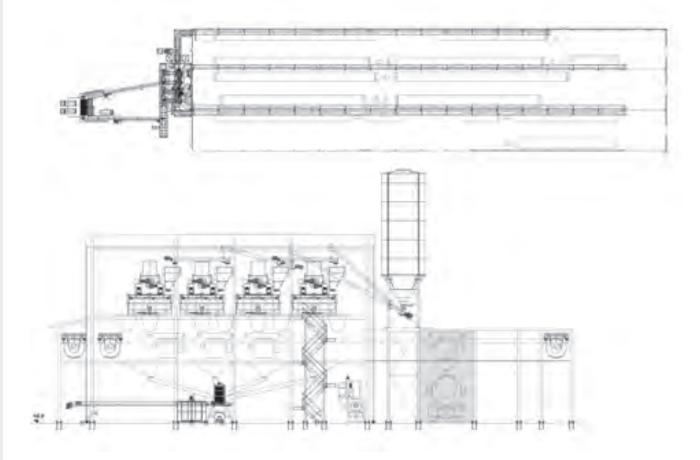
MCT sets the bar: Engineering the most efficient automated precast plant in North America.

The plant is composed of two primary hoppers, two separate aggregate storage systems, four mixers featuring fully automatic concrete distribution systems including high-speed flying buckets and automatic casting machines.

The two insulated primary hoppers with a capacity of 20 m³ each one, in order to avoid any material contamination, feed the 2 separate aggregate storage bins dedicated to architectural and structural concrete production. The primary hoppers serve distribute the material in the 2 storage systems: 18 aggregate bins, 6 dedicated to the structural concrete production with a total capacity of 280 m³ and 12 dedicated to the architectural concrete production with a total capacity of 100 m³.

Both aggregate storage units can serve all the 4 mixers of the plant, providing a wide range of choices in terms of mixing solutions

The plant is equipped with a reliable state of the art concrete distribution system using 4 flying buckets, capable of delivering up to 240 metres per minute, served by 4 high intensive output planetary mixer 3000/2000 with an output capacity of 2.0 m³ per cycle: every mixer is equipped with 2 discharging gates in order to serve all the buckets operating in the facility and the system can guarantee a high level of flexibility and quality concrete production.



The mixing section includes dedicated cement scales and water dosing system for each mixer. The flying buckets move on a double rail track system with a total length of over 1.000 meters, helping the distribution of the material to all the areas of the production facility through the casting machine. 3 units of automatic casting machine and 1 unit of concrete distributor for hollow-core production complete the distribution system, allowing the delivery of the material to the different moulds all over the factory.



^ Use QR Code and connect to our web site to learn more about MCT solutions in Precast field

2 Double Primary Hoppers 20 m³ each 18

Aggregates Bins 380 m³ storage

4 Planetary Mixers 3000/2000

3 Cement Silos 110 m³ each

4 High Speed Flying Buckets

3 Automatic Casting Machines for Precast

1 Concrete Distributor for Hollow Core

Concrete Recycling System

Moisture & Plasticity Control Systems





Turnkey Solutions
Tailor Made Concrete Plants
Worldwide Service and After Sales Network
Automation Software CompuNet®
Highly Customized Concrete Distribution System
High Precision Dosing of Special Components
Wi-Fi Control System



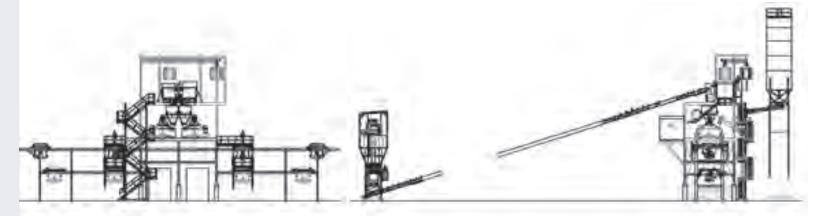


Australia's biggest public transport project in Sydney.

This new standalone railway will deliver 31 metro stations and more than 66 kilometres of metro rail, revolutionizing the way Australia's biggest city travels: it will run from Sydney's booming North West region under Sydney Harbour, through new underground stations to the south west. The high quality concrete containing 40 kg of steel and 1.5 kg of polypropylene fibers per cubic meter, is batched by no. 2 Eurostar planetary mixer 3000/2000. The concrete has undergone a series of tests to ensure it meets the required standards for strength and durability.

Concrete transport is guaranteed by no. 2 high speed flying buckets and no. 2 concrete distributors pour the concrete into double circulation plants.

The turn key project as concerns site organization, erection and lifting equipment has been really well organized by all the three parties involved: MCT Italy, MCT Italy local partner & the customer.



In-Line Plant for Tunnel Segments Production

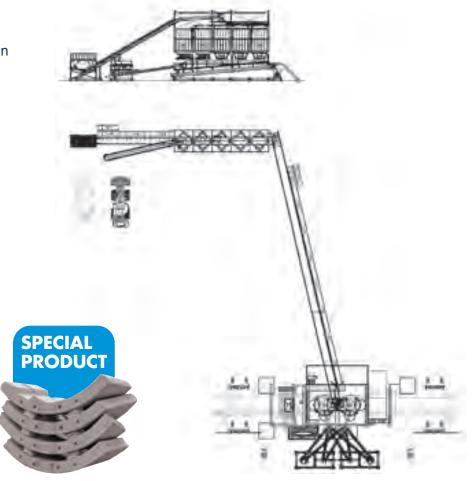
- 5 Aggregates Bins 150 m³ storage
- 2 Planetary Mixers 3000/2000
- 4 Cement Silos 80 Ton capacity each
- 1 Automatic Polypropylene Fiber Dosing System
- 1 Automatic Steel Fiber Dosing System
- $\underline{\hbox{Integrated Moisture \& Plasticity Control System}}$
- 2 High Speed Flying Buckets
- 2 Concrete Distributors

CompuNet®

The batching plant confirms that our customers' oriented solutions together with high quality components are the win-win cards to play.



< Use QR Code and connect to our web site to learn more about MCT solutions in the Precast field



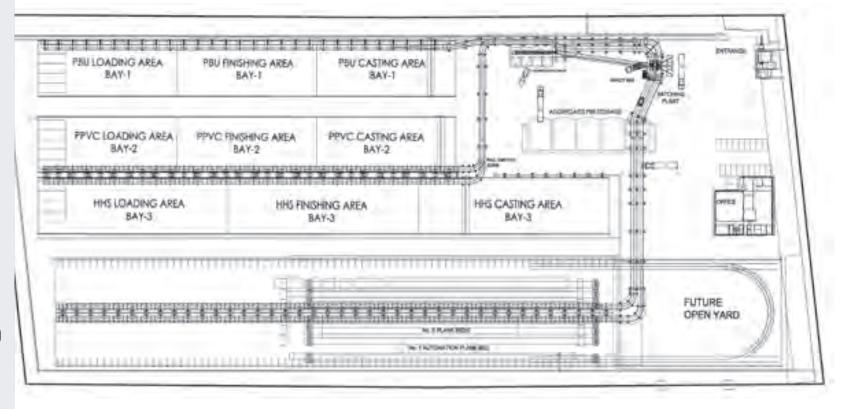


MCT Italy a pioneer in 3D Volumetric Precast.

SouthEast Asia is already one of the most advanced precast manufacturing places in the world and now the building industry is jumping into the 21st Century by pressuring to adopt modular construction techniques and ramping up the productivity of its workforce.

"Prefabricated Pre-finished Volumetric Construction (PPVC)" & "Prefabricated Bathrooms Units (PBU)" means a construction method whereby free-standing volumetric modules (complete with finishes for walls, floors and ceilings) are constructed and assembled in an accredited fabrication facility and then easily installed in a building.

The system can achieve a productivity improvement of up to 40% in terms of manpower and time savings; furthermore, dust, noise pollution can be minimized as more activities are done off-site. With the bulk of the installation activities and manpower moved off-site to a factory controlled environment, site safety is also improved.



MCT Italy has developed a pioneer technique to cast the concrete in a fast, reliable and flexible way thanks to the joint action of high speed flying bucket and automatic casting machines:

- Flying bucket up to $4 \, \mathrm{m}^3$ capacity and 270 m/min speed
- Casting machine up to 4 m³ capacity and 180° Rotation
- Variable stroke from 0.5m to 5.5m
- System fully integrated through industrial Wi-Fi



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South Korea: everlasting trust in MCT Italy.

Jisan is one of the fastest growing South Korean precast company with high skilled engineers able to provide turn key solutions: planning, designing, production and installation in a very competitive way thanks to the wide use of precast elements.

Hollow Core slabs are prestressed and precast concrete elements, manufactured using long line steel casting beds. They are typically 1200mm wide, and between 150mm – 1.000mm deep. Spans can be anywhere up to around 20m, and applications range from individual houses to residential apartments, office buildings, hotels, schools, hospitals, supermarkets, industrial units and car parks. Longitudinal voids run throughout a Hollow Core Slab. These reduce raw material consumption, costs, the self-weight of slabs themselves and provide ready-made ducts for services.

"This time the decision was easier: after the two previous successful experiences with MCT, we teamed up immediately with their technical offices to get the best of their know-how from their specialized organization. We learnt that prestressed hollowcore requires the use of high-quality raw materials, such as high strength concrete, and low relaxation steel wire/strand. The produced elements have high load resistances thanks to a low water/cement ratio of concrete from 0.32 to 0.38" adds Mr. Han, ByungMin.



ENVIRONMENTAL FRIENDLY AND ENERGY EFFICIENT

HIGHER PRODUCTION CAPACITY

MOISTURE & PLASICITY CONTROL

COMPLY OF LOCAL REGULATION

- 1 MCT CompuNet® Automation Software
- 5 Flying Buckets, speed 240 m/min
- 2 Automatic Concrete Distributors for Extruder Feeding
- 2 Automatic Washing system for Flying Buckets





< Use QR Code and connect to our web site to learn more about MCT solutions in the Precast field

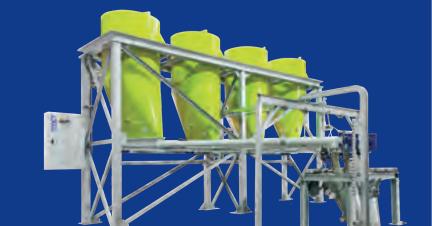
















Saudi Arabia





Blocks & Pavers production line with a curing system and a new batching facility with a smart concrete color blending system integrated into the building.

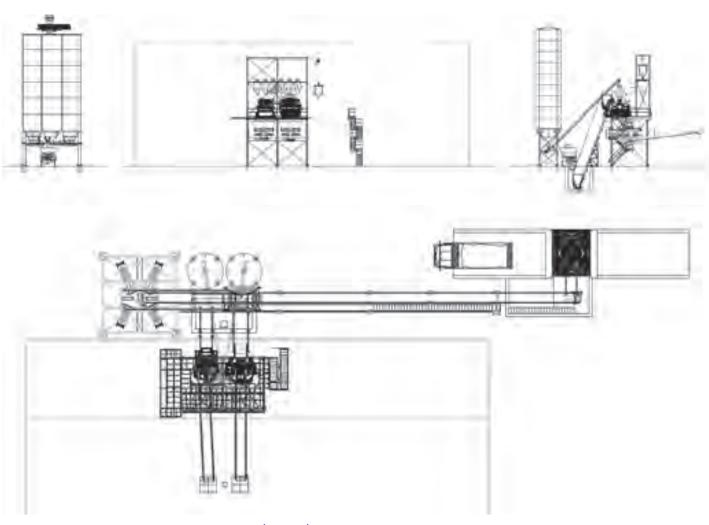
Greenfield and turnkey project developed in full partnership with the customer, integrating all the components of the plant with the other equipment of the pavers factory. Complete batching system and automation control for all components including pigments and colored concrete blending system.

Aggregates storage 1.000 ton capacity with vertical configuration designed to optimize the room available in the relatively reduced area assigned to the batch plant uses.

Optimal aggregates dosing system by mobile scale for accurate and efficient feeding of base mix and face mix production lines.

High technology colored concrete blending system type Betonmix with 4 hoppers for each mixing line (Base and Face), with high flexibility to create any color pattern in the concrete products.

True partnership with the customer for the installation and commissioning of the project, realized with MCT personnel supporting customers installation crew.



Automatic Concrete Batching Plant

- 6 Aggregates Bins 700 m³ storage
- 1 Planetary Mixer MAV 2250/1500
- 1 Planetary Mixer MAV 1125/750
- 2 Cement Silos 140 Ton each
- 2 Betonmix Color Blending for no. 3 Colors
- 1 Color Dosing System
- 2 Moisture & Plasticity Control Systems

Automatic Aggregates Loading System

This project has been developed in true partnership with the customer from the very beginning through the design, the installation and the commissioning, helping us to achieve the best layout and performances.



< Use QR Code and connect to our web site to learn more about MCT solutions in the Blocks and Pavers field



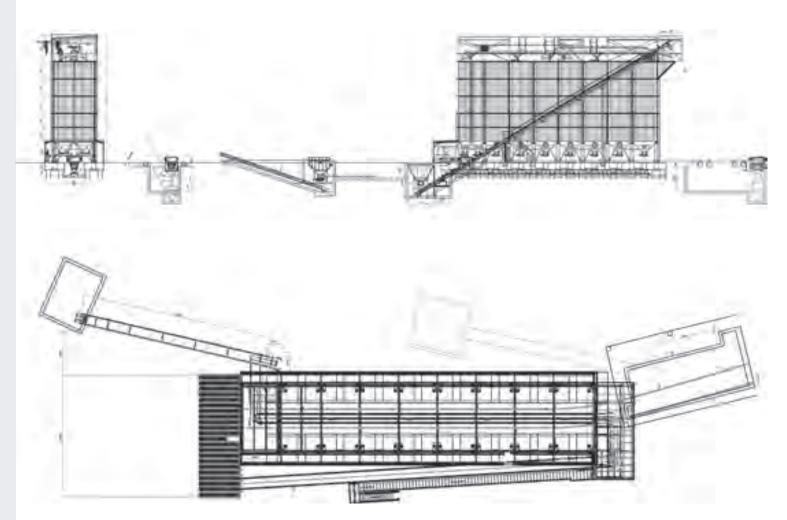


The project of a new horizontal aggregate storage in an existing block and paver factory developed in full partnership with the customer, integrating an old mixer with a couple of new one.

The 18 bins aggregates storage with 2.000 m³ total capacity is designed to contain a variety of different color aggregate.

The feeding system is all automatic, from the primary receiving hopper, to the right bins with a badge tracking system. Optimal aggregates dosing system by mobile scale for accurate and efficient feeding of base mix and face mix production lines can feed three different mixers. Complete batching system and automation control for all components including pigments and colored concrete blending system.

High technology colored concrete blending system type Betonmix with no.3 hoppers for each mixing line (Base and Face), with high flexibility to create any color pattern in the concrete products.



Automatic Concrete Batching Plant

- 18 Aggregates Bins 2.000 m³ storage
- 2 Planetary Mixer MAV 2250/1500
- 1 Planetary Mixer MAV 1500/1000
- 2 Aggregate Mobile Scales
- 4 Cement Silos 80 Ton each
- 1 Betonmix Color Blending for no. 3 Colors
- 1 Automatic Powder Colors Dosing System
- 2 Moisture & Plasticity Control Systems

Automatic Aggregate Loading System



< Use QR Code and connect to our web site to learn more about MCT solutions in the Blocks and Pavers field



Batching plant whit high automated system for block and paver.

Decopave Co. Ltd. Is a South Korean concrete elements producer, specialized in developing, manufacturing and selling a large variety of concrete blocks and pavers.

In the era of the 4th Industrial Revolution deeply affected by the Corona 19 Crisis, DecoPave Co., Ltd. invested in a fully new automated factory, located in Danyang. The smart factory is one of the largest in East Asia with a 100% automated system for the entire process: from aggregates and raw materials loading and dosing, going through concrete production and packaging of finished products.

The ambitious Eng. Park, CEO of company
DecoPave Co. Ltd. deliberately opted for the knowhow from MCT Italy and focused on quality when
selecting the batch plant and main components.
In particular the batch plant is equipped with
many innovative features that are essential for the
production of concrete products with a high-quality
and colored facing concrete layer.

CUSTOMIZED SOLUTIONS

ENVIRONMENTAL FRIENDLY AND ENERGY EFFICIENT

COLOR BLENDING

MOISTURE & PLASTICITY CONTROL



Automatic Aggregates loading system

- 1 Bucket Elevator
- 13 Aggregates Bins 900 m³ storage
- 1 Planetary Mixer 3000/2000 for Base Mix
- 1 Planetary Mixer 750/500 for Face Mix
- 6 Granulate Colors
- 2 Powder Colors
- 2 Aggregate Mobile Scale
- 3 Cement Silos 100 Ton each

Automatic Color Blending System for Base mix

Automatic Color Blending System for Face \min

Concrete Distribution with Feeding Belts





^ Use QR Code and connect to our web site to learn more about MCT solutions in the Blocks and Pavers field



READY MIX BATCHING PLANTS

Turnkey Solutions
Tailor Made Concrete Plants
Automation Software CompuNet®
Worldwide Service
and After Sales Network















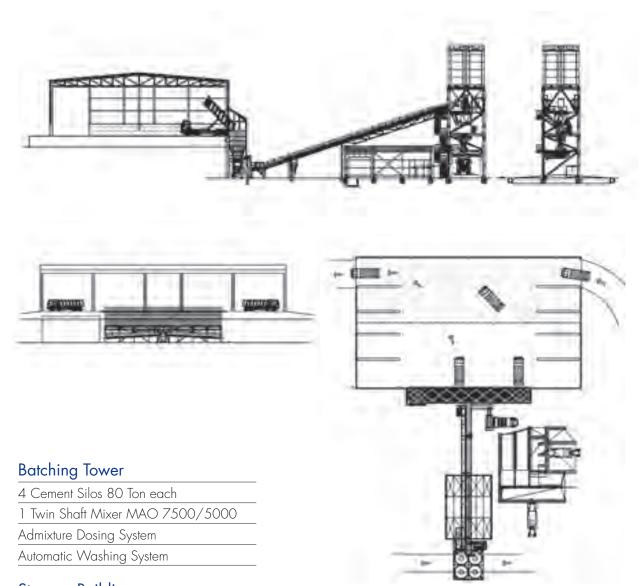
High technology Ready Mix greenfield and turnkey project, developed in full partnership with the customer, with design and manufacturing of the batch plant and automation software.

Horizontal aggregates storage with feeding system by conveyors and drive-through vertical mixing tower with cement silos on the top of the mixing section for the dosing by gravity. Twin shaft mixer MAO 7500/5000 with holding hoppers for the production of up to 140 m³/h of high quality concrete, including anti-drip device for the drive-through of trucks. Service building designed and manufactured to accommodate batch room, truckers areas and restrooms, offices and maintenance rooms, including water heating and blending system and recycling system.

Aggregates storage integrated in a pre-storage building for the direct tipping by trucks onto the compartments.

Automation batch software integrated with central dispatch system by Command Alcon.

Complete integrated cladding package for batch plant and service buildings.





8 Pre-Storage Ground Compartments

8 Aggregate Bins - 500 m³ total capacity

2 Aggregate Scales

1 Feeding Inclined Conveyor Belt



< Use QR Code and connect to our web site to learn more about MCT solutions in Ready Mix field

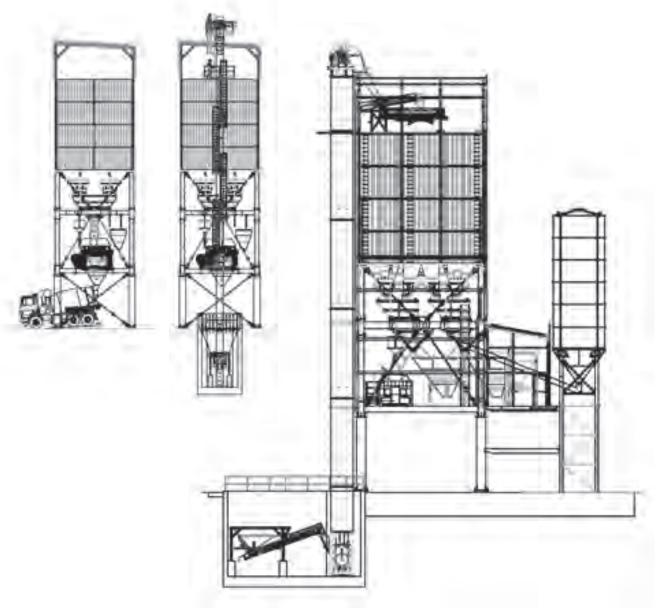


High technology ready mix greenfield and turnkey project, developed in full partnership with the customer for the restricting requirements of a narrow site in a residential area, with complete design and manufacturing of the batch plant and automation software.

Vertical tower batching plant with no.3 loading lanes, no.2 dry batch and no.1 wet batch with twin shaft mixer for the production up to 200 m³ of high quality concrete in 24 hours/day shifts.

Aggregates loading system by primary hopper, bucket elevator and dispensing conveyor on the top of the tower, fully automatic. Automation batch software integrated with central dispatch system.

Complete integrated cladding package and emissions control for the installation on a residential area with high environmental restrictions.



Tower Batching Plant

- 1 MAO Twin Shaft Mixer 5000/3350
- 8 Aggregates Bins 460 m³ total storage
- 6 Cement Silos 65 m³ each
- 2 Concrete Dry Feeding Lanes for truck mixers Concrete Recycling System



< Use QR Code and connect to our web site to learn more about MCT solutions in Ready Mix field



Futuristic project studied about 20 years ago for a high quality plant for the production of concrete.

The plant located in Switzerland near a city center has required extreme attention to the environment.

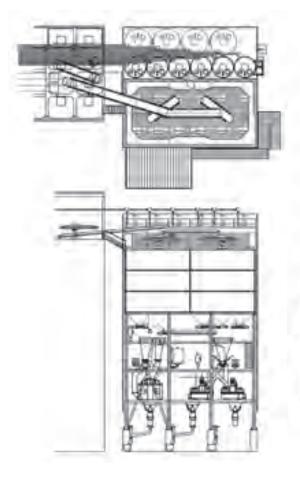
This required complete integrated cladding package and emissions control.

The design made side by side with the customer is very particular infact the platform of cement silos is completely cantilevered compared to the central mixing tower.

The vertical aggregate storage with 12 bins have a 920 m³ total capacity. Aggregates belt loading system by primary hopper, inclined belt and dispensing conveyor on the top of the tower, fully automatic.

Mixing platform with no.3 loading lanes, wet batch with no.3 twin shaft mixers MAO 4500/3000 for the production up to $150~\text{m}^3$ per hour of high quality concrete in 24~hours/day shifts.

Automation batch software integrated with central dispatch system by Dorner Electronic.





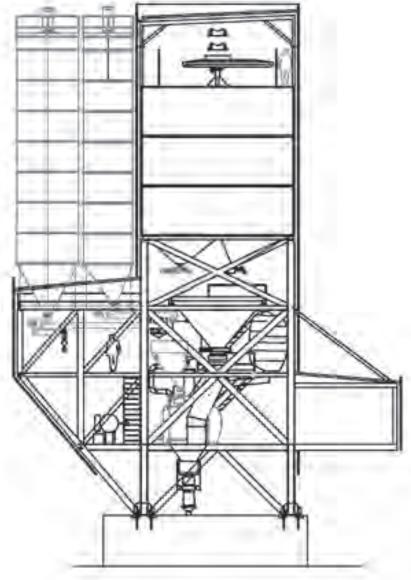
3 Twin Shaft Mixer MAO 4500/3000

12 Aggregates Bins 930 m³ storage

6 Cement Silos 60 Ton each

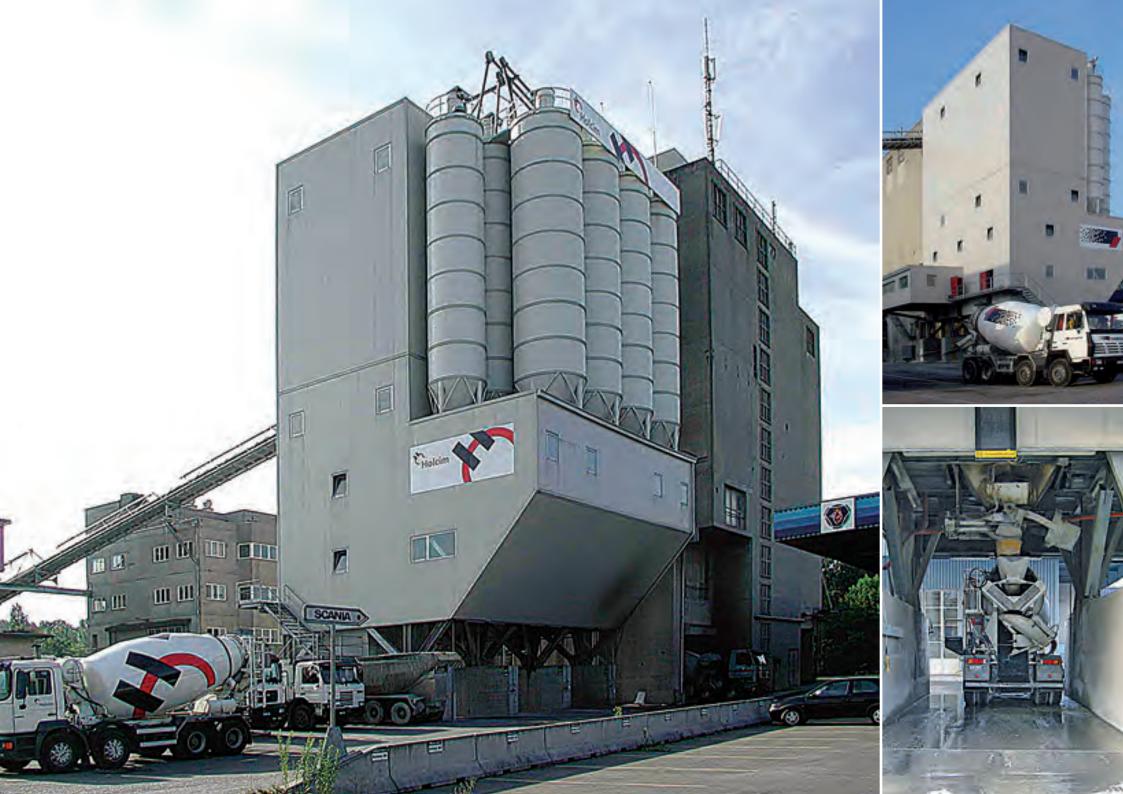
29 Chemical Admixtures

3 Concrete Feeding Lanes for truck mixers





< Use QR Code and connect to our web site to learn more about MCT solutions in Ready Mix field



COMPUNET

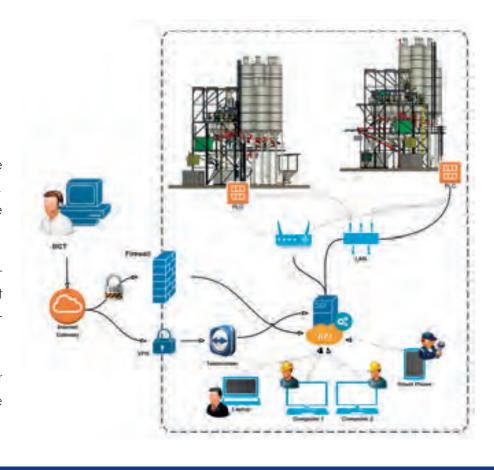
CompuNet® is our software for management and control of both batching plants and concrete transport and delivery systems.

Years of experience and top-notch connection technologies are what CompuNet® is made of. The automatic system control is assigned to a modular, Windows running software. With CompuNet® it is possible to **monitor and manage** all the aspects and stages of the whole process of the concrete production and distribution systems.

With our remote technical support we provide a **24/7 assistance** to help in case of required support, to check or restore the operations of the batching plant or of the transport and delivery system. It is possible to **check and modify processes on-line**, while it is running, just by an internet connection.



The fastest and most direct channel of assistance is through our **Marcantonini Customer Assistance App**, available on Apple Store, Google Play Store and in Desktop version.



Software

- HMI Web Based
- Ease of use
- High reliability: downtime reduced to zero
- Flexibility
- Expandability
- Management features

Management

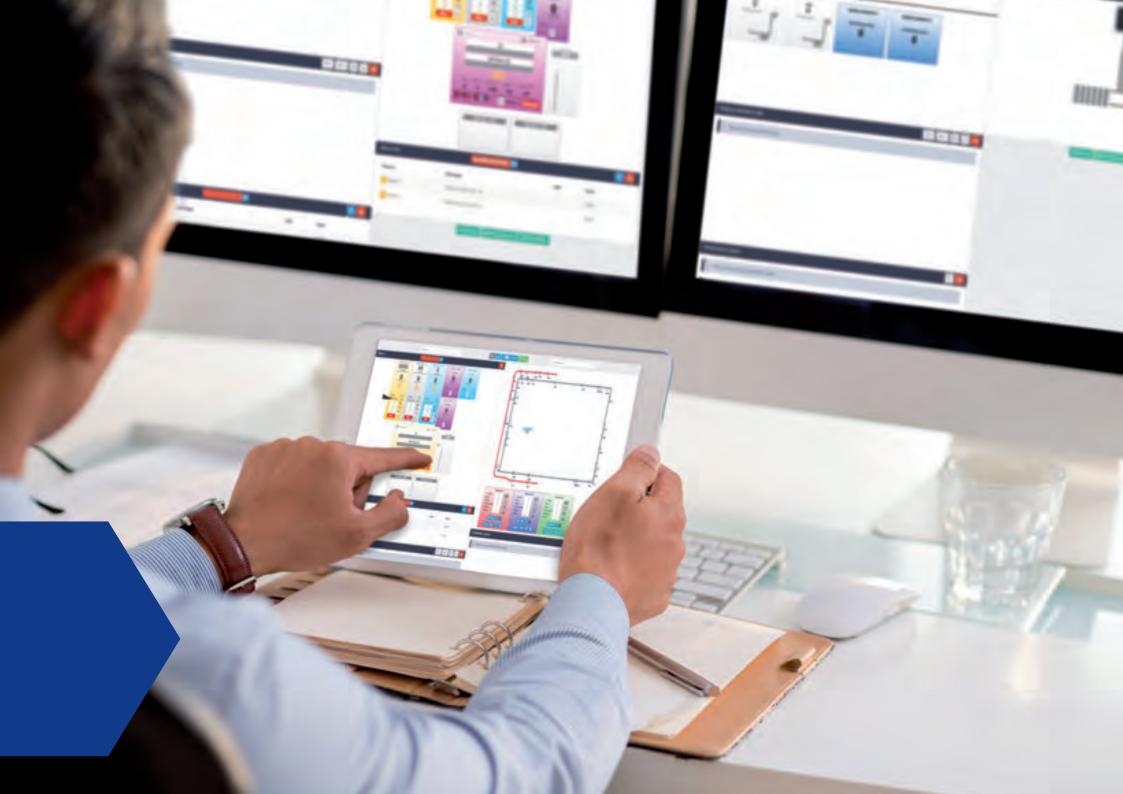
- Weight dosing
- Volumetric batching
- Additives control
- Temperature control
- Steam and ice dosing
- Aggregates moisture and hygrometry control
- Measurement of consistency and fluidity

Additional software packages

- Recipes formulation and archive
- Daily production management
- Jets power management
- Stock management
- Production process optimization
- Automatic system diagnosis
- Data archive
- In-house or third party database software support

Discover all CompuNet® advantages on MCT website









< Aerovan Flying Buckets

Capacity up to $4\ \mathrm{m}^3$

Speed: up to 270 m/min

Dual and Mono rail systems

Rollover and Clamshell gate Discharge

< Concrete Casting Machines

Capacity up to $4\ m^3$

Fully customizable

Variable stroke and rotations up to 180°



Discover all Concrete Distribution Systems on MCT website















RECYCLING SYSTEM

MCT reclaiming systems are fully integrated with the batching plant and distribution system and their automatic washing systems.

Our customized solutions in the reclaiming of materials are meant to reduce the wastes and minimize the production







MOBILE BATCHING PLANTS Mobile Plants, easy to install and ready to use





 $^{\wedge}$ Semi-Mobile Batching Plant Type MCM



^ Mobile Plant On-The-Road Type MCR

MATERIALS TERMINALS

Cement Silos Trucks Feeding Station





PRECAST Best Quality through Design and Process Optimization



Special Color Blending Machines



Mobile Plants type MCM and MCR, easy to install and ready to use





MARCANTONINI IS A WORLDWIDE LEADER

in the field of Batching Plants for Concrete Production and Distribution Systems since 1967





for Concrete Distribution



Innovative Solutions for Concrete Production



Cement Silos, Trucks Loading Stations



for Reclaiming Materials







Concrete Batch Plant Solutions for Precast, Blocks & Paver and Ready Mix Producers

Concrete Distribution Systems

Plant Automation Software
and Control Systems

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