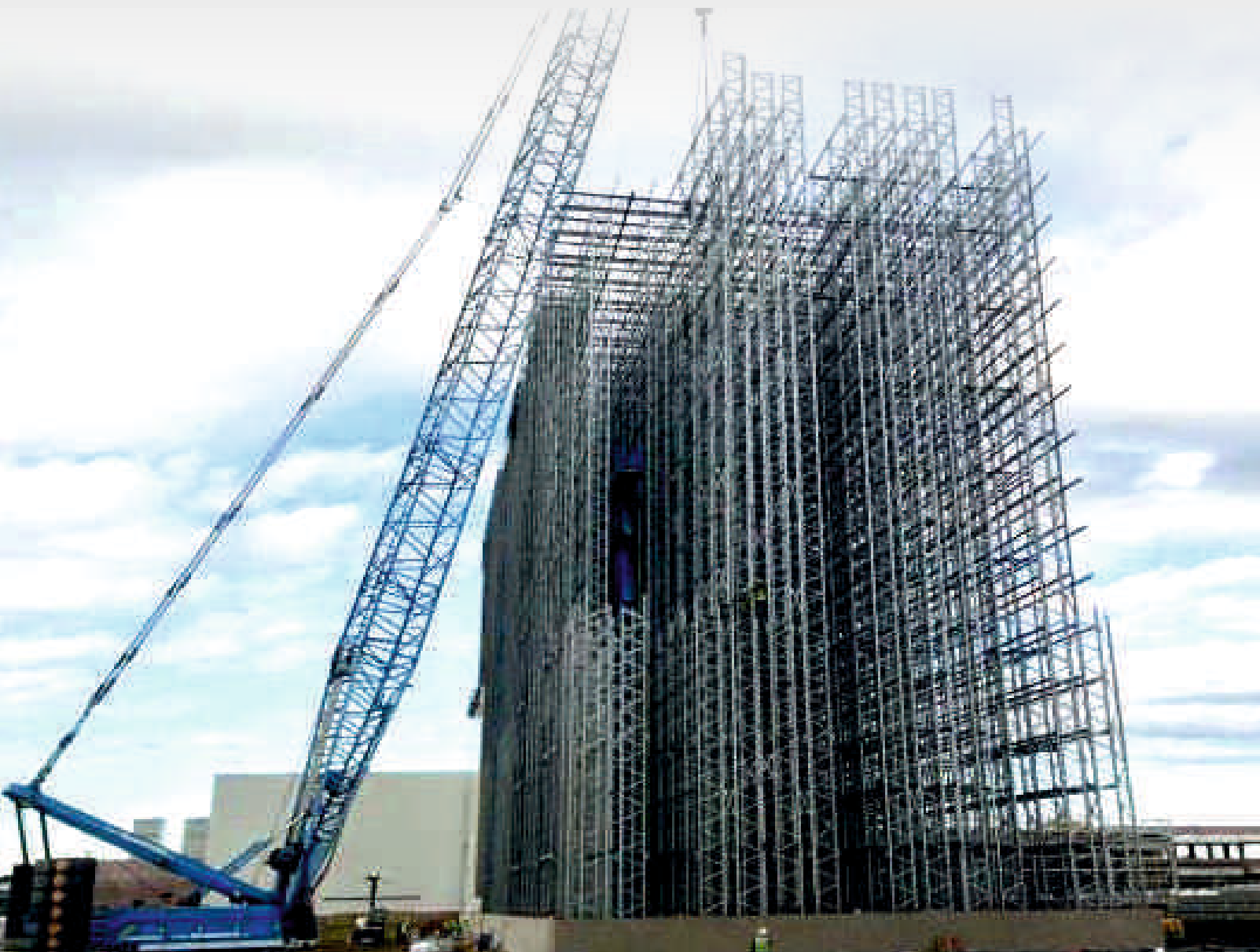


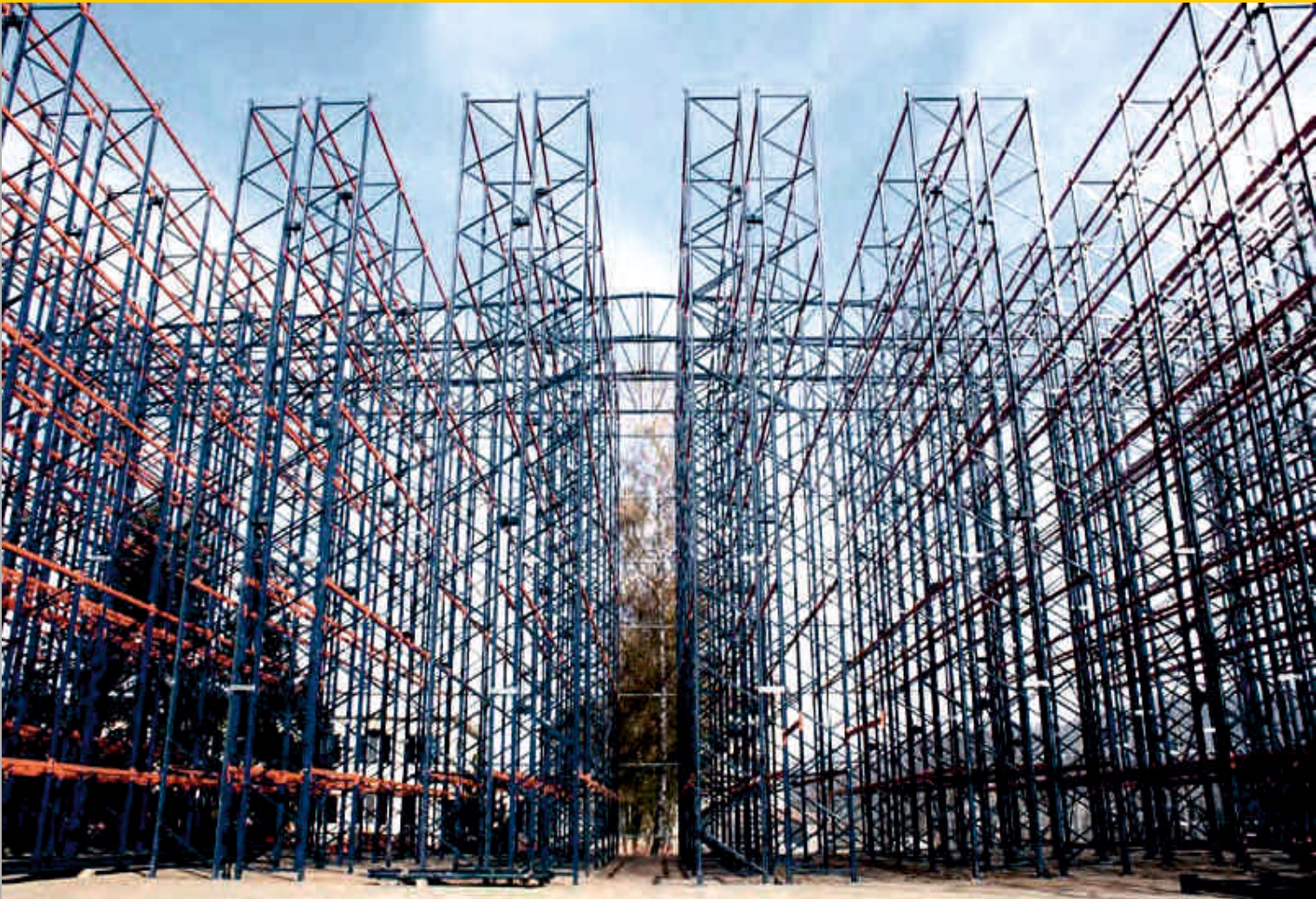
STORAGE TECHNOLOGIES & MATERIAL HANDLING  
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# **SELF-SUPPORTING** SYSTEMS



## SELF-SUPPORTING SYSTEMS



### ADVANTAGES:

- Self-supporting warehouses can be extremely tall, enabling maximum use of available surface area
- High storage capacity and excellent productivity
- Allows a wide range of goods to be stored
- Storage can be manual, semi-automated or fully automated

### APPLICATIONS:

Self-supporting warehouses are major works of engineering in which the racking itself makes up the building's structure, together with side and roof cladding. The racking structure supports not only the actual goods and the different building elements but also the thrust of the handling devices and external elements: wind, heavy snowfalls, seismic movements, etc.

The maximum height of a clad-rack warehouse is limited only by local standards and by the reach height of stacker cranes or forklift trucks. This means that warehouses of more than 30 metres high can be built.

Clad-rack warehouses are perfect for both ambient and cold storage.

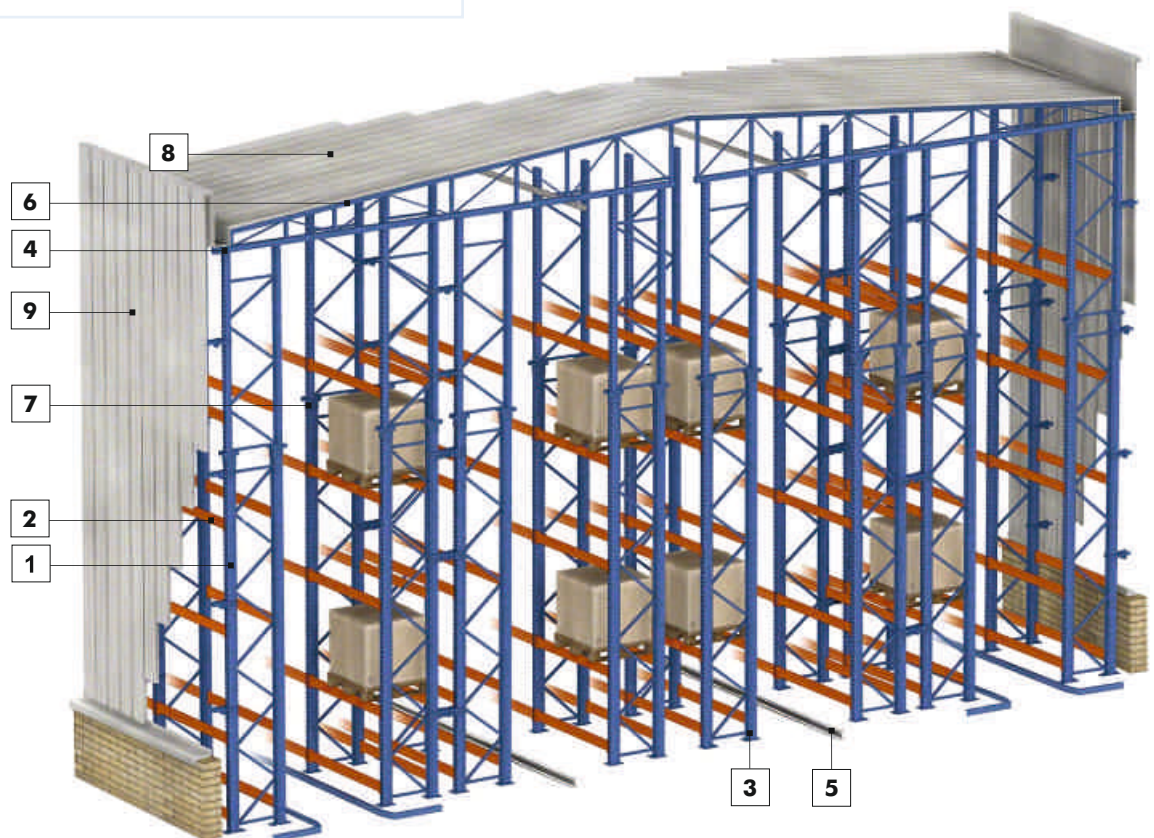


**OPTIMUM SOLUTION TO STORE AT A LARGE HEIGHTS MAKING THE MOST OF THE AVAILABLE SURFACE.**  
**CAN BE USED TOGETHER WITH TRADITIONAL AND AUTOMATED SYSTEMS.**  
**LARGE ENGINEERING WORKS WHERE THE SHELVES ARE PART OF THE BUILDING'S CONSTRUCTION SYSTEM.**

The basic structure is formed by the racking itself which, in turn, functions as the warehouse. The structures of clad-rack buildings must be calculated by applying the law of material resistance, using powerful and sophisticated programmes and calculation algorithms. The load to be stored must always be taken into account (dimensions, weight, distribution), along with the dead weight of the structure and external actions, such as wind (pressure or suction), snow, earthquakes and other live loads. All these calculation factors are included in the different regulations and laws which are usually featured in the Technical Building Codes of each country.

## BASIC COMPONENTS

- |                             |                           |
|-----------------------------|---------------------------|
| 1. Frames                   | 6. Roof supports          |
| 2. Beams                    | 7. Side cladding supports |
| 3. Anchoring and footplates | 8. Roof cladding          |
| 4. Trusses                  | 9. Side cladding          |
| 5. Machine guides           |                           |



## REFERENCES

EXECUTED PROJECTS FROM 2009



### **MACROMEX company -** Cluj, Romania

Assembly of a self-supporting  
automated system in  
company's warehouse in  
Cluj, Romania.

24 000 pallet places  
43 m height  
**Finished 2012**

