Why we printed a bridge?

“An overview on the construction process, materials and challenges.”

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bam

In 2017 we printed a bridge

TU/e Technische Universiteit Eindhoven University of Technology

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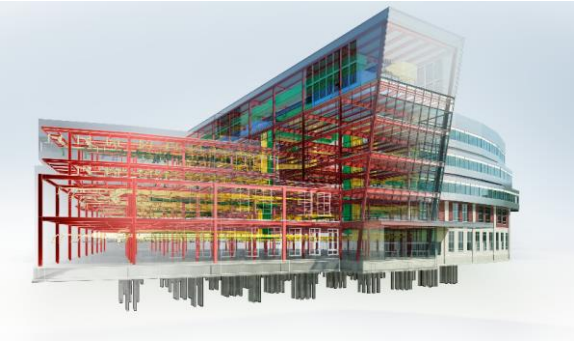
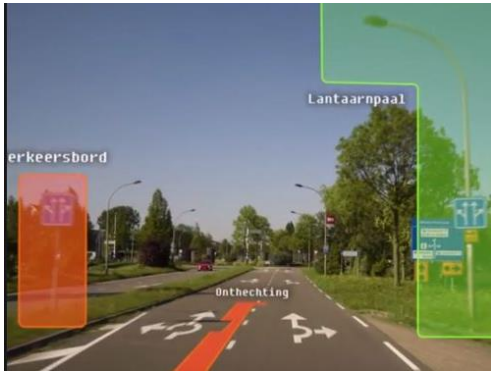
We make it, before we make it!

Design and preparation

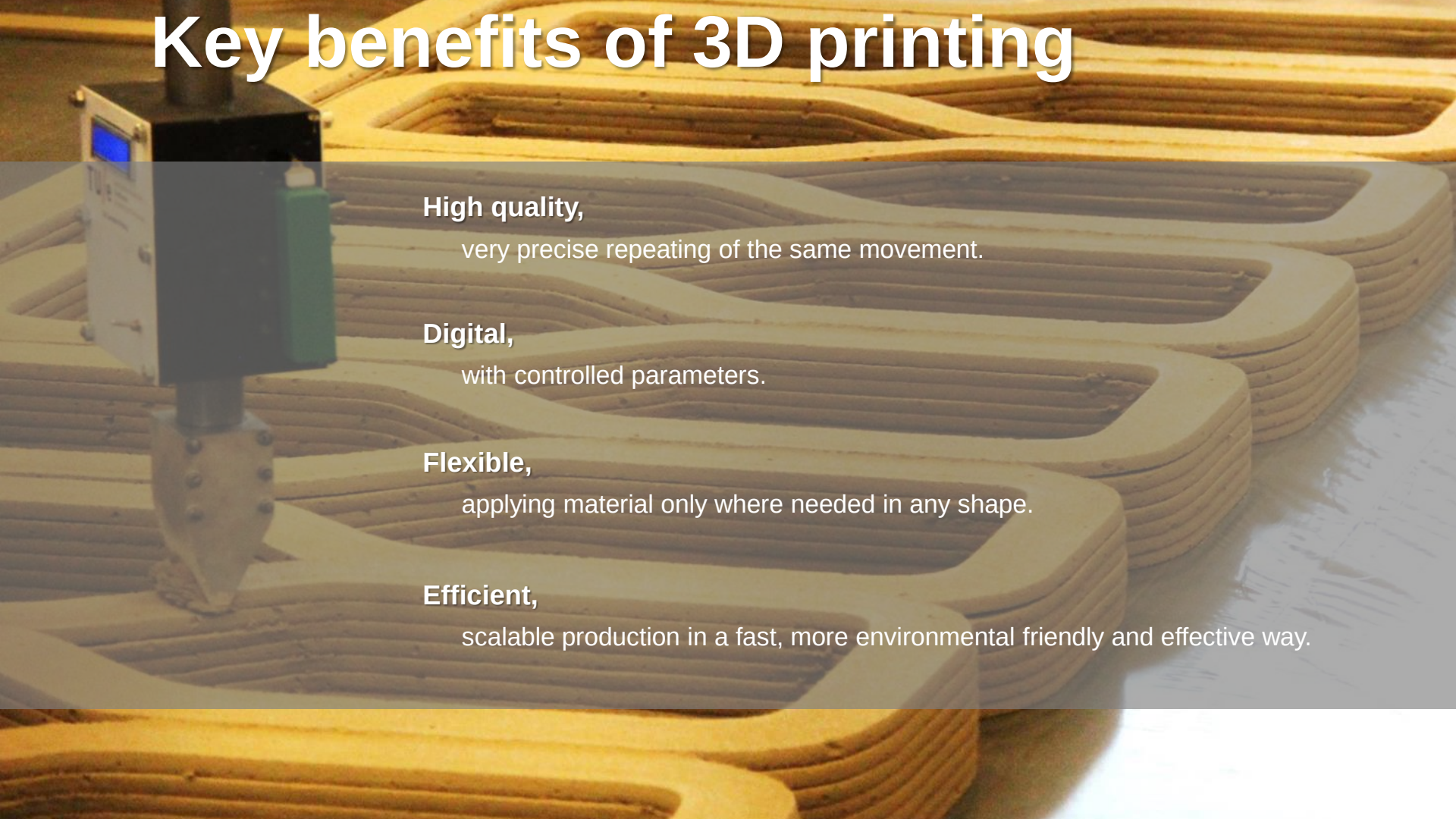


Execution

Assetmanagement



Key benefits of 3D printing



High quality,

very precise repeating of the same movement.

Digital,

with controlled parameters.

Flexible,

applying material only where needed in any shape.

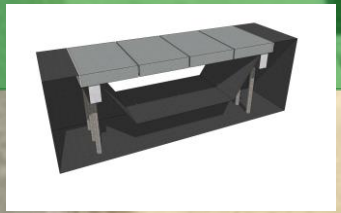
Efficient,

scalable production in a fast, more environmental friendly and effective way.

What is the process for realising 3D printed objects?

Design

- Design the object
- With capability 3D Printer in mind



Print prototype

- ‘Fail quickly to learn fast’
- Risk assessment

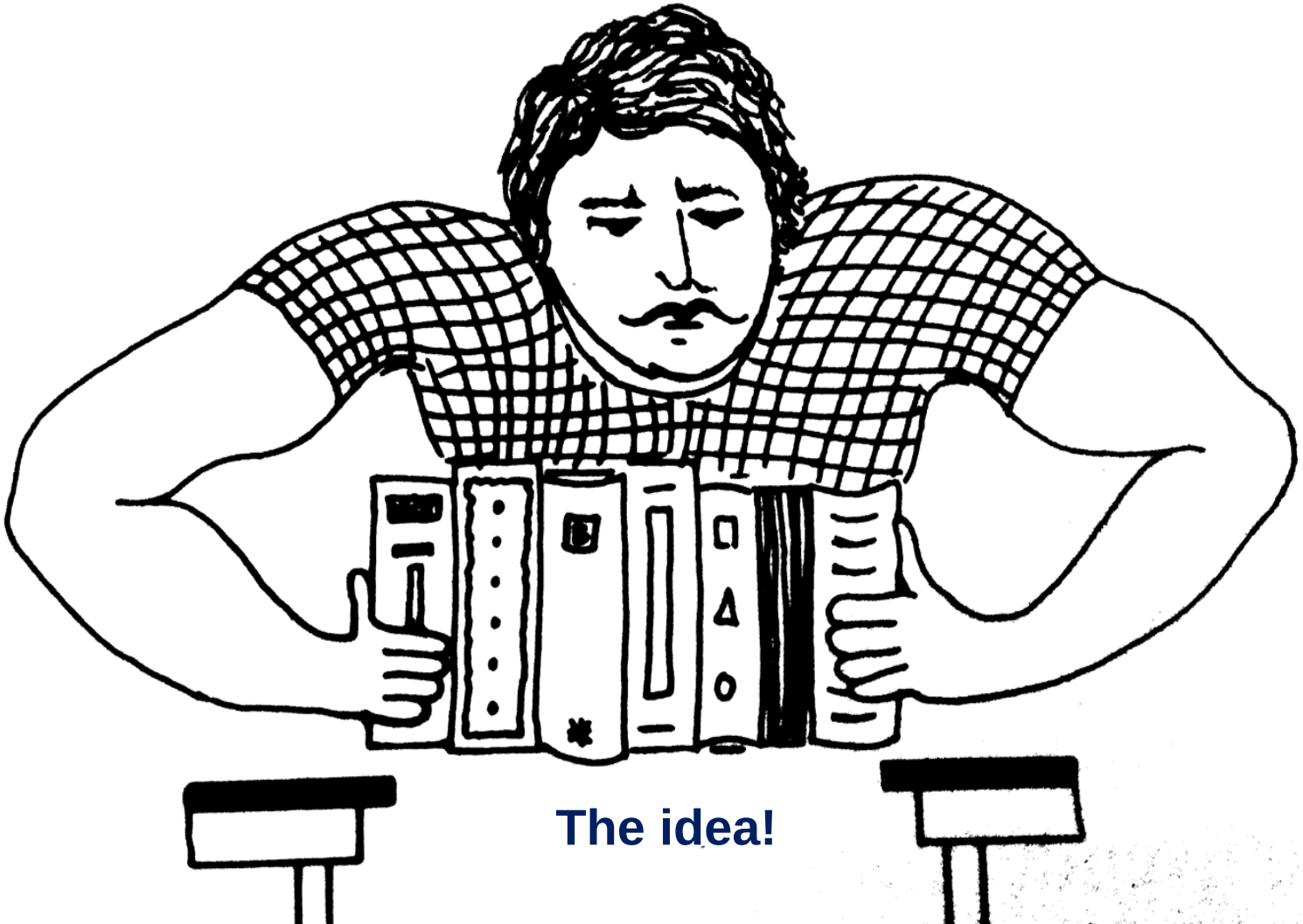
Test and validate

- Test prototype and assess limits
- Adapt design or production process

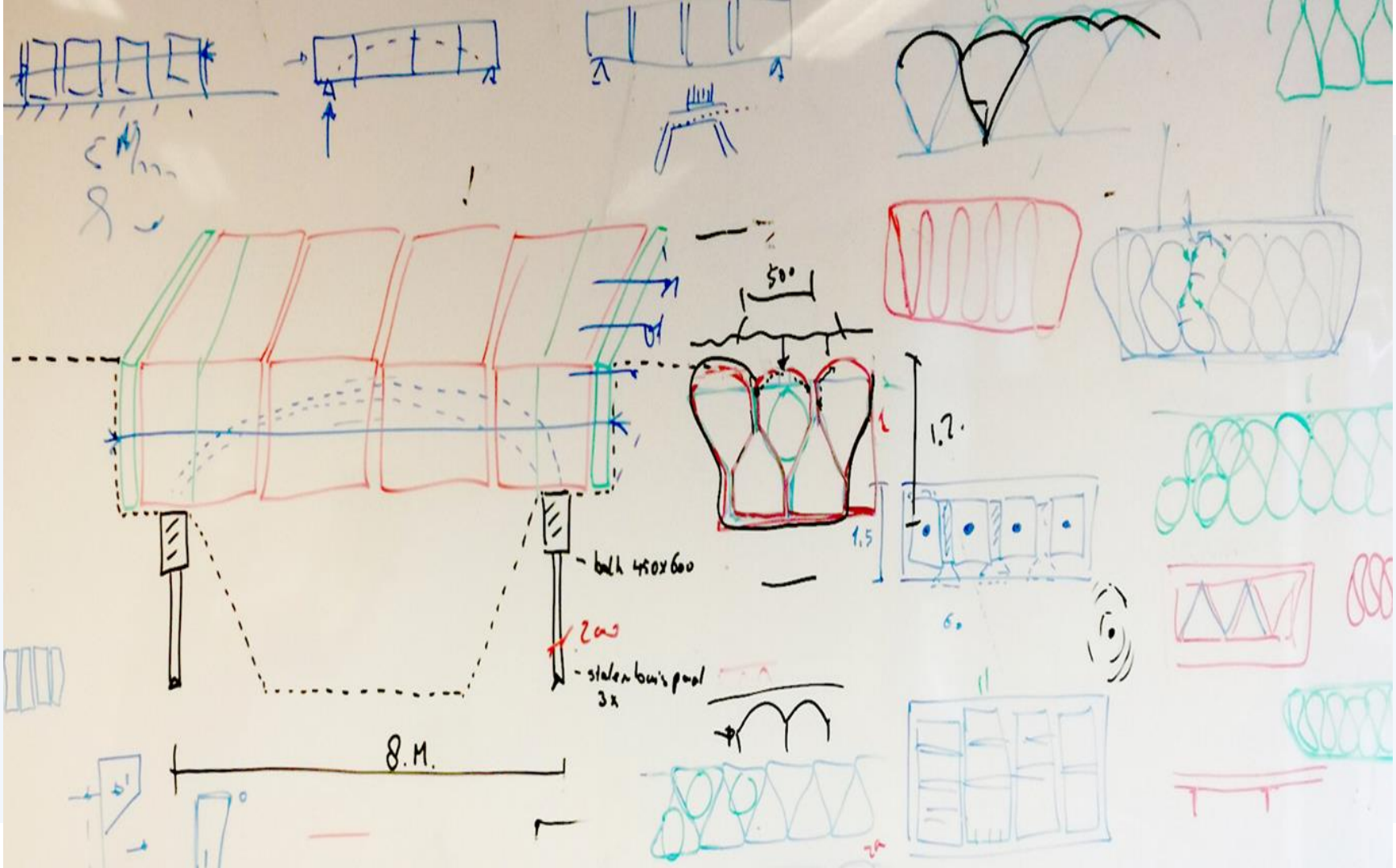
Production and installation

- Industrialised production
- Dry-time
- Transport
- Installation on site

Bicycle Bridge Gemert



The idea!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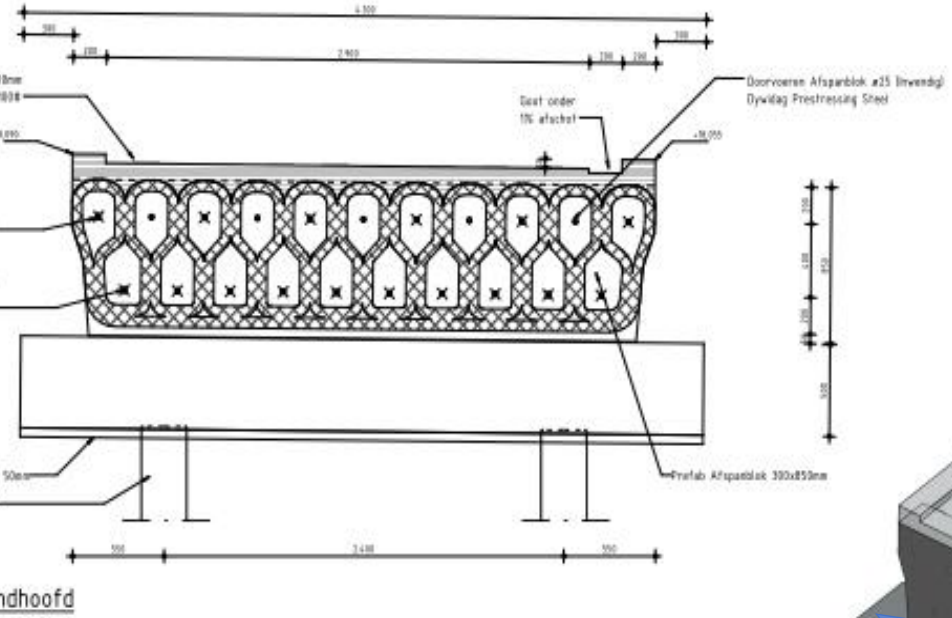
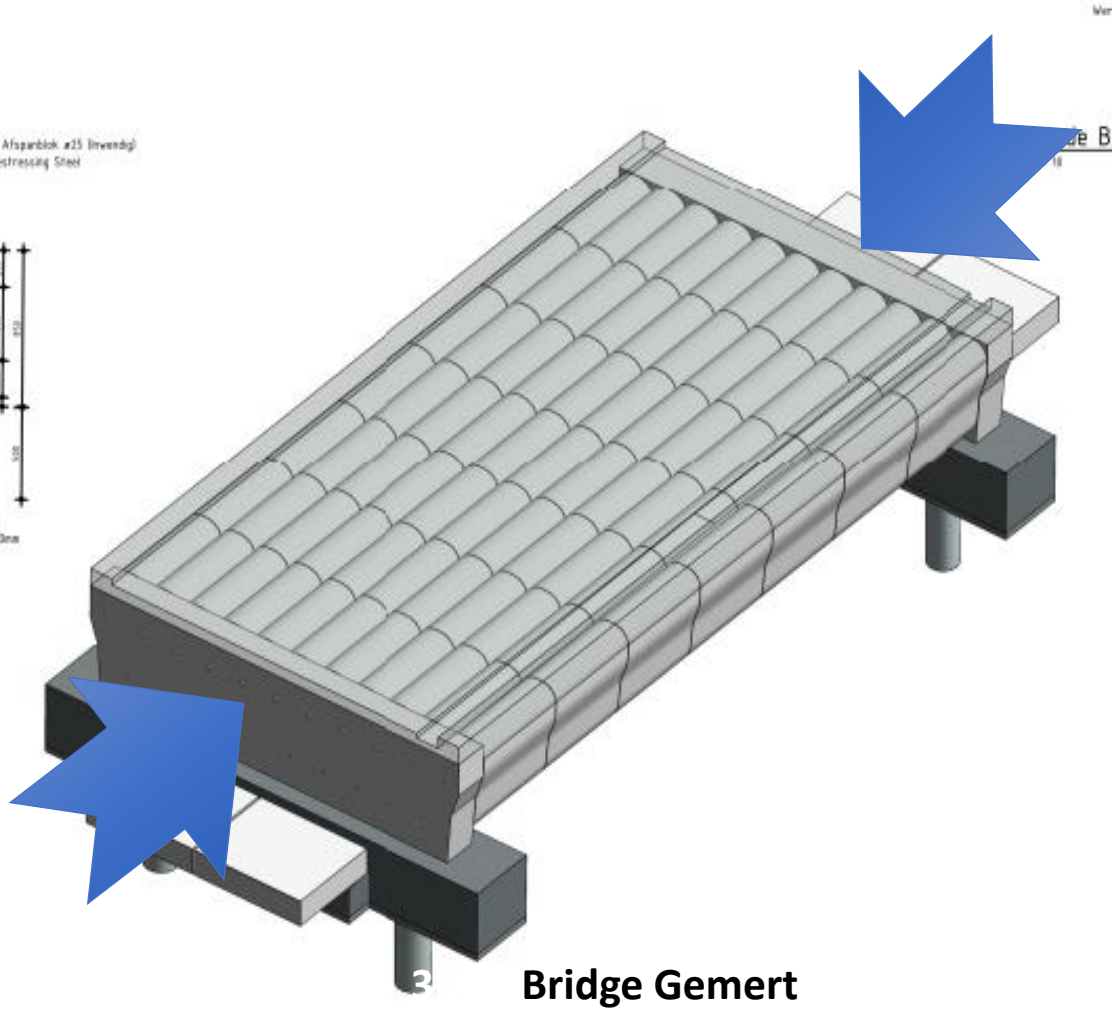
1.2.
1.5
- balk 450x600
2m
- stalen buis paal
3x
8.M.





Bridge Gemert

Challenge: printing higher than 20 cm

Challenge: 20 km wire inside

Challenge: there are no norms

Challenge: is the bridge strong enough?

Challenge: how to handle and assemble?

Challenge: how to connect blocks?

Challenge: how much tension?

Challenge: how to validate our assumptions?

Challenge: how to maintain?

We are taking the next step!

Our 3d printing partners:

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