

SMART AIRPORTS.

PREPARING FOR 2030 & BEYOND

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Games technology in asset construction and management

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Introduction



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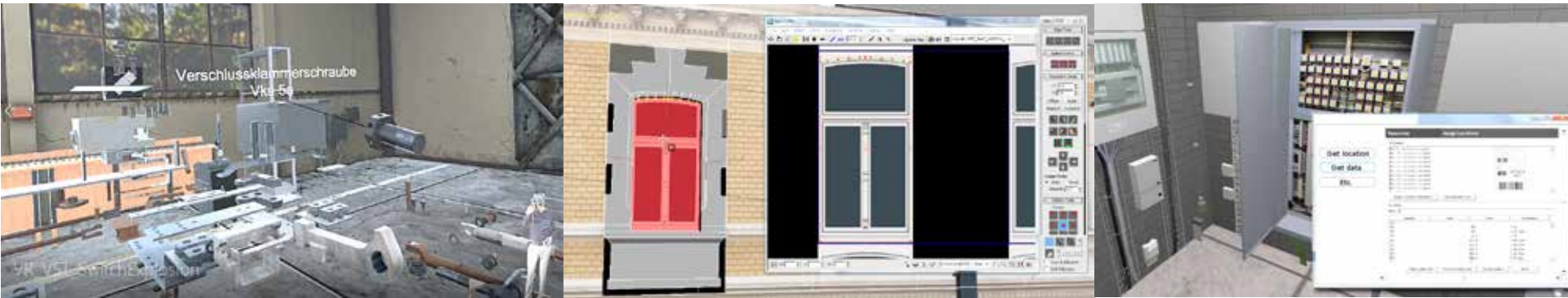
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Our technology



We have the technology for the needs of a digitalised industry:

- A vast object library, containing a vast amount of street furniture, building components, rail equipment, technical objects, materials and textures from all over the world.
- Our vendor-neutral ToolChain, enabling an outstanding degree of automation in the digital production process.



Digital Twins



Digital Twins are virtual copies of real world existing or planned assets or spaces.



Models of the built environment – „Bestandsmodelle“



How do you want them to be?

For example..

... cheap?

... fit for purpose?

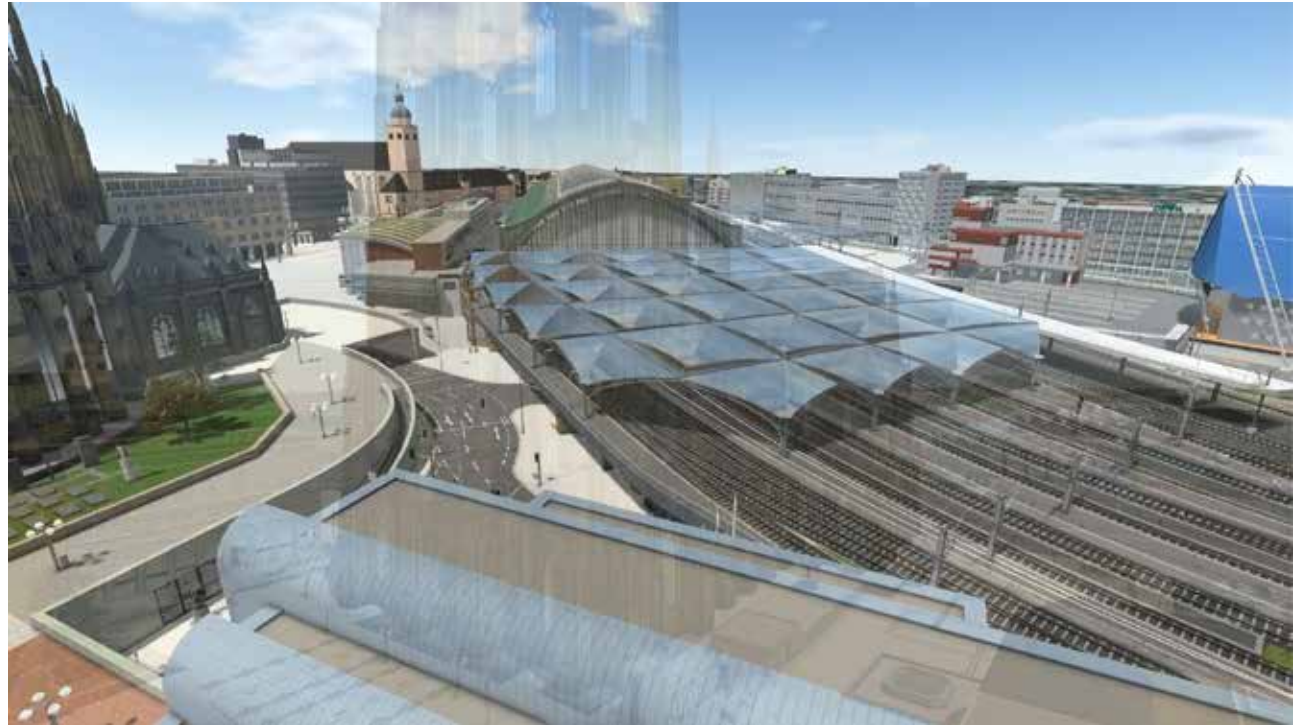
... available quickly?

... based on open standards?

... small file size?

... semantic?

Use games technology!



More efficiency in data capturing

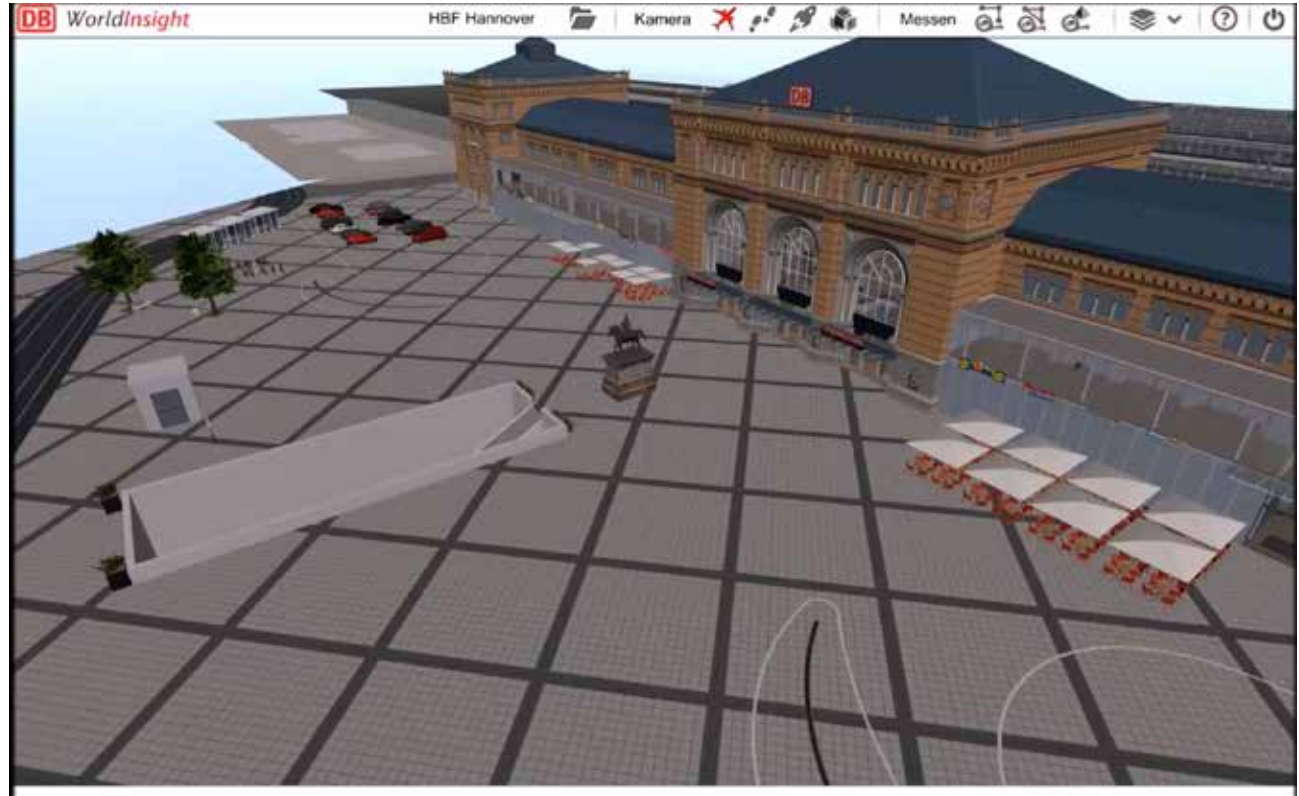


Quiz time:

Data capturing of all public areas, including outdoor areas, station concourses, all platforms and pedestrian tunnels, at a city center station with around 60,000 passengers per day and 14 long-distance tracks.

How long do you think it took?

3 man-hours



Reduce data volume



Quiz time:

Which one is real?

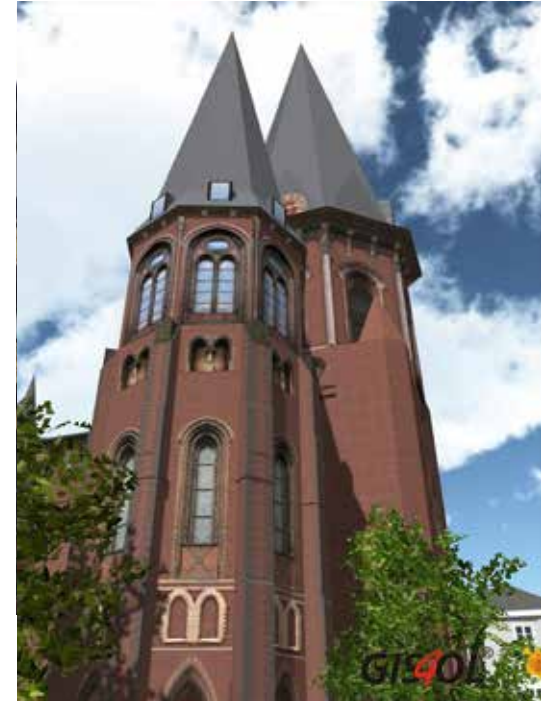
What is the file size of one of these buildings in the model?

What is the file size of a 3D city model with more than 1200 buildings?

Answers:

~ 80 kb

~250 MB



Automation using games technology



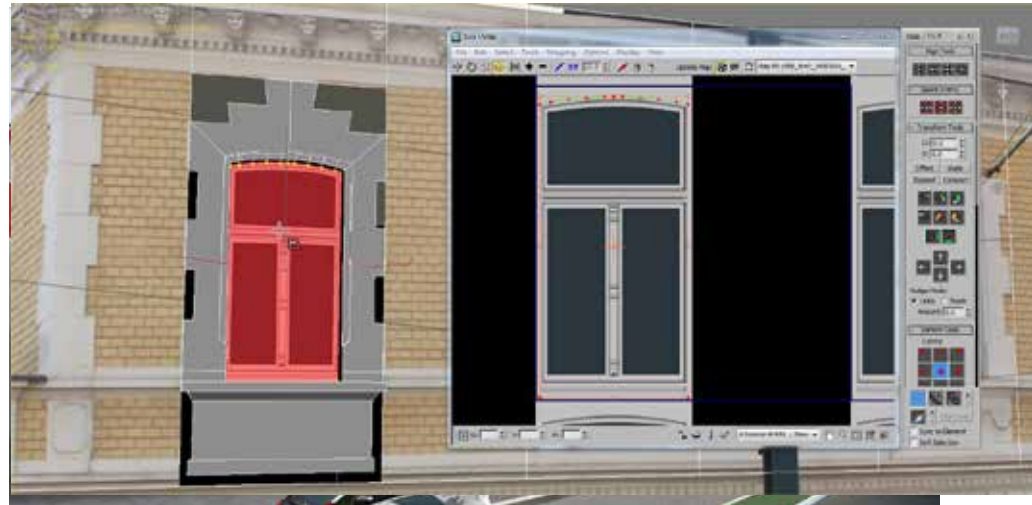
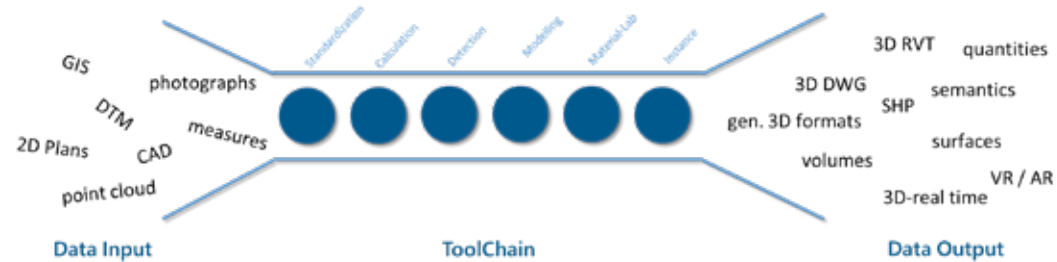
We use normal photographs as our main input data.

3D modeling is a semi-automated process based on our ToolChain, an “assembly line” of algorithms for processing the input data.

First of all we produce a master photography and use the principles of descriptive geometry to produce a 3D model.

Then our algorithms detect patterns, vectors and objects in the digital model

These objects are replaced by corresponding items from our vast object library. This is a key step, because a) it ensures that the dataset remains small and b) it generates semantic models



Automation using games technology



What do you think was the processing time to produce this model of Milan Central Station?

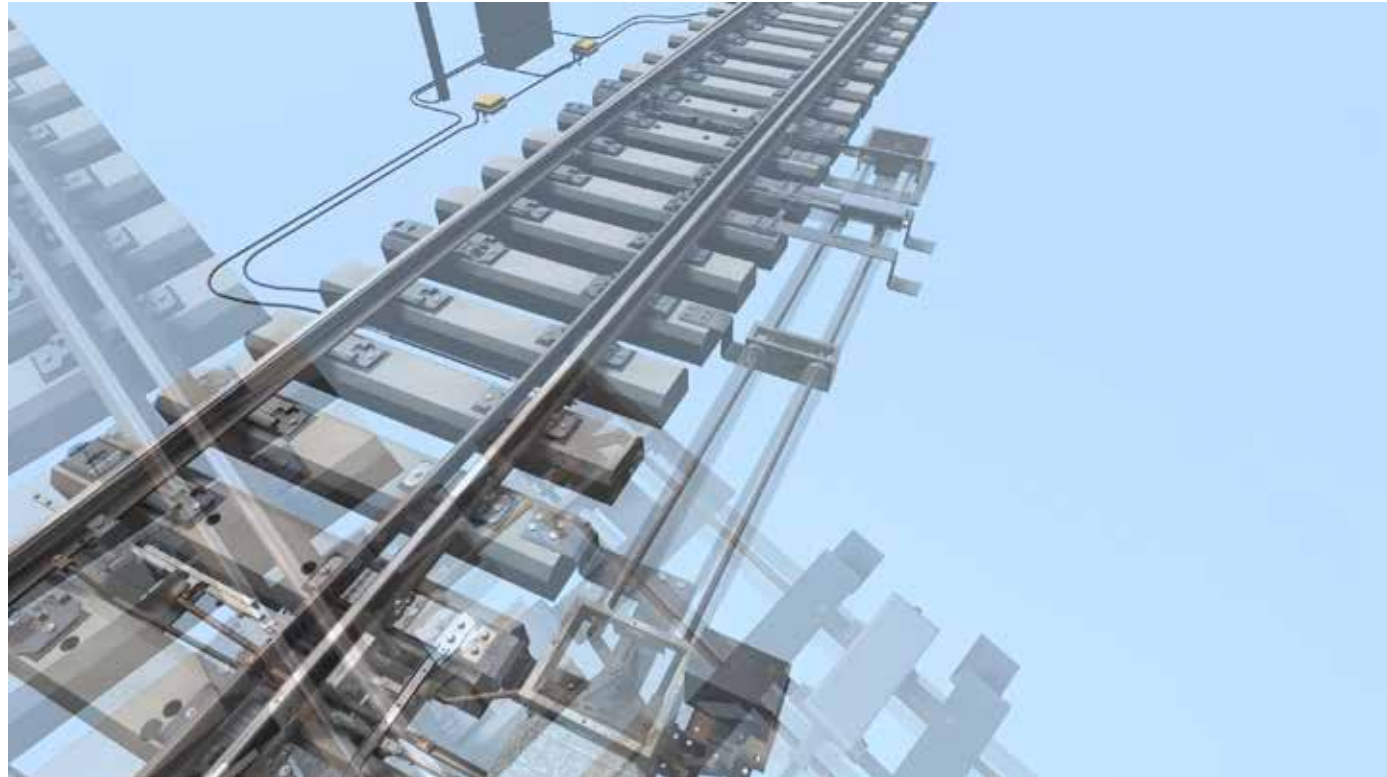
~ 1 week



Object-based by default



A vast object library is at the heart of our technology, containing digital representations of real world objects. Started 15 years ago, it now contains a vast amount of street furniture, building components, rail equipment, technical objects, materials and textures from all over the world. The library enables the semantics in our digital twins.



3D Models as the backbone for data integration



There is no better place to store information than a 3D model..



Gamification – here comes the fun!



Gamification describes a way to simplify and optimize processes and procedures through playful and engaging applications.

The intuitive and real representations increase motivation and learning outcomes.



Vielen Dank für Ihre Aufmerksamkeit.

Bei Rückfragen stehen wir Ihnen
gerne zur Verfügung:
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