ALLPLAN
A NEMETSCHEK COMPANY

IPHA
INTERNATIONAL PRESTRESSED HOLLOWCORE ASSOCIATION

WEBINAR SERIES 2022

Outsourcing of engineering work: Success factors for precast companies

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Area Sales Manager | Competence Center Allplan Precast

May 12th, 2022

AGENDA

- ALLPLAN: Design to Build | Design to Manufacture
- Reasons for outsourcing engineering work| Typical challenges
- Precast manufacturer‘s requirements towards engineers
- Success factors | How the right software tools help you to outsource successfully
- About us: Competence Center Allplan Precast

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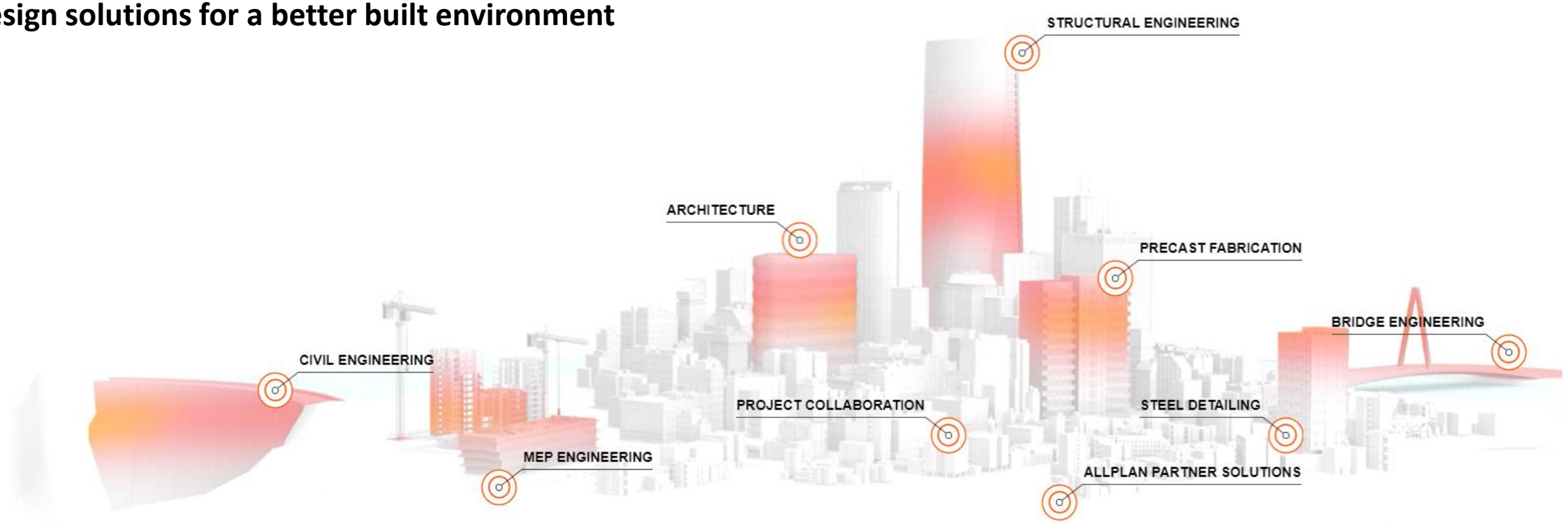
DESIGN TO BUILD

Design solutions for a better built environment



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\ DESIGN TO MANUFACTURE

Precast Fabricators | Structural Engineering/Detailing Offices

Precast construction, also known as industrialized construction or prefabrication, is one of the fastest growing segments in the construction industry. Success factors are exceptionally high quality, efficiency and plannability.

With the Precast portfolio, ALLPLAN offers OPEN BIM solutions for the successful design, planning and implementation of precast projects. It covers the entire process chain - from the *tendering model* to the *precast model, operations planning* and *stacking* to *quality-assured production data and commercial data.*

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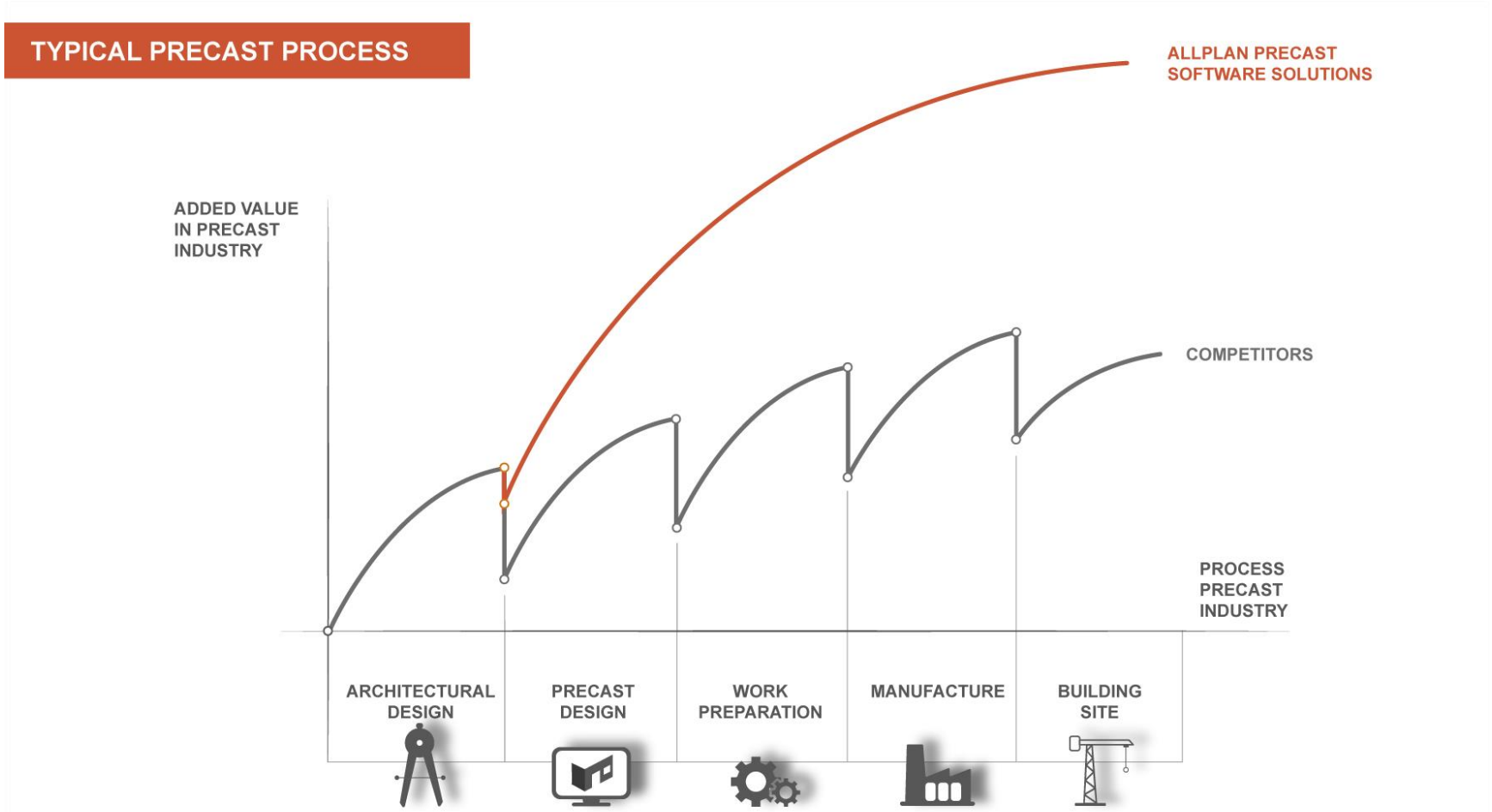
\ TYPICAL PREFABRICATION PROCESS



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REASONS FOR OUTSOURCING

…AND TYPICAL CHALLENGES

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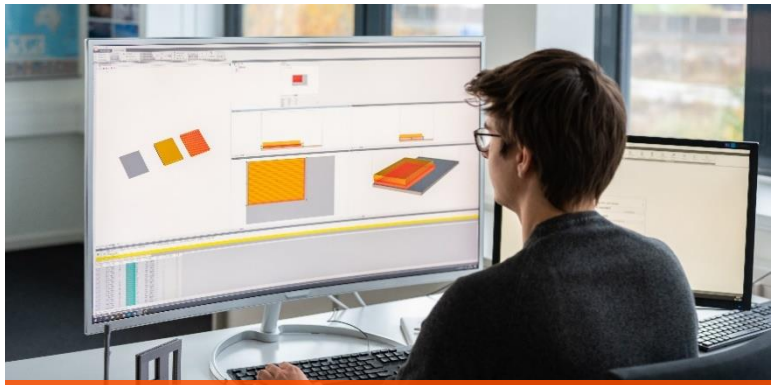
\ WHY DO PRECAST MANUFACTURERS OUTSOURCE ENGINEERING SERVICES



LABOUR SHORTAGE

Difficulties in finding skilled engineers

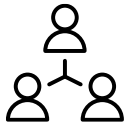
TIME PRESSURE

Not enough people internally to get the jobs done on time

COSTS

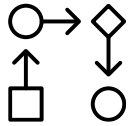
› Project-based cost allocation
› Wage level

\ TYPICAL CHALLENGES: PROJECT MANAGEMENT



Communication

- Clear communication line & tools
- Language
- Time zones

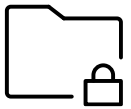


Workflow transparency

- Process control
- Project status monitoring
- Timely risk detection

Quality control

- Knowledge transfer
- Quality assurance



Security

- Confidentiality
- Project Ownership
- Data security
- Intellectual property

PRECAST MANUFACTURERS‘ REQUIREMENTS

…TOWARDS ENGINEERS

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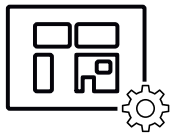
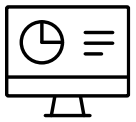
\ PRECAST MANUFACTURERS' REQUIREMENTS

EXPECTED DELIVERABLES



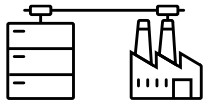
Shop drawings

- Workshop drawings for production
- Elementplan PDF in 2D/3D



ERP

- Quantity take-off and material lists
- Accounting information for elements



MES

- Production data for MES / plant control and machinery in specific formats

BIM

- BIM model with precast elements for collaboration with project stakeholders

Data quality, content and formats are defined and set by manufacturer and engineer

SUCCESS FACTORS

How the right software tools help you to outsource successfully

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\ EFFICIENT PRECAST DESIGN

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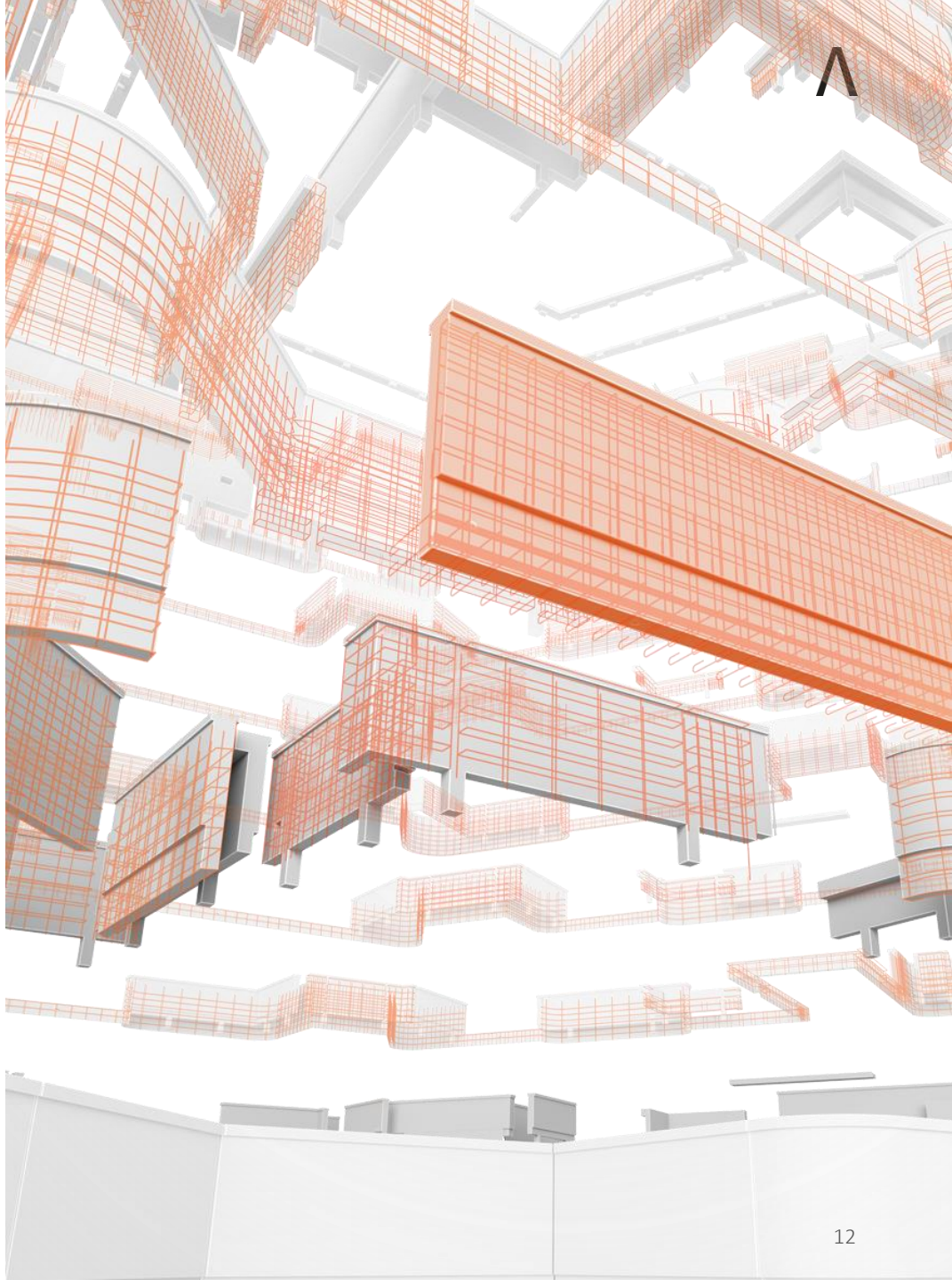
Design precast elements highly efficiently and errorfree

- Slabs | Hollowcore – Filigree – Concrete - Brick
- Walls | Concrete – Sandwich – Double – Thermo - Brick
- Structural precast elements | Bespoke elements

- Design in 2D or 3D as you wish – the model and all shop drawings are 100% consistent at all times
- Benefit from automated workflows
- Create shop drawings including reinforcement, labeling and fixtures automatically



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Get to know Planbar

\ SET YOUR DESIGN STANDARDS

PLANBAR

Factory configuration

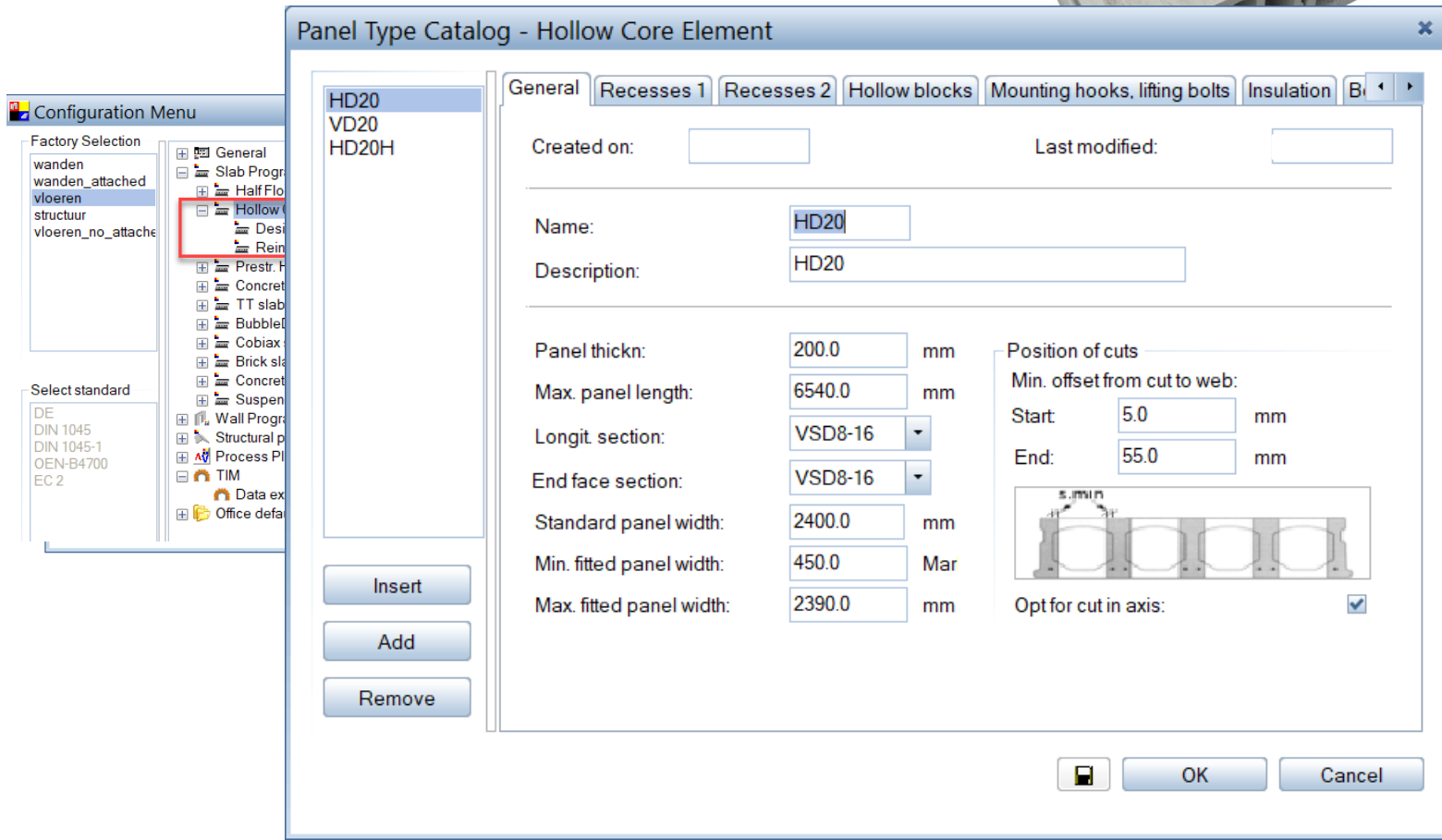
Project-specific standards

Element-specific settings

+ Design parameters

+ Reinforcement parameters

+ Naming, attributes etc.



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\ SET YOUR DESIGN STANDARDS

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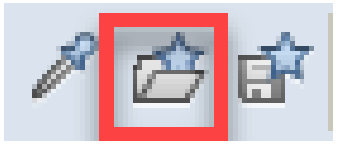
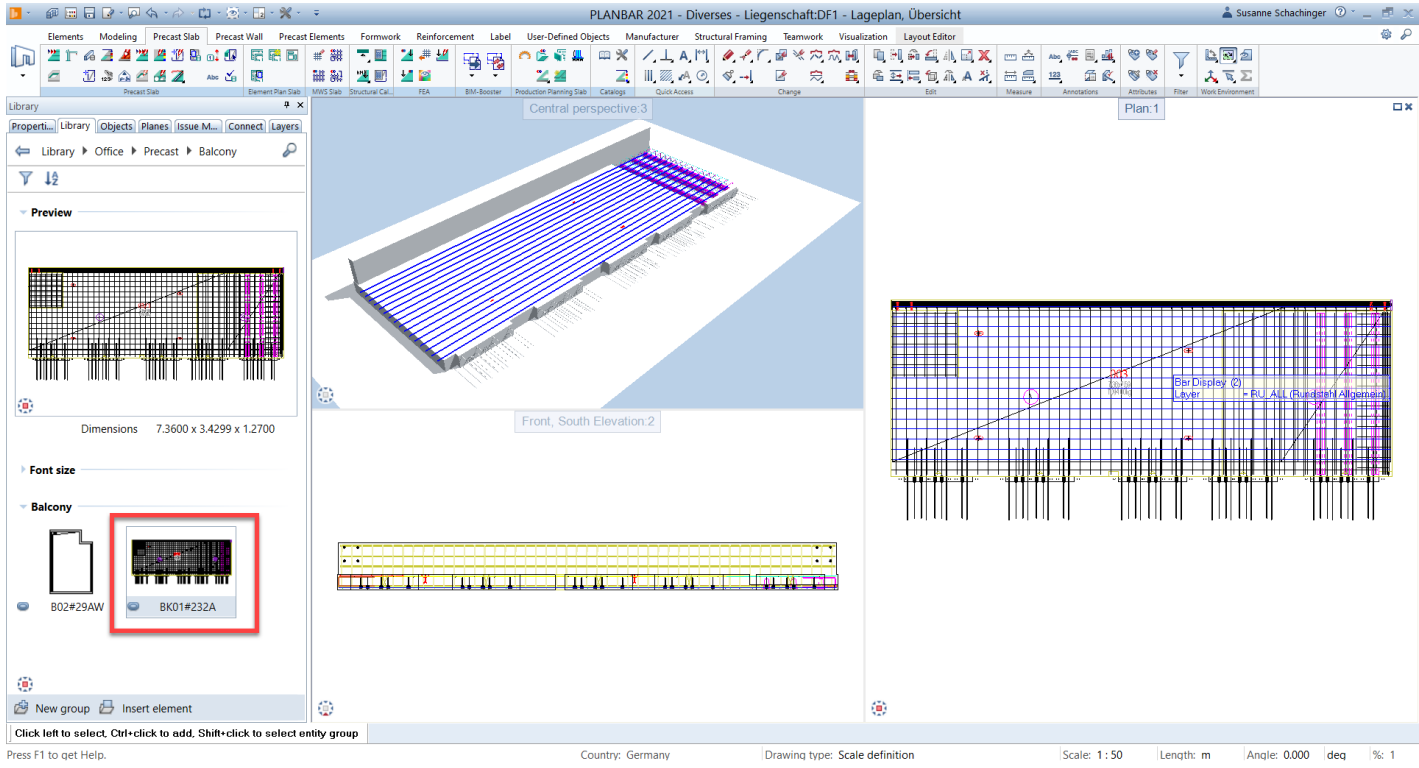
Libraries

+ Fixtures / mounting parts
+ 2D / 3D objects
+ Python Parts & Visual scripting
+ Build your own element libraries

Favorites

+ Use your own favorites for specific parameters





\ SET YOUR STANDARDS FOR DELIVERABLES

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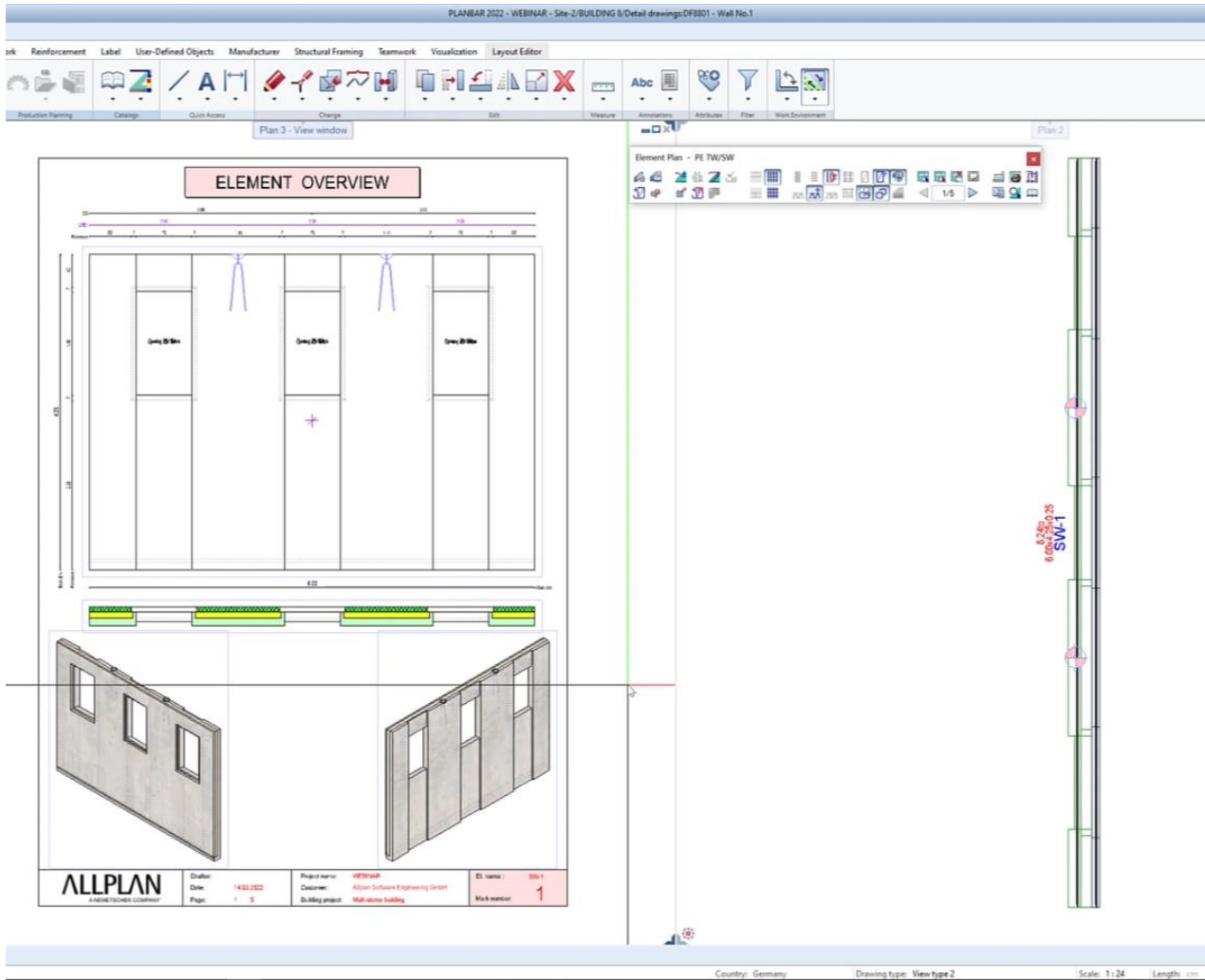
Drawings - Elementplan technology

› The drawings are created automatically (including geometry, reinforcement, fixtures, dimensioning) based on your **templates from the layout catalog**

› The 3D model and the element plans are always consistent



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\ SET YOUR STANDARDS FOR DELIVERABLES

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Data for ERP systems

- Collect all volumes & quantities that need to be accounted for automatically
- Proven standard file formats (xml, xls, text)

Data for MES systems & plant machinery

- Any desired combinations of plant components from various manufacturers
- Consistent generation of information via the same interface
- Proven standard file formats (UniCAM, PXML, IFC4precast)

Source: Vollert Anlagenbau

\ COLLABORATE INTELLIGENTLY

The use of a database-based system for interdisciplinary collaboration in construction projects can successfully overcome a number of challenges.
A central BIM platform of this kind serves to create a digital twin that enables better control over the progress of the project and makes the current data transparent to all project participants at all times.

Important decisions can be made earlier, errors can be avoided and thus the design and construction quality can be significantly increased.

www.bimplus.net

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\ COLLABORATE INTELLIGENTLY

Open BIM project collaboration

Database driven

Merge, coordinate and analyze models in real-time

Cloud based for optimum accessibility

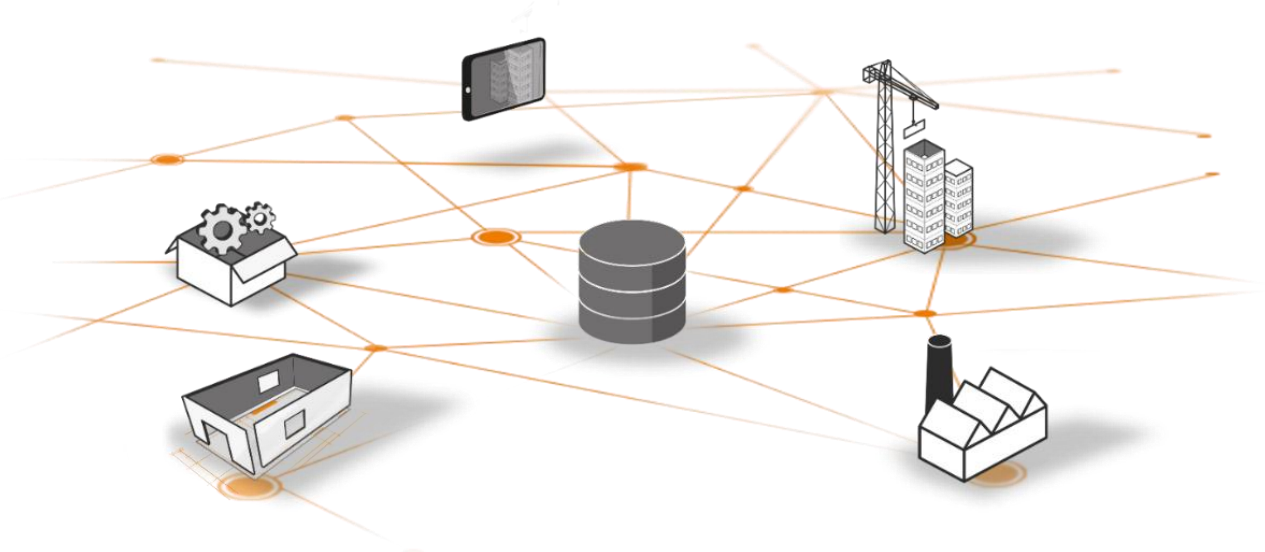
Access anywhere and anytime

https://www.bimplus.net/features

\ PREPARE FOR FABRICATION & DELIVERY

TIM|WORK

- Collect projects in a **central database**
- External engineer sends only **1 file per project** update >> manage data easily
- Mark element **status**
- Implement an **approval** management



Get to know Tim|work

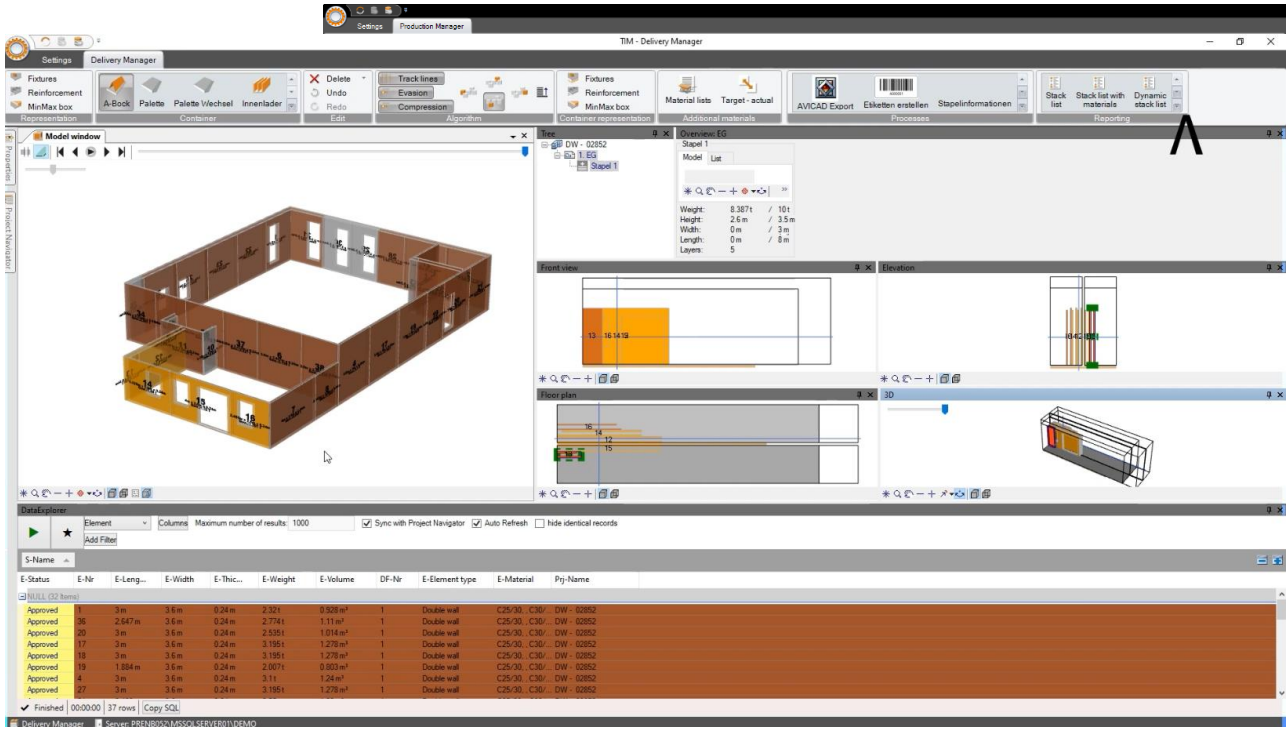
\ PREPARE FOR FABRICATION & DELIVERY

TIM|WORK

› Perform **rule-based quality checks** on project and element level

› Perform **operational tasks** (stacking, assembly and production planning)

› Generate/print/forward **deliverables** – reports, lists, data for MES & ERP – on your own, **independent** from engineer's working hours



ABOUT US

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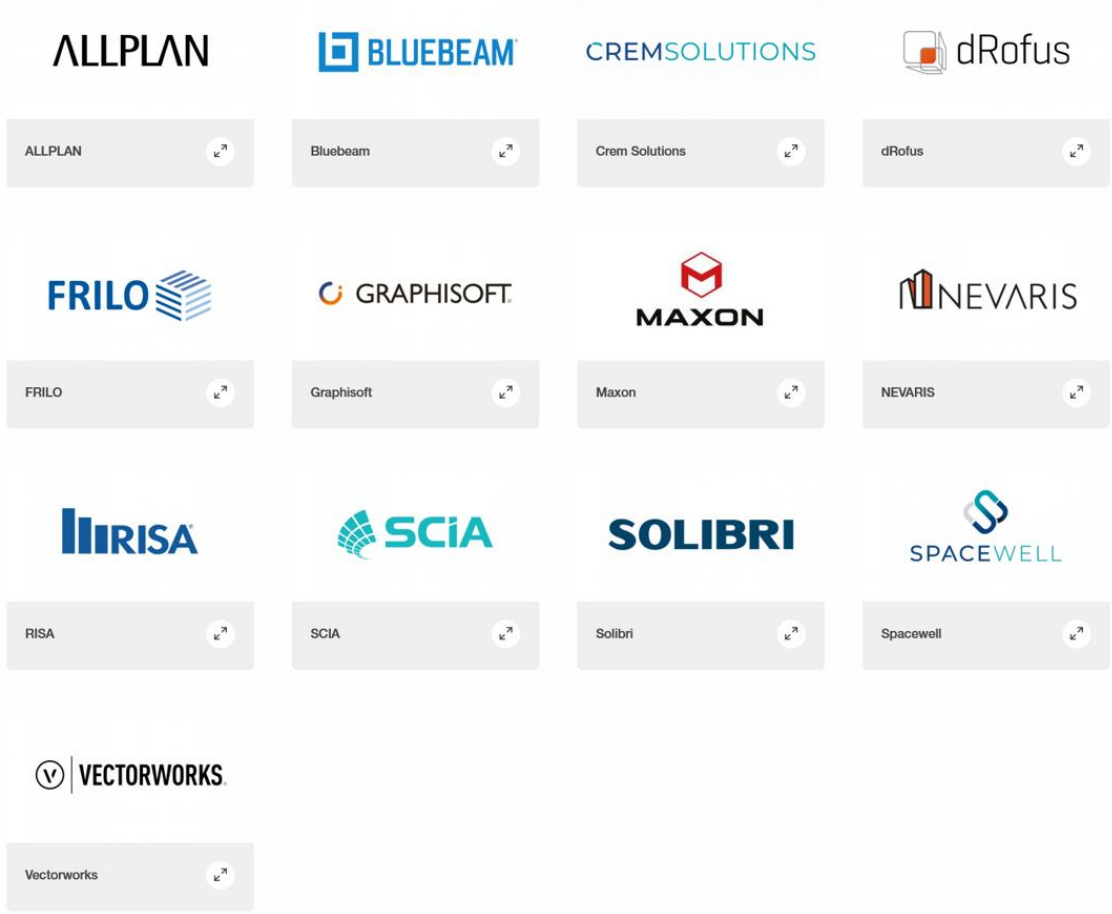
\ ALLPLAN IS PART OF THE NEMETSCHEK GROUP

For over half a century, the Nemetschek Group has been successfully driving forward the digitalization of the AEC/O industry:

The 13 brands of the Nemetschek Group offer software solutions for the entire lifecycle of buildings and infrastructure projects - from the design and visualization of a building to the actual construction process and building management.



\ ALLPLAN IN NUMBERS

20

Locations:
International locations

600

Employees:
600 employees
Worldwide

240.000

Users:
240.000 Users
Worldwide

23

Partner:
23 strong technology partners
Worldwide

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Competence Center Allplan Precast

- ALLPLAN's specialists in precast construction
- 30 years of experience in industrialized construction
- > 600 Allplan Precast customers | > 4000 users worldwide

BENEFITS OF OUR SOFTWARE

More efficiency, precision and flexibility for your precast projects

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\ WHAT WE BELIEVE IN

Industrialized construction with precast concrete is the **smart way** to build.

allplan-precast.com

Source: Weckenmann

ENGINEERING DAYS 2022

THE industry get-together for precast concrete specialists

Expanding knowledge | Exchanging ideas | Networking

- **When:** November 29-30, 2022
- **Where:** Salzburg Congress, Austria
- **How to register:** Online registration

Main topic: Prefabrication in the new reality

- Continuing shortage of skilled workers
- Accelerated growth of the precast market
- Sustainability in precast production
- Increasing complexity of projects

THANKS FOR YOUR ATTENTION!

TIME FOR YOUR QUESTIONS

Please use the chat box

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