Up-to-date City Model – Platform for the smart mobility
Connected infrastructure for smart mobility

- Smart mobility needs smart planning
- City Model is a platform for smart city and smart mobility
- City Model can be used for planning, information sharing or citizen engagement purposes
- Three demands for useful and modern digital city twin
  - It’s available through open interfaces
  - It’s up-to-date all the time
  - Extensive data content (not only buildings)
City Model is a platform that serves city processes.

- Platform for interaction e.g. citizen feedback
- Platform for IOT
- Up-to-date 3D CityModel Database
- Open interface CityGML
- Service planning
- Infrastructure planning e.g. smart mobility
- Building construction planning
- Land Use planning

Mike von Wehrt
18.4.2019
Example: Benefit from 3D city model
Example: Benefit from 3D city model

- Pilot project of drone delivery
  - Plan was to deliver products between two branches but it shranked to 100 m distance
  - There were several reasons to change the plan, but one was outdated city model
    - Trees have grown and electrical networks should be surveyed with better accuracy
  - ”These kind of drone operations are growing and creating new demand for city models”
    - Flight corridor planning needs accurate data

19.3.2019: http://www.lentoposti.fi
How to get started with 3D city model

- **Needed elements**
  - Vector data
  - Point Clouds
  - Oblique aerial photograph
  - Solution that supports 2D and 3D

**LOD 1 building**

- Buildings footprints
- Feature data

**LOD 3 building**

- Buildings footprints
- Point clouds
- Feature data

Mike von Wehrt
Texturing buildings by utilizing oblique aerial photograph
Up-to-date, multipurpose data: case Building

- Different presentations on the same data
  - 2D maps
  - 3D vector models (export to CAD formats dxf, dwg, dgn)
  - 3D city model objects (export to CityGML)
3D City Model components

CityGML components

- Building
- Generics
- CityFurnitures & Veget.obj
- WaterBody
- Transportation & Vegetation
- LandUse
- Relief

Attribute data

Point clouds

IFC/BIM

InfraBIM

3D CityModel Database

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City model maintenance processes

- Semi-automatic processes for texturizing
- Cartographic processes

3D CityModel Database

Service Interface

Innovation services and solutions

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Needs for digital city twin

- 3D City Model is the foundation for various Smart city operations
  - City model data should be up-to-date
  - City model should be available from open interfaces → CityGML
  - Data content needs to be rich and accurate enough
City model from city of Turku - Finland