The development of modula® in 1997 has revolutionised platform construction beyond Germany. In the past two decades, over 500 system platforms have been realised in a whole host of European countries including Denmark, Luxembourg, England and Austria.

The high production quality is regularly tested and confirmed through external audits commissioned by DB AG supplier management.

The variety of design and construction variants allows for new construction and conversion as well as changes to the entry level of existing platforms, both individually and as needed.

Over the years, different customer requests for numerous new developments/further developments have led to a whole series of different types of system platforms. The challenge of offering intelligent solutions starts with the in-house planning and consulting. Today we offer a wide range of system platforms for the different requirements of long-distance traffic, local traffic and city traffic all of which are described in more detail in this brochure.
Key characteristics

> Top quality as a result of production in the company’s production facility for precast parts
> TT-slab design with large spans for free-standing and backfillable platforms
> Drained platform systems and variants for restorations and new constructions
> Foundation outside of the pressure range from railway traffic loads
> Large range of foundation variants
> Simple foundation and dismantling in the case of a dam site and a poorly supporting substrate

> Very short assembly times
> High level of prefabrication (production which is independent of weather conditions)
> Environmentally conscious and sustainable production (EMAS certification)
> Q1 supplier status in the case of DB AG
> Certification in accordance with DIN ISO 9001

The system platforms shown on the following pages are evidence of the high degree of prefabrication and modularity that a feature of the modula® system series.
Hering’s package of services includes technical processing, production ‘made in Germany’, delivery throughout Europe and optionally, installation of system platforms by experienced staff.

The elements are optimised in terms of production efficiency, transport and assembly in Hering’s technical office.

Under hall-specific conditions, production takes place in a Q1-certified concrete factory, regardless of the weather.

The precast concrete elements are produced ready for installation including the necessary hatching, a guidance system for the blind, the platform edge and anchorages for installations (e.g. lighting poles or weather protected housing).

After production, the platform elements are delivered as needed, by truck or rail freight. Often this takes place just-in-time.

With 24 tonnes truck unloading (max.) economic transportation is ensured. The choice of element dimensions and weights is already taken into account in the design of the components.

For installing the platform elements, different aids are used according to the size and type of the element: These are either crossbar hangers with load hooks or anchors embedded in the surface, which after installation, are permanently sealed with a concrete sealing plug.
modula® Surfaces – Pure flexibility

The production of the dark surface of the covering takes place using high-quality concrete compositions with face concrete in dark granite or basalt. As such, colouring is permanently ensured.

The necessary guidance systems and hatchings are directly integrated into the surface at the factory by means of glued-in tiles or concrete casting. In addition, an individual multi-coloured design of the surfaces is possible, depending on customer requirements.

The highly-resistant surfaces pass all analyses for slip resistance, luminance contrast (LRV value) and in terms of resistance to frost and de-icing salt, clearly exceed the requirements of the relevant regulations; the weathering values only amount to 10 to 20 percent of permissible limits. All requirements for the design of the surface comply with the applicable national regulations even in the case of private-sector rail operators and numerous foreign railway companies.
modula® Surface variants

> finely washed (DB AG standard)
> acidulated
> blasted
> surface with concealed joints in a cut format (not a DB AG standard)
> platform edge with an easy-grip matrix structure
> guide strips for the blind and optional hatching of the hazard zone can be produced by means of glued-in tiles or as a cast matrix
> polished surfaces (only in protected areas)
### modula® Summary of types

#### modula® Type 1

- **System sketch**
- **Application**: New construction of freestanding outdoor platforms
- **Nominal heights**: 38, 55, 76, 96 cm above top of rail (New construction)
- **Description of system**: Reinforced concrete TT slab
- **Dimensions / Weight**: Length up to 9.60 m infinitely variable, width up to 3.50 m infinitely variable, ideal weight of element 12.0 t (max. 30 t), structural analysis for the type is available for various standard applications
- **Foundation**: Flat: Precast part foundation on in-situ blinding concrete, Deep: Bored pile or driving girder with a top bar
- **Inner earthing**: Continuous ø 16 mm earthing iron with 2 welded connection bushings for connecting with earthing connectors
- **Construction suitable for**: Installation in short possession periods, dam sites, poorly supporting substrate, overall this results in economic advantages in contrast to conventional construction method (construction costs, construction period)

#### modula® Type 1b

- **System sketch**
- **Application**: New construction of backfillable outdoor platforms or middle platforms with conventional backfilling
- **Nominal heights**: 38, 55, 76, 96 cm above top of rail
- **Description of system**: Reinforced concrete TT slab
- **Dimensions / Weight**: Length up to 9.60 m infinitely variable, width up to 3.50 m infinitely variable, ideal weight of element 12.0 t (max. 30 t), structural analysis for the type is available for various standard applications
- **Foundation**: Flat: Precast part foundation on in-situ load distribution slab Dimensions depending on the ground, Deep: Bored pile or driving girder with a top bar
- **Inner earthing**: Continuous ø 16 mm earthing iron with 2 welded connection bushings for connecting with earthing connectors
- **Construction suitable for**: Installation in short possession periods, dam sites, poorly supporting substrate, overall this results in economic advantages in contrast to conventional construction method (construction costs, construction period)
### modula® Type shift

**Subsequent change to the level where passengers embark**

From 55 to 76 cm above top of rail and v.v., from 76 to 96 cm above top of rail and v.v.

**Reinforced TT slab is increased in height or lowered by means of a concrete-lined steel toe or concrete pre-fabricated spacer (distances)**

**see modula® Type 1**

**Element weight max. 4.0 t for installation with two-way excavator**

17 cm slab on a bar/ foundation construction

18 cm slab in the case of a 3.50 m max. foundation distance,

22 cm slab in the case of a 4.80 m max. foundation distance,

26 cm slab in the case of a 5.40 m max. foundation distance,

30 cm slab in the case of a 6.00 m max. foundation distance

**see modula® Type 1**

**Flat: Bar/Foundation system on in-situ blinding concrete,**

**In-situ cross foundations or in-situ capping. Deep: Ram pile foundation**

**see modula® Type 1**

**Continuous ø 16 mm earthing iron with 2 welded connection bushings for connecting with earthing connectors**

**Creation of a changed barrier-free level where passengers embark, e.g. as a result of the use of new rail cars**

**Installation with a two-way excavator or wheeled excavator in short possession periods and poorly accessible installation sites**

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### modula® Type light

**Existing raising and new construction of freestanding and backfilled railway platforms with a drained construction method**

55, 76, 96 cm above top of rail

**Reinforced flat slab 17 cm (up to 30 cm)**

and bar/foundation system up to 7.50 m in length

**see modula® Type 1**

**Flat: Bar/Foundation system on in-situ blinding concrete,**

**In-situ cross foundations or in-situ capping. Deep: Ram pile foundation**

**see modula® Type 1**

**Continuous ø 16 mm earthing iron with 2 welded connection bushings for connecting with earthing connectors**

**Installation with a two-way excavator or wheeled excavator in short possession periods and poorly accessible installation sites**
# modula® flex

## System sketch

![System sketch](image)

## Application

Raising of platforms and repairing of platform surfaces

## Nominal heights

- on 38 cm above top of rail,
- 55 on 76 cm above top of rail,
- from 76 to 96 cm above top of rail 55, 76, 96 cm above top of rail with platform edge 51, 21 and 42 (supplement variants)

## Description of system

Flat plate reinforced with high-performance fiberglass-reinforced cover. Cuts are possible, as there is no reinforcement corrosion.

## Dimensions / Weight

- Component thickness 8 cm,
- Element length along the platform 1.34 m,
- Element widths 1.20 m, 2.50 m, 3.00 m (Standard), further element widths are available upon request

## Foundation

Stable, intact platform edge; frost-proof, stable substrate, laying concrete C25/30, XF1, XC2, WF with layer thicknesses of approx. 5 – 13 cm

## Inner earthing

No earthing is necessary

## Construction suitable for

Installation with a two-way excavator. Retrofitting of guidance strips for the blind and hatching of the hazard zone. Reduction of work in the hazard zone.

Projection of 10 – 15 cm over load bearing supports (e.g. platform edge) is possible.
modula® temporär (temporary)

Time-limited makeshift platform (side or island platform) on a rental basis.
Suitable for new construction or working on existing platforms.

Steel construction in a modular design with a simple plug-in system for fixing railings and installing lighting poles with a footplate

Steel elements with a long grate 5.00 m and standard widths of 2.50 m and 3.00 m (special widths are available on request)

On stackable precast block foundations (Standard) or with special foundations on load-bearing, existing platform. Foundation on frost protected layer ≥ 80 cm with 0/45 mm, permissible measured ground pressure ≥ 200 KN / m²

Steel elements are earthed to each other, including railings and lighting masts

Very quick installation (140 m in approx. 5 – 6 layers), environmentally friendly alternative to wooden platforms with a covering, as it is up to 100 % reusable.
The classic among all the types of platform is a freestanding outdoor platform, mostly with a pre-fabricated flat foundation. The TT slab construction which is used provides valuable structural advantages and enables large spans of over 9.0 m. In addition, the one-component system can be installed very fast with little adjustment work and no need for a large number of fastening accessories.

The backfillable platform with a flush ligament on the side facing away from the platform does not need any rearward guardrail and it can also be used with conventional middle core filling as island platform.
modula® Type 1 and Type 1b
Foundation variants

> A flat foundation using precast foundations, partly with an additional in-situ slab for distributing the load depending on the substrate.

> Deep foundation by means of bored piles or pile drifts with precast or in-situ concrete head beams

> Foundation outside of the pressure range of railway traffic loads

Advantages of both systems

> Element length - type 1: up to 9.30 m infinitely variable, depending on the height

> Element length - type 1b: up to 8.40 m infinitely variable, depending on the height

> Platform width: up to 3.00 m infinitely variable (in exceptional cases up to 3.50 m)

> Optional truck unloading is achieved with a 2 x 12 t element weight

> Individual dimensions are variably plannable for all modes of transport

> Guidance strips for the blind and optional hatching of the hazard zone are integrated by the factory
In some applications, the final height is not achieved at the time the platform is built. This is where modula® shift offers a very economical solution for freestanding platforms. The entry level can be subsequently raised or lowered by means of concrete-lined steel toes or precast concrete spacers in order to ensure barrier-free access.
System advantages of module® shift

> Within a short construction period, it can be subsequently realised in operating breaks by means of a manual hydraulic press.

> Considerable cost advantage, as all components can be reused and there are no disposal or landfill costs.

> If railings or other structures are installed separately as elements, the disassembly and reassembly are eliminated when the level is changed.
modula® light - The drained platform system with element weights of 4.5 tonnes max.

Very well suited for installation with a two way excavator or mobile excavator.

The steel-reinforced flat plate modula® light, with a 16 to 30 cm thickness is frame mounted on the modula® frame system.

Alternatively, local substructures are also possible consisting of precast or in-situ concrete beams or steel girder constructions. Depending on the underground conditions, the foundation can be executed deep, flat or directly on the existing platform surface. The system is suitable for both new construction projects, as well as for existing retrofittings.
System advantages of **modula® light**

- Can be deployed in short possession periods and poorly accessible installation sites
- Guidance strips for the blind and optional hatching of the hazard zone are integrated by the factory
- Quick installation is possible with a two-way excavator
- Different substructures possible (reinforced concrete beams, single foundations, steel girders, etc.)
modula® flex - The innovative system for renovating surfaces and strengthening conventional platforms where the embarkation level is too low. Also suitable for retrofitting guidance systems for the blind or hatching of the hazard zone.

A component thickness of only 8 cm is achieved through reinforcement with technical high-performance fibreglass and the earthing of components is omitted.

The guidance strips for the blind and the hazard zone hatching can be produced as a casting in the concrete or by means of stuck-on tiles.

The system is installed on a prepared bed of fresh concrete which is directly applied to the existing platform over the entire surface at the exact height. This way, there are neither expenses for rebuilding, nor costs for soil replacement or landfill waste. The installation can take place simply by means of a two-way excavator or, as the case may be, with a mini excavator.

The standard slabs are for platform widths measuring 2.50 m, 2.75 m or even 3.00 m (as a complete surface for the platform) or as a 1.20 m width (as a supplementary slab, with a platform edge, hazard zone hatching and guidance strips for the blind), wherein as a rule, the element lengths of the components are 1.35 m.
System advantages of modula® flex

> Low component weight as a result of extremely slim elements
> No earthing is necessary
> No corrosion of the reinforcement
> Guidance strips for the blind and optional hatching of the hazard zone are integrated at the factory by means of glued-in tiles or concrete casting
> All usual platform radii are possible
> Slim joints (from only 5 mm)
> Local adaptation steps (e.g. manhole cover) can be executed quickly and easily
> Significant weight savings/resource savings through flexible applicability for platform renovation and refurbishment
> Quick installation is possible in short possession periods
> No damage from vegetation or destabilisation
> No trip hazards due to different settings (in the case of a cover stone integrated into the system)
> After installation, further covering work can be done outside of the hazard zone (saving of safeguarding costs)
> The grade crossing laying plan for modula® flex elements and paving

Preconditions

> Stable, intact, existing platform edge
> Frost-proof and stable substrate in accordance with a soil survey
> Full-surface lean concrete foundation with C25/30, XF1, XC2, WF
modula® temporär (temporary) - The rental platform for temporary, restricted use

If the service life of a platform is seen as limited, even when it is being constructed, temporary platforms can be used. Temporary steel platforms from Hering can be individually rented for the necessary length of the idle period.

The scope of delivery includes the delivery and the installation of the elements, the provision of the elements in storage, the rental and the dismantling. Valuable resources are saved through the reusability of standard components.

The elements are available with a long grate of 5.00 m and come in standard widths ranging from 2.00 m to 3.00 m (as a rule, these are 2.50 m wide).

The entire construction is hot-dip galvanised. The surface consists of perforated steel sheet gratings with an anti-slip surface (factor R12). As a result of the perforation, rainwater can easily drip through and additional drainage is not necessary.
Applications

> As a temporary makeshift platform
> As a provisional platform for events (additional stop or extension)
> Available for immediate use in the case of an accident
> As a side platform or island platform with stackable prefabricated foundations or a direct foundation on a load bearing substrate by means of ground pegs
> For temporary platform elevations

System advantages of modula® temporär (temporary)

> Solid, weatherproof and maintenance-free construction
> Very fast installation (140 m in approx. 5 layers)
> Simple plug-in system for fastening railings and lighting masts
> All embarkation levels are possible
> No channelling of water as a result of extensive drainage
> Environmentally friendly alternative to wooden platforms, as the platforms are 100% reusable.
REVIT | BIM
PLANNING SUPPORT

Hering Bau sends planning offices and engineers’ offices system documents which are necessary for draft planning, e.g. extracts from rules/regulations, summaries and details including contract specifications.

In addition, Hering prepares project-related solutions as well as variance comparisons and cost estimates for modular system solutions, free of charge and without obligation.

Sample plans for the various modular platform systems with, among other things, fastening details, such as anchor baskets for lighting masts and built-in parts for railings are also available for planning. You can obtain Revit families for planning in BIM upon request.
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Photos: David Hollnack, Mats Karlsson, Hering-Gruppe