



Federal Agency for
Cartography and Geodesy



Digital Twin Germany

A digital replica for simulation and analysis build on geospatial data

Geospatial World Forum, 03.05.2023

Prof. Dr. Paul Becker

Federal Agency for Cartography and Geodesy Germany



Forest Fire



Humanitarian Crises



Heavy Rainfall



Heat

What is the Digital Twin Germany?



Expert Knowledge

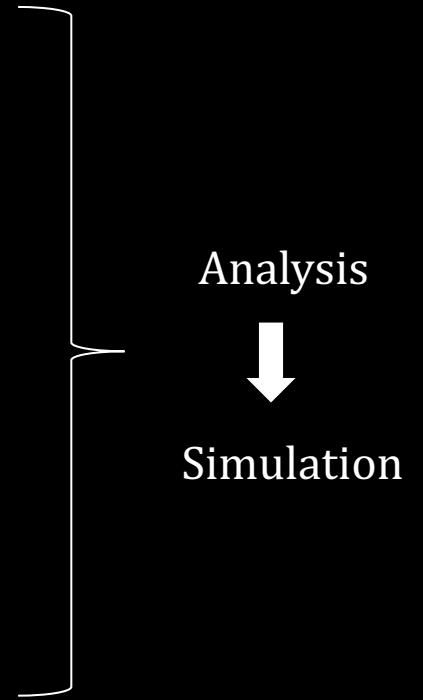
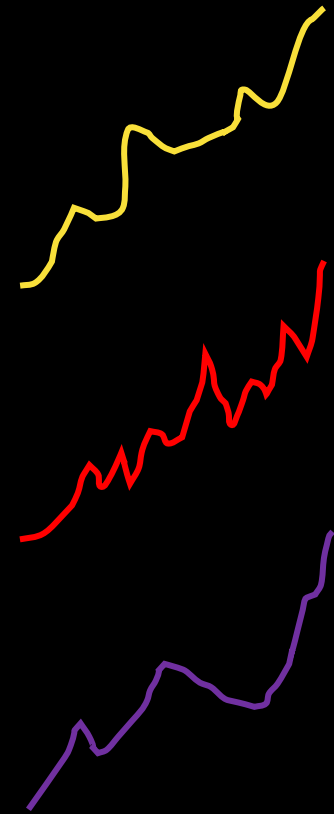
How does all fit together?

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

4

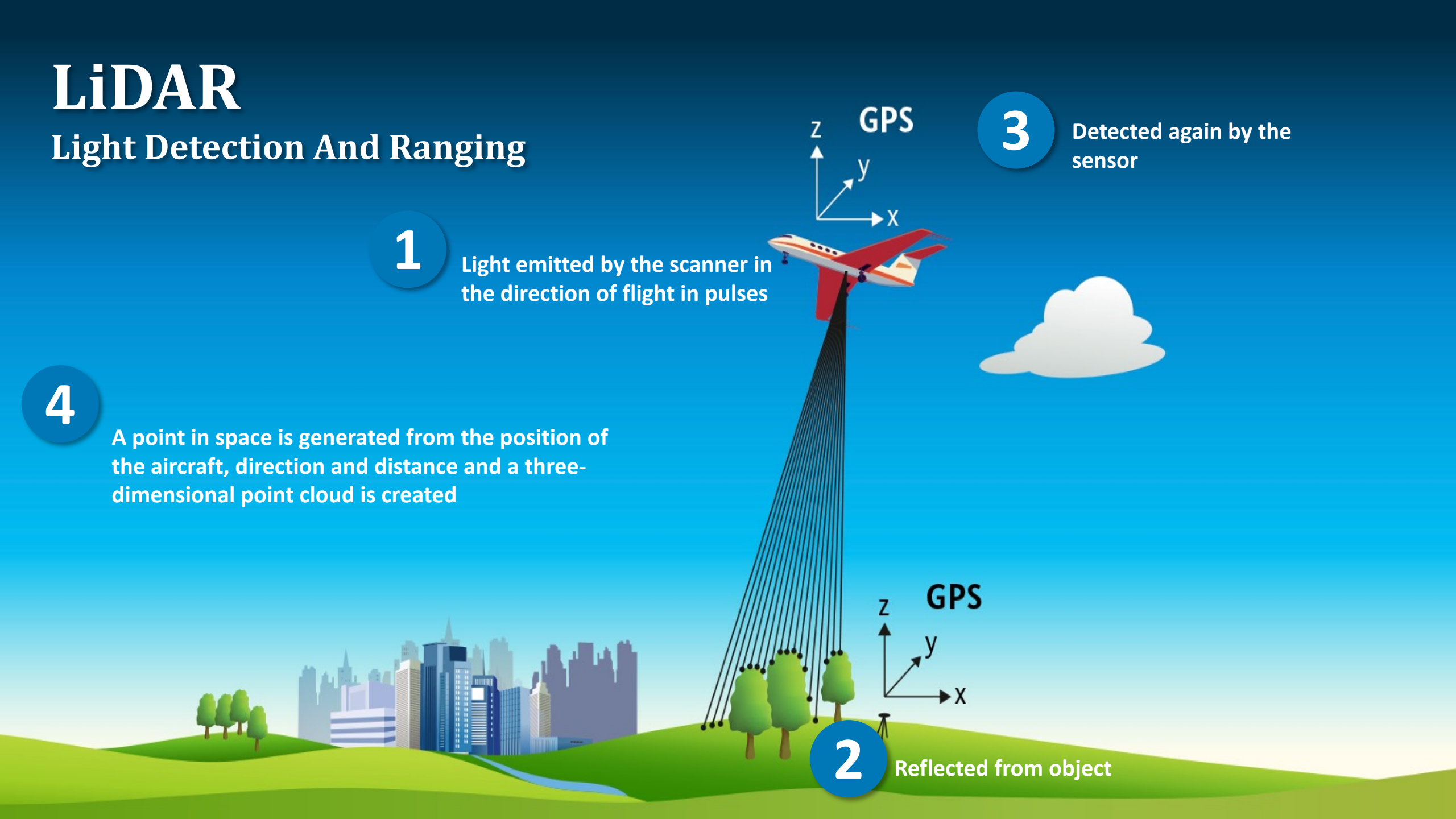
A point in space is generated from the position of the aircraft, direction and distance and a three-dimensional point cloud is created

3

Detected again by the sensor

2

Reflected from object





How data is captured

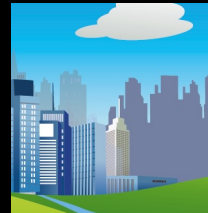
Demonstration phase Hamburg - Example of resulting point cloud



Fields of application



Disaster Risk Reduction



Urban Planning Solutions

Agriculture



Flood in Germany's Ahr Valley 2021



Consulter le journal



ACTUALITÉS

ÉCONOMIE

VIDÉOS



Rölnner Stadt-Anzeiger

Abo

Anmelden

Startseite > Kultur & Medien > Berichterstattung in aller Welt: Ein Foto aus Erfstadt erlangt traurige Berühmtheit

Berichterstattung in aller Welt

Ein Foto aus Erfstadt erlangt traurige Berühmtheit

16.07.2021, 15:07 Uhr



Ein Foto zeigt, wie dramatisch die Lage in Erfstadt-Blessem war.

Copyright: dpa

Datum 18.07.2021

Autorin/Autor Jennifer Wagner

Themenseiten [Hochwasser und Überschwemmungen](#), [Unwetter](#)

Schlagwörter [Flut](#), [Unwetter](#), [Flutkatastrophe](#), [Altenahr](#)

Schicken Sie uns Ihr Feedback!

Drucken Seite drucken

Permalink <https://p.dw.com/p/3wbfQ>

INTERNACIONAL



Germany mounts h floods leave dozens missing

By Nadine Schmidt, Schams Elwazer, Barbara Wojazer and S Updated 3:36 AM EDT, Fri July 16, 2021

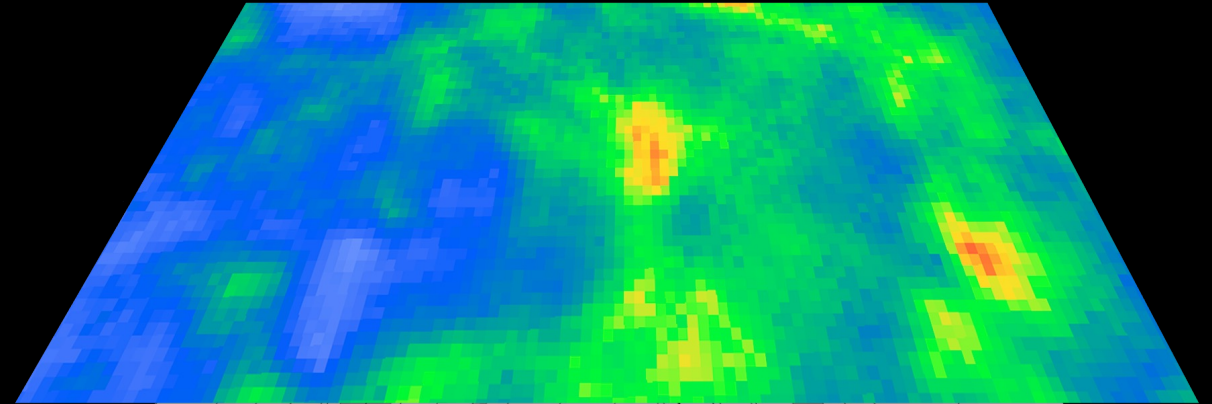


Las inundaciones en Alemania, en imágenes

Digital Twin Germany in Use

Prevention of heavy rainfall

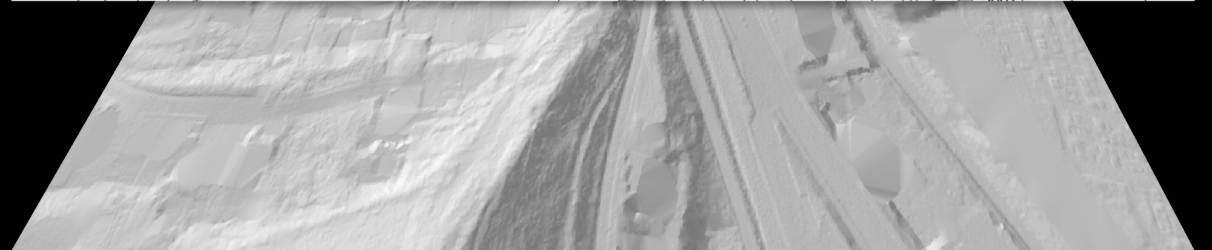
Probability of heavy rainfall



Data about buildings



Digital elevation model



Prediction of water level



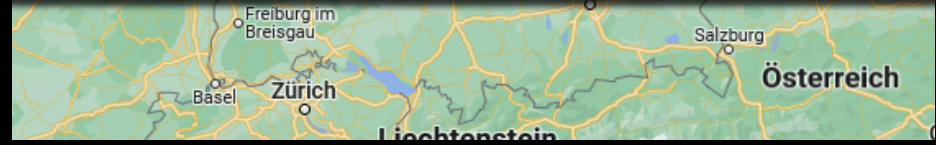
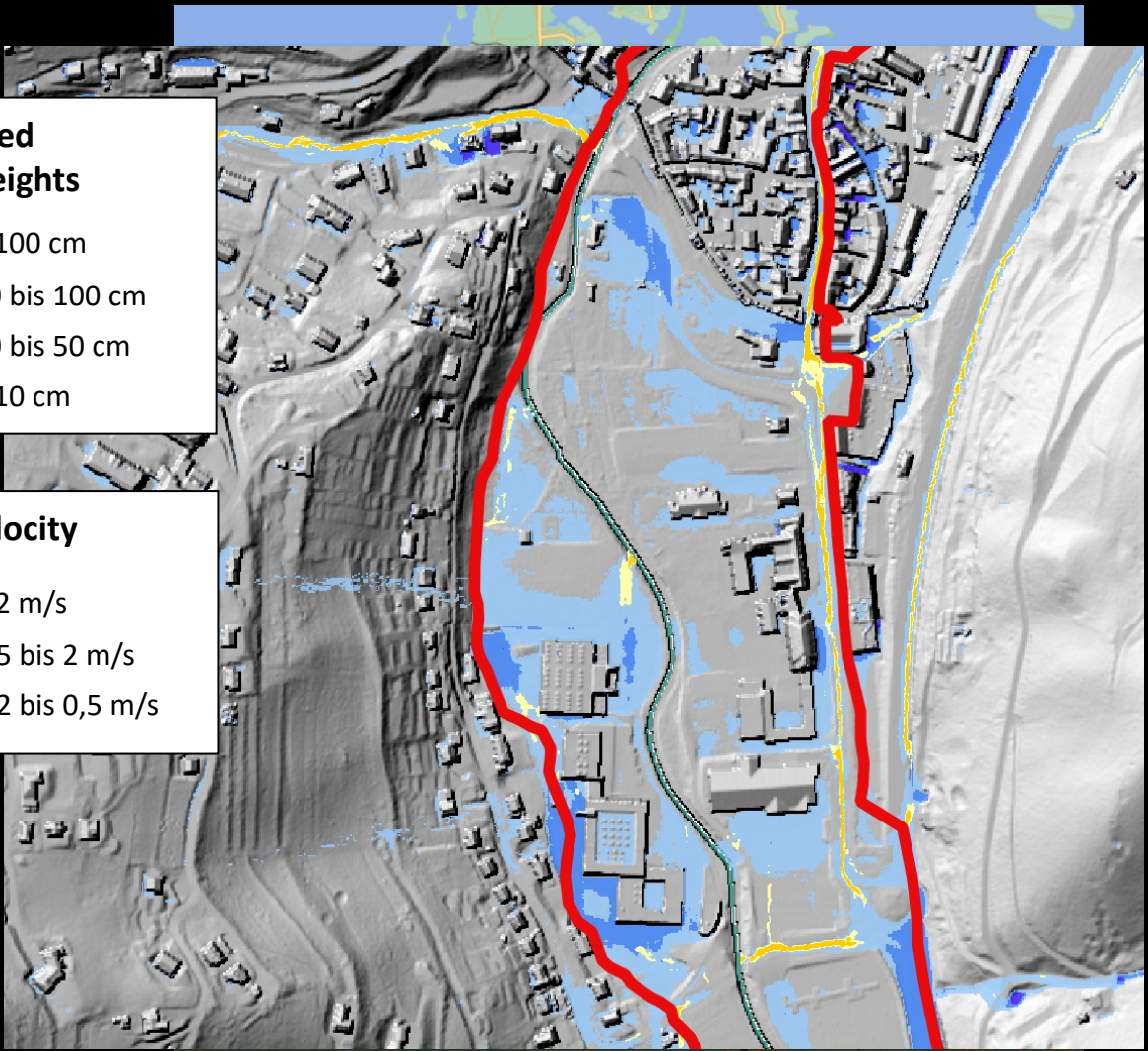
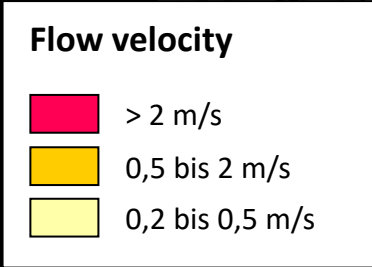
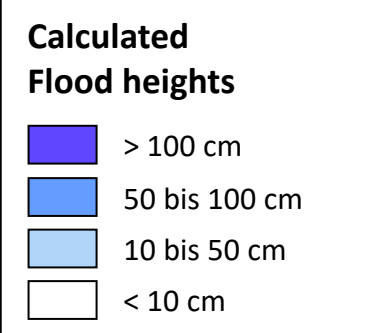
Flow velocity



Digital Twin Germany in Use

Prevention of heavy rainfall

What happend July 2021?



What comes next?



Experienceable 3D World ExerCube

Preparation

Knowledge Transfer

...

Digital Twin Germany



Equal living conditions

... and more

Climate Change

Security

Thank you
for your attention!

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