

The future is



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## Starting situation in the construction industry. How can we become more efficient?

The construction industry is one of the biggest industries in the world. However, in the past 20 years, it has hardly become more efficient. In contrast to an annual increase in productivity of 3.6 percent in the manufacturing industry, productivity in the construction industry rose by only 1 percent\*.

**over 75%**  
of all projects run over budget\*\*

**15–20%**  
of all projects in Germany face construction delays  
due to planning errors\*\*\*

\* Source: Reinventing construction: A route to higher productivity (2017), McKinsey Global Institute

\*\*/\*\* Source: Xella Nederland BV (2017), Basix

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**Think before you build.**

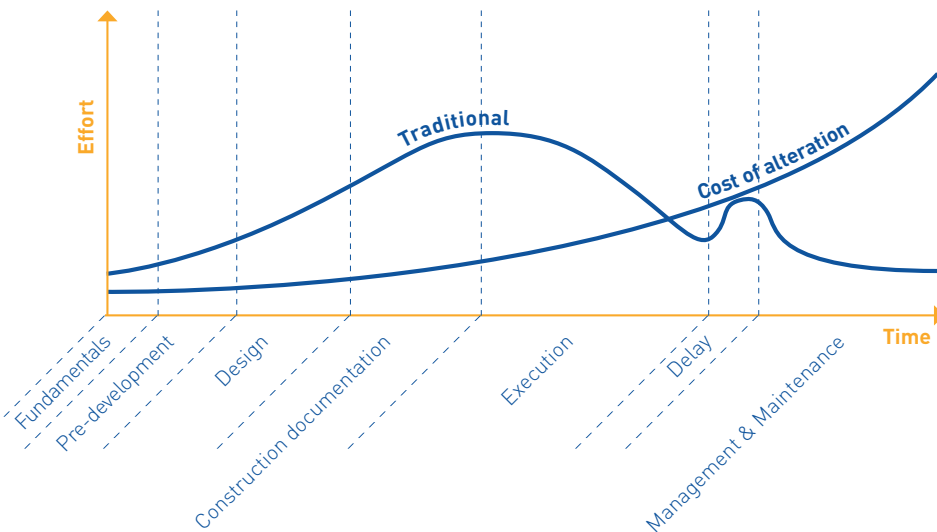
**Planning errors cost time and money.**

**Why not get involved at an earlier stage of the planning phase?**

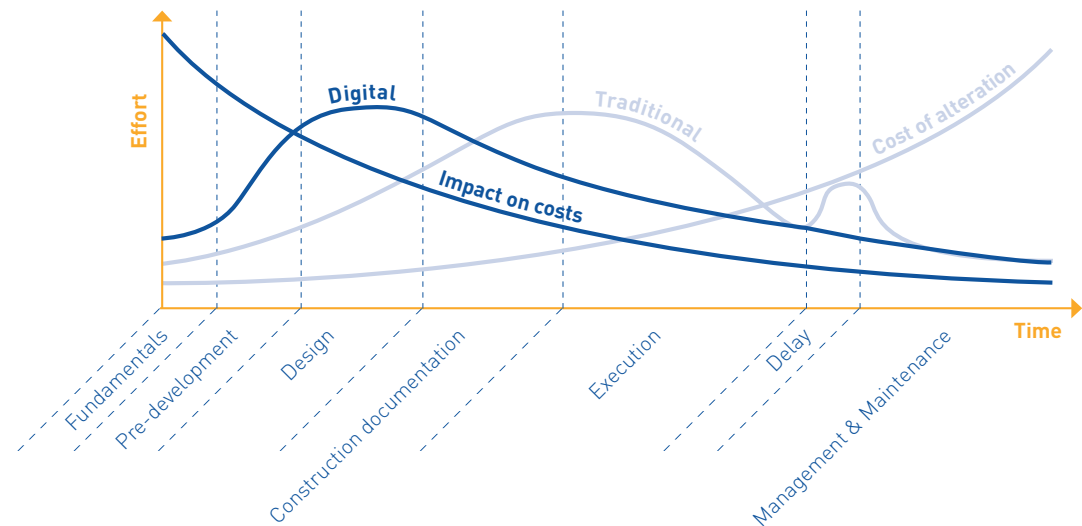
**Traditional process:** Our customers order building materials. These are delivered to the construction site. Problems in the workflow on site result in delays which lead to significantly higher costs for our customers.

**Digital process:** Our customers order a wall solution. We support the construction planning process right from the start in a three-dimensional BIM model (Building Information Modeling) and optimally implement the required wall elements based on customer-specific requirements. We use digital applications to avoid planning errors as well as reduce the cost of materials and subsequent costs.

**Before: traditional planning process**



**Afterwards: digital planning process**

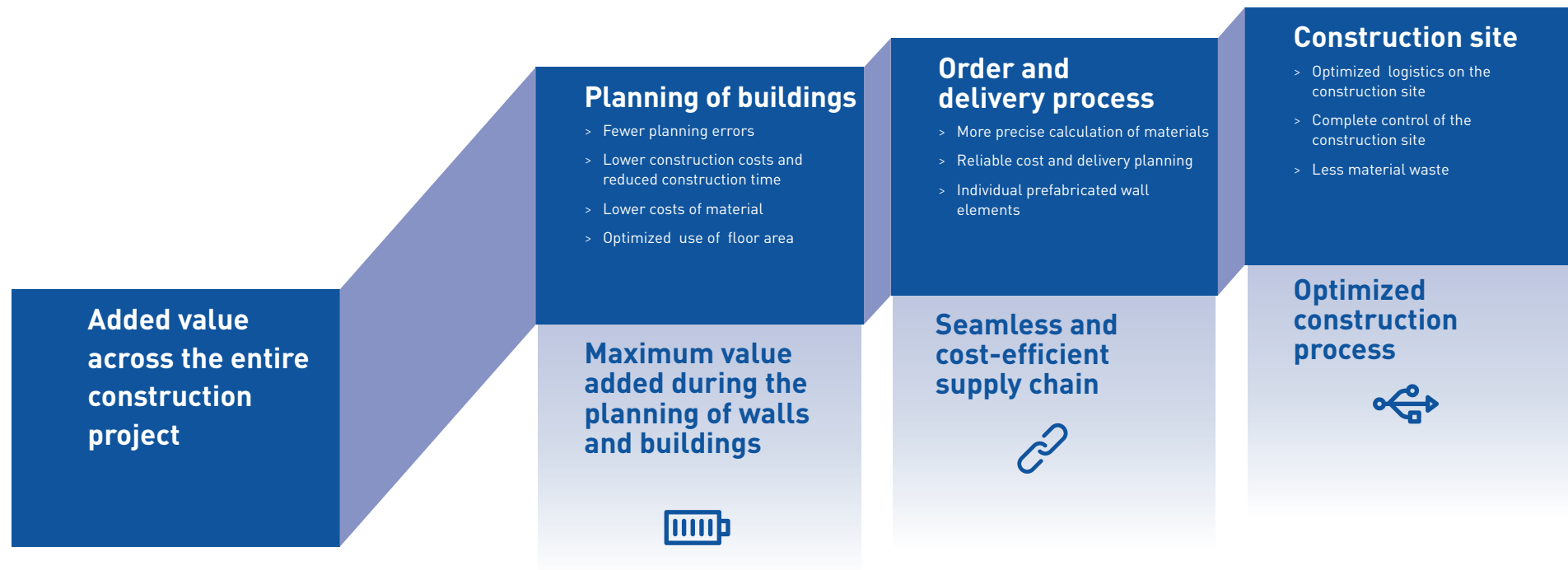


**Digital planning allows construction projects to be completed faster and more cost-effectively.**

## Digital products and services transform our industry.

How can our customers benefit from this transformation?

Better planning and coordination are the key to higher efficiency! Digital applications and the early integration into the planning process by means of Building Information Modeling (BIM) enable us to not only support planning, delivery and logistics on the construction site, but also to help optimize our customers' cost and time management.



## This is how we optimize productivity in the construction process.

The digital brick.

Our digital wallXpert service simplifies the wall planning and design process for our customers through:

- > Improved project and planning advice as well as optimized wall design (e.g. costs, space, energy)
- > Detailed planning to avoid design faults and collision costs



### Product

wallXpert  
planning software



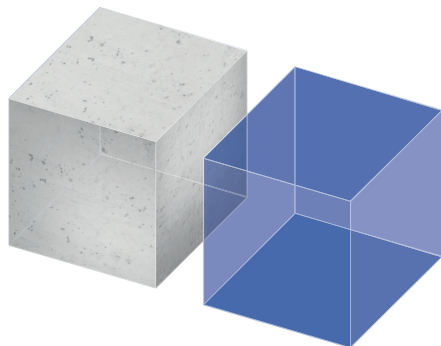
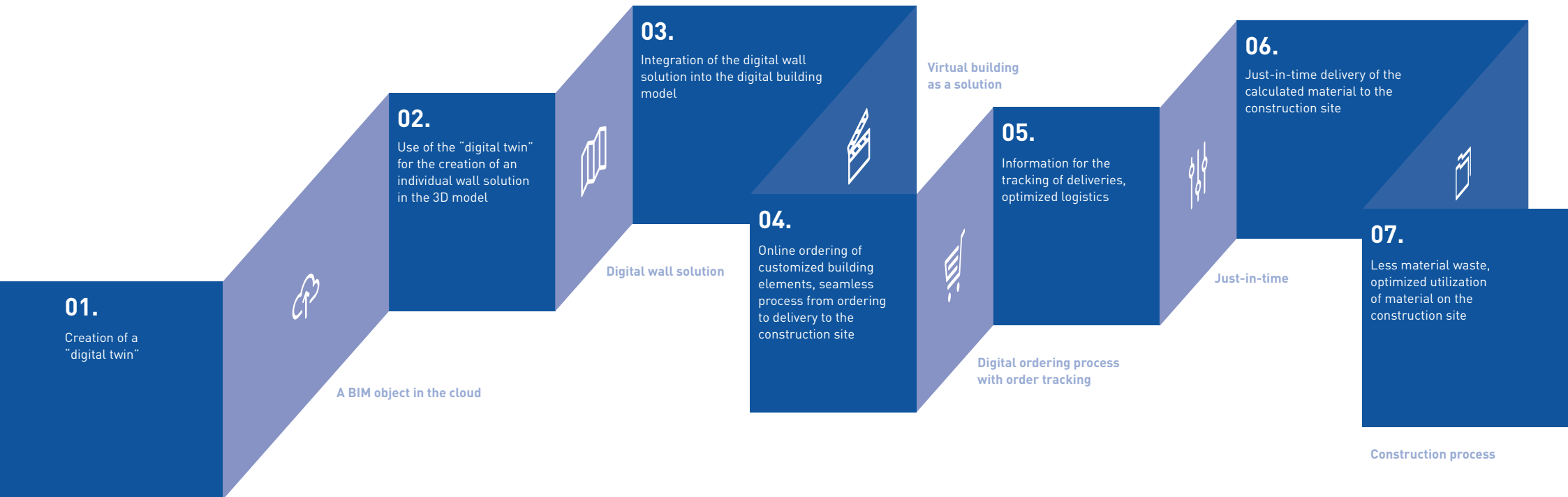
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# How do bricks become digital? wallXpert.

By digitalizing data and planning information, we can offer our customers optimized, individual solutions and get involved in the construction process at an earlier stage.



**The "digital twin"**  
From bricks to bytes  
and back.

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## Digital products and services transform our business model.

Are our customers willing to pay for our digital service?

Clearly: yes! The price of 25 percent of the order volume has already been accepted by the market. Our digital service currently accounts for 15 percent of the sales revenues of the Xella Group.



### Our customers obtain the following benefits:

- > Creation of a digital wall model in wallXpert
- > Optimization of the entire planning and construction process based on the wall model
- > Efficient logistics chain up to the construction site

**Completion of the construction project within the planned budget and time frame**

## Impact of our digital service on the market taking Xella Belgium as an example.

We expect a similar potential in other  
European markets going forward.

Product provider —————> Solution provider

### 1. Standard masonry products

- > Standard masonry products  
in standard sizes

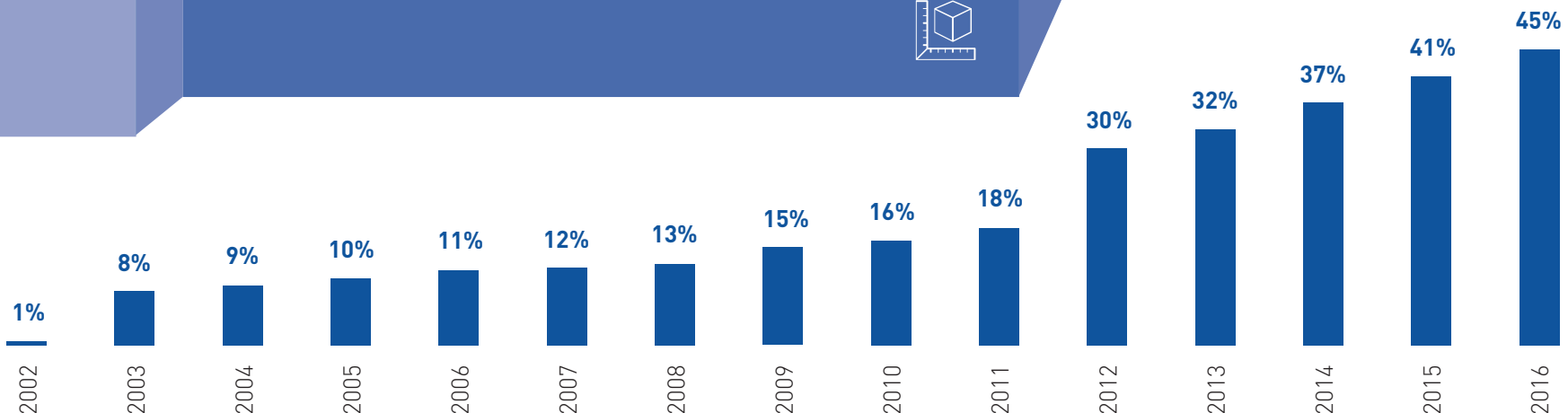
### 2. Basic wall planning service

- > Large building blocks (XL) for the acceleration  
of construction projects
- > Precise planning and customized production
- > 3D planning of walls
- > Customized wall products in all sizes



### 3. wallXpert

- > Use of the BIM model
- > Optimization of the wall  
(costs/properties)





## References

Projects successfully realized with wallXpert.



### Angola, Africa

Residential buildings  
15,000 houses

<https://www.youtube.com/watch?v=V1o0k-LaNjVI>



### Brussels, Belgium

Tivoli Green City  
500 homes, offices and shops  
(BREEAM-certified)

<https://www.youtube.com/watch?v=W1o0k-LaNjVI>



### Tonbridge, Great Britain

Assisted living residence  
59 apartments

<https://www.youtube.com/watch?v=V1o0k-LaNjVI>



### Weert, Netherlands

Hornehoof retirement home  
89 apartments

<https://www.youtube.com/watch?v=V1o0k-LaNjVI>

30 locations, France  
Lidl grocery stores

Copenhagen, Denmark  
Carlsberg Byen high-rise

Monterrey, Mexico  
Koi Sky building complex

Moscow, Russia  
Airport terminal

Oslo, Norway  
National museum

Sarajevo, Bosnia and Herzegovina  
Residential buildings

Shanghai, China  
Alibaba warehouse

Skopje, Macedonia  
Cevahir high-rises

Sofia, Bulgaria  
Office complex

# > 300

further large projects  
in 2017

**Experience genuine transformation.**  
Xella wallXpert:  
We are ready for the future.



[The future of construction](#)