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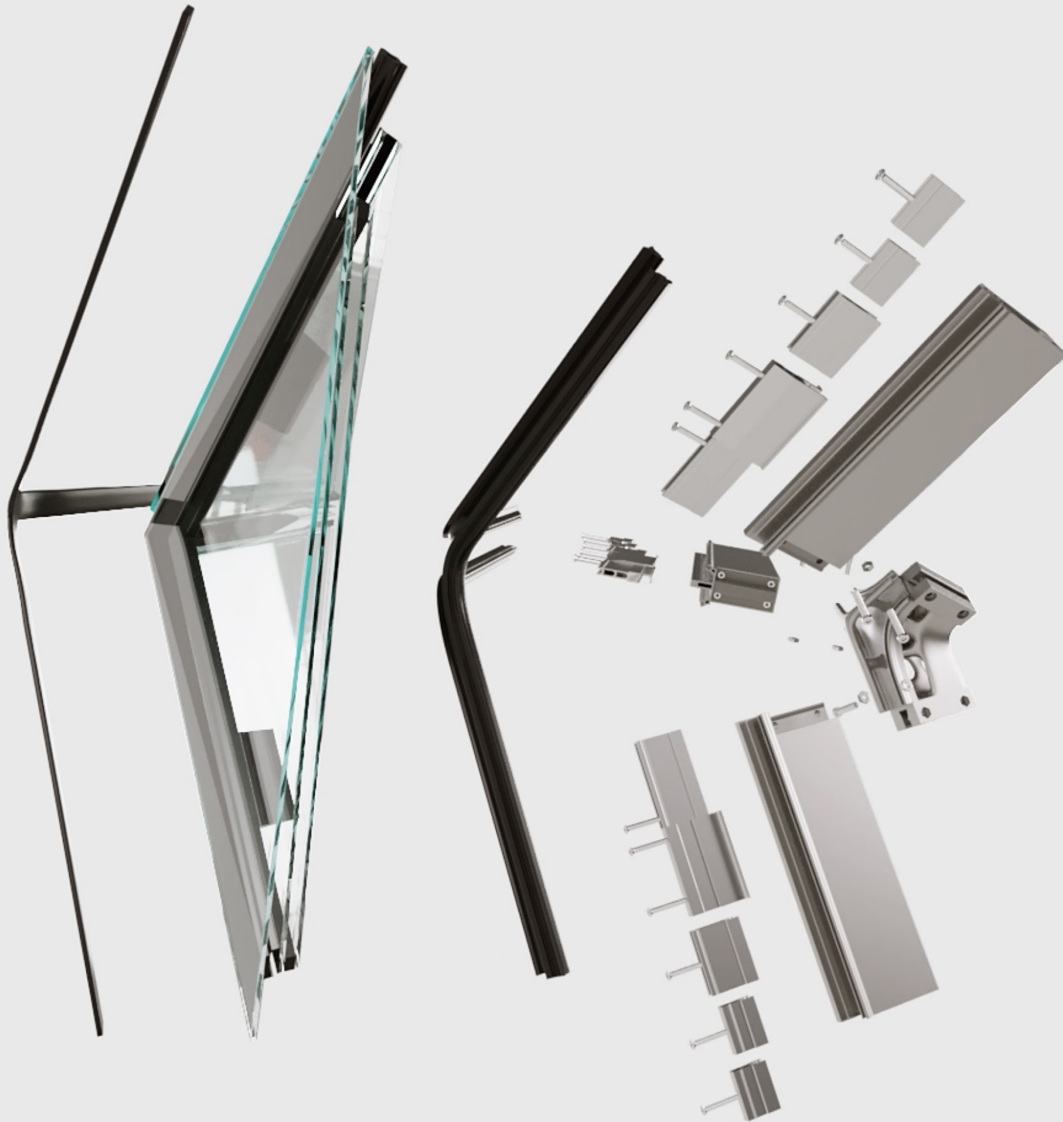
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PARAMETRIC
FAÇADE SYSTEMS

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Future should start with your imagination.

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Future should start with your imagination

- Our fully parametric façade system
- Liberated of any design limitations

exyz is a façade system that offers maximum design freedom. As it is not dependent on any predefined basic modules, it allows architects to work without limits.

It is based on a patented 3D-printed façade node—“N-AM_Li3”—, which serves as a universal system connection and can handle any geometric shape. The node is connected to the profiles via an intelligent, integrated slide-in connection.

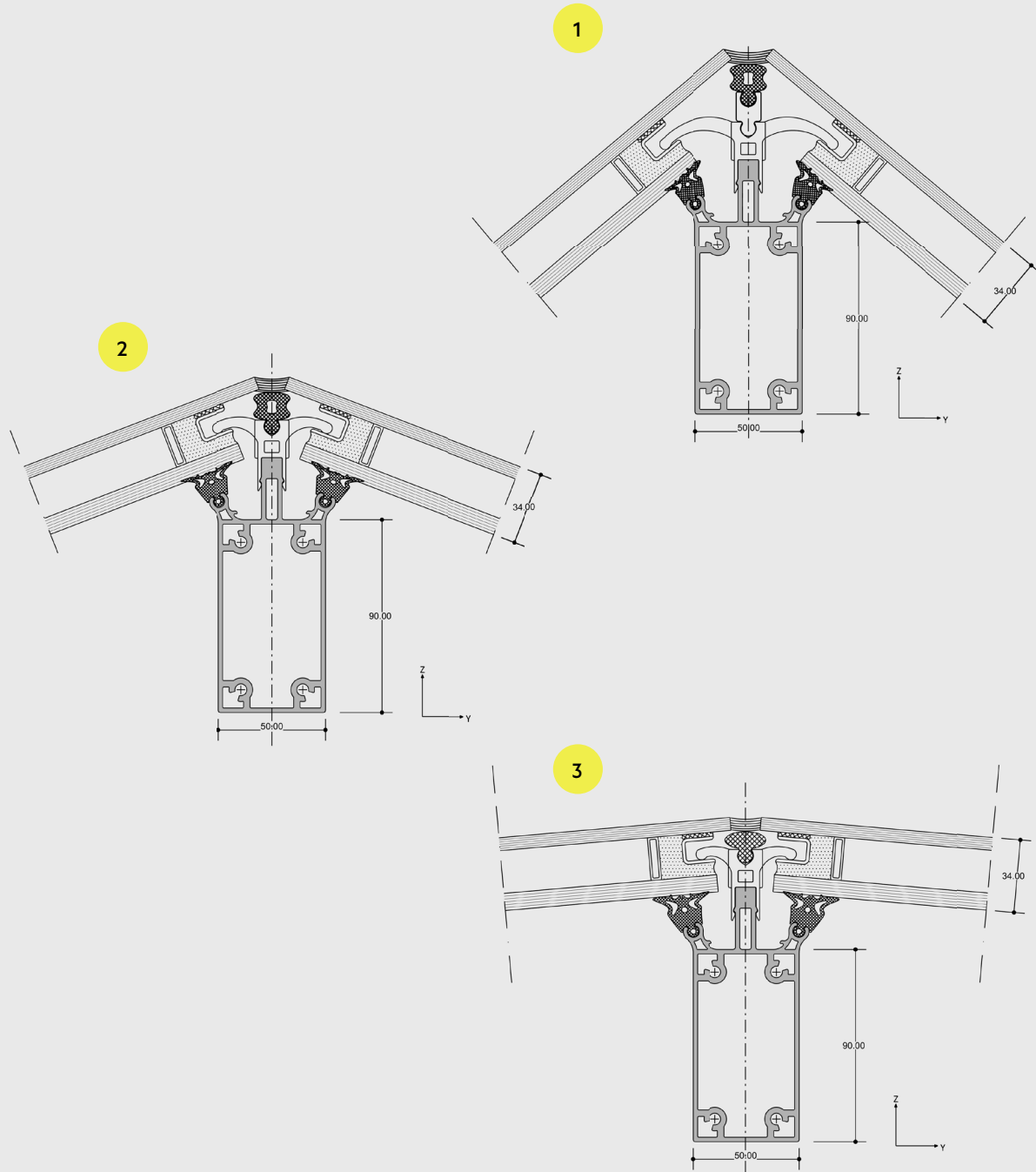


Universal 3D-printed Façade Node N-AM_Li3

The node absorbs the complexity of the free-form façade, ensuring a smooth transition between the profiles. Thanks to the additive manufacturing process, the design possibilities are limitless. At the same time, the node ensures the continuity of the drainage and sealing channels, and that of the thermal fracture components.

The system components are produced using laser powder bed fusion (LPBF), an additive manufacturing process used in aerospace, medical technology, and high-performance racing.

The aluminum nodes have a tensile strength (Rm) of >300 MPa and a microstructure density of >99.5%.



Profile System*

exyz aluminum profiles are extruded from the aluminum alloy EN AW-6060 T66.

As with many common façade systems, the profiles are cut conventionally, with no special machines required to prepare the profiles.

An intelligent slide-in connection is screwed into the end face of the profile and connects the profile to the node.

* PATENT PENDING

Technical Details

System Width:	50mm
Profile Depth:	90mm – 235mm
Joint Width:	15mm
Infill Thickness:	up to 66mm
Inclination Angle:	Concave 0° - 45° and Convex 0° - 45°
Surface Treatment:	Powder coating



Process Flow

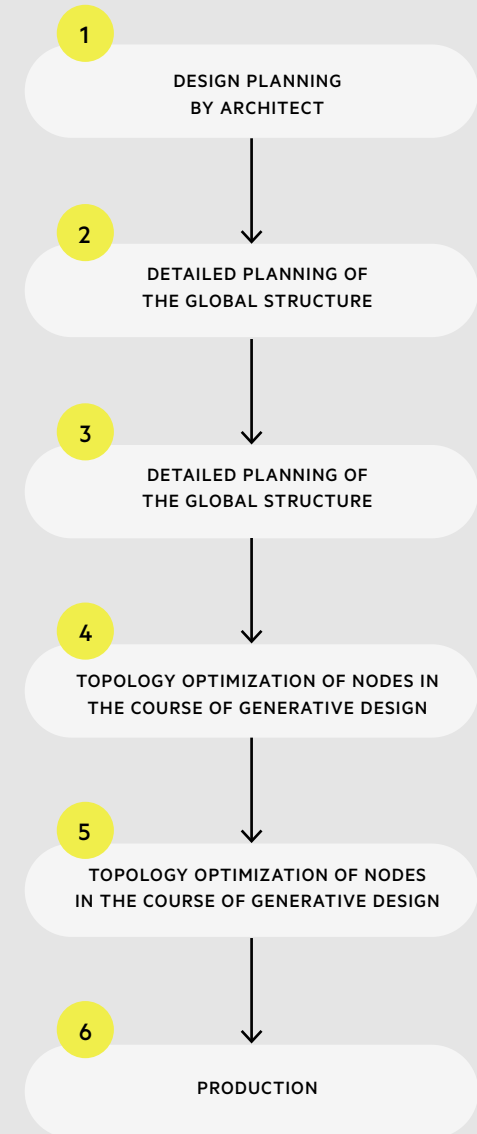
xyz combines all aspects of a project from design through manufacturing and assembly, ensuring a smooth process flow.

The primary software input is the free-form surface that makes up the design of the façade or building envelope. This surface is subdivided and optimized for planarity. The degree of planarity is defined after consultation with the architect.

On the basis of this subdivision, all associated parts, such as profiles, seals, and nodes, are generated and checked.

The geometry of the nodes can then progress to the next phase: topology optimization and preparation for 3D printing. Each façade node is optimized for specific load cases, taking into account the manufacturing guidelines (DfAM).

This results in a node structure that is perfectly suited to the load case and can only be produced by means of additive manufacturing.





Quality Assurance

→ Drawing on many years of experience with automotive quality management standards such as IATF 16949 and ISO 9001, a consistent quality assurance process was developed for 3D printing of topology-optimized metallic façade nodes.

This takes into account mechanical properties, geometric tolerances, and possible defects within the components. This approach combines a number of measuring and testing methods both in the manufacturing process (in situ) and non-destructively after the manufacturing process.

Each node of a façade project is documented with database support and is therefore fully traceable.

→ *This quality management concept was validated by the German federal state government during the process of obtaining the exceptional approval (ZiE, "Zustimmung im Einzelfall") for the HivE construction project.*

Plug-and-play

→ Because the components and their connection points are numbered in an explicit, project-dependent documentation, they can be easily assigned and correctly assembled as in a modular system. Components can be preassembled at the factory, saving time on the construction site.

Just-in-sequence Delivery

→ The closed digital planning and value chain allows us to scale the project according to your needs and deliver façade elements just-in-sequence to your construction site.

Should you choose to use explicit serial numbers, we can assign all the components to your construction phases in order to produce precisely the parts you need next.

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www.exyz-facades.com

exyz – parametric façade systems

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