Digital Twin Germany
Session 6:
Digital transformation through geospatial – European perspective

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Enhancing the Implementation of the 2030 Agenda / SDGs with Authoritative Geospatial Data
Why do we need a Digital Twin for Germany?
Humanitarian Crises
Why do we need a Digital Twin for Germany?

Heavy Rainfall
Why do we need a Digital Twin for Germany?

Heat
What is the Digital Twin Germany?
Expert Knowledge

How does all fit together?

Points of Interest

What do we have?

3D Model

How the data is captured?
LiDAR
Light Detection And Ranging

1. Light emitted by the scanner in the direction of flight in pulses

2. Reflected from object

3. Detected again by the sensor

4. A point in space is generated from the position of the aircraft, direction and distance and a three-dimensional point cloud is created

Light Detection And Ranging (LiDAR)
Classification for Hamburg city
How data is captured
Demonstration phase Hamburg - Example of resulting point cloud
Flood in Germany’s Ahr Valley 2021
Ein Foto aus Erfstadt erlangt traurige Berühmtheit

16.07.2021, 15:07 Uhr

Ein Foto zeigt, wie dramatisch die Lage in Erfstadt-Blessem war.
Digital Twin Germany in Use
Prevention of heavy rainfall

Probability of heavy rainfall

Data about buildings

Digital elevation model
Szenario 1: Rare event

$T_N = 100 \text{ a}$

Szenario 2: Extreme event

$90 \text{ mm/h}$
What happened July 2021?

Digital Twin Germany in Use
Prevention of heavy rainfall
What comes next?
Experienceable 3D World
ExerCube

Preparation

Knowledge Transfer

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Thank you for your attention!

Climate Change

Equal living conditions

Digital Twin Germany

Security

... and 2030 Agenda