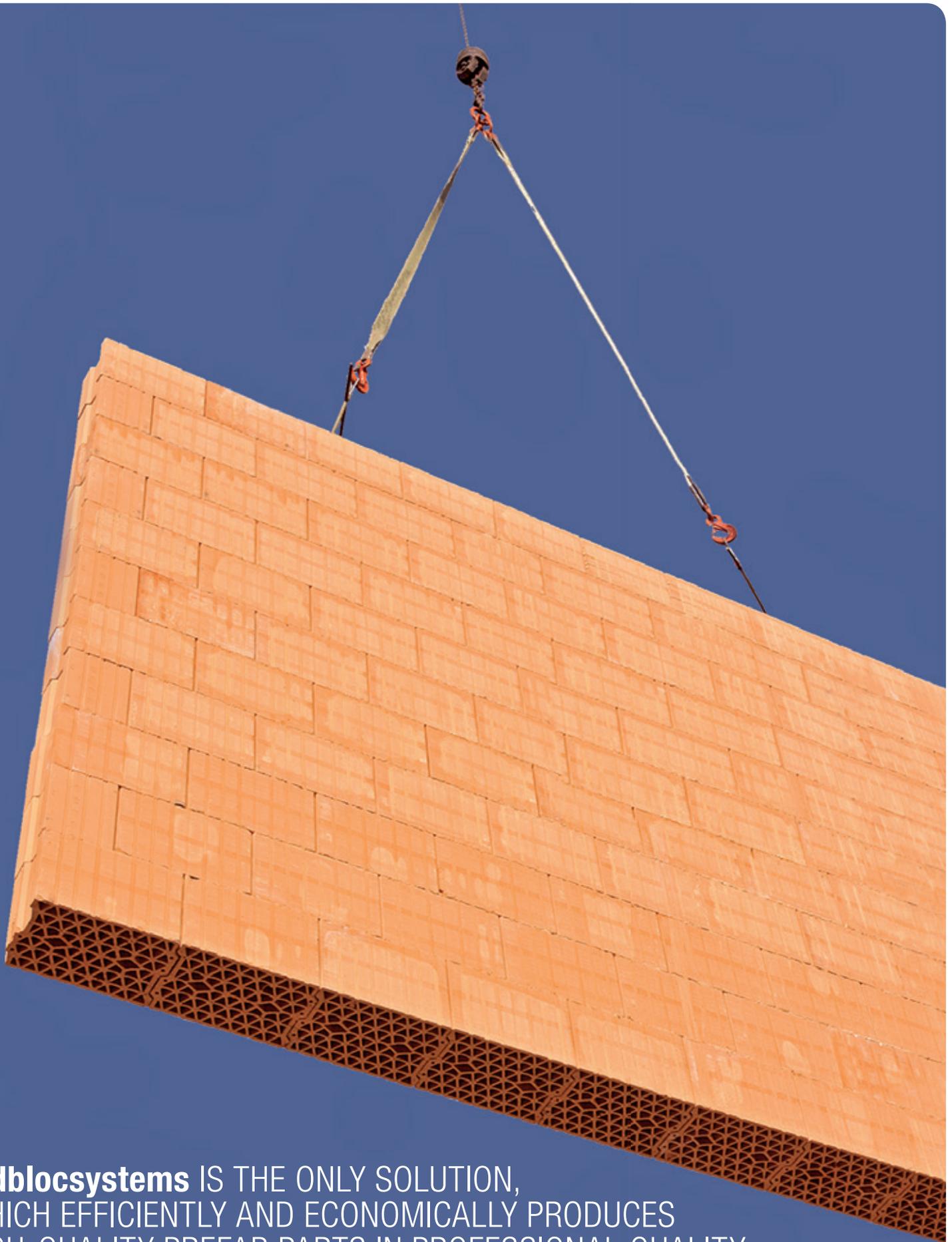




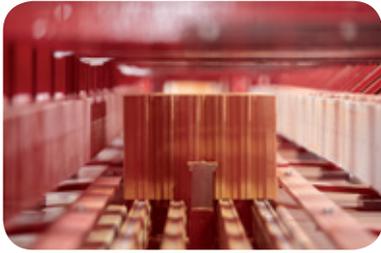
# This is how Industry 4.0 works in construction industry.

The future-proof guaranteed solution to the shortage of skilled manpower.

THE HIGHLY PROFITABLE **PREFABRICATED WALL ELEMENT SYSTEM**  
FOR MEDIUM-SIZED CONSTRUCTION COMPANIES.



**redbloccsystems** IS THE ONLY SOLUTION,  
WHICH EFFICIENTLY AND ECONOMICALLY PRODUCES  
HIGH-QUALITY PREFAB PARTS IN PROFESSIONAL QUALITY  
MADE FROM VARIOUS BUILDING MATERIALS.  
THEREFORE **redbloccsystems** SETS NEW STANDARDS  
IN SOLID AND PREFABRICATED CONSTRUCTION.



# The easiest way for efficient solid buildings!

**The construction industry is booming. At the same time, the shortage of skilled manpower is growing. That makes the fast, reliable and economical implementation of construction projects increasingly difficult.**

**redblo systems offers a simple and profitable alternative without having to forego the advantages of solid brick houses.**

## \_Solid masonry houses remain in style

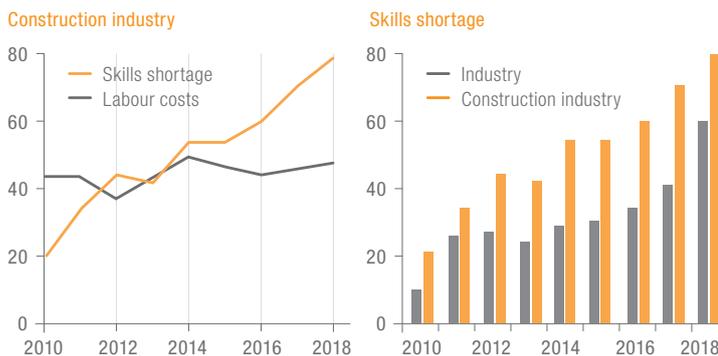
Masonry houses are of high quality, can be freely planned and offer a high level of living comfort with many advantages. They can be realized with different building materials and easily insulated. At the same time, conventional brick houses mean higher construction costs for builders and contractors, longer construction times, greater dependence on the weather for the shell and higher demands on personnel.

## \_Lack of skilled workforce – a challenge for the construction industry

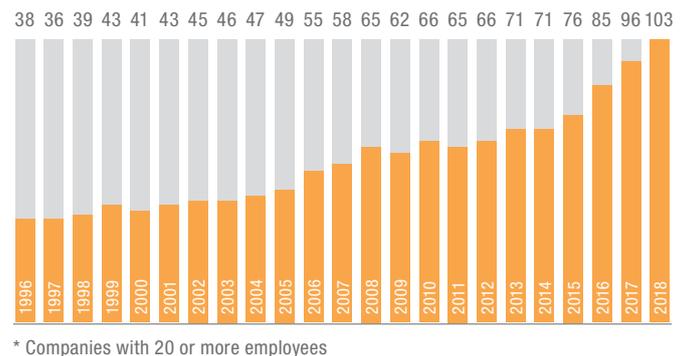
To build high-quality solid houses – stone by stone – you need skilled workers. However, these are becoming increasingly scarce, so that currently 80% of all construction companies already have problems finding sufficiently qualified employees. In addition, training places remain vacant and there is a lack of young talent. The attempt to fill the personnel gap with semi-skilled workers from other European countries often leads to quality problems and complaints due to the limited language skills. For this reason, contractors must find new ways to meet the requirements.

### Overview of skills shortages

Surveys at the beginning of each year, nominations in %



### Orders on hand per person employed in the German construction sector\* / at current prices, as of end of June, in 1,000 Euro



**Building boom and shortage of skilled manpower grow parallel.**  
The construction industry must ensure quality and quantity at the same time.

## \_Clever alternative: Automated prefabrication

**redbloccsystems** enables the automated production of masonry walls and links the advantages of solid walls with the advantages of time- and cost-optimized prefabricated construction. Thus, **redbloccsystems** offers medium-sized construction companies in particular a simple, high-quality and economical possibility to realize projects quickly and reliably in the desired quality.

## redbloccsystems – ADVANTAGES AT A GLANCE

- **Automated manufacturing:** Just-in-time production
- **Constant quality:** No complaints on the construction site
- **Short production time:** Only one hour from production to delivery
- **High performance:** Up to 350 m<sup>2</sup> wall elements per shift
- **Intelligent lift-off system** – reusable – no iron in the wall
- **Fast assembly:** Up to 300 m<sup>2</sup> wall per shift
- **No building moisture:** Fast process, no drying times
- **Calculable costs:** Constant effort, minimal waste
- **All types of buildings:** Single-family houses, commercial buildings, large commercial buildings
- **Maximum design freedom:** All shapes, all mineral building materials



The  
**production  
plant.**



# Building the future:

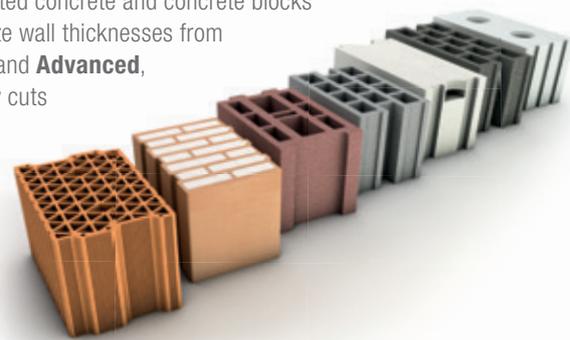
**redbloccsystems** is automated and highly flexible

## \_Automated production of solid walls

The **redbloc** technology, which has been tried and tested throughout Europe for more than 15 years, makes it possible to produce hundreds of square metres of wall elements automatically within a few hours. The finished parts are then transported to the construction site and moved easily, quickly and precisely.

## \_One system for all cases

**redbloccsystems**-lines produce wall elements from all flat ground, solid building materials such as bricks, sand-lime bricks, pumice, expanded clay, aerated concrete and concrete blocks semi or fully automatically. The flexible lines can realize wall thicknesses from 10 to 51 centimeters. For the production lines **Basic** and **Advanced**, only a standard brick format is required. All necessary cuts for roof slopes, purlin cut-outs, installation ducts as well as window and door openings can be automatically integrated into the production process.



## \_Simple production – just in time

**redbloc**-solid wall elements are manufactured in a worldwide unique dry adhesive process. The patented **redbloc** dry adhesive replaces conventional mortar and sets in a very short time, long and weather-dependent drying times are eliminated. The wall element can be transported within one hour after manufacture.

## Become a **redbloccsystems** license partner

### \_redbloccsystems offers

turnkey plants for the production of prefabricated wall elements. The system has been tested and approved by the building authorities. The plant layout is created according to your requirements, the plant is planned as a turnkey production line and realised including chief assembly and commissioning.

#### The license agreement also includes

- the use of all **redbloccsystems** enhancements
- the use of the **redbloc** brand name
- the free training of your employees on **redbloccsystems**-facilities
- technical support and assistance with spare parts supply and repairs
- advice on structural engineering problems
- the surrender of all test certificates from the structural approval
- the provision of all documents required for obtaining one's own structural works approvals



# From blueprint to house.

Building is that easy with **redbloc**.

With the **redbloc Basic** production line shell structures are being constructed in eight standardised work steps.



## Adhesive INFO

The proven and protected 2-component-adhesive was developed together with the technology group HB Fuller. The dry adhesive sets in a very short time and the wall element can be further processed.





## THE PRODUCTION.

### INFO - Personnel on the construction site

Three employees and a crane move 300 m<sup>2</sup> of wall elements in one shift, thus taking 80% less time to complete the shell.

### INFO - Plant personnel

#### Highest efficiency:

For the operation of a **Basic** Production only three employees and one draftsman are required.

### 1 Work preparation

An element plan is first created from the plan supplied by the architect or master builder. Depending on the degree of automation, this can be done via hand sketch or automatic ejection from CAD software.

### 2 Setting the layers

The operating personnel places the required building materials on the automatic feed unit with the aid of semi-automatic grippers. A alignment bar serves as an attachment point and the individual wall lengths are defined exactly with the aid of freely adjustable tabs. Cuttings for height cuts and cut-outs for supports, rafters and purlins are carried out manually with the semi-automatic system using a diamond circular saw. Optionally, the system can be extended by either a water jet system or a wire saw for fully automatic trimming.

### 3 Automatic feeding to the layer gripper

The set layers are transported to the layer gripper by means of an automatic feeding unit. Due to the chosen method of transport, the bricks remain in exact position.

### 4 The layer gripper

places the precisely aligned layers fully automatically on the circulating pallets and thus forms the wall element layer by layer. During the construction of the wall, the circulation pallet is located on a lifting platform, which is lowered by one share height after a new layer has been applied.

### 5 Glueing stones

The 2-component-adhesive is applied automatically after each set layer.

### 6 Fully automatic transport of the circulating pallets

The finished wall elements are equipped with reusable lifting rods before the plant crane lifts them into the transport containers in the sequence required on site.

### 7 Loading and transport

Two transport systems are available for transport to the construction site:

1. Internal loader or
2. Drop-bed semitrailer

Both systems have their advantages and disadvantages. We are happy to advise you here.

### 8 Assemble wall elements

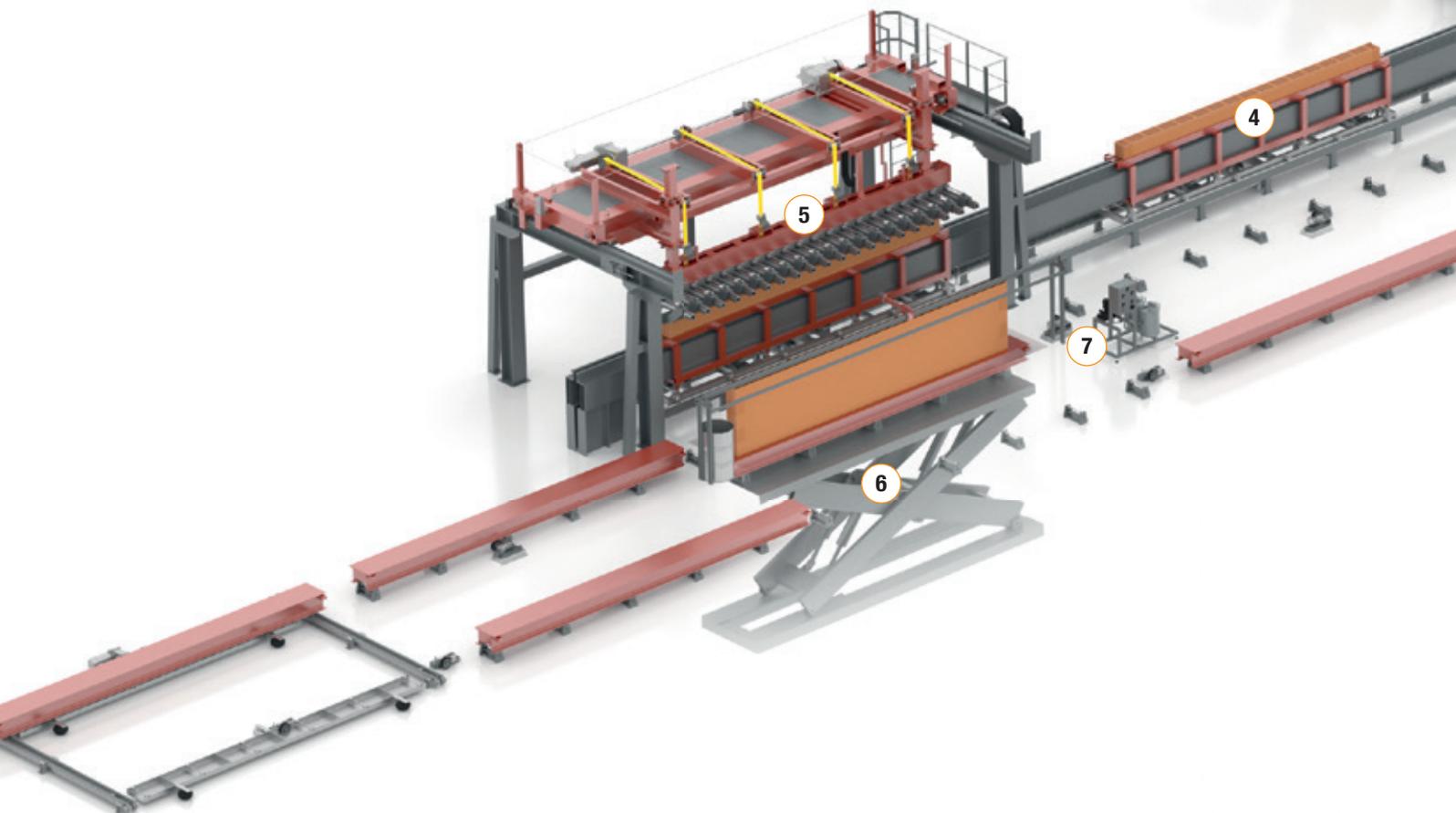
The ground plan is marked with a chalk line. Using level plates, zero level and perpendicular are defined in order to then place the wall elements in the prepared mortar bed. The elements are fixed vertically by means of diagonal supports.

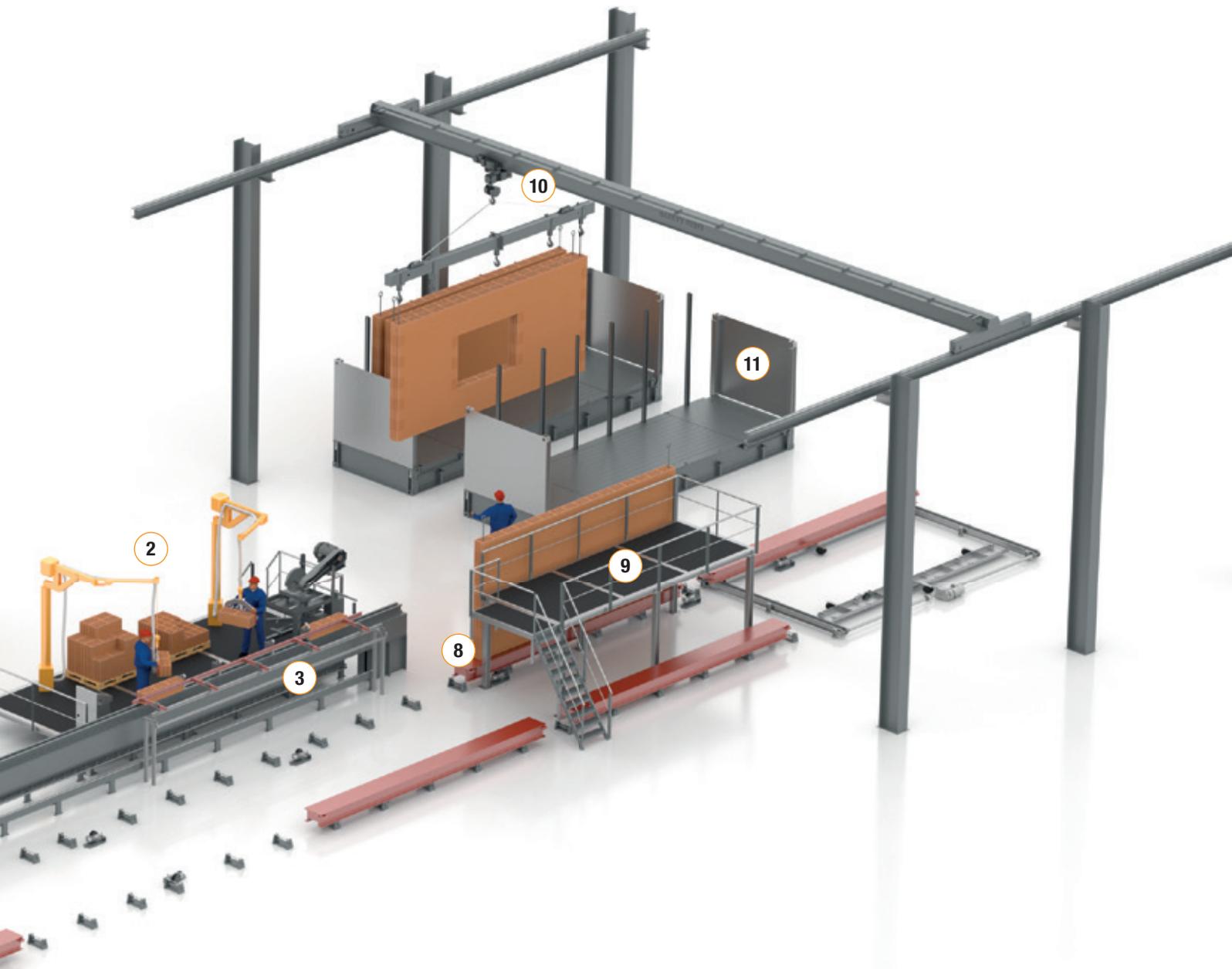


# redblocsystems

## Basic Production line

- 1 Forklift to feed the plant with building materials.
- 2 Working platform with storage space for brick pallets, 2 weight compensating lifting manipulators, grabs and diamond circular saw.
- 3 Alignment bar with freely adjustable tabs for maintaining exact wall lengths.
- 4 Automatic transport system as feed to the layer gripper.





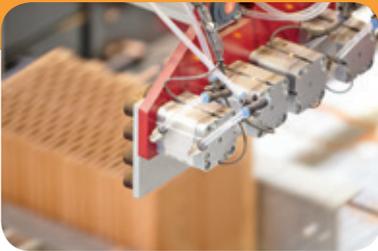
- 5 Automatic layer gripper for placing the brick layers on the circulating pallets.
- 6 Automatic lifting platform for lowering the wall element in shares during production.
- 7 Automatic gluing machine for applying the 2-component-adhesive to a brick layer before setting the next layer.

- 8 Automatic transport of the circulating pallets including 2 cross transfer units for moving the empty circulating pallets.
- 9 Post-processing platform for inserting the recyclable lifting rods and any post-processing work on the wall elements.
- 10 Indoor crane
- 11 Transport containers

# These redbloc production lines exist.

Turnkey production lines.

The turnkey production line **redbloc Basic** is ideally tailored to the requirements of medium-sized construction companies and produces semi-automatic wall elements quickly and efficiently. This makes it easy to get started with automated wall production.



## redbloc Basic

Key production data.

|                                |   |
|--------------------------------|---|
| <b>Building materials:</b>     | Brick, sand-lime brick, pumice, expanded clay, aerated concrete, concrete block                       |
| <b>Formats:</b>                | Whole formats, additional half formats are advantageous, but not mandatory                            |
| <b>Wall thicknesses:</b>       | 10 to 51 cm   |
| <b>Wall heights:</b>           | Standard up to 3,5 m  |
| <b>Wall lengths:</b>           | Standard up to 6,0 m - optional up to 8,5 m   |
| <b>Personnel requirements:</b> | 3 Production employees, 0,5 CAD-draughtsman   |
| <b>Hall size:</b>              | Approx. 30 x 18 x 6 m   |
| <b>Automation:</b>             | Alignment strip, layer feeding, layer setting, glue application, lifting platform, pallet circulation |
| <b>Cut to size:</b>            | Manual with diamond circular saw or automated with water jet or wire saw system                       |
| <b>Production:</b>             | 120 m <sup>2</sup> per shift  |
| <b>Production time:</b>        | 1 hour from design drawing up to finished wall element  |

### Ready for operation in 3 weeks

**redbloc Basic** A production lines are easy to set up. We only need three weeks for assembly and commissioning in the production hall. If required, they can also easily be retrofitted into a fully automatic **redbloc Economic** production line.



For larger production capacities, **redbloc** plants are also available as fully automatic production lines, known as **redbloc Economic** and **redbloc Advanced**.

## Expansion to fully automatic production using add-ons:

- \_ Automated feeding system
- \_ Water jet cutting machine
- \_ Link to CAD programs

### **redbloc Economic**

In addition to the advantages of the **redbloc Basic** line, this particularly economical solution also offers comprehensive automation of production preparation and wall cutting:

- Nemetschek Precast CAD-software for easy calculation and elementation of wall elements
- Use of whole and half stones with adapted hole pattern
- Automatic feeding of the production line with building materials
- Water jet cutting system for automatic trimming of wall elements in any form
- Production capacity: up 350 m<sup>2</sup> per shift

### **redbloc Advanced**

In addition to all the advantages of **redbloc Economic** lines, the high-end line for processing filled building materials offers further advantages:

- Requires only whole formats, half formats, fitting pieces and bores for the lift-off rods are produced fully automatically from the whole formats by the system
- Walls without open cut surfaces at the wall ends or in window reveals
- Sawing centre with diamond wire saw or water jet system for automatic cutting of wall elements in any shape. When using the water jet system, installation ducts, sockets, electrical lines, water lines, etc. can also be cut to exact dimensions

THE PROVEN **redbloc**-TECHNOLOGY  
OFFERS CONSTRUCTION COMPANIES,  
HOME OWNERS AND ARCHITECTS CLEAR  
ADVANTAGES AND PAYS FOR ITSELF  
WITHIN A VERY SHORT TIME.



[www.redbloccsystems.com](http://www.redbloccsystems.com)  
[info@redbloccsystems.com](mailto:info@redbloccsystems.com)



# redbloc offers convincing advantages for all involved.

## **\_Construction company:** Future security through automation

**redbloc** secures simple, fast and profitable projects for construction companies in the areas single-family house, commercial building and object building.

- Solution for shortage of skilled manpower
- Increase in productivity
- Constant high quality
- Short production and construction times
- Completion dates can be reliably planned
- Economical, cost-efficient work
- Fast return on investment
- Proven, tested and approved system

## **\_Architects:** Discover new freedoms

For architects, **redbloc** already offers a new freedom in material and form during the planning phase.

- Use of all commercially available surface-ground building materials in all thicknesses
- Cutting to almost any shape
- High design flexibility

## **\_Building owners:** Combination of solid and prefabricated houses

**redbloc** combines the time and cost efficiency of prefabricated construction with the advantages of solid houses.

- Fast shell construction, short construction time
- High cost savings
- All freedom in layout and design
- Free choice of building material according to thermal insulation and sound insulation properties
- Best indoor climate, no harmful emissions

\_Discover now our **redbloc** houses



For more than fifteen years, houses with **redbloc**-technology have been built in Austria, Germany, Switzerland, Belgium and Russia.

You can see some selected examples here.

We will be happy to name properties near you.  
Talk to us.





**Redbloccsystems GmbH**  
Eferdinger Straße 175  
A 4600 Wels

Phone +43 (0) 72 42 | 46 320-0  
[www.redbloccsystems.com](http://www.redbloccsystems.com)  
[info@redbloccsystems.com](mailto:info@redbloccsystems.com)