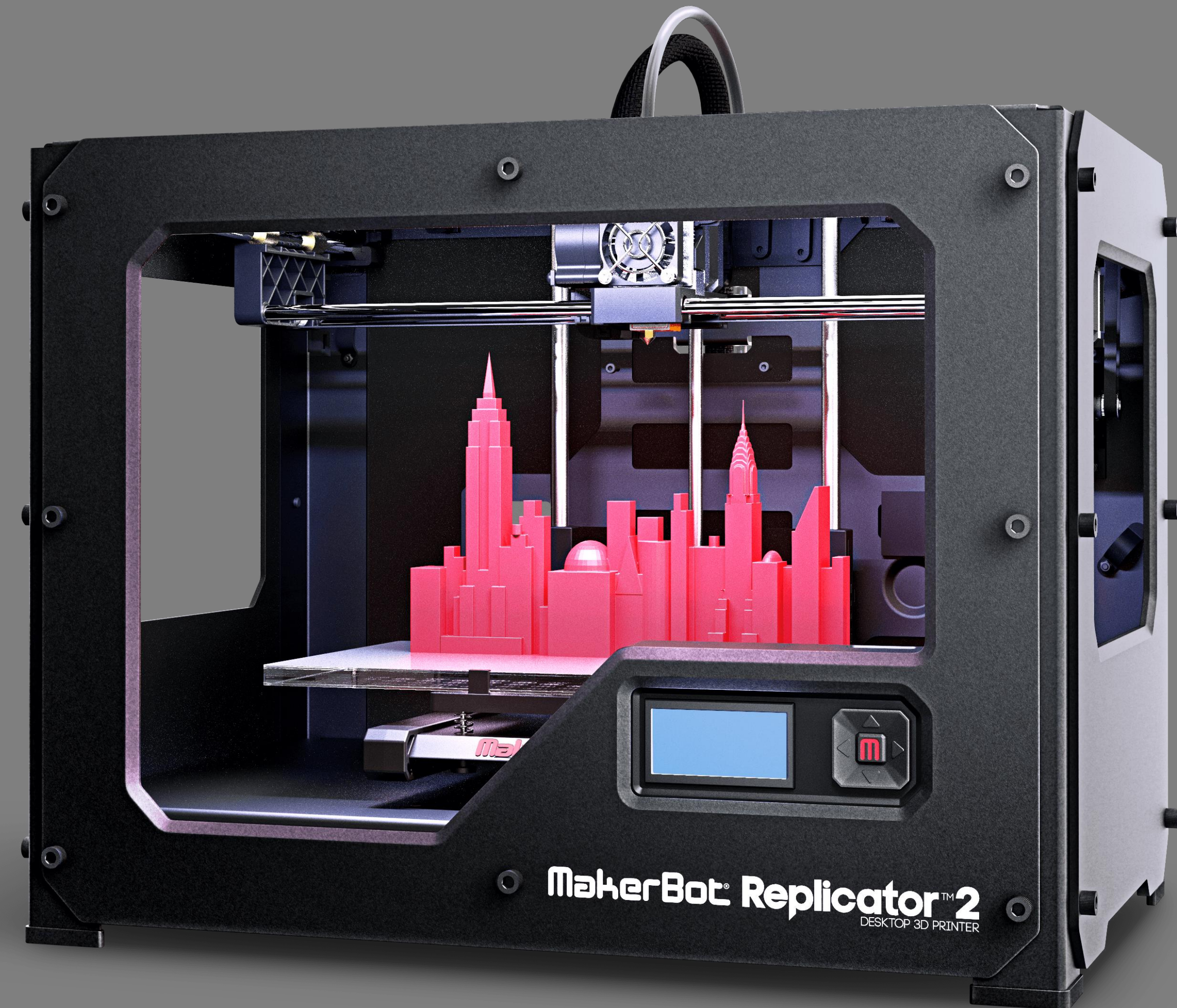
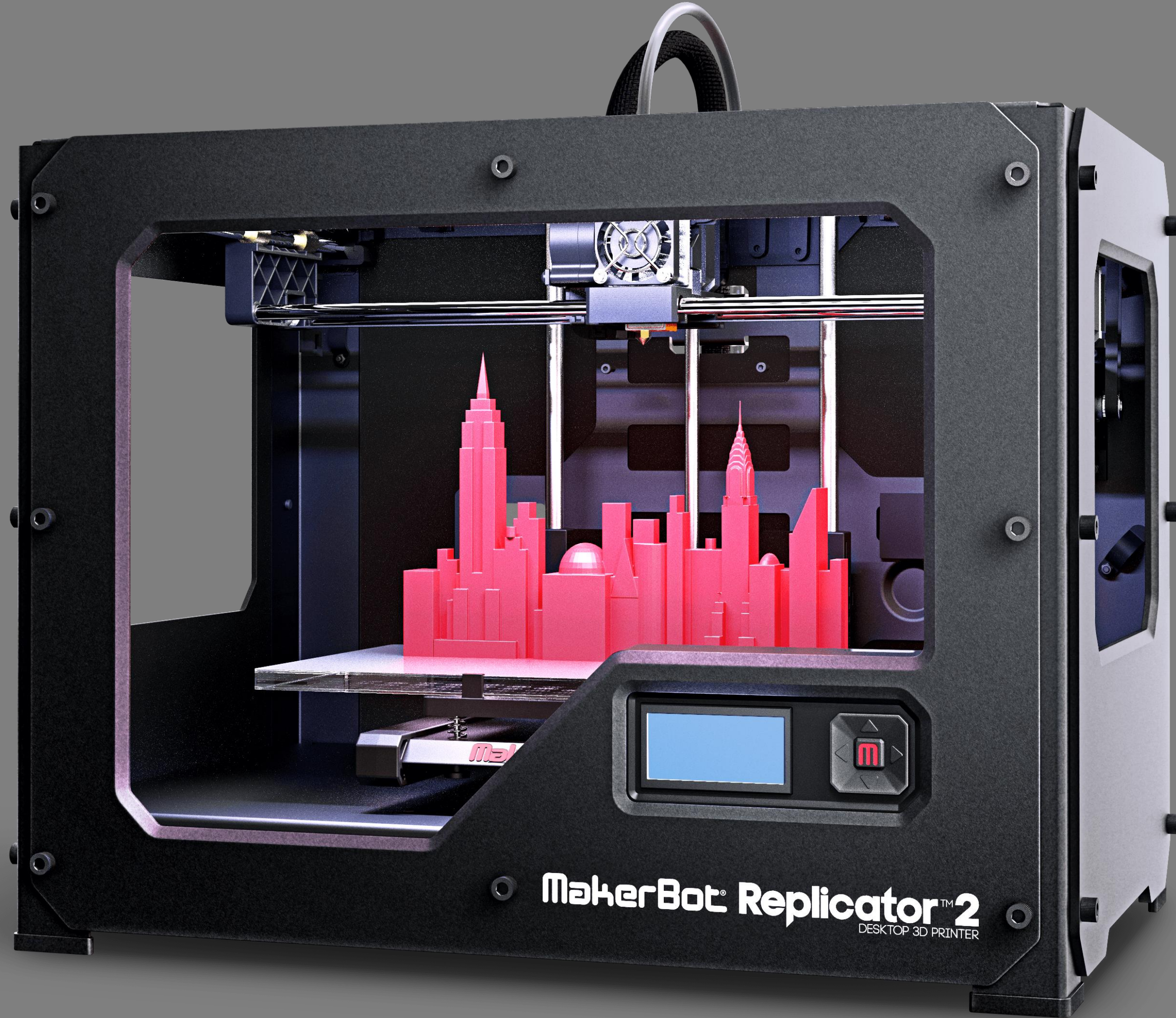


"3D Printing has the potential  
to **revolutionize** the way  
we make almost **everything**"

-- Barack Obama, U.S. President



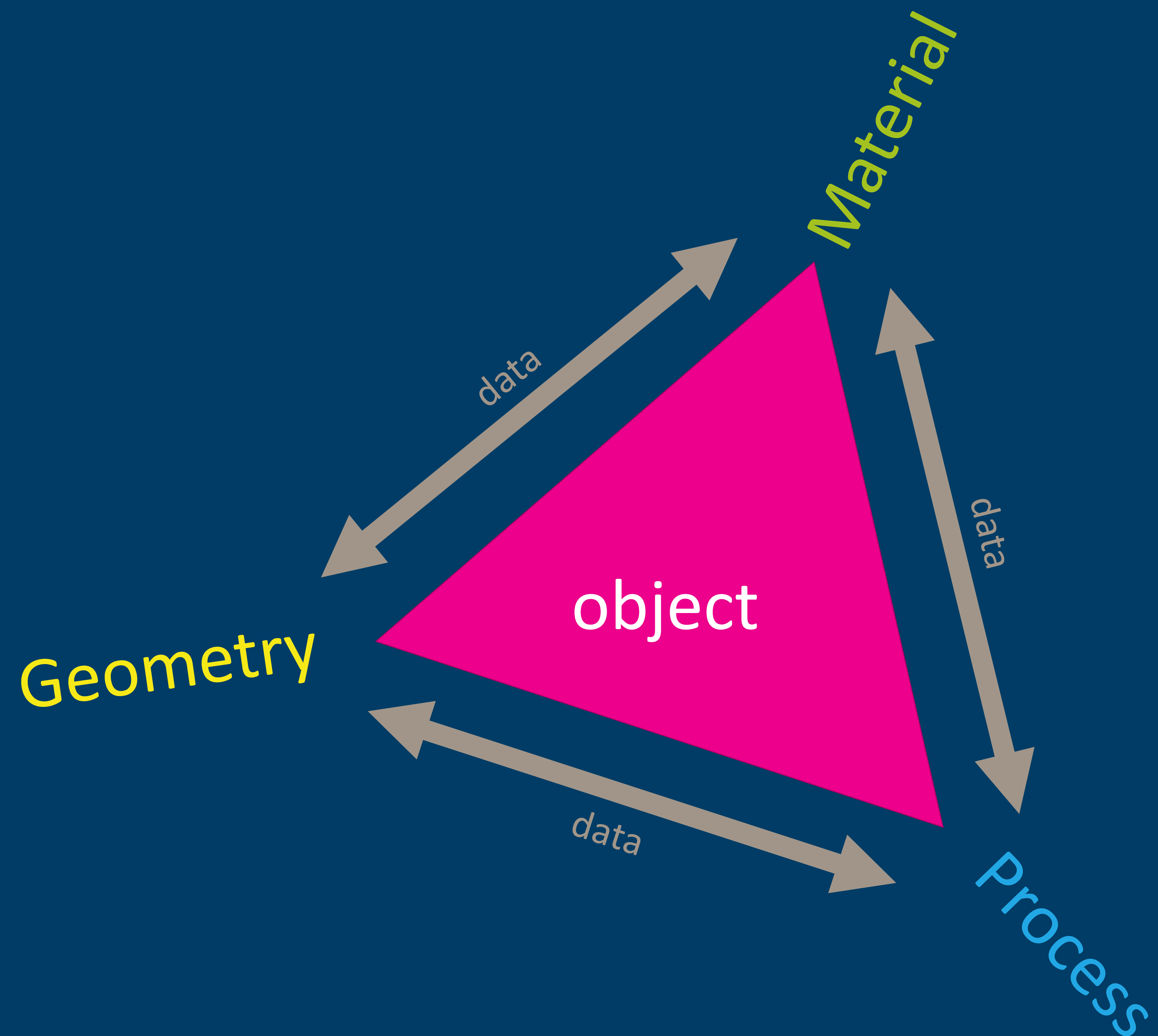




The process of joining materials  
to make **objects**  
from geometry data.

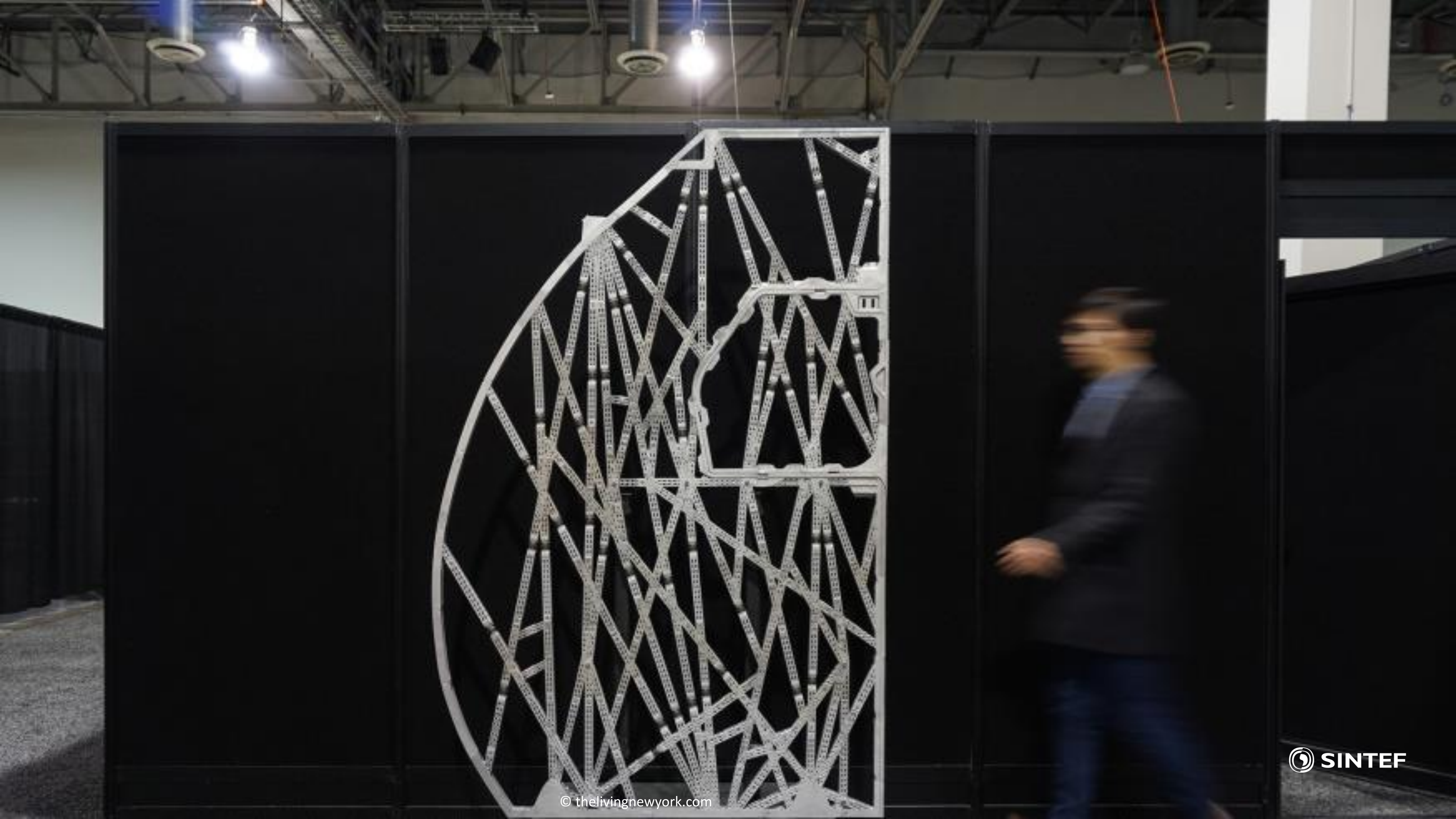
(2012 / American Society for Testing and Materials)















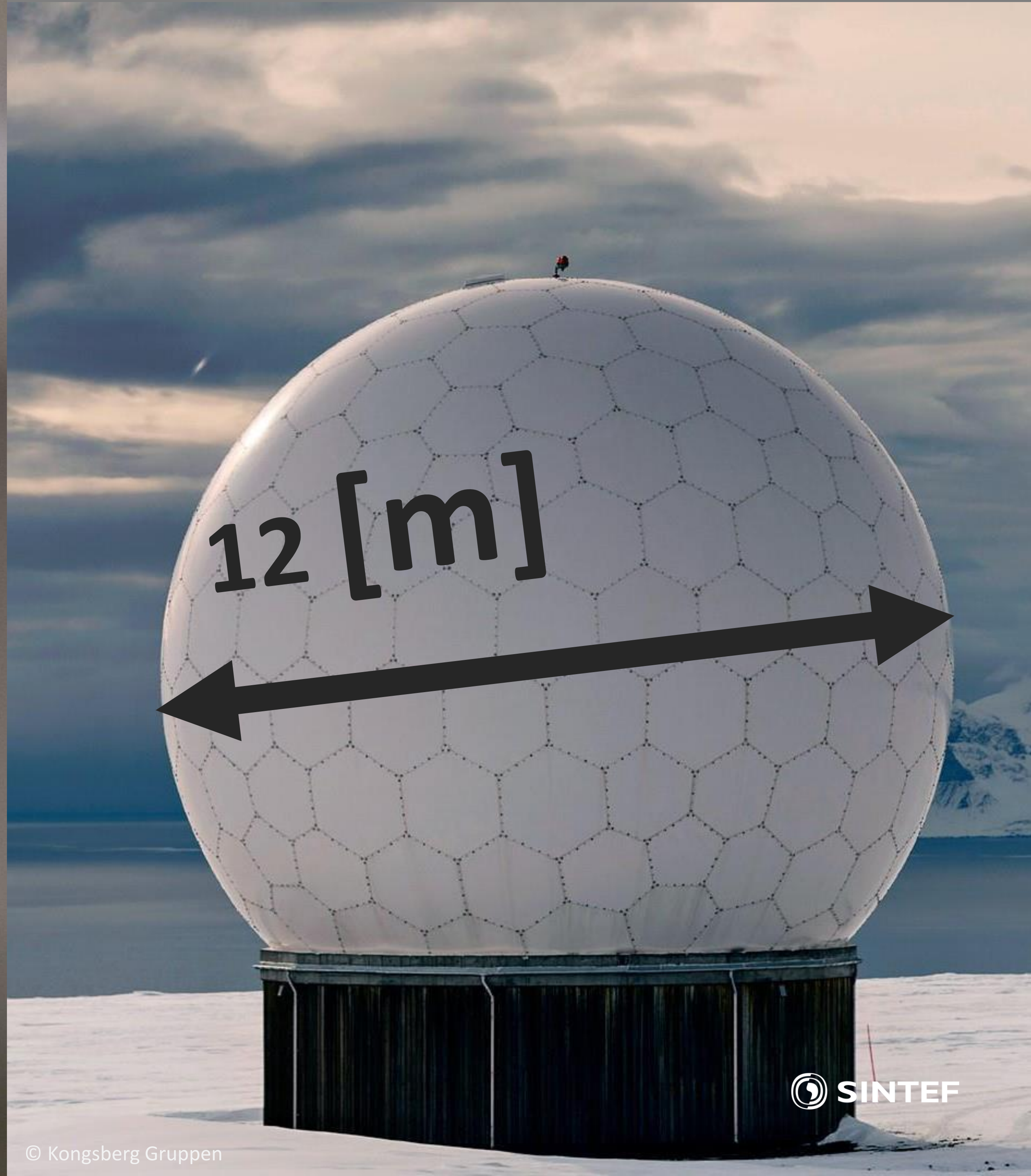
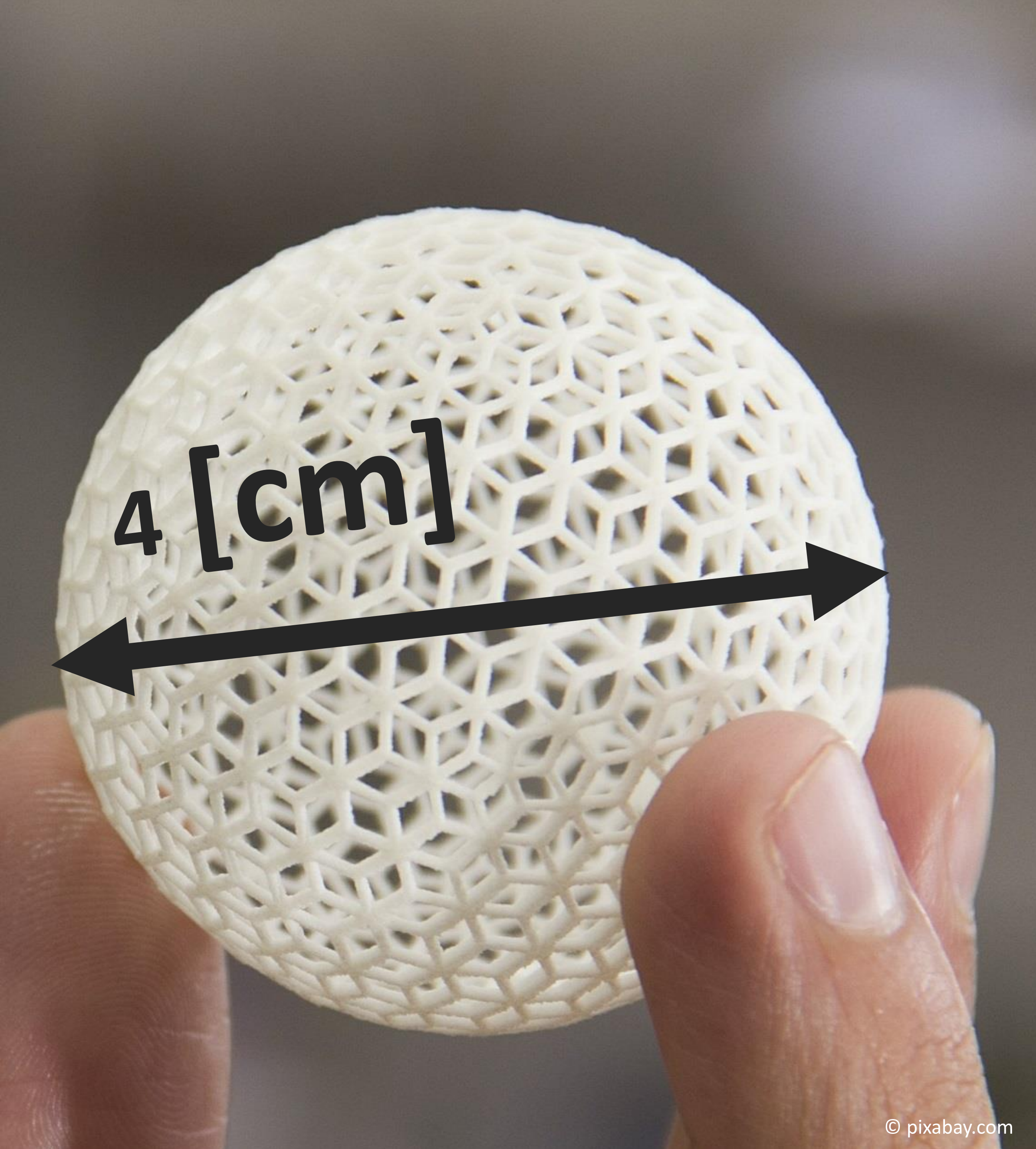
Data

Geometry

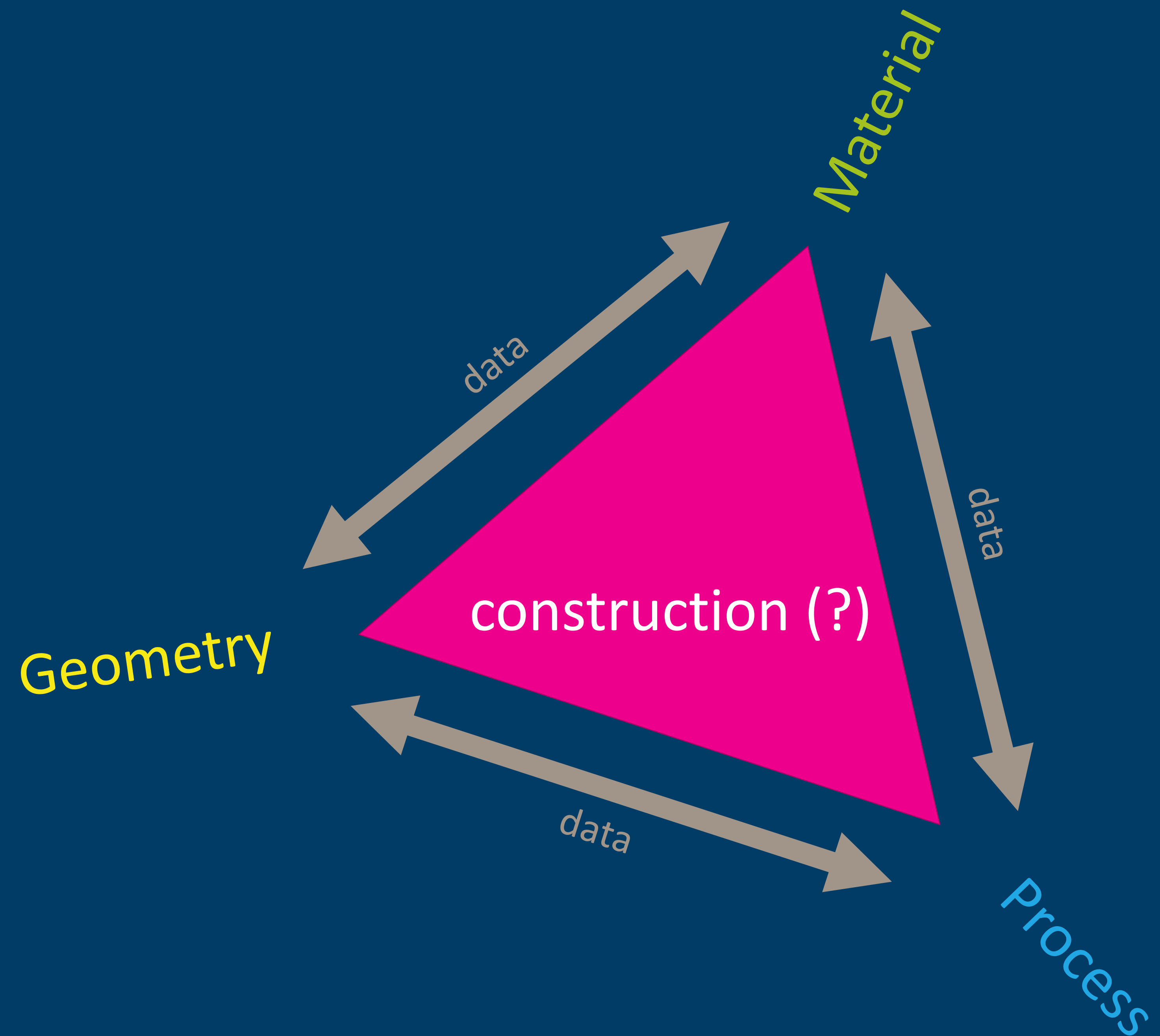
Material

Process

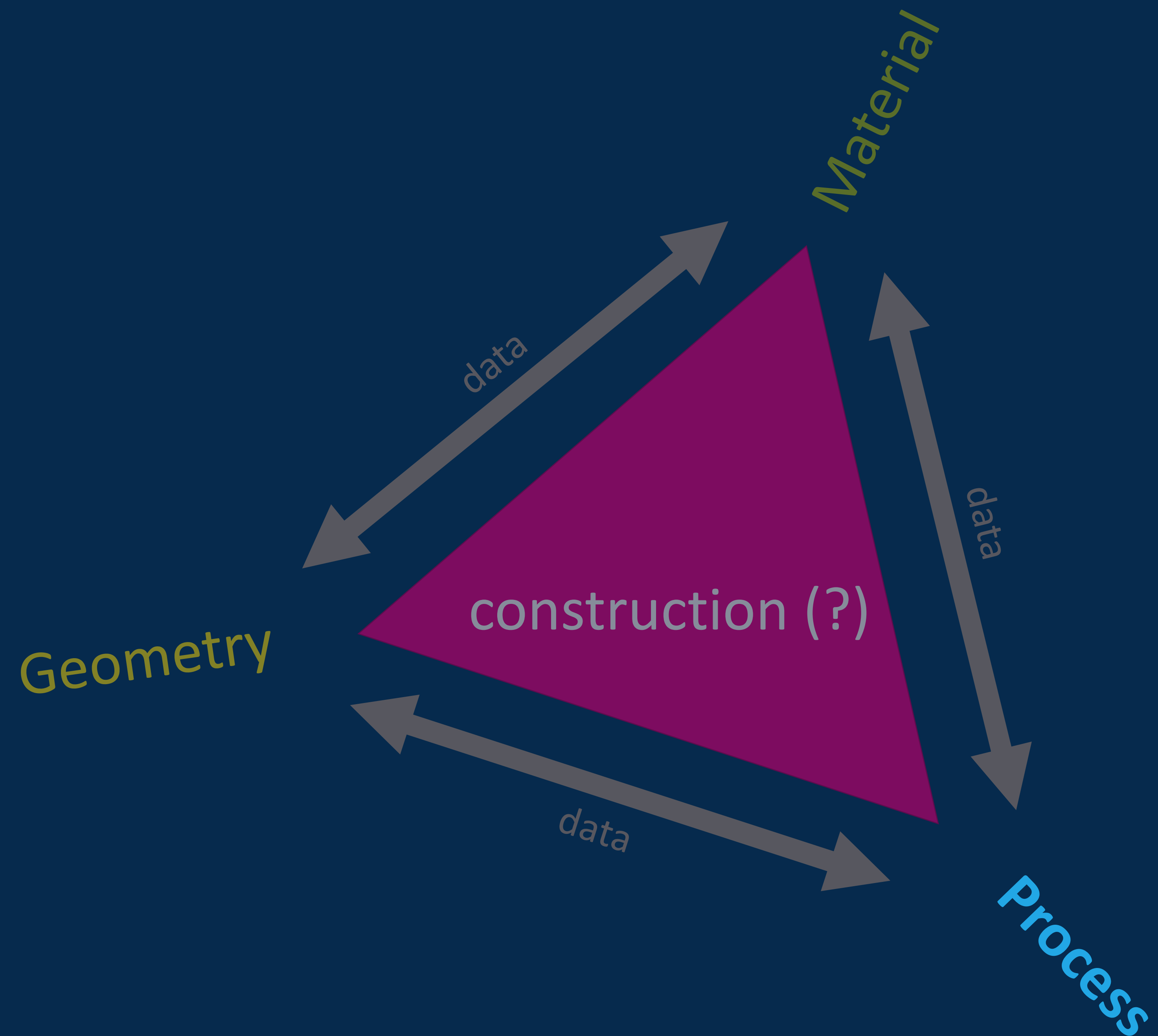








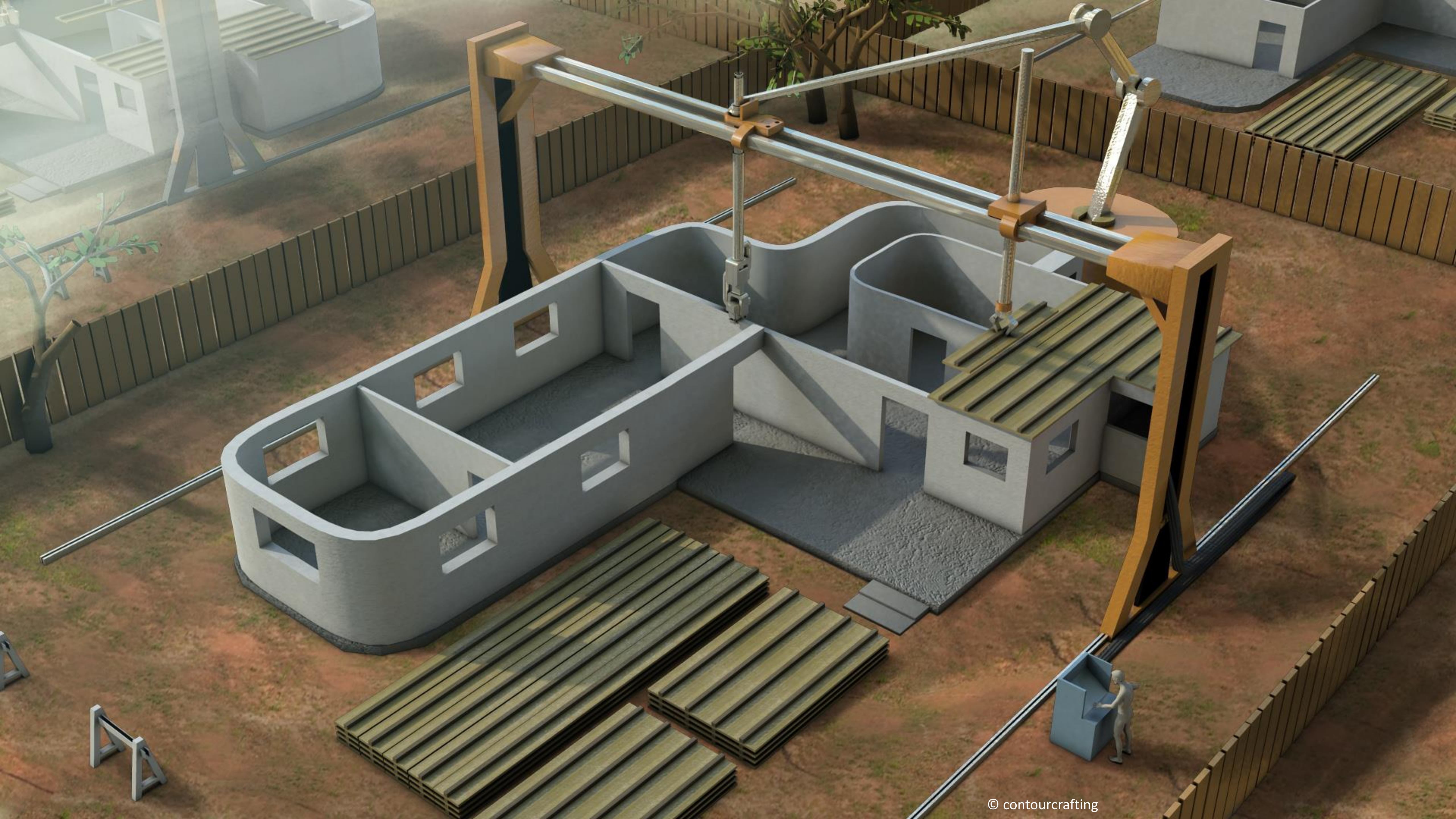




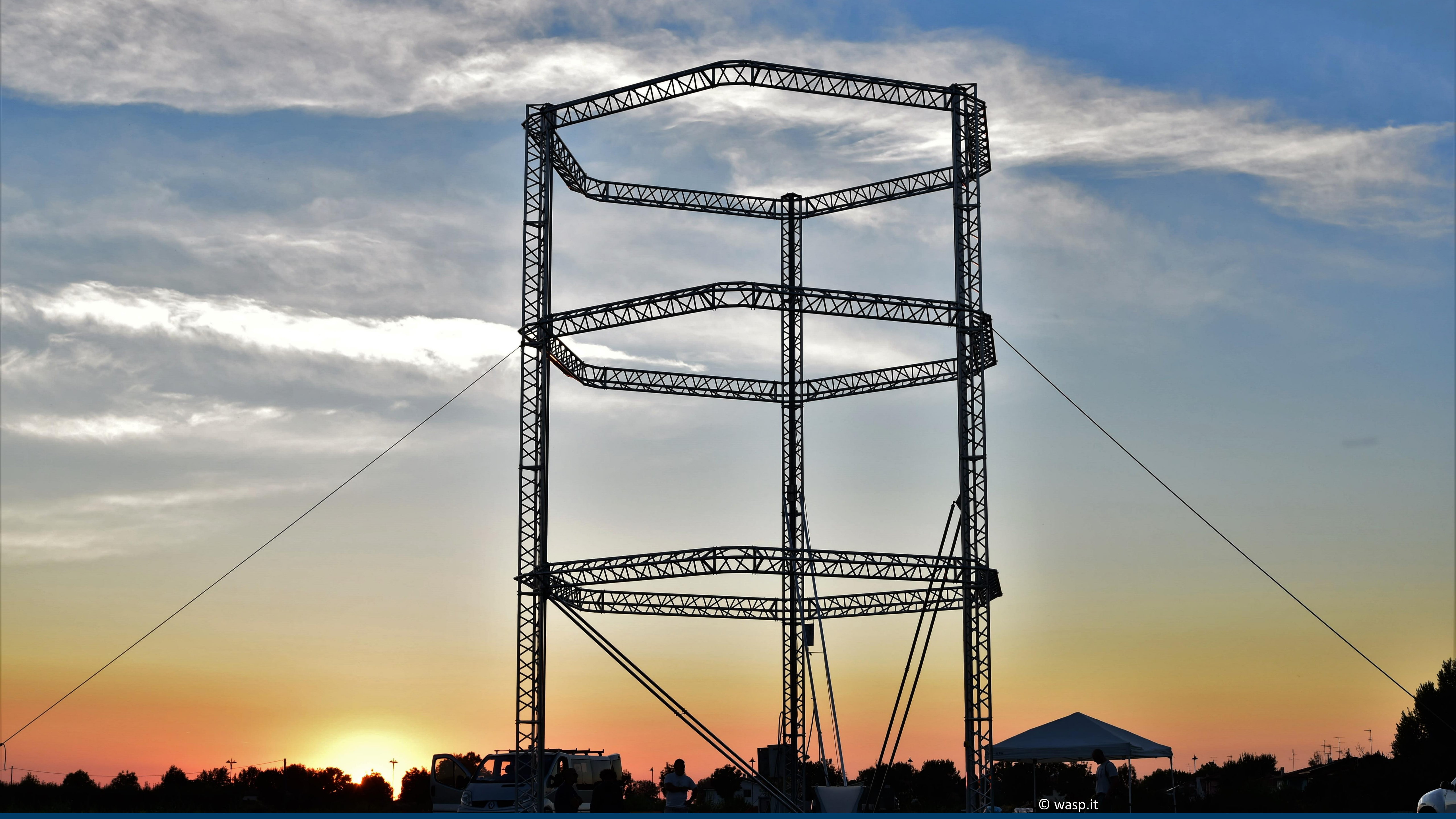




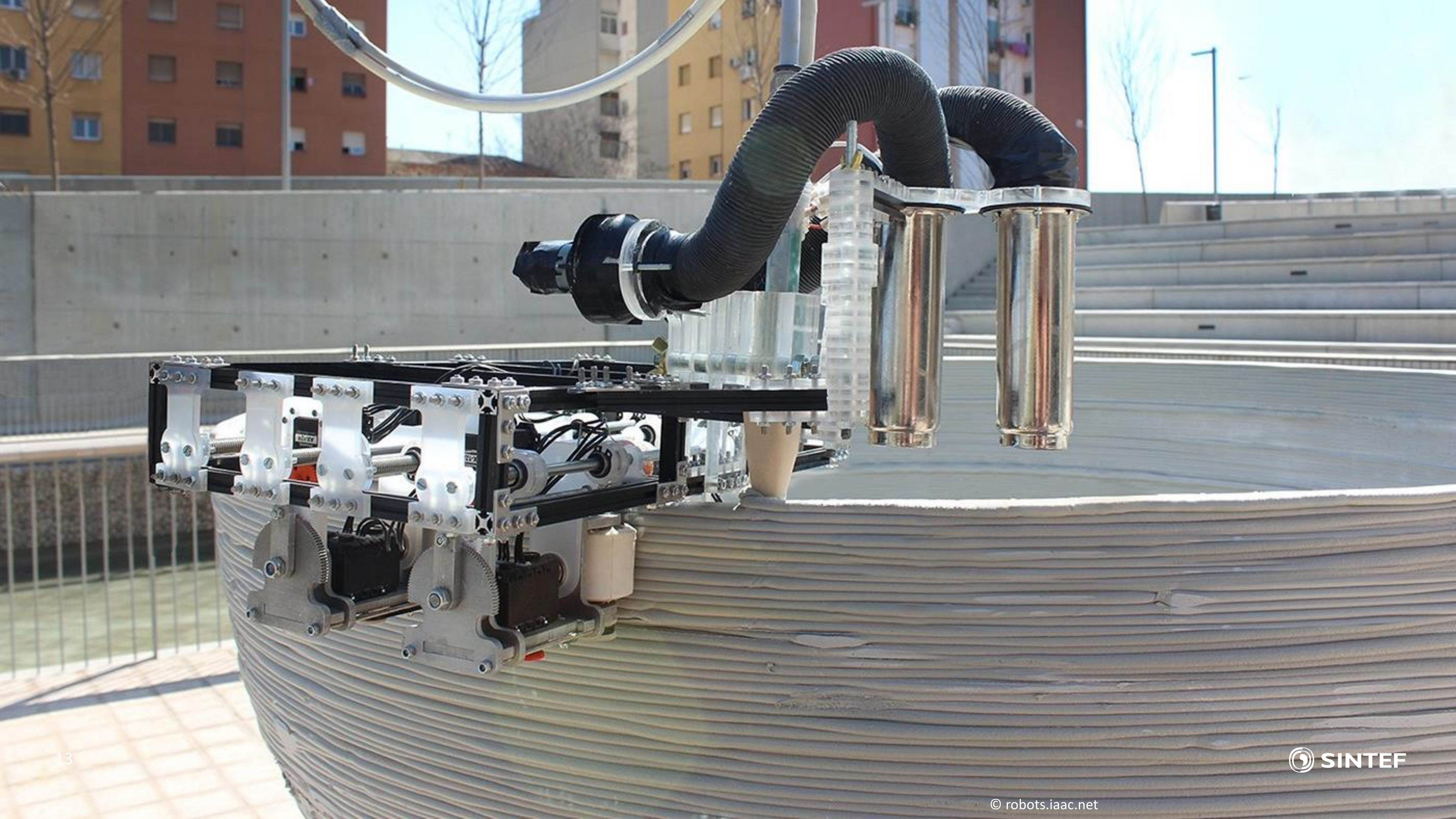












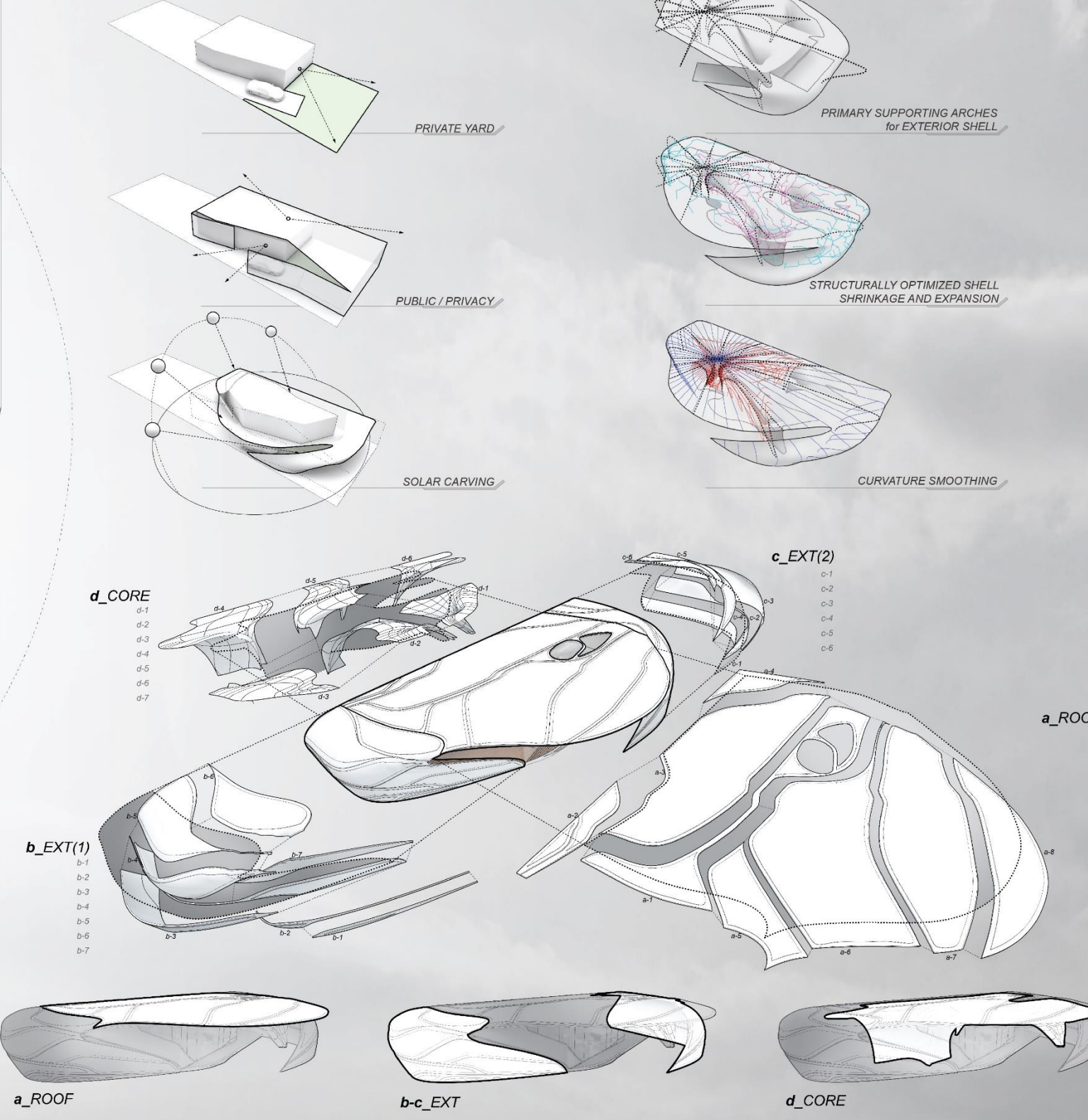
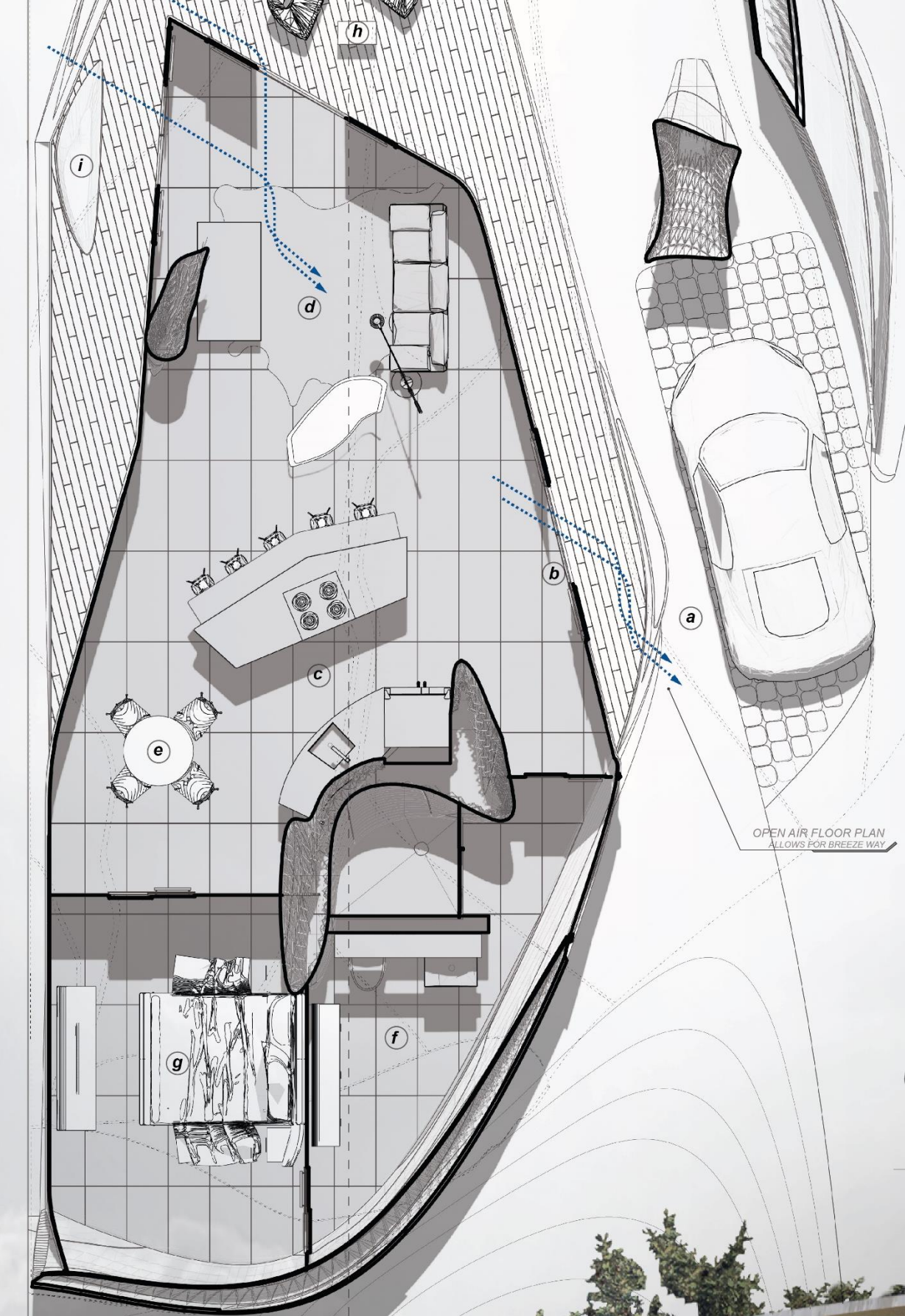












## CONCEPT

The proposal for the Branch Technology single family house, in Chattanooga, Tennessee- consists of two main components: the interior core and the exterior shell. The interior core acts as an abutment arch- connecting programmed features of the house as well as physically sub-structuring the exterior shell into one self-supporting system. Through this process the design achieves a sleek cave like appearance that pushes 3d printing technologies and construction techniques to new progressions of housing and aesthetics. The layout of the house is intended to create private and public spaces within a singular structure.

## PROGRAM

When entering the home, the living area and kitchen are visually linked to the private yard and the small acre to the east. Through the use of an open floor plan, passive strategies are inherent in the home. Operable windows/doors, aligned to the plan, allow for a breeze way in the home for passive cooling strategy. "Solar carving" the exterior form allows for optimizing natural lighting as well as winter and summer heating/cooling strategies. The home contextually blends with the property leaving an organic presence to the site. Its occupants will feel fully engulfed in nature by retaining precision, lofty lightness, and transparency.

## STRATEGY

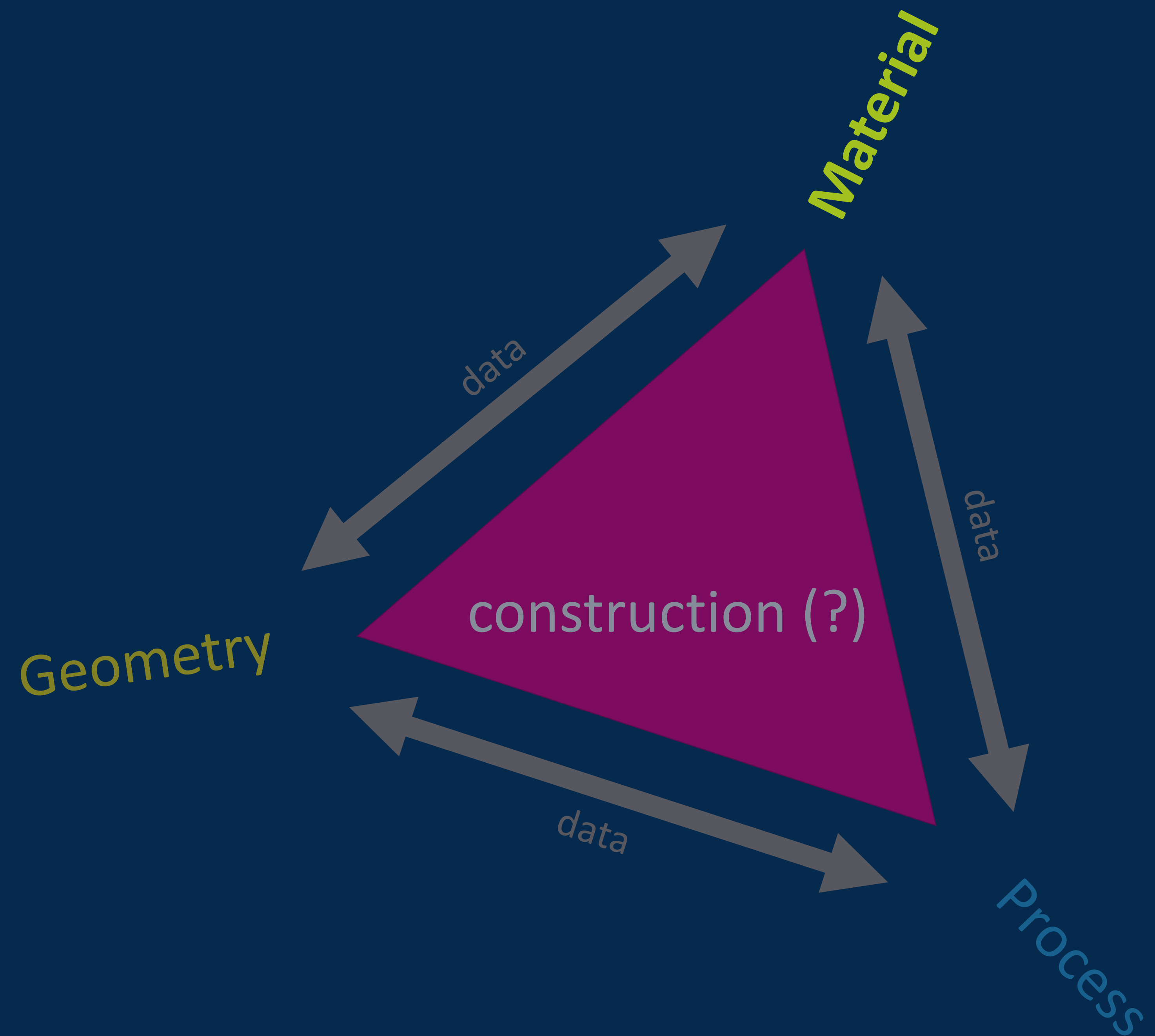
The structural system of the Curve Appeal home is derived from quadrilateral alignment of archways- responding to programmatic organization as well as site boundaries. With the use of computer simulations the surfacing and formal logics of the arches are relaxed and stiffened in areas of structural abundance- thus spanning large areas by resolving its forces in the form of a buttressing archway system.

## CONSTRUCTION

The house is composed of 28 panels that are created off-site at Branch Technologies. The panels are then shipped to the building site and assembled to create 4 main elements i.e. the two exterior walls, the roof, and the interior core. Each panels is designed with lap joints that fit to adjoining pieces and then secured by secondary hardware. Once all 28 panels are assembled into the 4 main components - they are hoisted into place. The simplification of the construction could be summarized in a booklet rather than the use of constructions drawings, leaving little errors in implementation.



























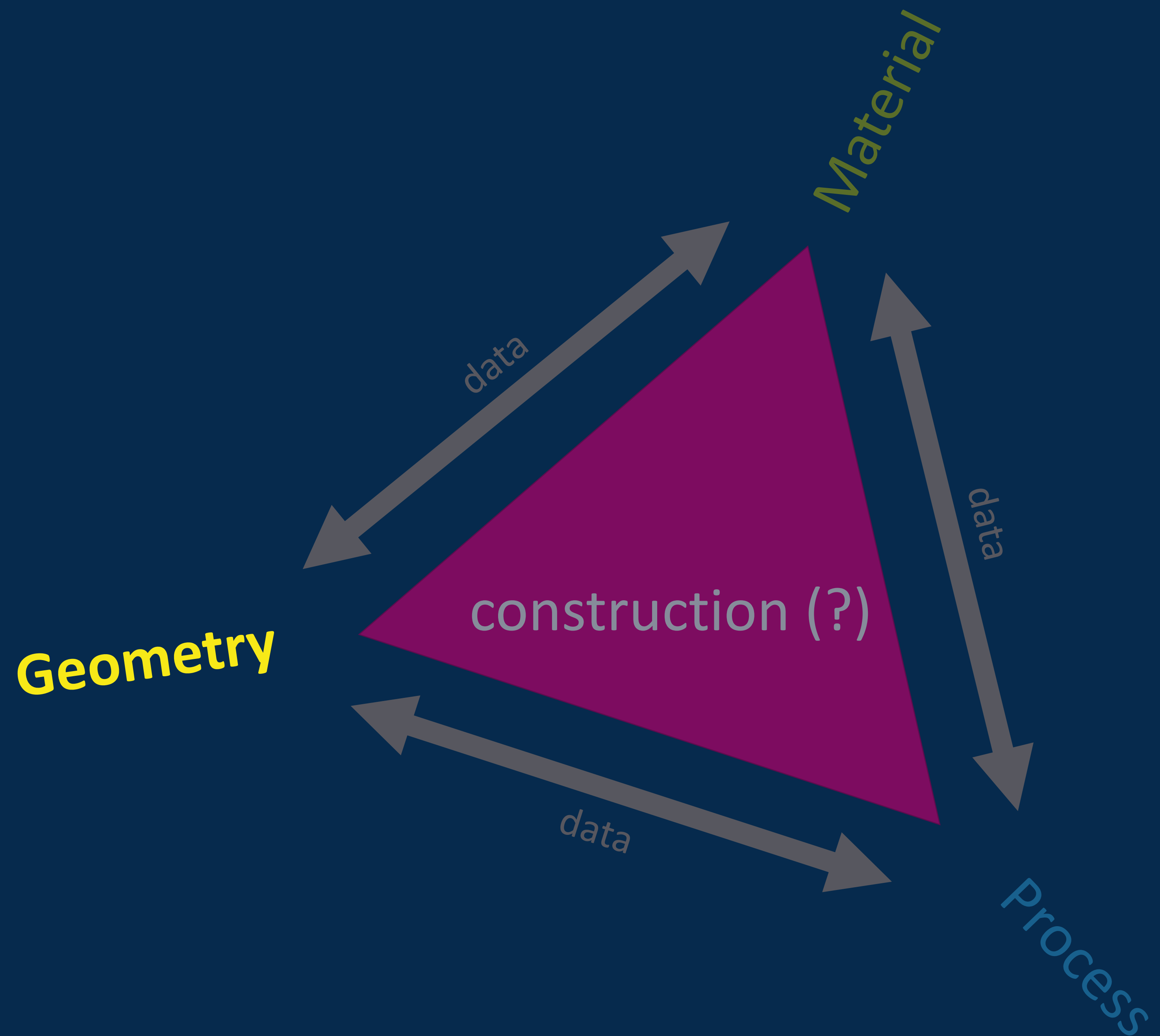












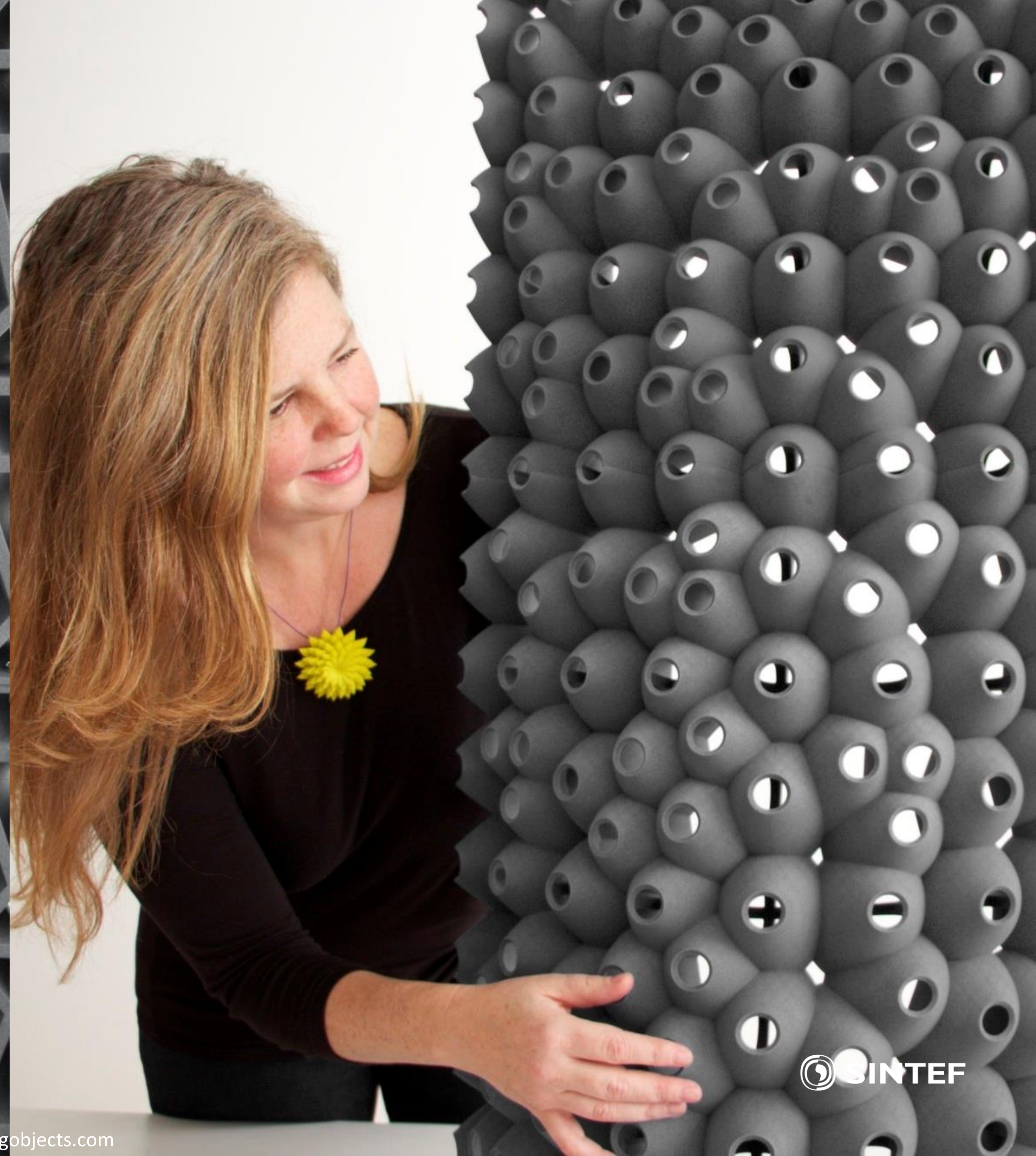
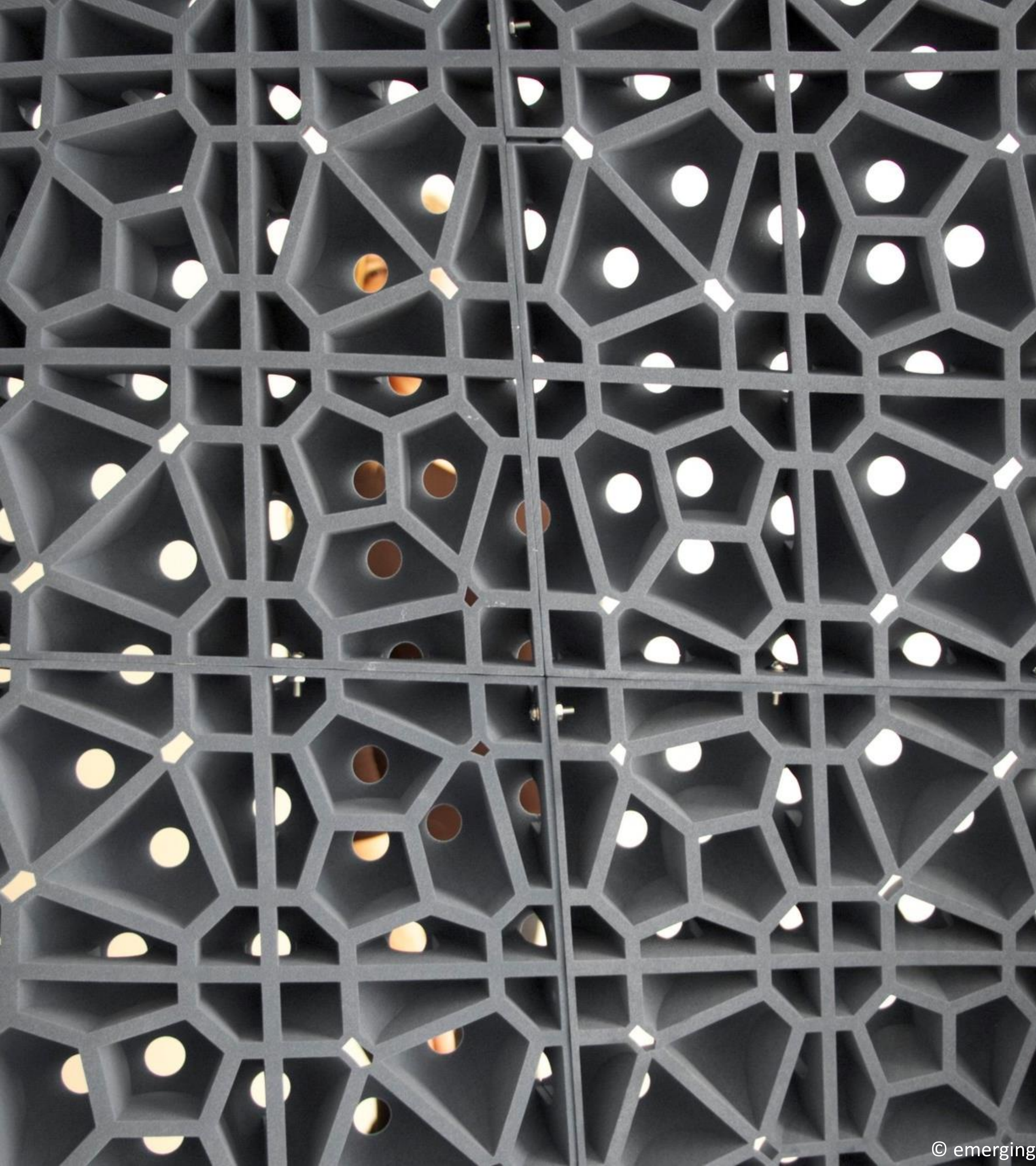








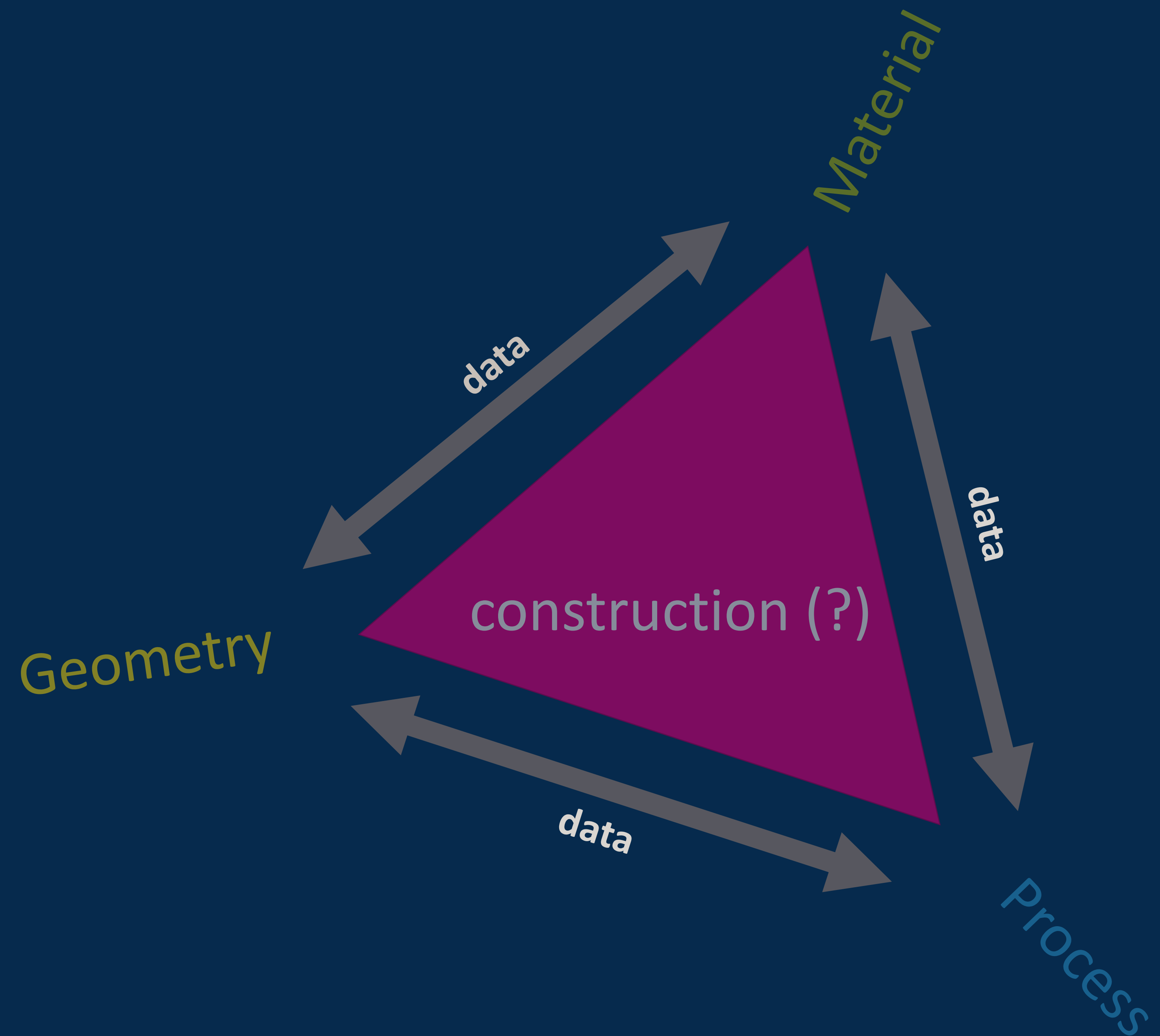




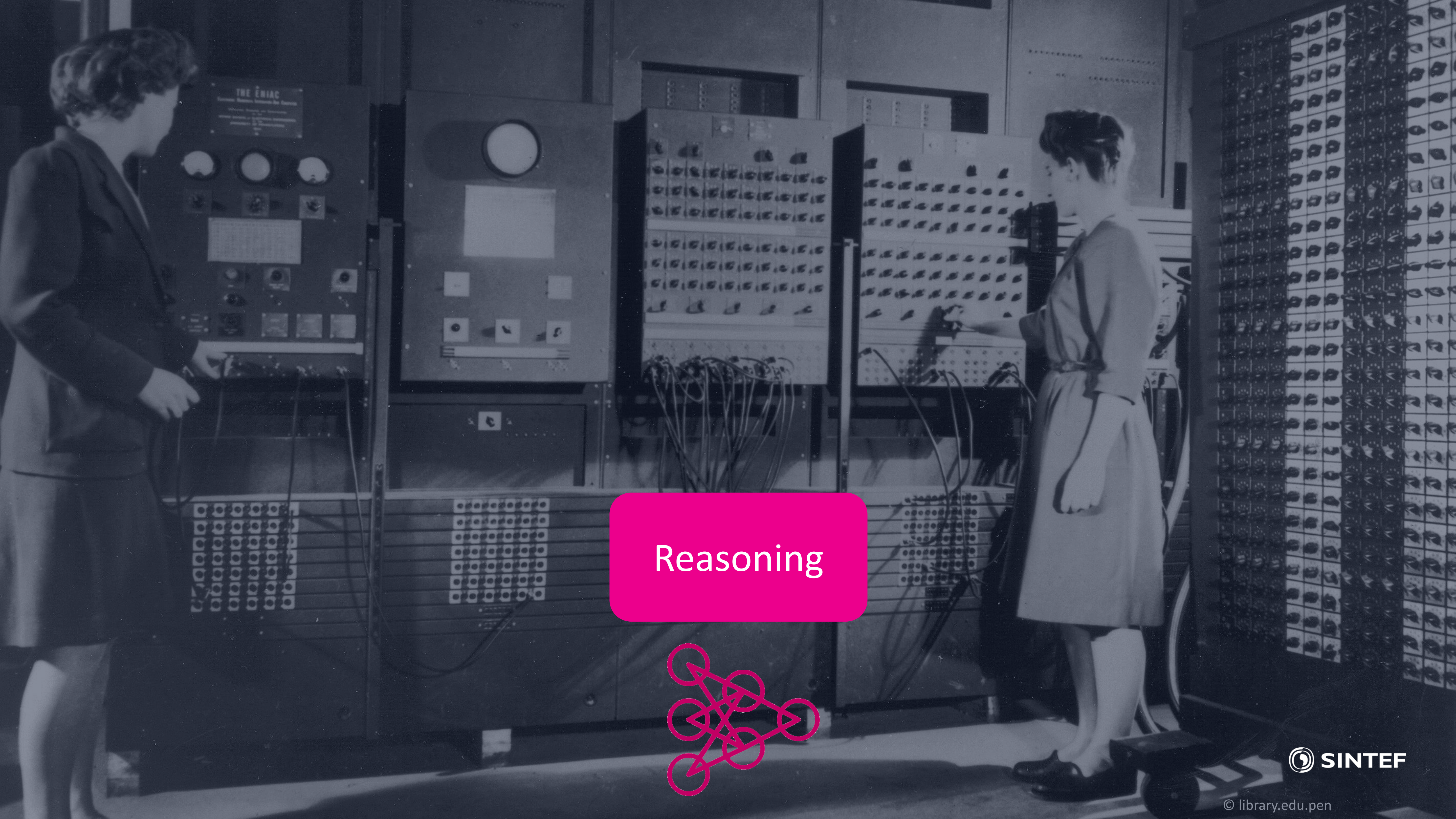




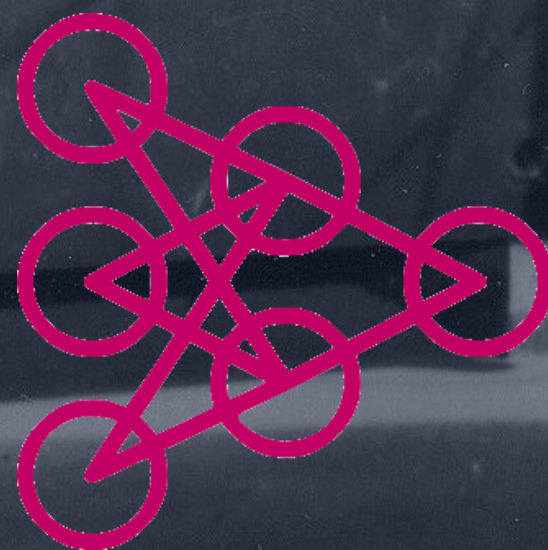






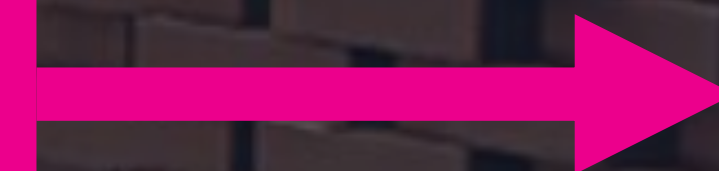


Reasoning

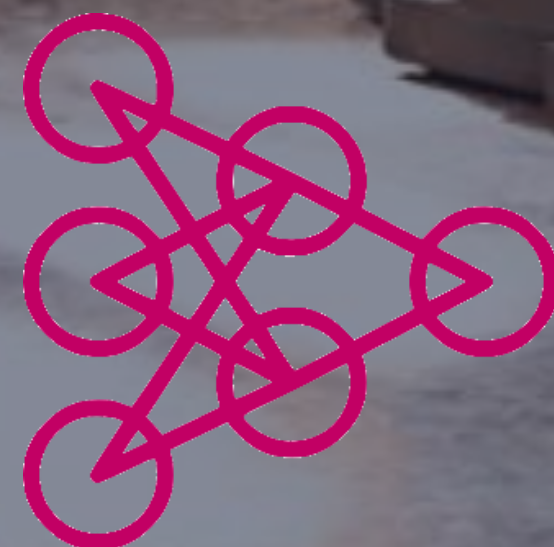




Reasoning



Acting

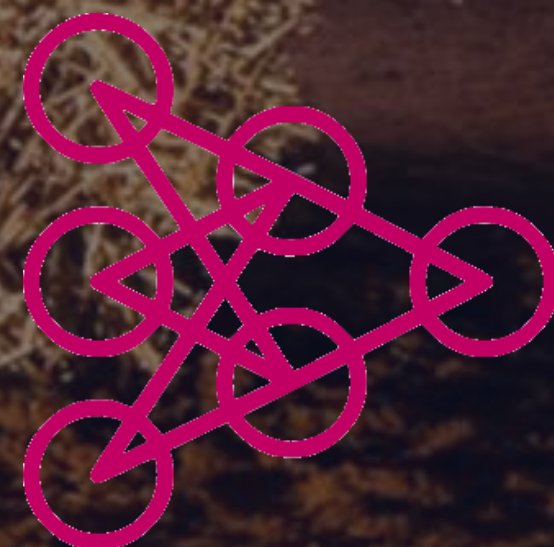




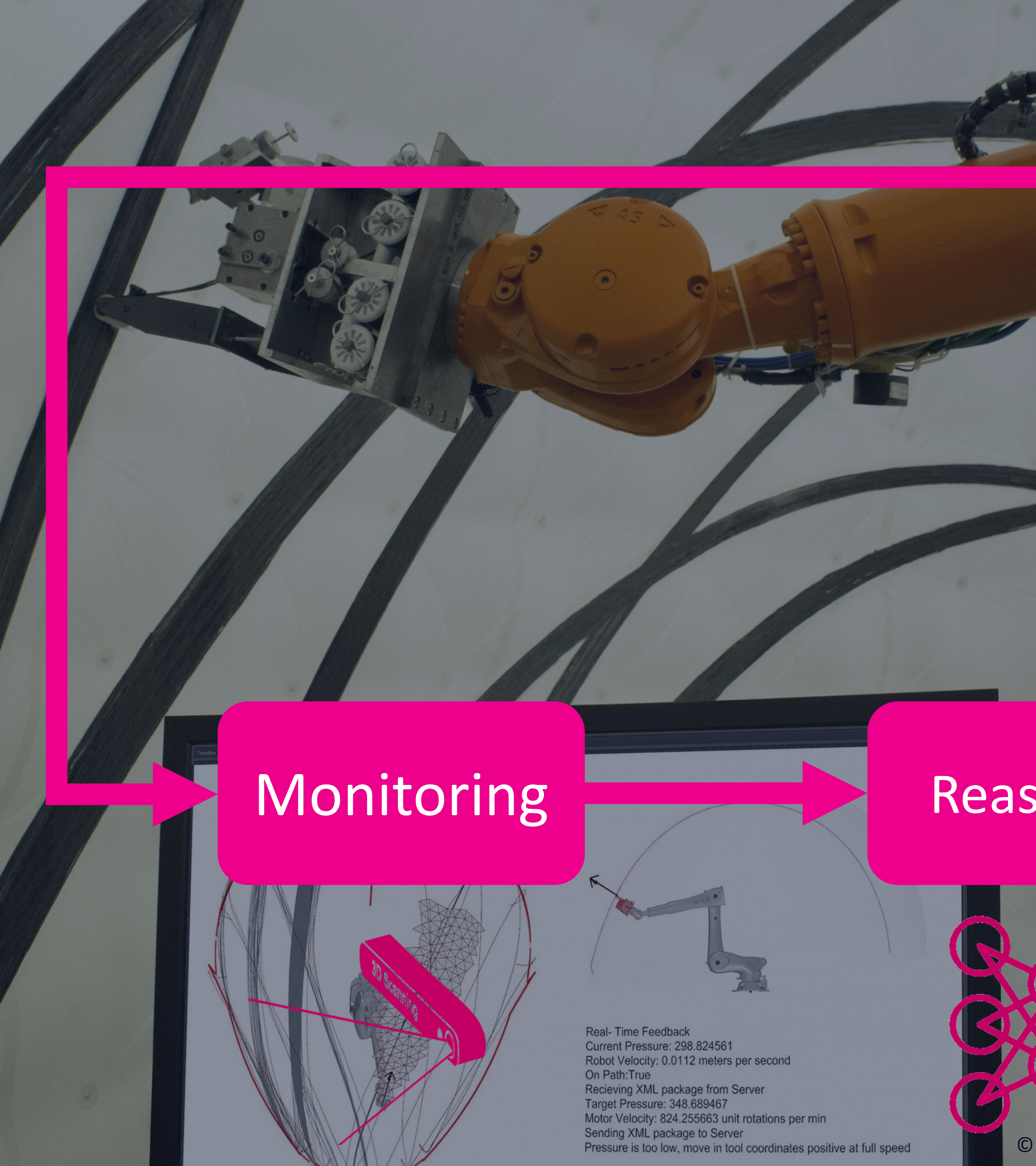
A large sculpture of a bear made of straw, illuminated at night. A diagram is overlaid on the image, showing a flow from 'Monitoring' to 'Reasoning'.

Monitoring

Reasoning





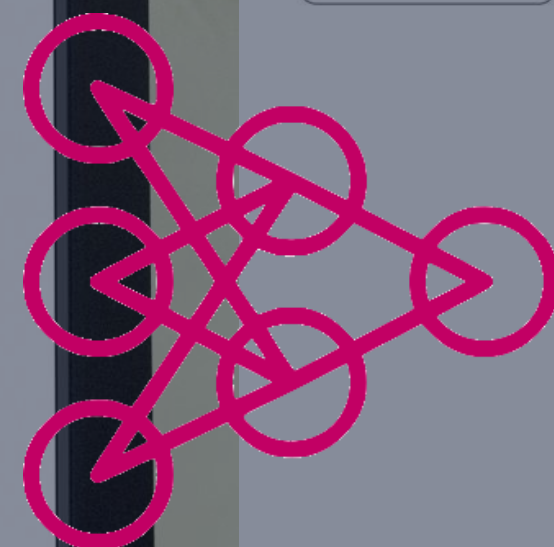


Monitoring

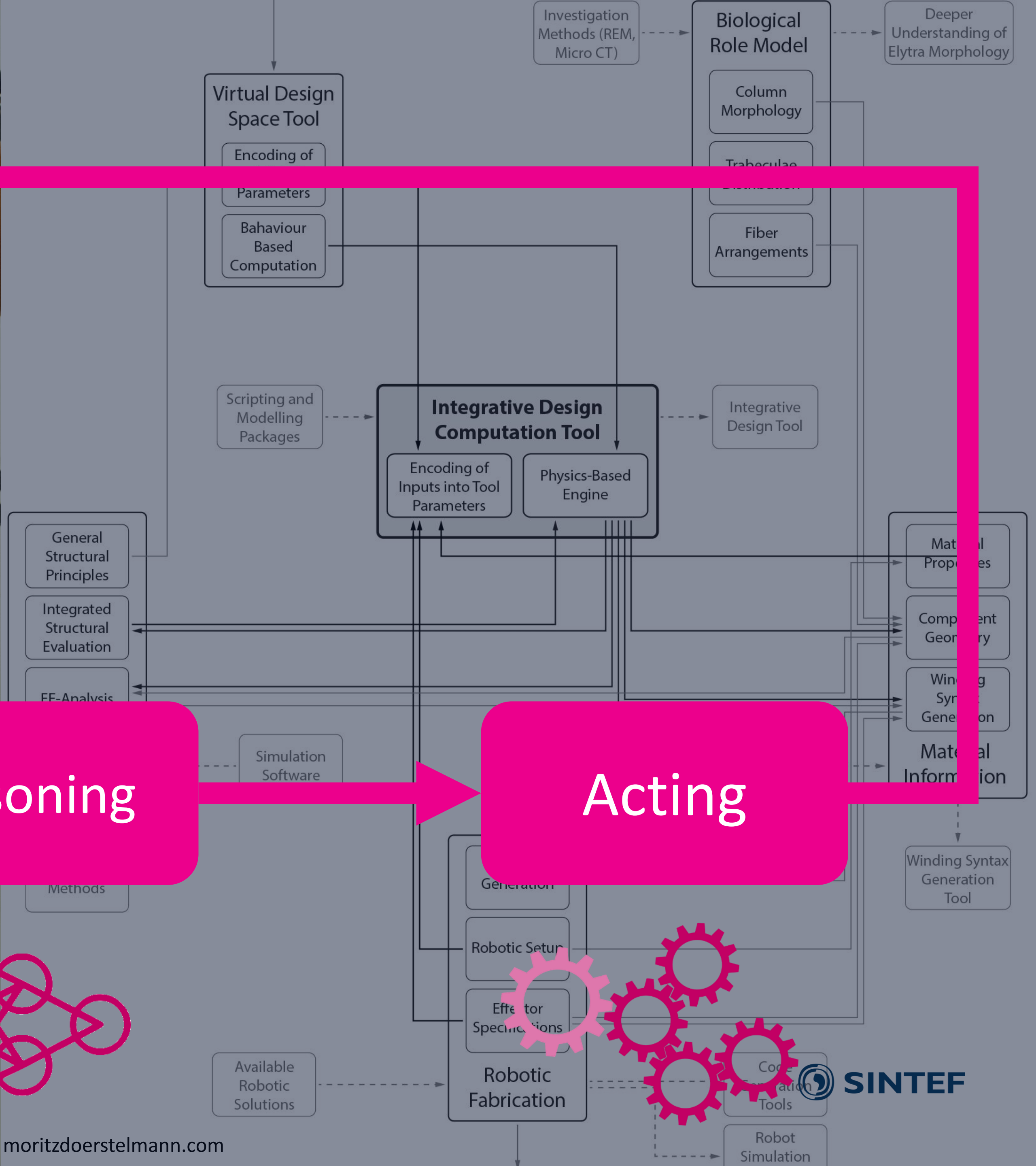
Reasoning

Acting

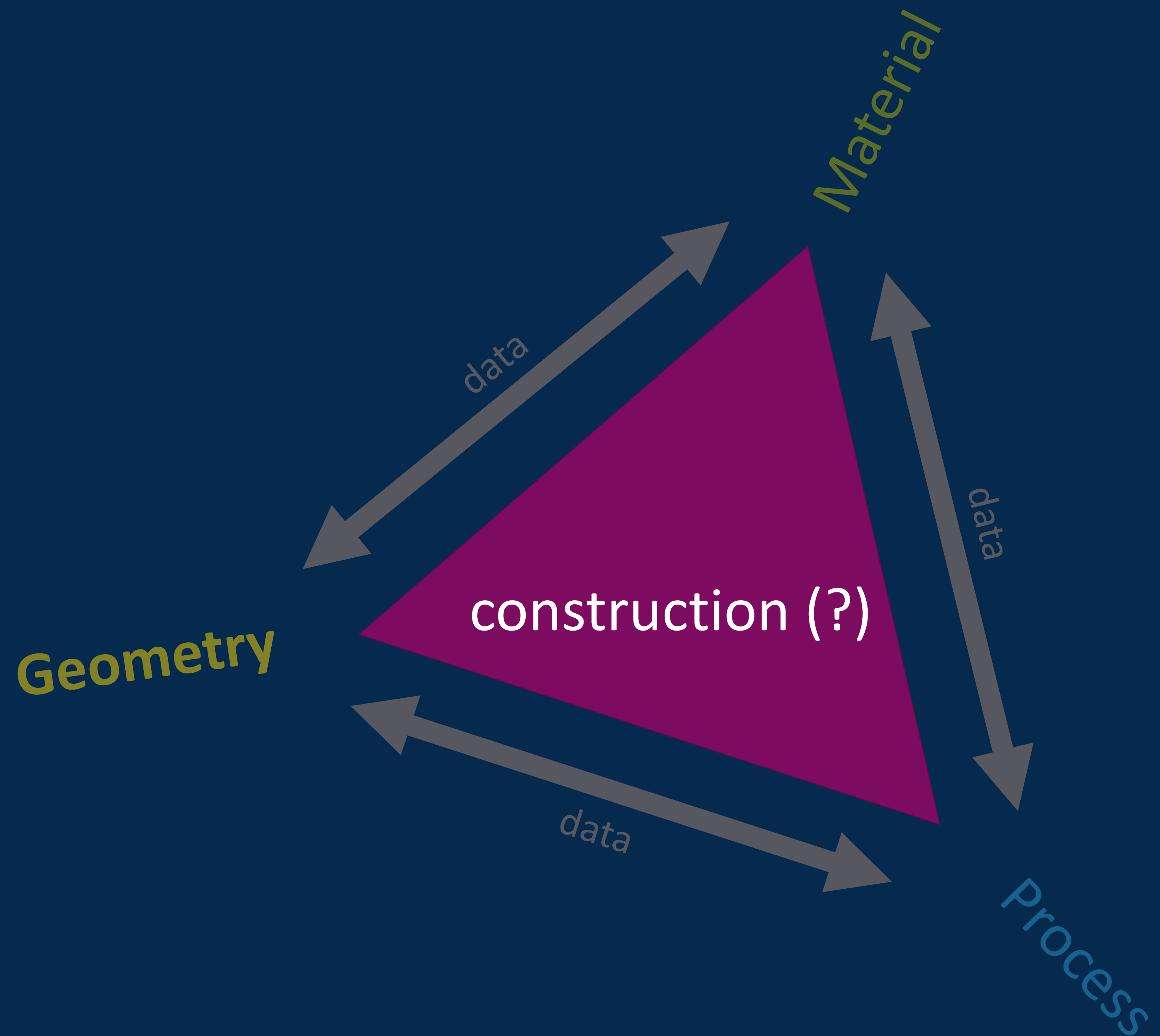
Real-Time Feedback  
Current Pressure: 298.824561  
Robot Velocity: 0.0112 meters per second  
On Path: True  
Receiving XML package from Server  
Target Pressure: 348.689467  
Motor Velocity: 824.255663 unit rotations per min  
Sending XML package to Server  
Pressure is too low, move in tool coordinates positive at full speed



© moritzdoerstelmann.com







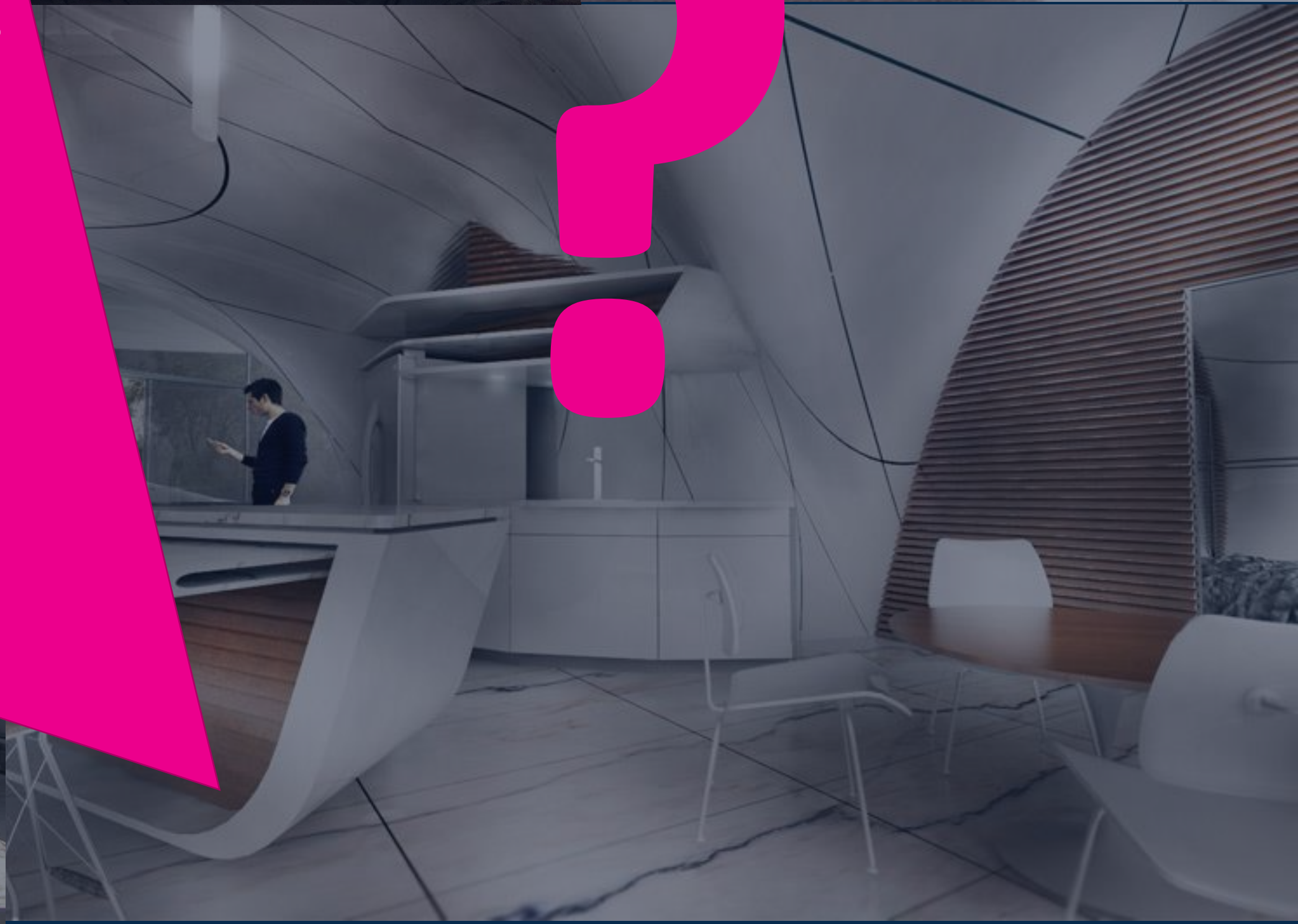












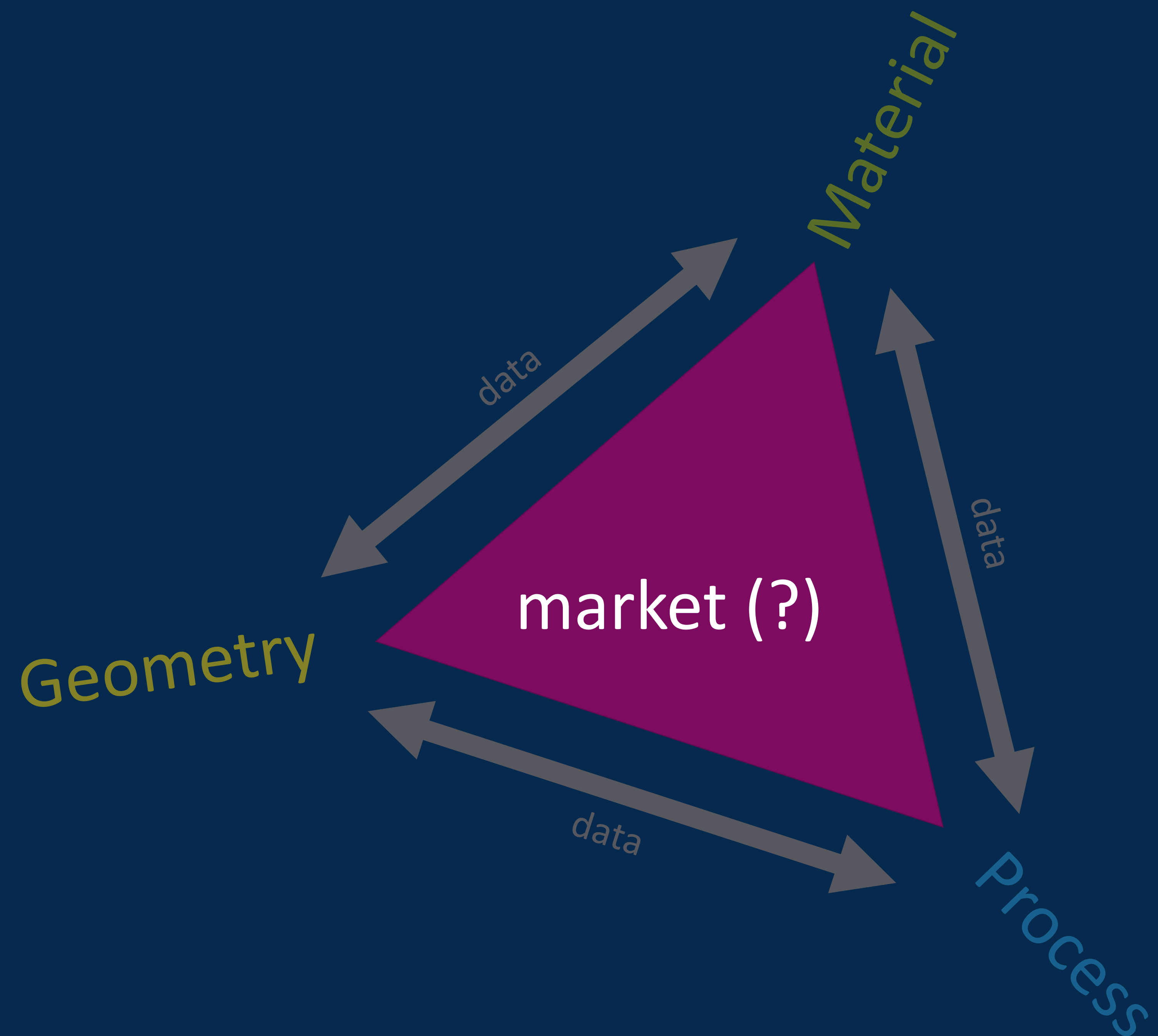
Saves **60%** on Materials

Saves **70%** on Time

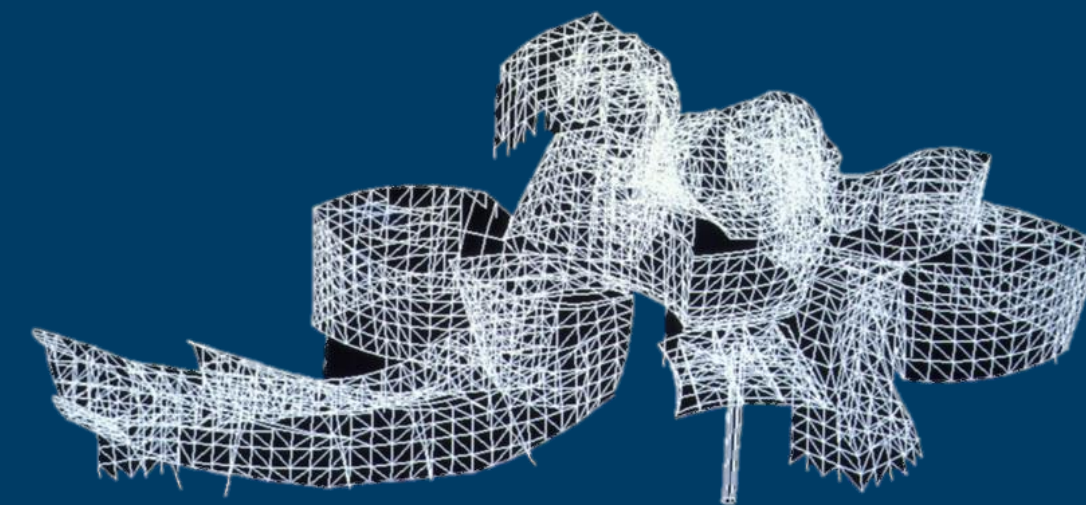
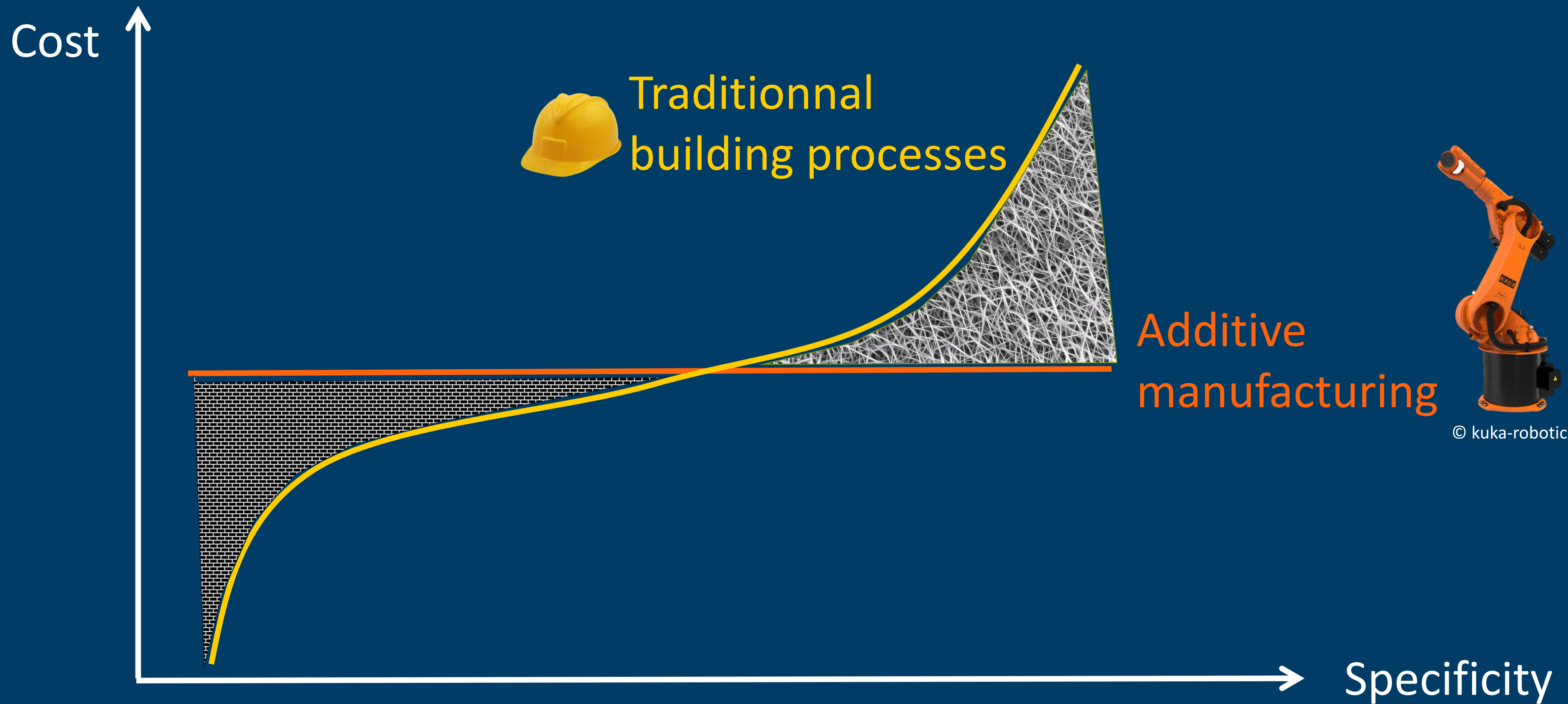
Saves **80%** on Labor











© arkitektur.se

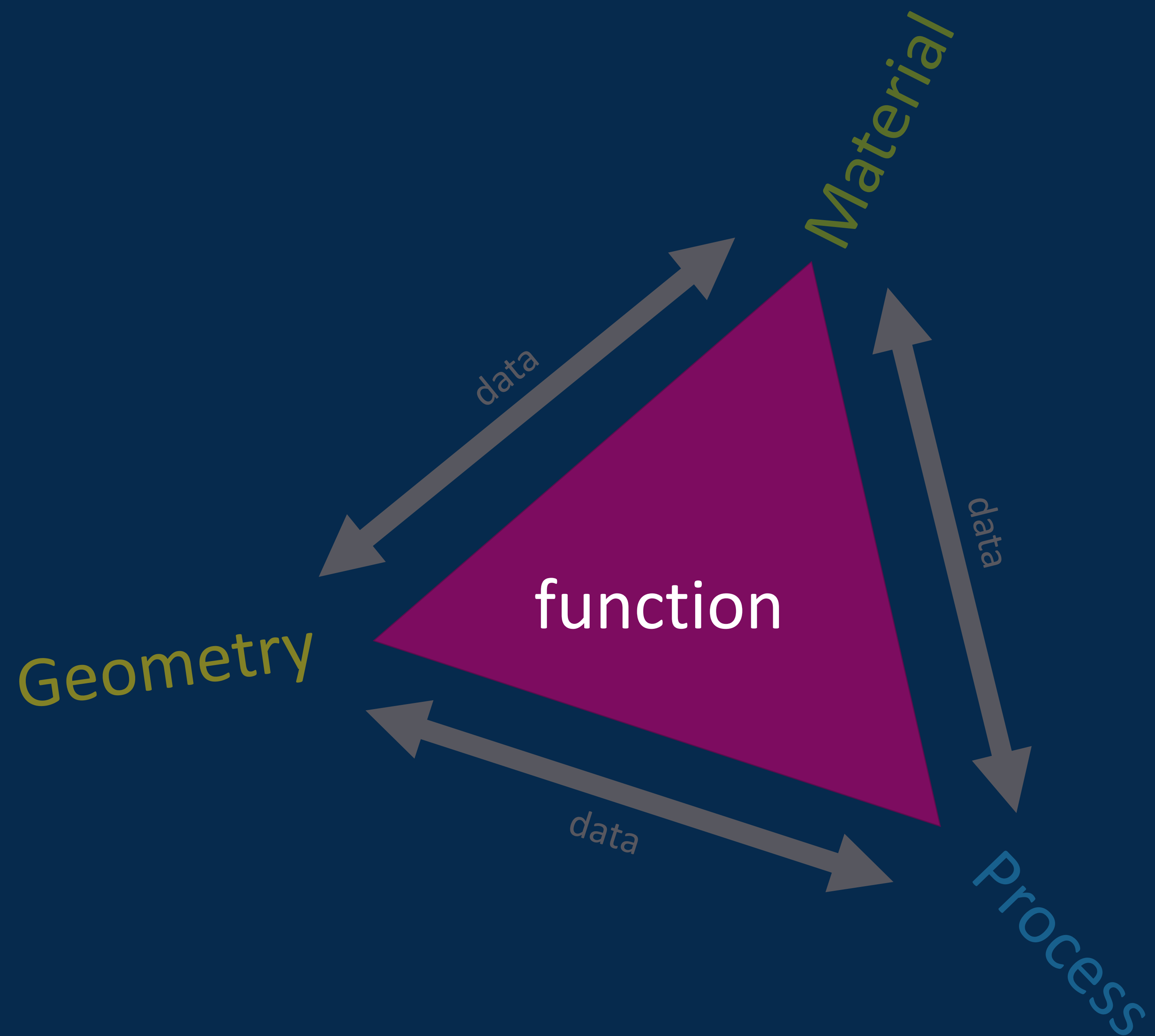
© kuka-robotics.com





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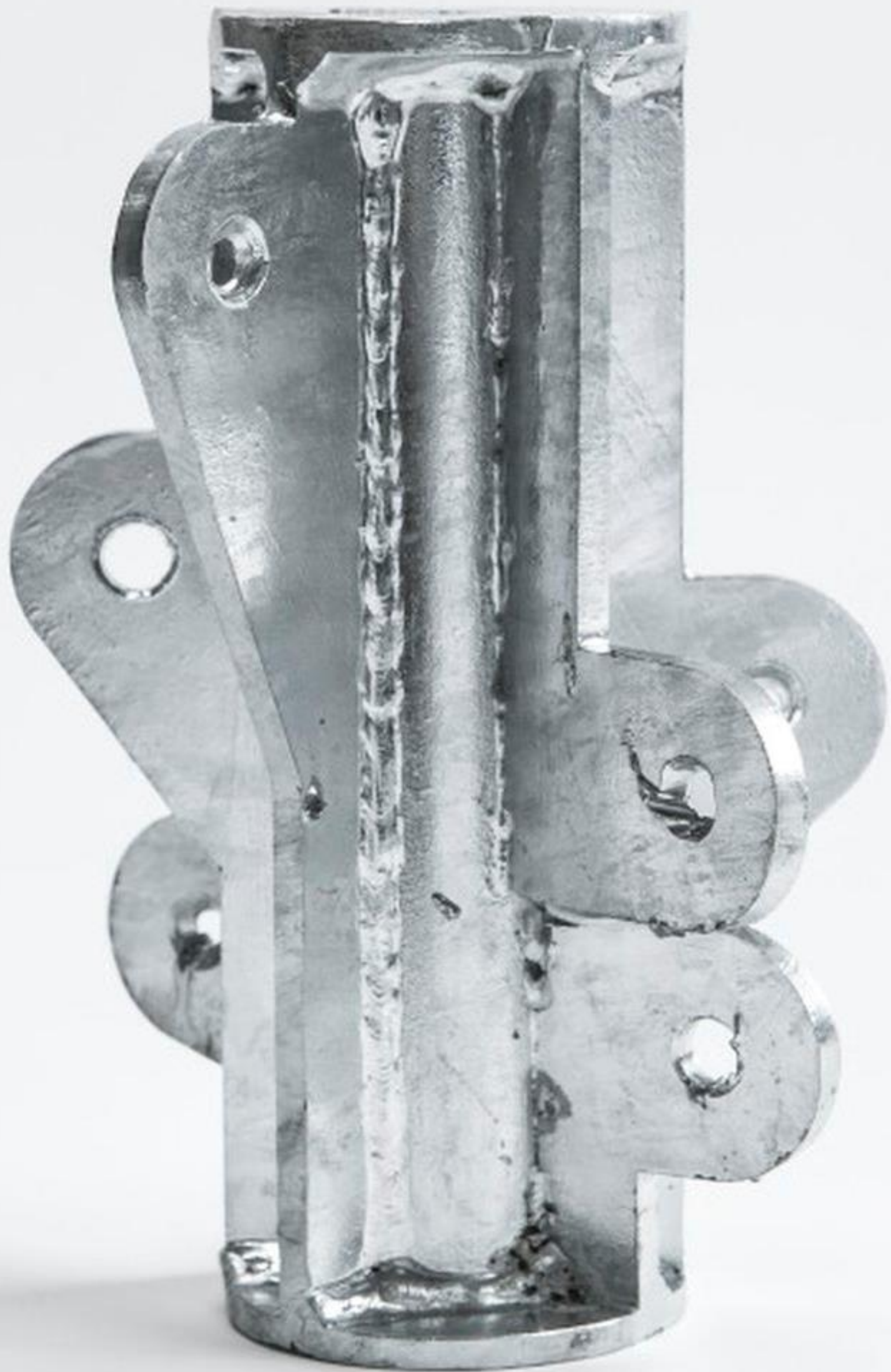




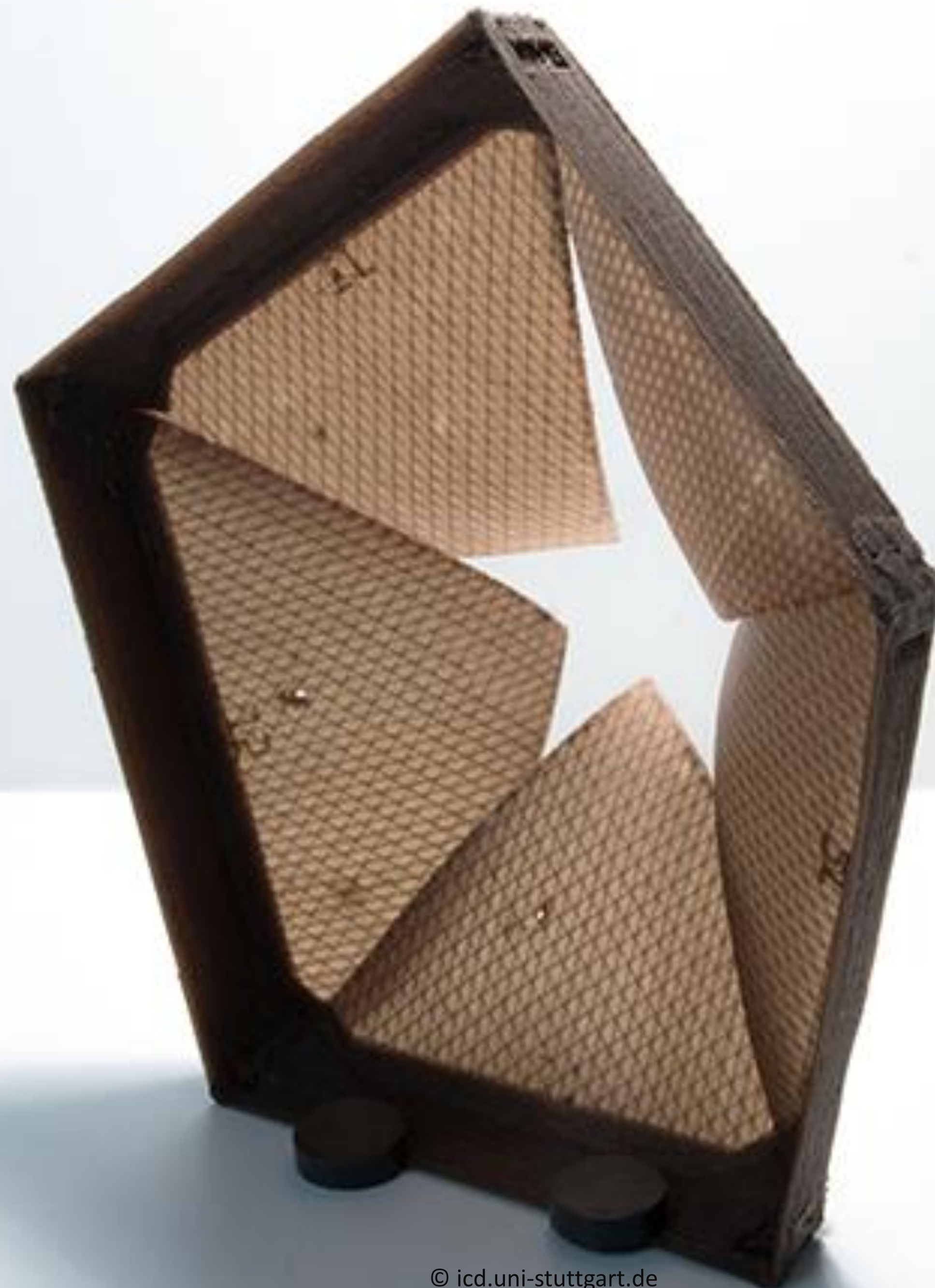




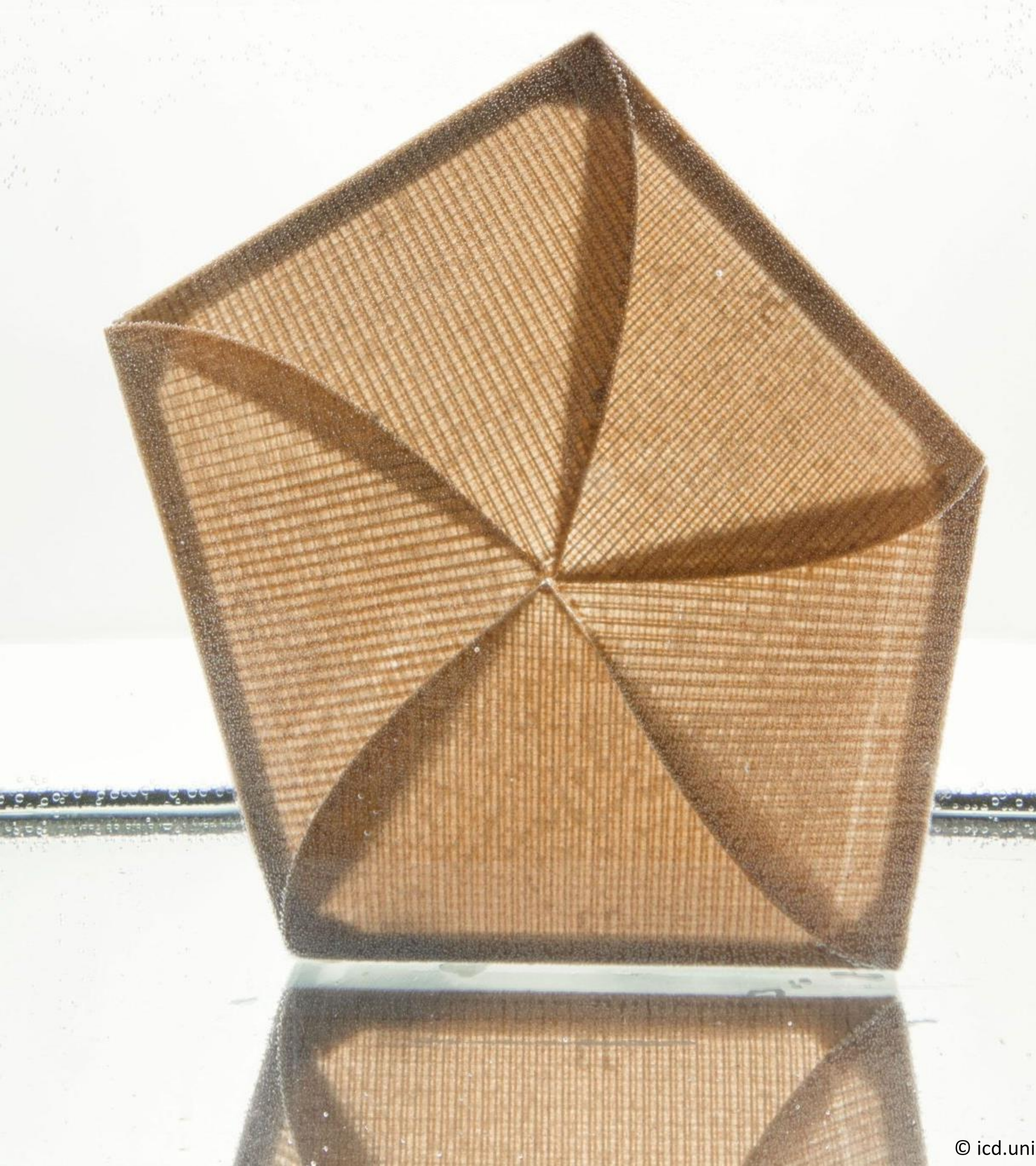




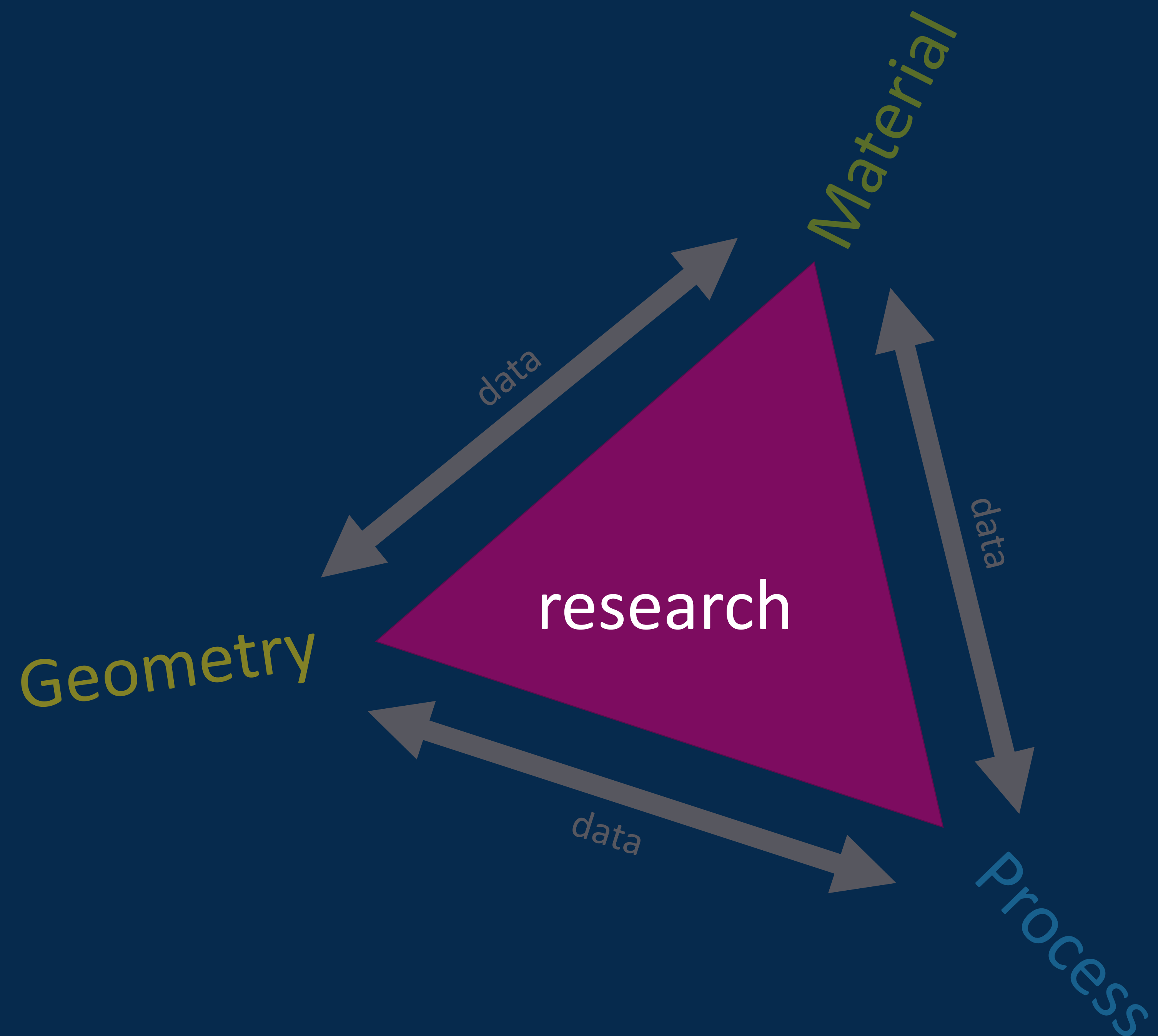




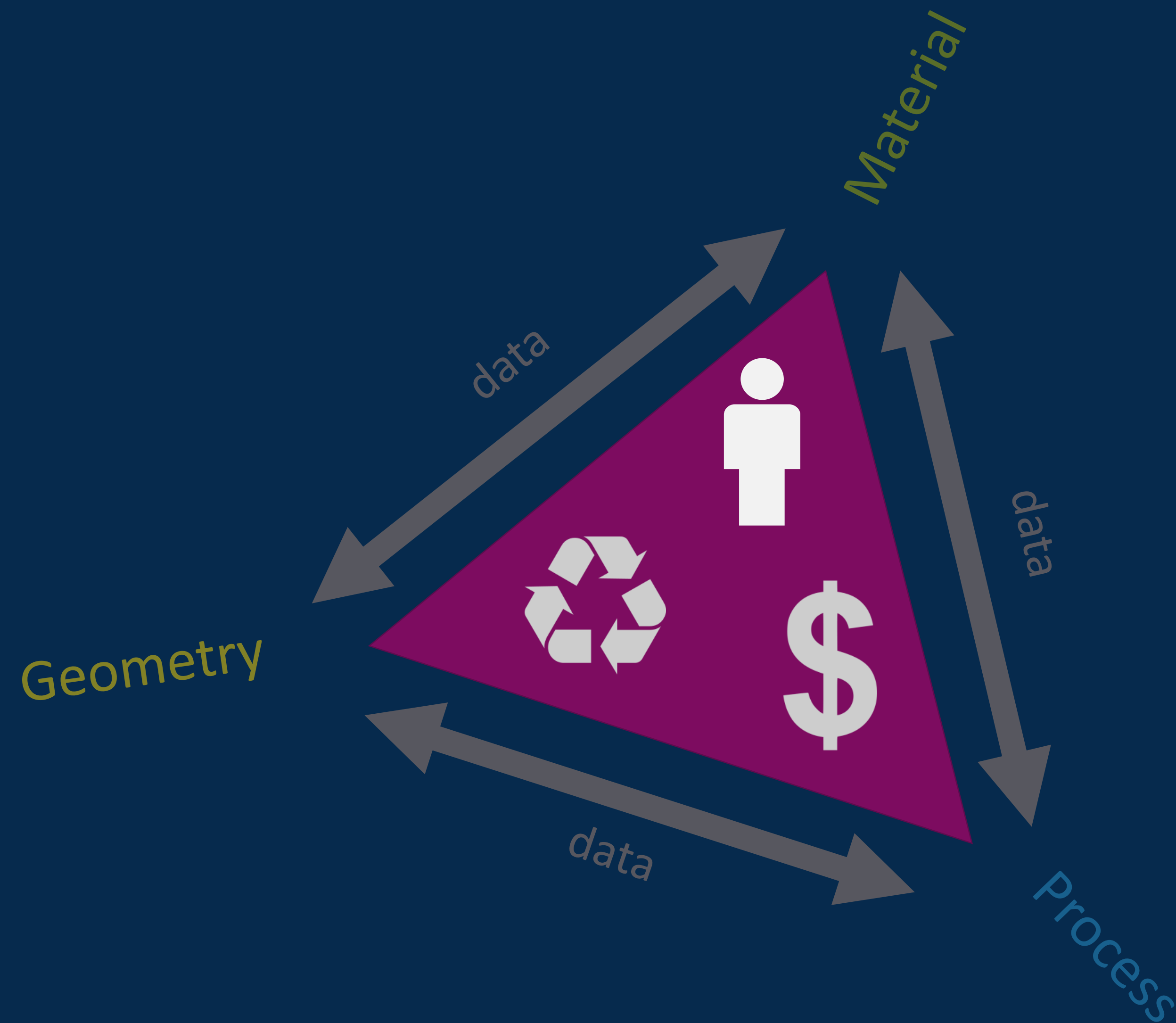






















Interested in  
**revolutionizing**  
the way we make



?



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