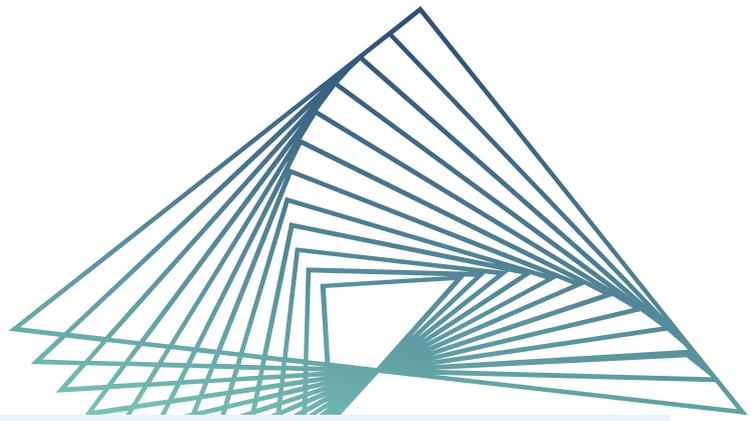


GUIDE TO STRUCTURAL ENGINEERING

From concept to manufacturing documentation



BVK-PRO IN NUMBERS



2017

Year of establishment of the company

3

Main divisions

reinforced concrete and masonry structures
prefabricated reinforced concrete structures
steel and wooden structures

23

Experts - statisticians, engineers, constructors

1500

Projects per year

2020

Year of authorisation obtained in Czech Republic

2020

Year of authorisation obtained in Hungary

ABOUT THE COMPANY

OUR COMPANY PROVIDES PROFESSIONAL SERVICES
IN THE FIELD OF CONSTRUCTION DESIGN

Our main scope of work is the development of structural calculations, assessments and project documentation of civil and engineering structures in the field of statics.

We offer our clients an individual approach, consultation and advice in the field of structural engineering, from the initial consultation, through the design and optimization of the structure (BIM - 3d modeling), to the development of project documentation. Our partners are architects, building designers, investors as well as manufacturers of concrete, steel and timber structures. We are experienced in the design of prefabricated, reinforced concrete, steel, wooden, masonry and geotechnical structures. We also undertake renovations and assessments of existing structures.



DON'T MISS OUT ON ANYTHING ESSENTIAL.
SUBSCRIBE TO OUR NEWSLETTER!

DIVISION OF REINFORCED CONCRETE STRUCTURES

Reinforced concrete is one of the most widely used materials in terms of load-bearing construction. This division focuses on our **expertise in reinforced concrete structures** and our **ability to create stable, durable buildings**. Reinforced concrete structures have a wide range of applica-

tions and are used for the construction of buildings, bridges, industrial facilities and many other projects. Our company specializes in working with these structures and we can provide comprehensive solutions for a variety of construction needs.



FOR OUR CLIENTS

WE OFFER:

static and dynamic analyses of load-bearing structures made of reinforced concrete

design of load-bearing structures with watertight function - white baths

foundation slabs supported by deep foundations

auditing of building structure designs

DIVISION OF MASONRY STRUCTURES

Brickwork is **one of the most traditional and proven ways** to build a load-bearing structure. To ensure safety, stability and durability of masonry structures, a thorough **structural assessment is essential**.

This process is an integral part of the design and implementation of masonry buildings in various areas. The structural assessment of a masonry structure begins with an analysis of all the factors that affect its stability. In addition, environmental factors such as wind pressure, snow load and, in some cases, earthquakes are also taken into account, depending on the geographical location of the building.



SERVICES OF THE DEPARTMENT OF REINFORCED CONCRETE AND MASONRY STRUCTURES

Study

- advice and consultation
- concept design of the bearing system

Documentation for zoning approval

- technical evaluation report
- preliminary design of the supporting system

Project documentation for building permits

Construction engineering evaluation:

- advice and consultation to the extent necessary
- static calculation of the structure
- design and proposal of the skeleton

Contents of the documentation:

- technical evaluation report
- statický výpočet
- 3d model
- blueprint of the shape of the foundations
- blueprint of foundations, levels and roofing
- blueprint for construction elements

Project documentation for the construction

Construction engineering evaluation:

- advice and consultation to the extent necessary
- detailed static calculation of the structure
- design of the structure and important details

Contents of the documentation:

- technical evaluation report
- detailed structural calculation
- detailed 3d model
- blueprint of foundations, levels and roofing
- blueprint for constructions elements - including details of reinforced concrete structures
- statements

WORKING WITH BIM SOFTWARE



- universal software for drawing documentation, production plans
- creation of arbitrary shapes without limitation of complexity and granularity of details
- accurate modelling of the entire prefabricated structure including built-in elements
- three-dimensional modelling of reinforcement
- export of the bim model in different file types with associated information
- material quantity reports
- easier collaboration between different professions

OTHER TECHNOLOGIES WE WORK WITH:

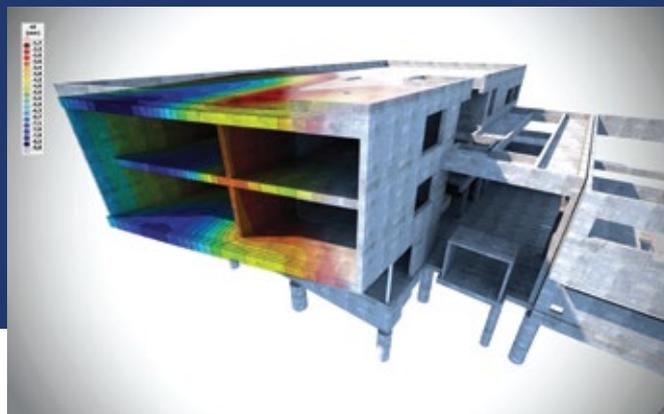
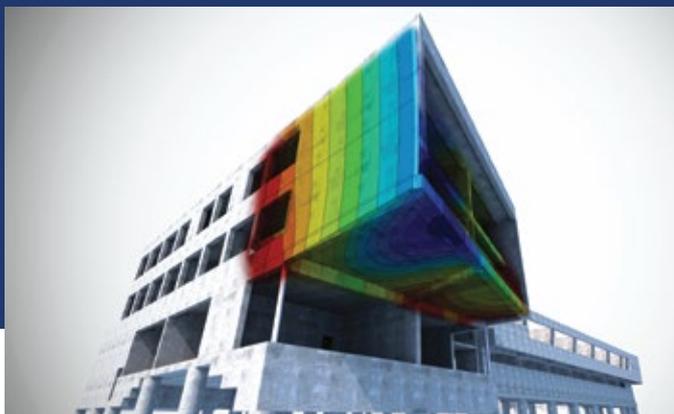


SELECTED REFERENCE

COMPLETION OF THE FACULTIES CAMPUS UK, FMFI PAVILION OF HIGH TECHNOLOGIES

Project documentation for the construction

MLYNSKÁ DOLINA, BRATISLAVA 2022

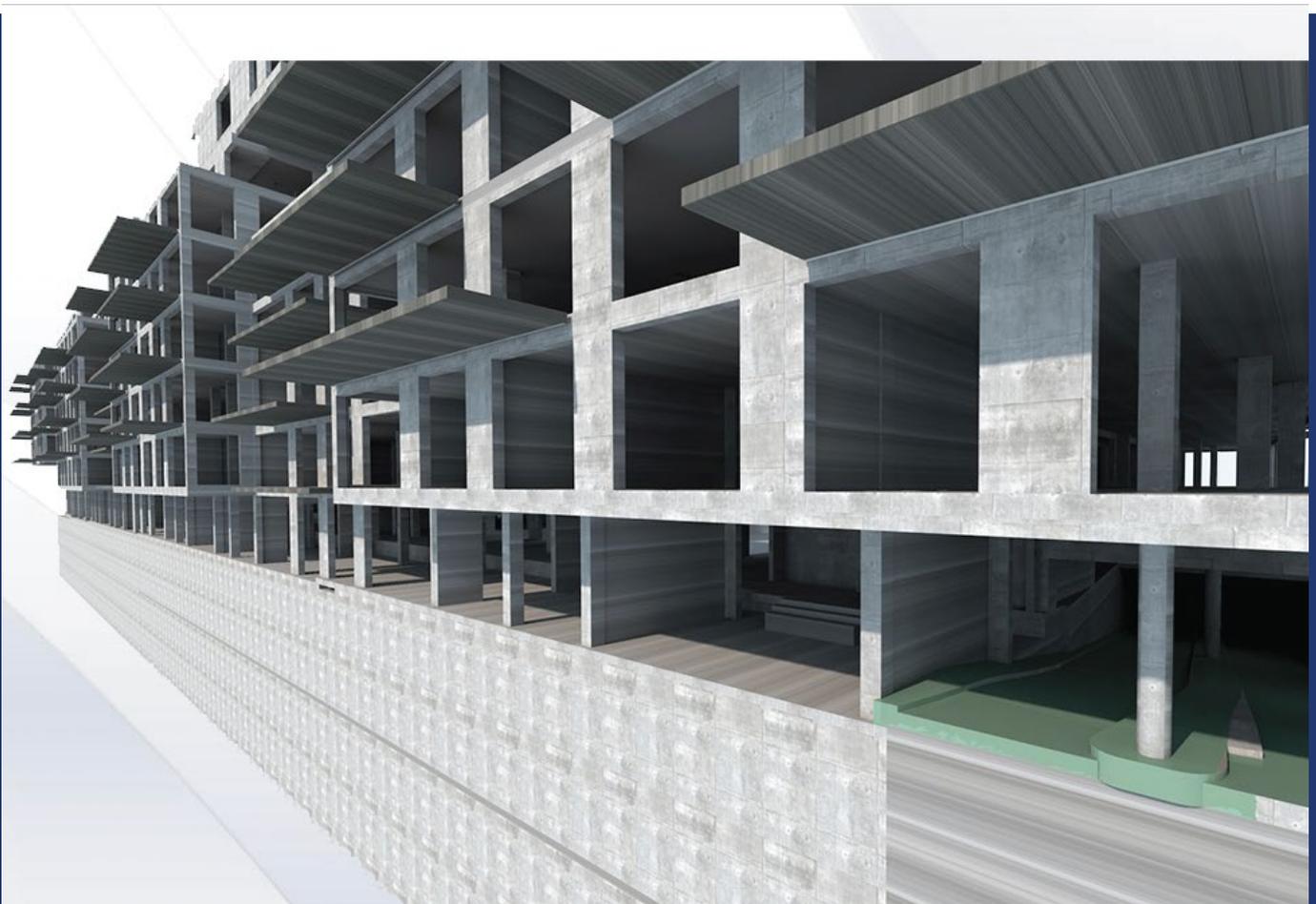


SELECTED REFERENCE

POLYFUNCTIONAL COMPLEX CPR POLYFUNCTIONAL BLOCK CPR - A

Project documentation for building permit

BRATISLAVA 2021



SELECTED REFERENCE

MEDICAL DISTRIBUTION CENTRE

Project for the realization of the construction

NITRA 2022



TEAM OF THE DIVISION OF REINFORCED CONCRETE AND MASONRY STRUCTURES



**CSABA
BAJI**

Head of Division reinforced concrete and masonry structures



**GERGELY
MÉSZÁROS**

Head of Prefabricated Division ceilings, structural engineer



**PETER
HOBOT**

Civil engineer of reinforced concrete and mas. structures



**TAMÁS
BACSFAI**

Design engineer of reinforced concrete and mas. structures



**ZOLTÁN
GRELLO**

Design engineer of reinforced concrete and mas. structures



**MATÚŠ
KRAVČIK**

Design engineer of reinforced concrete and mas. structures



**KARIN
SILNÁ**

Design engineer of reinforced concrete and mas. structures



**VIKTÓRIA
MEZZEYOVÁ**

Design engineer of reinforced concrete and mas. structures



**IMRE
KULCSÁR**

Design engineer of reinforced concrete and mas. structures

DEPARTMENT OF STEEL STRUCTURES

In this section of our company, engineers specialised in steel structures work from the preliminary conceptual study to the workshop documentation of steel structures.

We can advise you not only on structural issues in the field of civil engineering, but also in industrial and hall buildings, special structures.



We have extensive experience in the design and implementation of steel structures. With optimal design of structures, we can significantly save costs for investors. Our advantage is that we model structures from the beginning of the design in 3Dvo software tekla structures.

Our design office also prepares the shop drawings. the structures are accurately modelled to the hundredth of a millimetre, including all components, including welds and bolts. This ensures that you will never have a problem accessing bolted joints, allowing nuts to be tightened properly, while avoiding situations where a weld prevents the correct fitting of the elements.



SERVICES OF THE DEPARTMENT OF STEEL STRUCTURES

Study

- advice and consultation
- conceptual design of the bearing system

Documentation for zoning approval

- technical evaluation report
- pro-forma design

Project documentation for building permits

Construction engineering evaluation:

- consultation services as required
- calculation
- proposal of the skeleton

Contents of the documentation:

- technical evaluation report
- statický výpočet
- 3d model
- blueprint of the shape of the foundations
- blueprint of foundations, levels and roofing
- blueprint for construction elements

Project Documentation for construction

Construction engineering evaluation:

- advice and consultation to the extent necessary
- detailed static calculation of the structure
- design of the structure and important details

Contents of the documentation:

- technical evaluation report
- detailed structural calculation
- detailed 3d model
- blueprint of foundations, levels and roofing
- blueprint for construction elements - including details of reinforced concrete structures
- statements

Production documentation of steel structures

- 3D model tekla
- reports
- JD blueprints (cutting plans of individual elements)
- HD blueprints (drawings of parts - workshop preparation)
- cladding plan of trapezoidal sheets
- cladding plan for sandwich panels
- assembly drawings (assembly plans)
- drawings of pre-assembled sheets

WORKING WITH BIM SOFTWARE

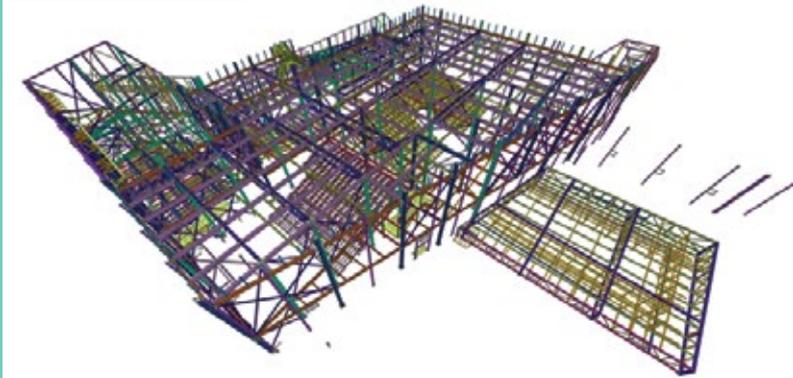


- universal software for drawing documentation, production plans
- creation of arbitrary shapes without limitation of complexity and granularity of details
- accurate modelling of the entire prefabricated structure including built-in elements
- three-dimensional modelling of reinforcement
- export of the bim model in different file types with associated information
- material quantity reports
- easier collaboration between different professions

OTHER TECHNOLOGIES WE WORK WITH

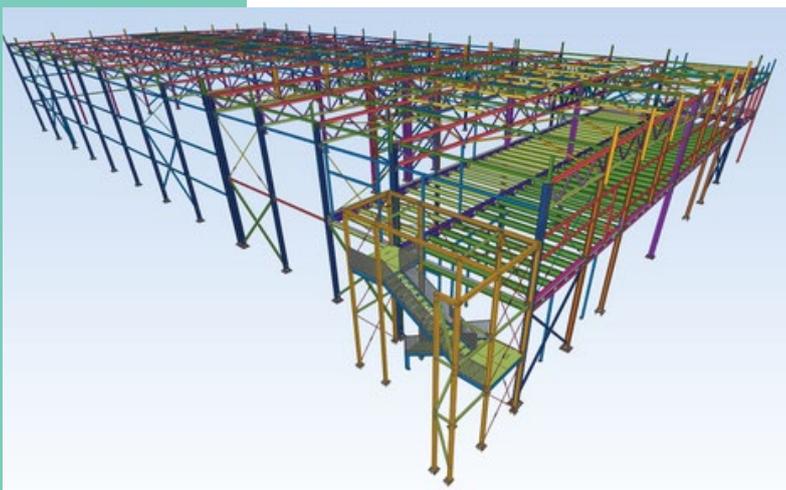


STEEL CONSTRUCTION



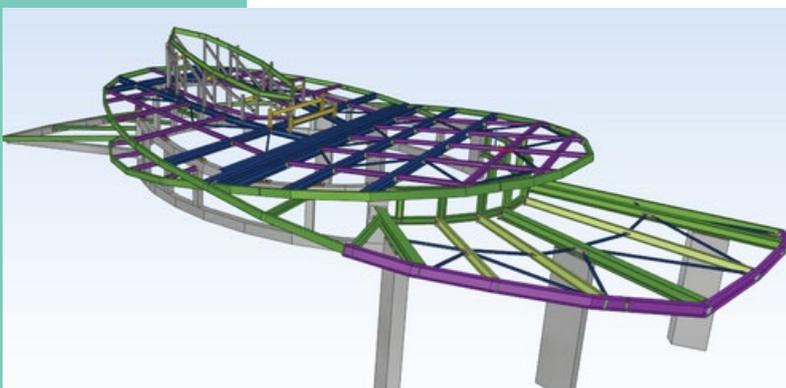
CIVIL BUILDINGS

- PETROL STATIONS
- SHOPPING CENTRES
- MULTIFUNCTIONAL BUILDINGS
- SPORTS HALLS
- ETC.



INDUSTRIAL BUILDINGS

- FILM STUDIOS
- WAREHOUSES
- MANUFACTURING HALLS
- FACTORIES
- ETC.



SPECIAL CONSTRUCTIONS

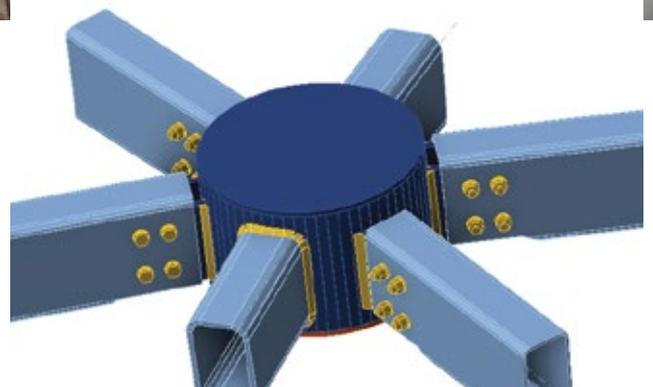
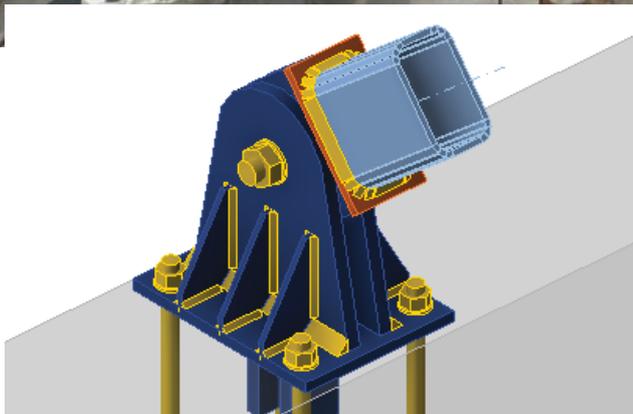
- ARCHITECTURAL ELEMENTS
- DURABLE BRIDGES
- STAIR TOWERS
- SUPPORTING STRUCTURES
- TOBOGANS
- FORCES
- ETC.

SELECTED REFERENCE

JEDLIK ÁNYOS HIGH SCHOOL

Project documentation for the construction in cooperation with bim.GROUP Kft.

BUDAPEST 2022

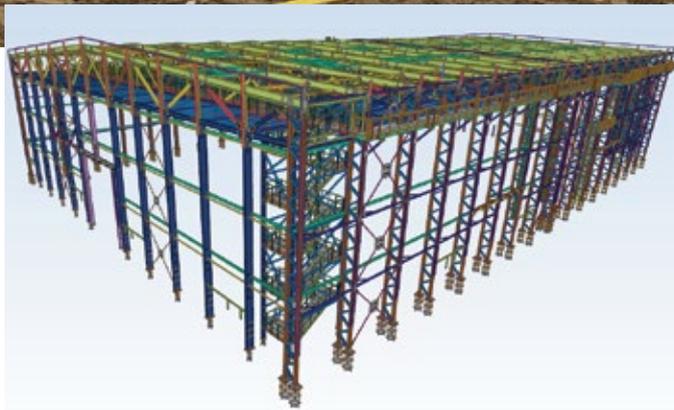


SELECTED REFERENCE

FILM STUDIO IN HUNGARY

Project documentation for the construction in cooperation with bim.GROUP Kft.

BUDAPEST 2022



DEPARTMENT OF TIMBER STRUCTURES

Interest in timber buildings is growing over time. We are a modern, up-to-date structural office, so the timber construction division must be an integral part of bvk-pro's profile. This section of our firm is staffed by engineers specialising in timber structures. **We offer structural assessment of timber structures for all types of buildings in the**

residential, civil and industrial construction sectors. We analyze and design wooden structures of buildings. Thanks to bim software we can eliminate collisions of individual elements and save time and money during construction. We can also advise you on renovations, extensions and alterations.



SERVICES OF THE DEPARTMENTS OF TIMBER STRUCTURES

Documentation for zoning approval

- technical evaluation report
- preliminary design of the supporting system

Project documentation for building permits

Construction engineering evaluation:

- advice and consultation to the extent necessary
- static calculation of the structure
- design and proposal of the skeleton

Contents of the documentation:

- technical report
- static calculation
- drawing of the shape of the foundations
- drawings of the shape of individual floors
- drawings of truss shape
- construction drawings of timber structures

Project documentation for the construction

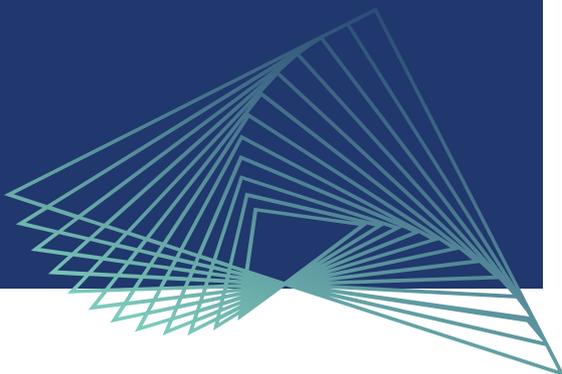
Construction engineering evaluation:

- advice and consultation to the extent necessary
- detailed static calculation of the structure
- design of the structure and important details

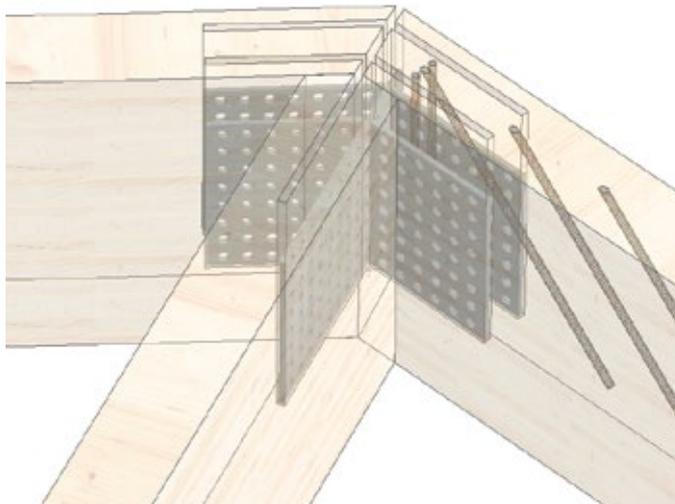
Contents of the documentation:

- technical report
- detailed static calculation
- drawing of the shape of the foundations
- drawing of the shape of individual floors
- drawing of the shape of the roof truss
- construction drawings of wooden structures
- drawings of details (connections) of wooden structures
- reinforcement drawings of reinforced concrete structures

Production documentation of timber constructions



SEMA SOFTWARE FOR TIMBER STRUCTURES



- universal software for drawing documentation, production plans
- creation of any roof without limitation of complexity and roof area articulation
- three-dimensional trimming of elements with instant calculation of all structural dimensions and machining
- specification of steel profiles and fasteners
- precise modelling of the entire timber structure including machining
- export of the bim model in different file types with associated information
- listing of wooden elements
- export to cnc machine

OTHER TECHNOLOGIES WE WORK WITH:



TIMBER STRUCTURES

We provide solutions for the statics of sheds, extensions, superstructures, family houses, apartment houses, holiday cottages, civil buildings, hall buildings, reconstructions and many more.



CROSS LAMINATED
TIMBER (CLT)



GLUE LAMINATED
TIMBER (BSH, LVL)



STUD WALL
STRUCTURES



COMBINATION OF TIMBER
AND STEEL



JOIST
BEAMS (STEICO)



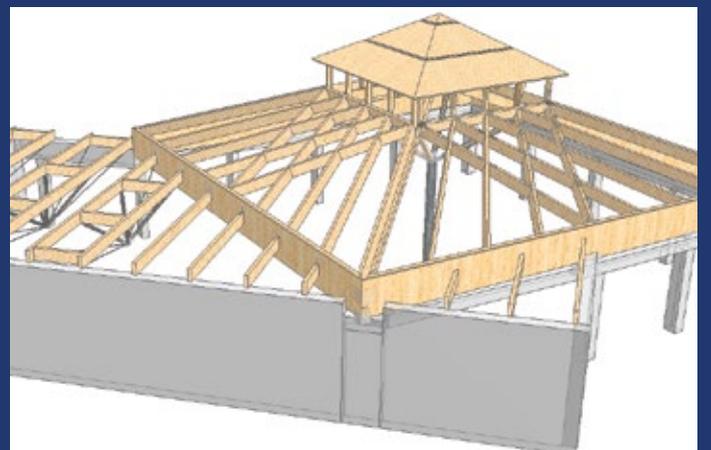
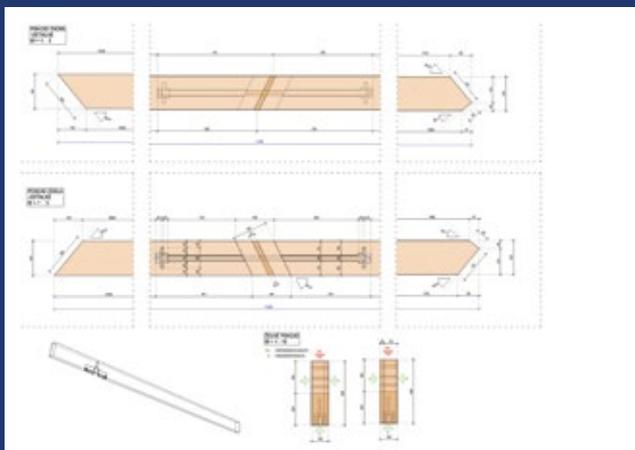
RECONSTRUCTIONS

SELECTED REFERENCE

AQUAPARK GALANDIA

Project documentation for manufacturing purposes
cooperation - Ing. František Lužica

GALANTA 2021

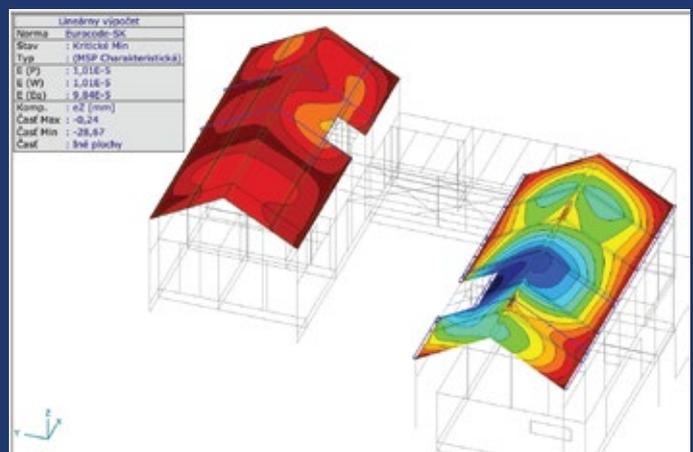


SELECTED REFERENCE

FAMILY HOME

Project documentation for the construction
Architect - ateliér Van Jarina

ŠTITÁRE 2020

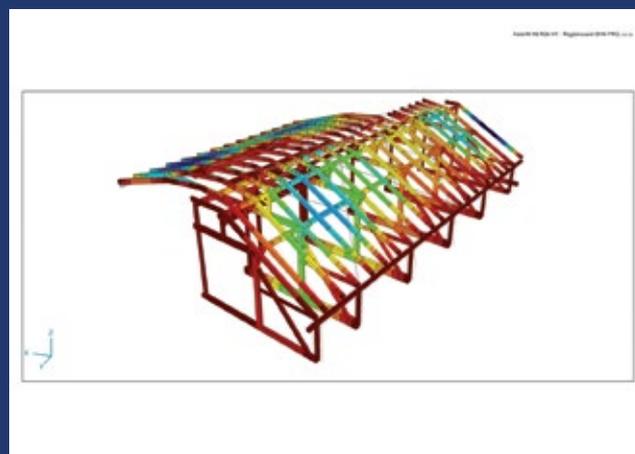
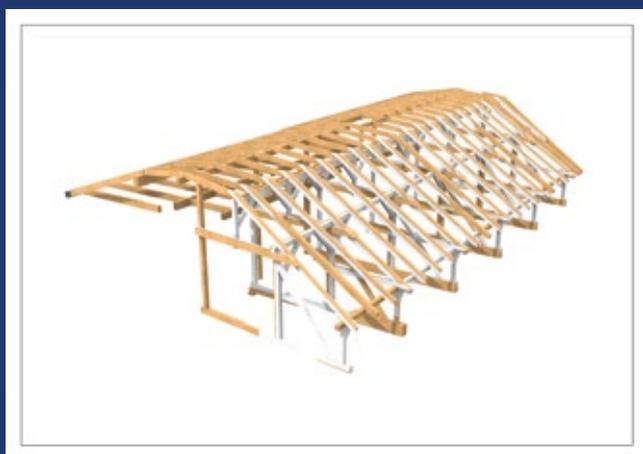


SELECTED REFERENCE

HOTEL RECONSTRUCTION

Project documentation for the construction
Architect - .team ABJ

TRENČIANSKE TEPLICE 2022



THE TEAM OF THE DEPARTMENT OF STEEL AND TIMBER STRUCTURES



**ÁDÁM
VARGA**

Head of Steel Division
and timber structures



**ADAM
BOŠKOVIČ**

Civil engineer of
steel structures



**ATTILA
FEHÉR**

Main design engineer
of steel structures



**NIKITA
SMIRNOV**

Design Engineer
of steel structures



**KAMILLA
PÓNYA**

Design Engineer
of steel structures



**ATTILA
REHÁK**

Design Engineer
of steel structures



**OLIVER
VITTEK**

Design Engineer
of steel structures



**KAROL
BUTOR**

Civil engineer of
timber structures

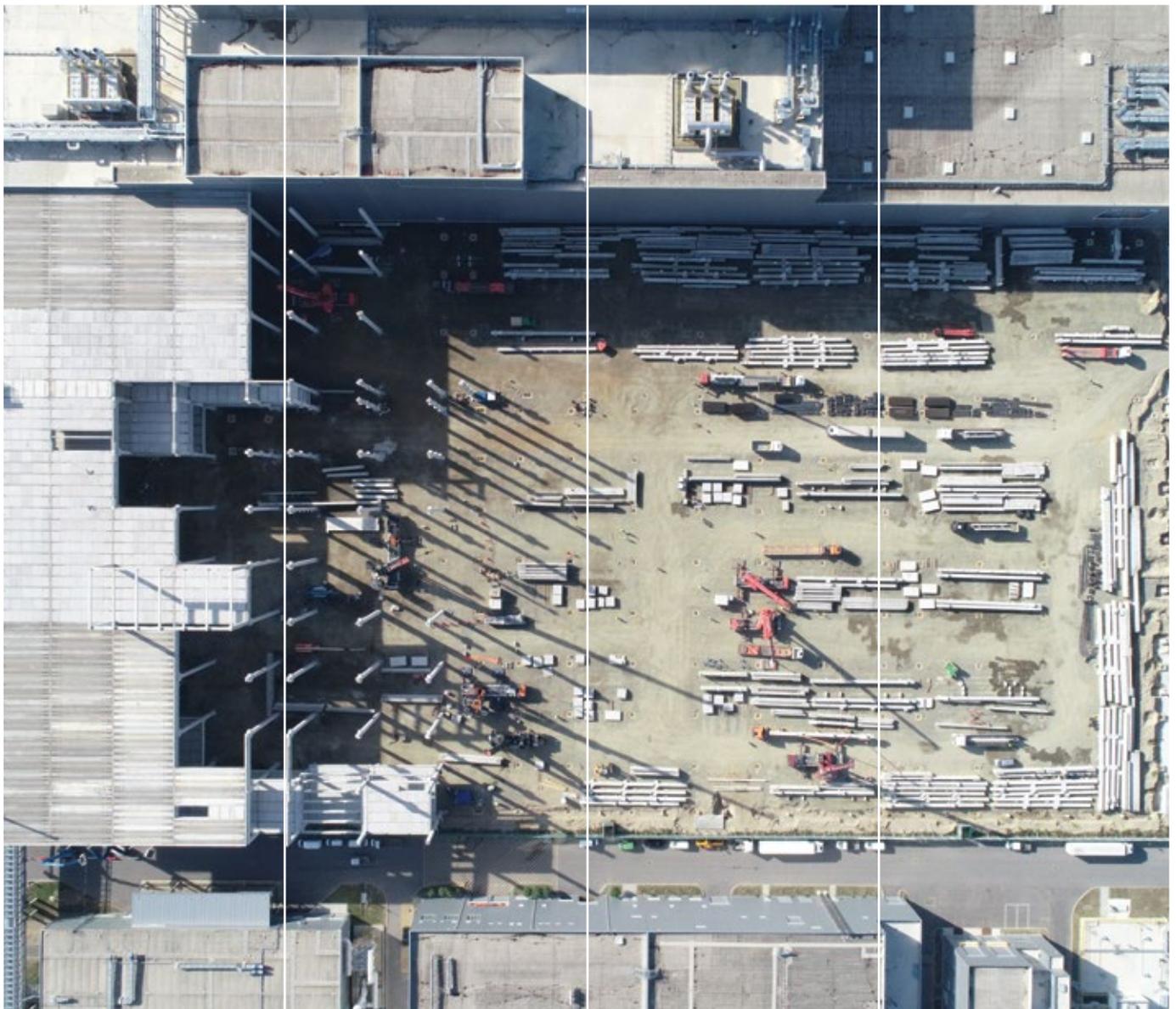
DEPARTMENT OF PREFABRICATED CONCRETE STRUCTURES

In this section of our company work engineers specialized in prefabricated structures. Thanks to bim software we can eliminate collisions of individual elements and save time and money during construction.

In the field of precast reinforced concrete buildings, the key to success lies in structural analysis and the use of appropriate details that ensure the safety and stability of the structure. These modern designs contribute to the efficient use of resources and allow rapid adaptation to the changing needs of our societies and communities.

Prefabricated structures lead to the creation of efficient, modern and specific buildings that meet a variety of needs in the industrial, commercial and civil sectors. Their popularity is growing due to their ability to offer fast, reliable and efficient civil engineering solutions.

The production documentation of prefabricated elements is an essential component in the manufacturing process. This documentation includes all the necessary information that is essential for production, quality control and assembly of the prefabricated elements.



SERVICES DEPARTMENT OF THE PREFABRICATED CONCRETE STRUCTURES

Study

- advice and consultation
- concept design of the bearing system

Documentation for zoning approval

- technical evaluation report
- preliminary design of the supporting system

Project documentation for building permits

Construction engineering evaluation:

- advice and consultation to the extent necessary
- static calculation of the structure
- design and proposal of the skeleton

Contents of the documentation:

- technical evaluation report
- statický výpočet
- 3d model
- blueprint of the shape of the foundations
- blueprint of foundations, levels and roofing
- blueprint for construction elements

Project documentation for the construction

Construction engineering evaluation:

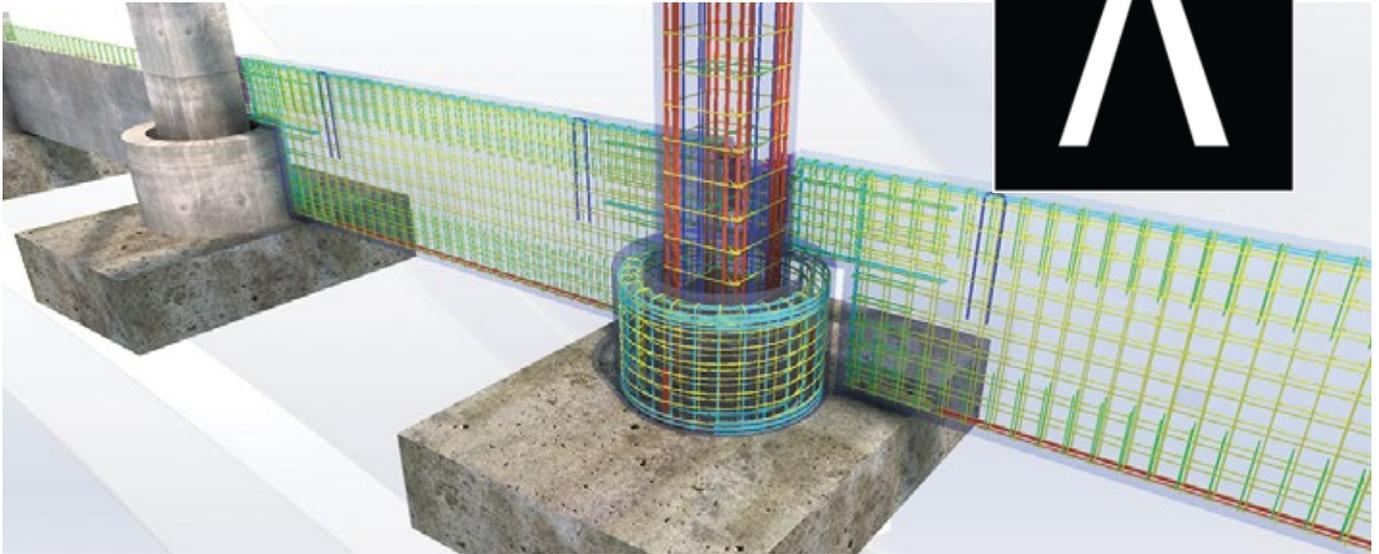
- advice and consultation to the extent necessary
- detailed static calculation of the structure
- design of the structure and important details

Contents of the documentation:

- technical evaluation report
- detailed structural calculation
- detailed 3d model
- blueprint of foundations, levels and roofing
- blueprint for construction elements - including details of reinforced concrete structures
- statements

Production documentation Reinforced Concrete prefabricated structures

WORKING WITH BIM SOFTWARE

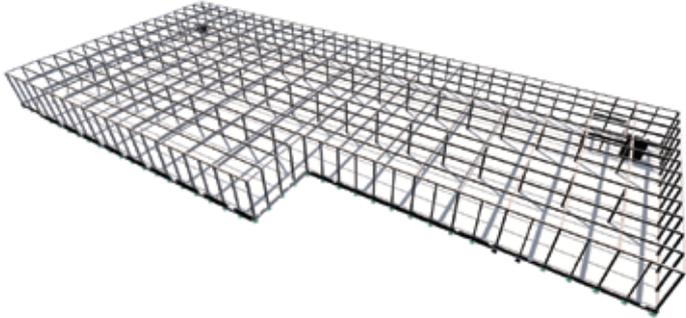


- universal software for drawing documentation, production plans
- creation of arbitrary shapes without limitation of complexity and granularity of details
- accurate modelling of the entire prefabricated structure including built-in elements
- three-dimensional modelling of reinforcement
- export of the bim model in different file types with associated information
- material quantity reports
- export to bending machine
- easier collaboration between different professions

OTHER TECHNOLOGIES WE WORK WITH:



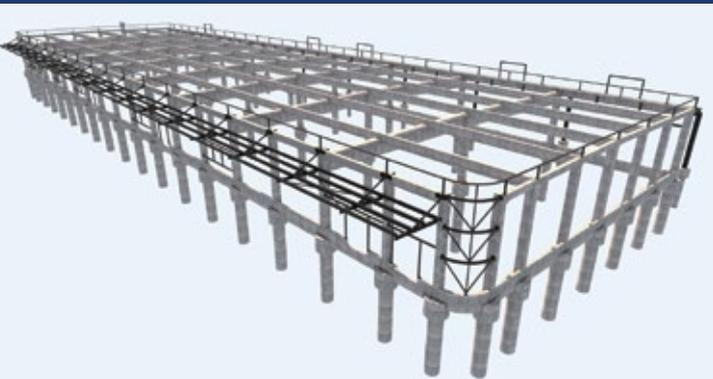
PREFABRICATED AND CONCRETE STRUCTURES



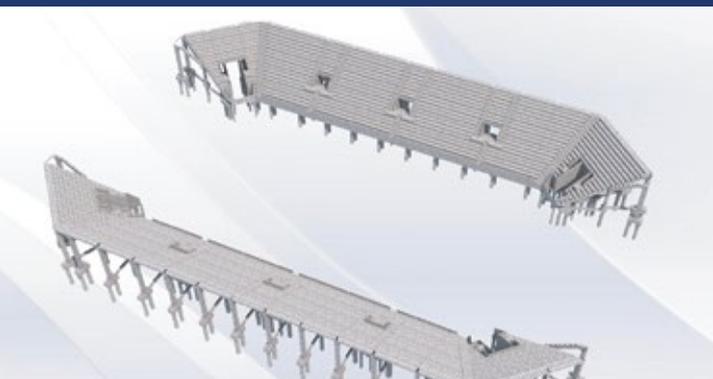
MANUFACTURING
AND INDUSTRIAL BUILDINGS



STORAGE
AND LOGISTICS HALLS



SHOPPING
CENTRES



STADIUMS

SELECTED REFERENCE

EXTENSION OF SAMSUNG PRODUCTION HALL - GÖD

Production documentation of prefabricated elements



ELEKTRODE OBJECT

- floor plan dimensions 221 m x 127 m
- 2 floors - 24 m height
- max. – 27 m
- filigree ceilings, system of primary and secondary beams
- live loads of 1,0-2,0t / m²



MIXING OBJECT

- floor plan dimensions 268 m x 45 m
- 4 floors - 38 m height – split columns
- základný raster 12 m x 11,5 m
- ceilings - prestressed t-panels
- live load 1,0 t / m²



FORMATION OBJECT

- floor plan dimensions 102m x 103 m
- 3 floors - 38 m height – split columns
- max. span of prestressed trusses – 26 m
- ceilings from prestressed t-panels, respectively filigree ceilings
- live loads of 1,0-2,0t / m²

SELECTED REFERENCE

DOOSAN COPPER FOIL BUILDING - 3.PHASE

Production documentation of prefabricated elements



- floor plan dimensions 272 m x 192 m
- 28 m high
- max. dimensions of the prestressed trusses – 43 m
- ceilings – primary + secondary beam + filigree boards
- variable loads on ceilings 1,5-3,0t / m²

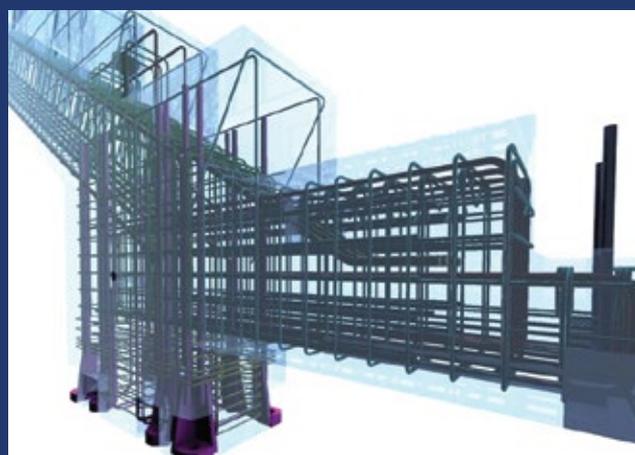
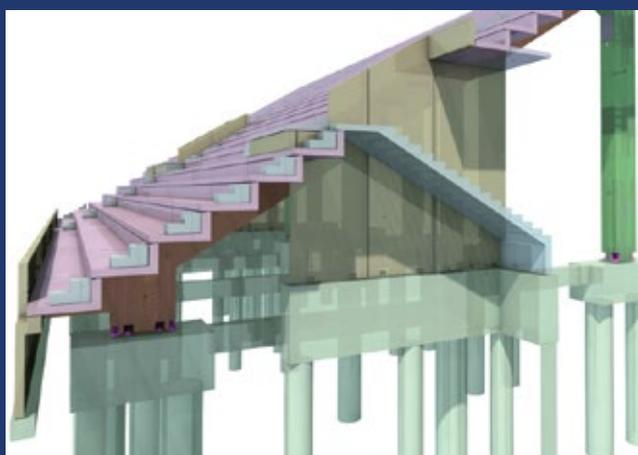
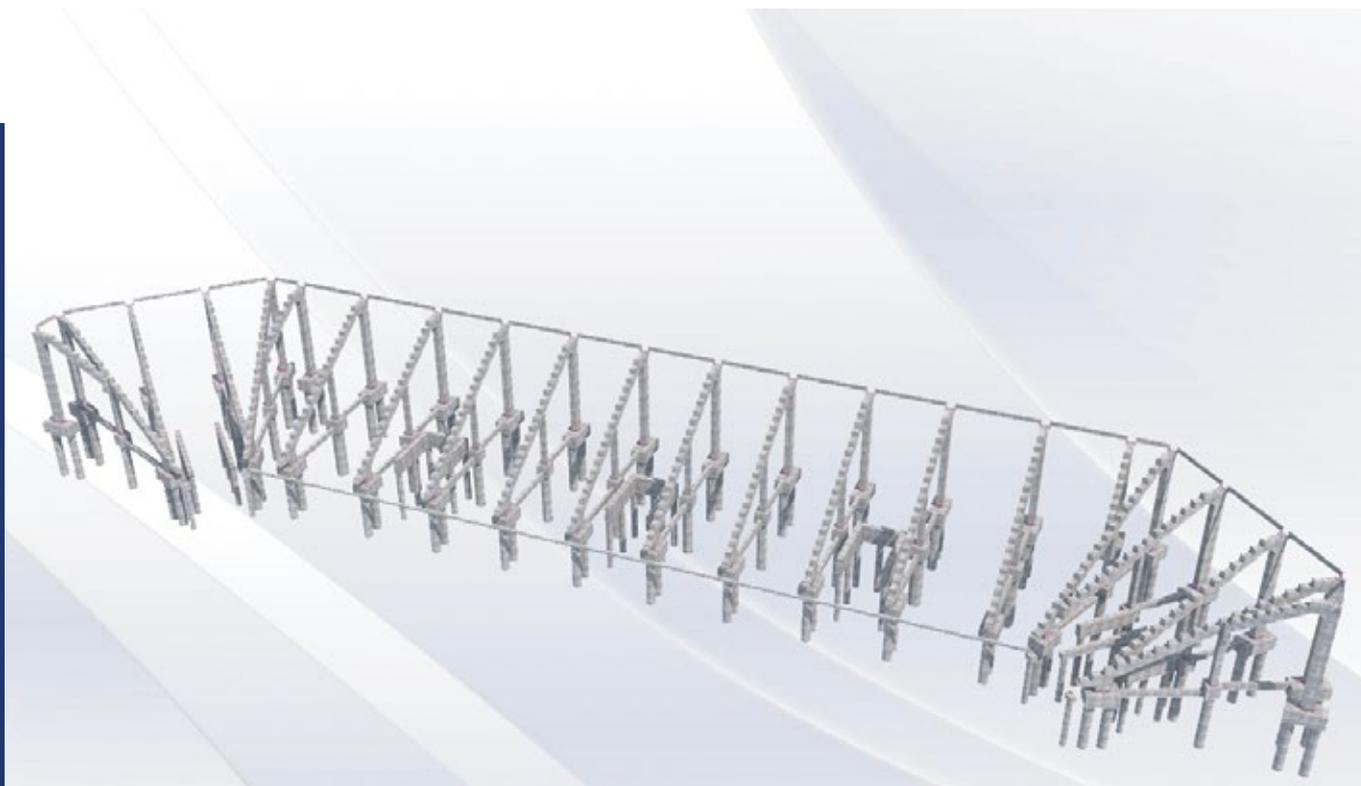


SELECTED REFERENCE

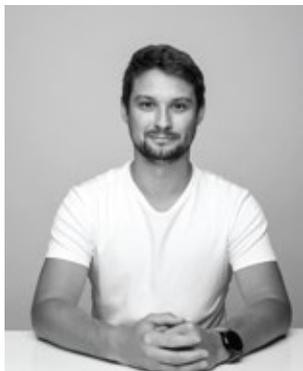
KOŠICE FOOTBALL ARENA – STAGE II. + III.

Production documentation,
cooperation - Ing. František Lužica

KOŠICE 2019



THE TEAM OF THE PREFABRICATED DIVISION REINFORCED CONCRETE STRUCTURES



**LUBOŠ
KELČÍK**

Head of Prefabricated
Structures Division



**VIKTOR
MOLNÁR**

Design Engineer
of prefabricated Structures



**DOMINIKA
SZABÓOVÁ**

Design Engineer
of prefabricated Structures



**ISTVÁN
ÁLLÓ**

Design Engineer
of prefabricated Structures



COMPANY MANAGEMENT:



Ivett Bohunyi Varga

**FINANCE, INVOICING,
OFFICE MANAGER**

Tel.: +421 948 388 570

Mail: office@bvk-pro.com



Csaba Baji

**FOUNDER OF THE COMPANY
SPECIALIST IN REINFORCED CONCRETE STRUCTURES**

Authorised civil engineer for structural engineering of buildings

Tel.: +421 918 910 782

Mail: csaba.baji@bvk-pro.com



Ádám Varga

**FOUNDER OF THE COMPANY
STEEL CONSTRUCTION SPECIALIST**

Authorised civil engineer for structural engineering of buildings

Tel.: +421 902 833 953

Mail: adam.varga@bvk-pro.com



Ľuboš Kelčík

**FOUNDER OF THE COMPANY
SPECIALIST FOR PREFABRICATED STRUCTURES**

Authorised civil engineer for structural engineering of buildings

Tel.: +421 949 472 882

Mail: lubos.kelcik@bvk-pro.com



Gergely Meszáros

**PROJECT AND OPERATIONS MANAGER
HEAD OF PREFABRICATED CEILINGS DIVISION**

Tel.: +421 948 057 423

Mail: gergely.meszaros@bvk-pro.com

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Senecká cesta 2217/1A
931 01 Šamorín

IČO: 51211629
DIČ: 2120639158
IČDPH: SK2120639158

THESE ARE OUR COMPANY VALUES

01

We use the **latest technologies** to ensure we work efficiently for our clients.

02

Precision / Expertise / Reliability

03

We are a team. We support each other, even across divisions, to make our work easier for everyone.

04

Transparency in our company goals and how we achieve them.

05

We take pride in the company we work for and the projects we create.