Shaping Cities via Digital Twins

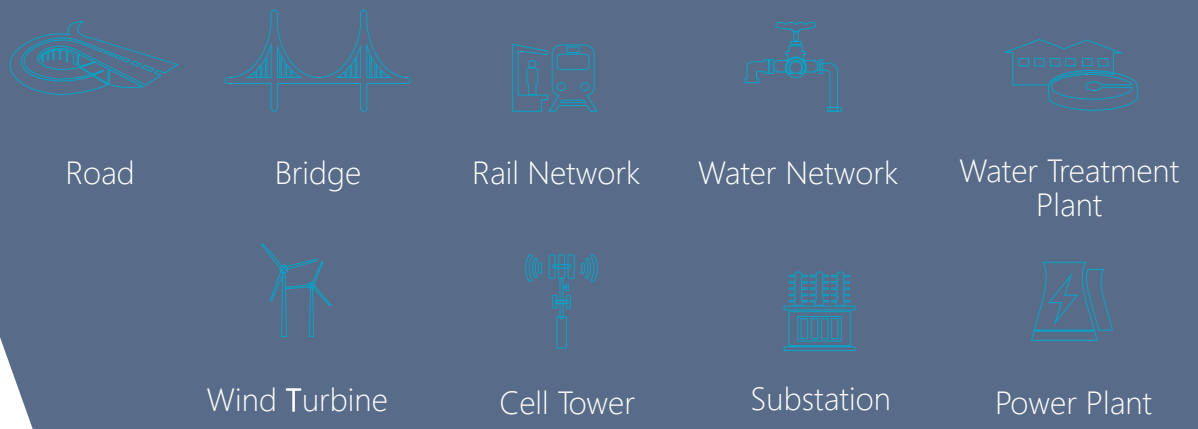
June 2021

Phil Christensen VP Reality+Spatial Modeling, Digital Cities

Bentley®

Bentley®

Advancing Infrastructure



Bentley's mission is to provide innovative software and services to the enterprises and professionals who design, build, and operate the world's infrastructure, sustaining the global economy and environment for improved quality of life.

4000 colleagues, 60 countries

BENTLEY PROPRIETARY AND CONFIDENTIAL

©2020 Bentley Systems, Incorporated

Bentley®

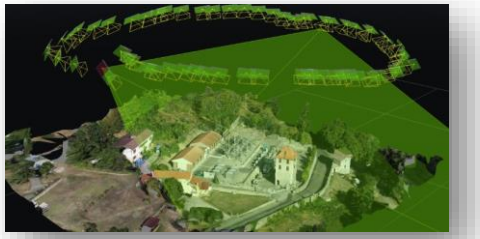
Tech Driver 1: Spatial Sensors

Point Clouds

Reality Mesh

360 Images

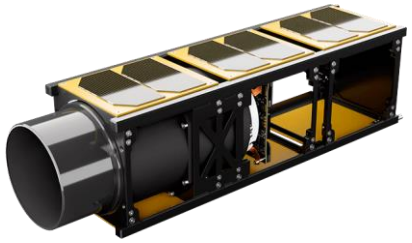
Planar & Oblique Images



Apple has just announced iPads and iPhone with Lidar scanners

Bentley Advancing Infrastructure

Tech Driver 2: Autonomous Vehicles



Bentley
Advancing Infrastructure

Tech Driver 3: High Performance Computing (Cloud and On-Premise)

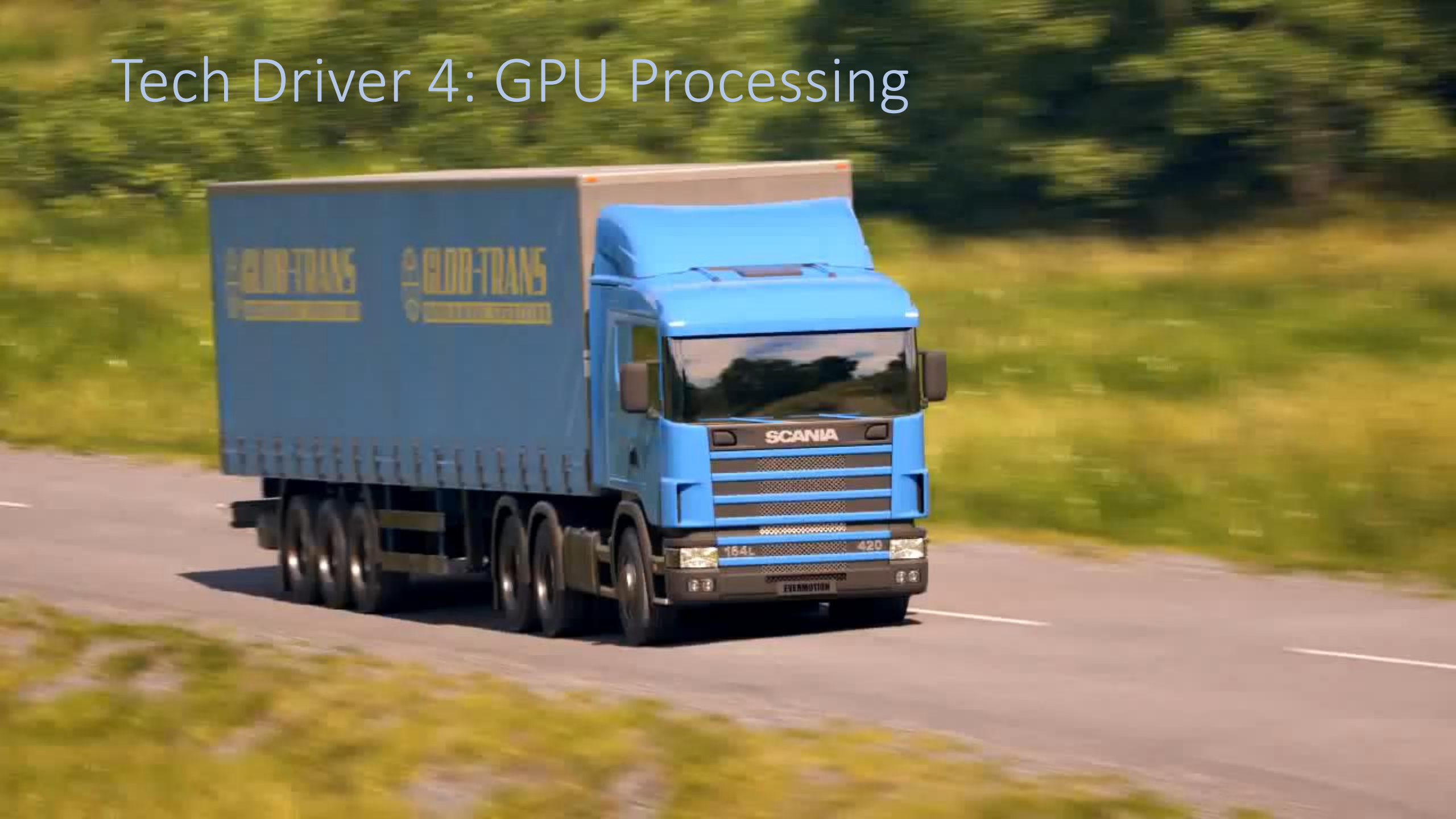
Scaleable Compute

Scaleable Storage

Scaleable Communication

Bentley
Advancing Infrastructure

Tech Driver 4: GPU Processing



Tech Driver 5: AI-ML

Sensors on autonomous vehicles deliver data

to high performance computing infrastructure

where GPUs and machine learning deliver insights

Urban Digital Twin

Operations/IoT Data

Engineering Data

Surveying and Mapping Data

3rd Party Infrastructure Data

3rd Party Developer Data

Emergency Services Data

Other Data

Advancing Infrastructure

Attract Investment

Mitigate Climate Change

Enhance Resilience

Maintain Security

Reduce Data Silos

Enable Citizen Engagement

Operations/IoT Data

Engineering Data

Surveying and Mapping Data

3rd Party Infrastructure Data

3rd Party Developer Data

Emergency Services Data

Other Data

Advancing Infrastructure

SINGAPORE

- Building a city digital twin is progressive, project by project
- Underground is important

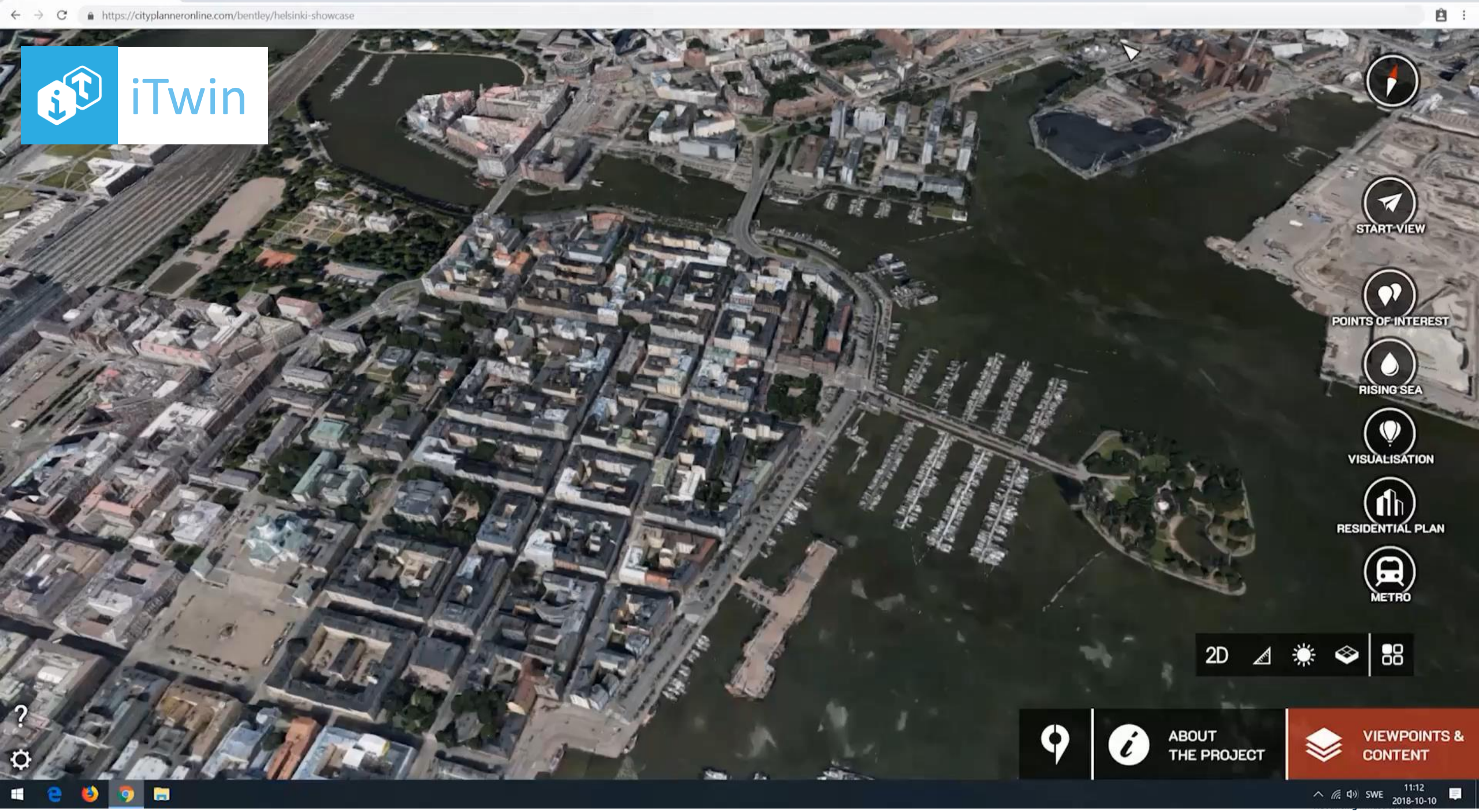
DUBLIN

- Major events are a challenge and a catalyst for progress
- Open Data is an opportunity

STOCKHOLM

- Citizen engagement is key
- Response to climate change is critical

Bentley
Advancing Infrastructure


https://cityplanneronline.com/bentley/helsinki-showcase
iTwin
START VIEW
POINTS OF INTEREST
RISING SEA
VISUALISATION
RESIDENTIAL PLAN
METRO
2D
ABOUT THE PROJECT
VIEWPOINTS & CONTENT
SWE
11:12
2018-10-10

Shaping Cities via Digital Twins

June 2021

Phil Christensen phil.christensen@bentley.com

Bentley®