

API connects production and planning systems in concrete block & paver manufacturing

With its proprietary programming interface, the "Masa API", Masa offers a powerful solution for the standardised integration of production data into the planning systems of concrete block & paver manufacturers. It provides the foundation for greater transparency, efficiency and seamless data availability across the entire value chain.

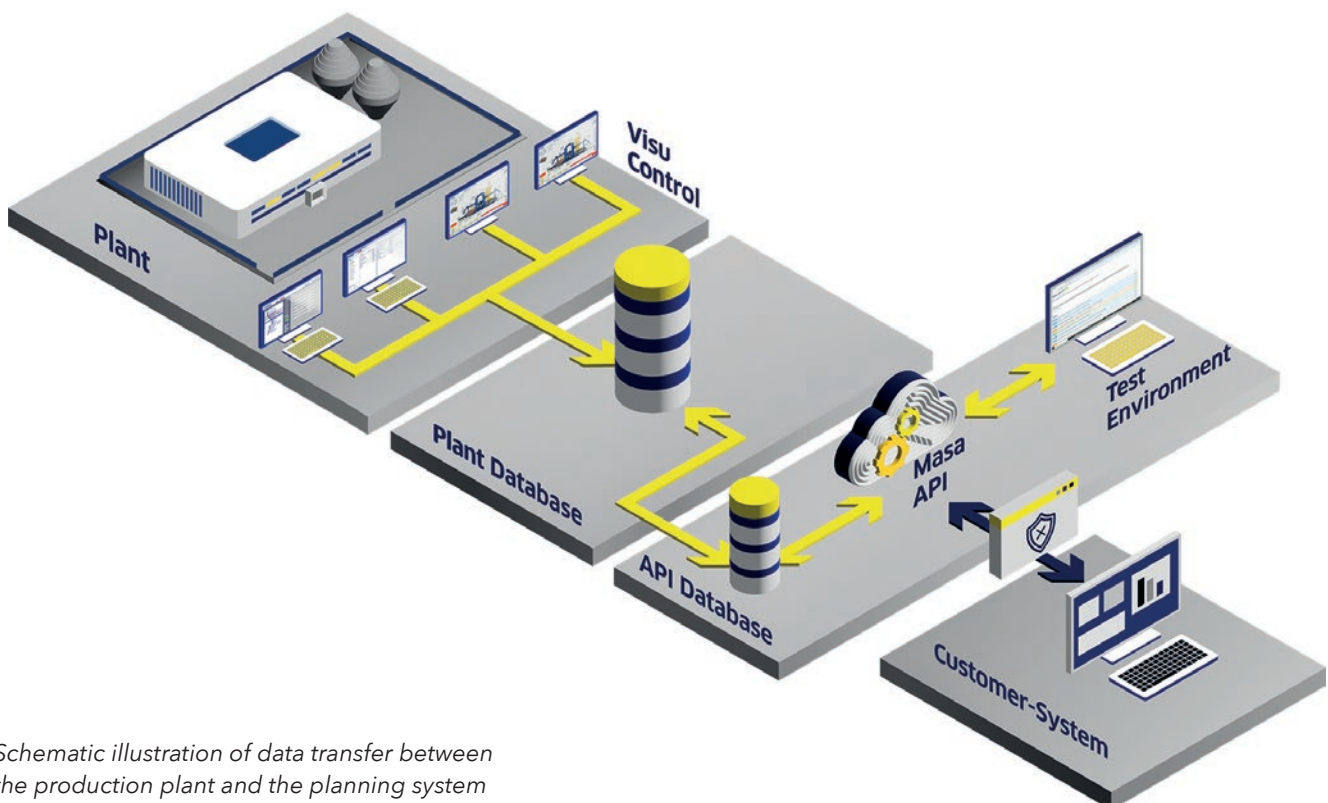
In the concrete block & paver industry, large volumes of production data are generated every day, yet they often remain within isolated systems. In many cases, continuous and automated integration into central planning systems – such as ERP systems – is not in place.

Production-relevant key figures such as output quantities, cycle times, scrap units or material consumption are frequently recorded manually and transferred through several intermediate steps. This leads to fragmented data flows – for example between machine displays, handwritten records

such as job tickets and shift reports, Excel spreadsheets and IT systems.

This results in delays in data availability and makes reliable planning of capacities, inventories and delivery dates more difficult. In addition, manual entries increase the risk of errors, for instance through transcription mistakes or incomplete data sets. A transparent and readily available data basis is often lacking – meaning that optimisation potential remains untapped.

This is precisely where the Masa API comes in: it enables a standardised, automated and cross-system data transfer between the production plant and the customer's planning systems. It acts as a "messenger" between systems, ensuring smooth and reliable communication. This allows systems to communicate without needing to understand each other's internal functionality.



Schematic illustration of data transfer between the production plant and the planning system

External systems can therefore retrieve data from the plant via the API. The implementation of data retrieval or import into the respective planning system remains the responsibility of the customer or a commissioned third-party provider.

Masa API: the basics

The API is based on the widely used REST principle, a common web-based approach to data exchange between systems.

External applications can specifically request or transmit information via predefined endpoints. Each request returns a structured response, enabling data to be processed easily and transparently.

To illustrate the interface, Masa provides an interactive testing and learning environment.

Efficient data transfer

A programming interface enables automated, secure data exchange between two software applications. In concrete block & paver manufacturing, data is generated across various process stages. The most relevant types include raw material consumption (target vs. actual values), mixing and cycle times, as well as order-related production data and, where

applicable, quality data (e.g. generated by Masa Optical Quality Control).

With the Masa API, the data generated by the plant can be transferred in a structured manner.

Secure data transmission

Masa connects the API to the customer network via a dedicated PC. The API PC acts as an intermediary instance and enables controlled data exchange. This enhances IT security, as direct access from the customer network to the production plant is prevented, and data traffic can be managed in a targeted manner.

Data transmission is carried out using the industry standard OAuth 2.0 for authorisation. This allows applications to securely access protected resources on behalf of a user without exposing sensitive credentials such as passwords. Responsibility for securing the customer network lies with the customer, while Masa ensures secure data transmission.

Add-ons: customised extensions

In addition to the API, Masa offers various modules (add-ons) that support customers, for example, in managing production orders and simplifying order processing and product changes.

masa GreyHUB
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Your best team member provides reliable real-time quality data.

The Masa Optical Quality Control System (OQC).
See more. Decide smarter. Produce better.



Order Management Plus: Flexible management and processing of current and planned production orders.

Order	Name	Termination
4711	Colony	06/02/2023
1033	Ten	26/01/2023
3500	Masa Test	26/02/2023
25002023	August Vibes	05/08/2023
454437	Test top	23/06/2023
10102023	Older	10/06/2023
24102023	Antares Ylase	24/10/2023
10102023	Order 101023	10/01/2023
2002023	Order Best Customer	26/08/2023
15002023	September	15/09/2023
1212023	Yolad	10/12/2023
01102023	New Year Production	05/01/2024
27012023	Fire Carnival	27/01/2024
2002023	Spring Production	06/02/2024
22042023	Summer in coming	22/04/2023

Product	Status	Finished	Qty	Name
Working	2	MASA main recipe		
Online	10	Power Holland 1cm 1 color		
Working	15	Power Holland 10cm 3 color		
Working	50	Blues 30'20'25		

Status	Action	Finished	Order nro	Product nro	Product name	Actual quantity	Target quantity	Progress (%)
Waiting			22042023	2	MASA main recipe	0	5555	0.00%
Waiting			10102023	2	MASA main recipe	1485	3000	49.50%
Waiting			454437	2	MASA main recipe	0	6400	0.00%
Online			22042023	18	Power Holland 1cm 1 color	5674	6666	85.12%
Waiting			22042023	15	Power Holland 10cm 3 color	0	7777	0.00%
Waiting			10102023	15	Power Holland 10cm 3 color	8804	4780	78.50%
Waiting			22042023	54	Blues 30'20'25	4119	8888	46.34%
Waiting			15002023	100	High Product	5215	10000	52.15%

Order number	Product number	Product name	Actual quantity	Target quantity	Progress (%)
22042023	10	Power Holland 1cm 1 color	5674	6666	85.12%
22042023	15	Power Holland 10cm 3 color	8804	4780	78.50%
22042023	54	Blues 30'20'25	4119	8888	46.34%
22042023	100	High Product	5215	10000	52.15%

As customer requirements and systems vary, suitable modules are selected through individual consultation. Where necessary, Masa also develops customer-specific extensions. Particularly recommended is Order Management Plus, an add-on for the seamless documentation of orders, especially when integrating with an ERP system.

Order Management Plus

Manual entry of production orders and related data typically leads to high effort, increased error rates and inconsistencies in data management. The "Order Management Plus" module, by contrast, enables centralised management of production orders and seamless communication with the production plant. Relevant order and product data are exchanged with the plant automatically and in a structured manner.

Switching between orders is possible as soon as a plant section is ready, without the need to run the production line empty beforehand. This allows different products or orders to be manufactured in parallel on a single line – a key advantage for flexible and efficient production.

The availability and usability of "Order Management Plus" depend on the respective software version of the Masa plant control software.

Developing tailored solutions together

The Masa API creates a solid basis for integrated, data-driven production. It increases transparency, boosts efficiency and supports companies in systematically optimising their processes along the entire value chain.

In combination with the add-ons, the solution can be flexibly adapted to individual requirements. Requirements outside the standard product portfolio can, following evaluation, be implemented as customer-specific solutions.

Further information and individual consultation are available from Masa upon request. Andreas May is the designated contact and is available to answer questions on digital solutions.



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