Every Point Cloud Has a Silver Lining When You Use Autodesk® InfraWorks™

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Co-Presenter Mark Dwillis
Senior Designer

range sensors

laser scanning

scan to BIM

feature recognition

point survey

photogrammetry

hybrid modeling

mesh healing

survey control

augmented reality

measurement

time delta analysis

machine controlled grading

3d printing

reverse engineering

metrology

range sensors

Capture

feature recognition

Manipulation

point survey

photogrammetry

mesh healing

Reality Computing

Civil 3D, Navisworks, 3Ds Max, ReCap Pro & Infraworks

survey control

measurement

time delta analysis

Realization

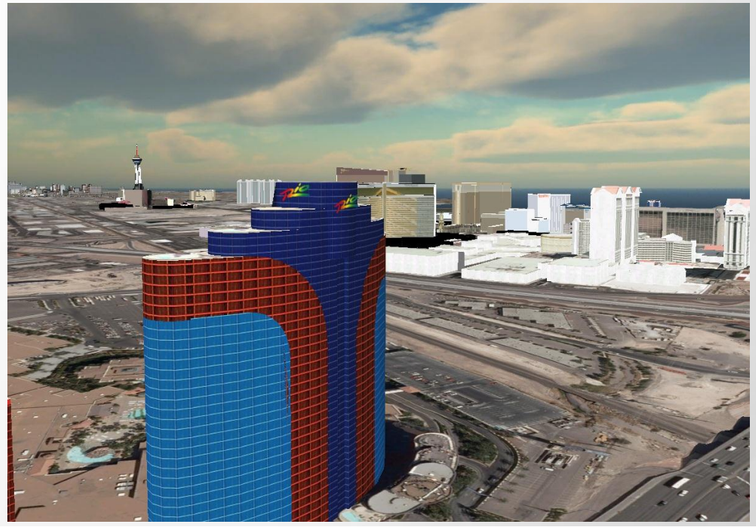
machine controlled grading

Analysis

metrology

Class summary

This session will show how VTN Consulting is using Autodesk Infrastructure Modeler ® to create and communicate conceptualizations of 3D city designs, with real engineering data compiled from Point Cloud Scans, GIS, CAD, 3D Models, and civil engineering cad files. Than share the models with Autodesk Infraworks 360 ® for team collaboration in the cloud.



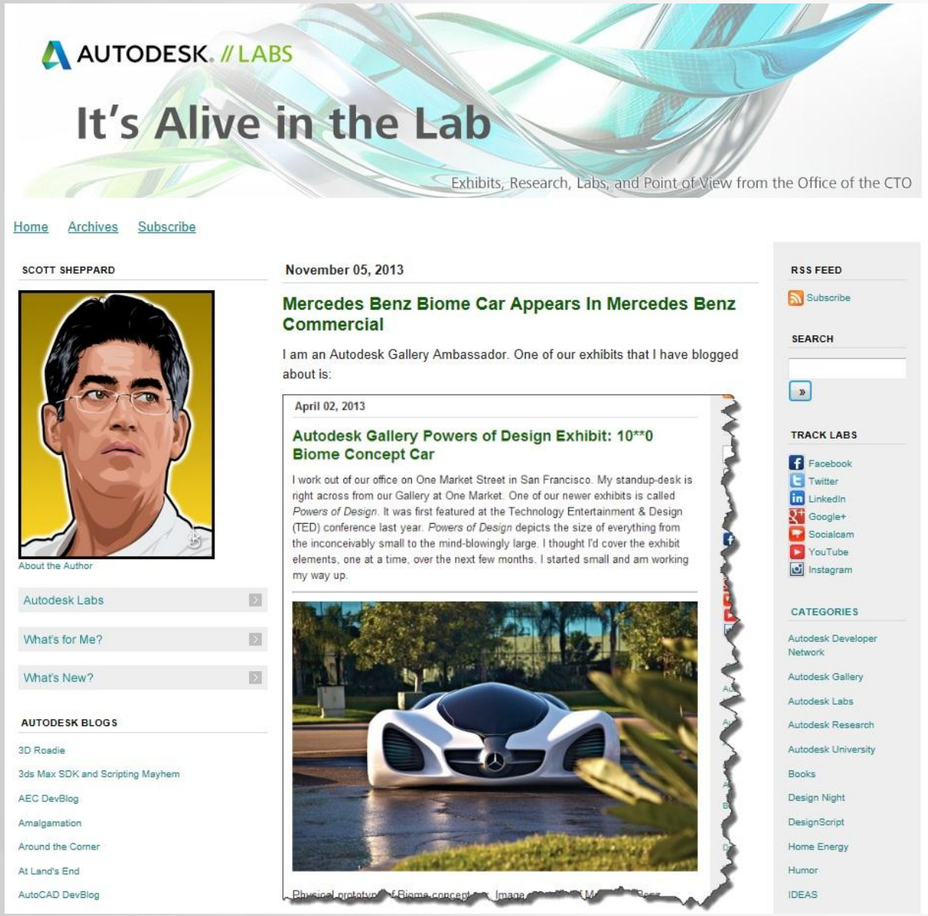
Autodesk Labs

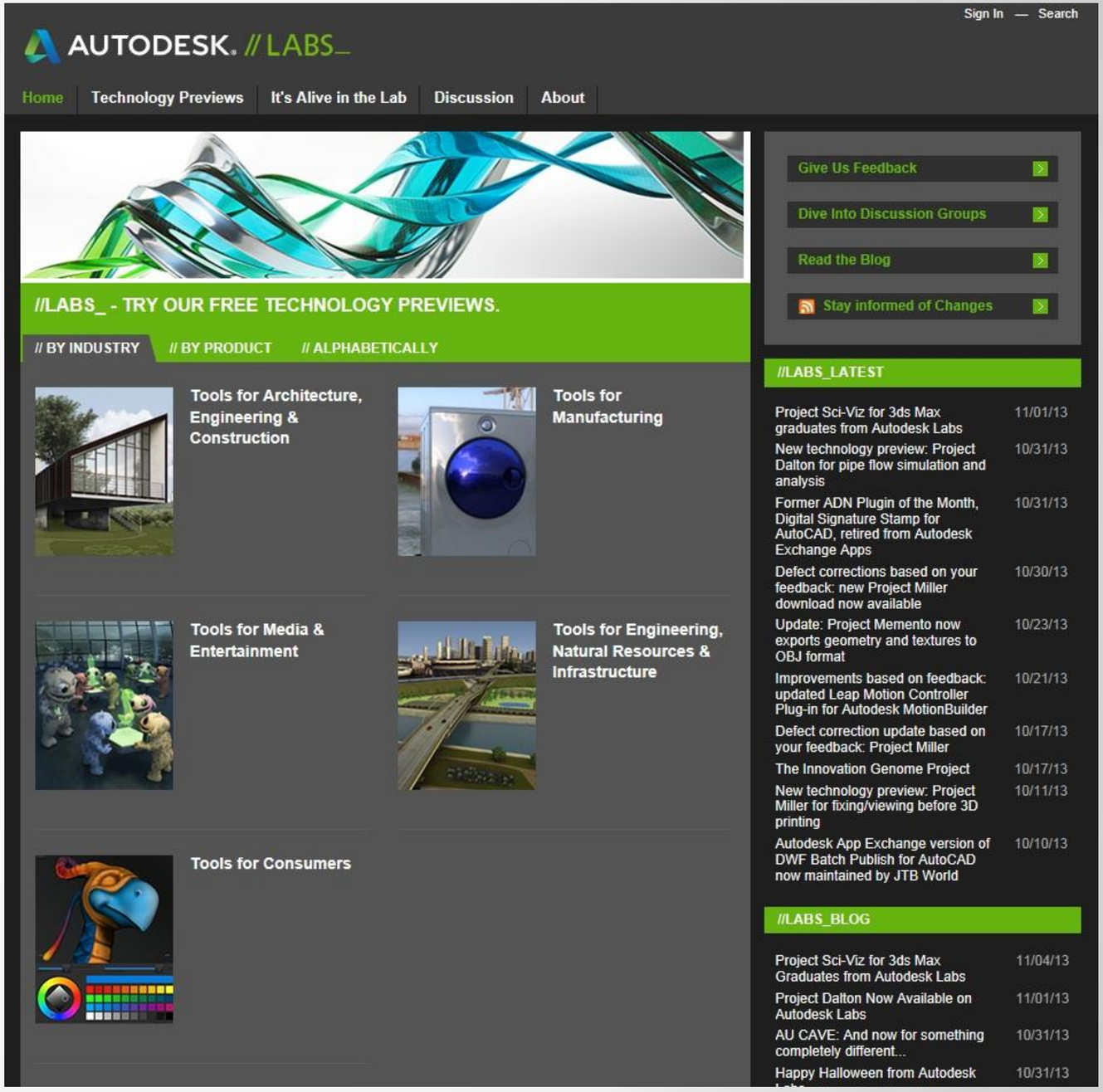
"*Autodesk Labs is home to innovative new technologies and collaborative development. Its mission is to involve you, the customer, in the progress of design technology solutions. We're not a beta program (although Autodesk does have an active beta community), or a usability team, because the technology we work with is too new to be a product. The user feedback that you provide to Labs is really on product ideas, while they're still in an early conceptual stage*."

- Project Galileo Before it became (Autodesk Infrastructure Modeler ®)

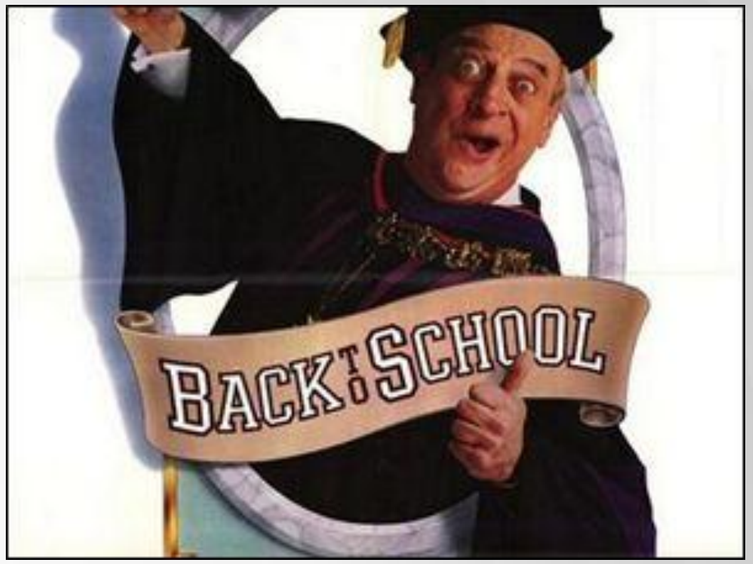
Web Site: http://labs.autodesk.com/

Autodesk Labs





Key learning objectives

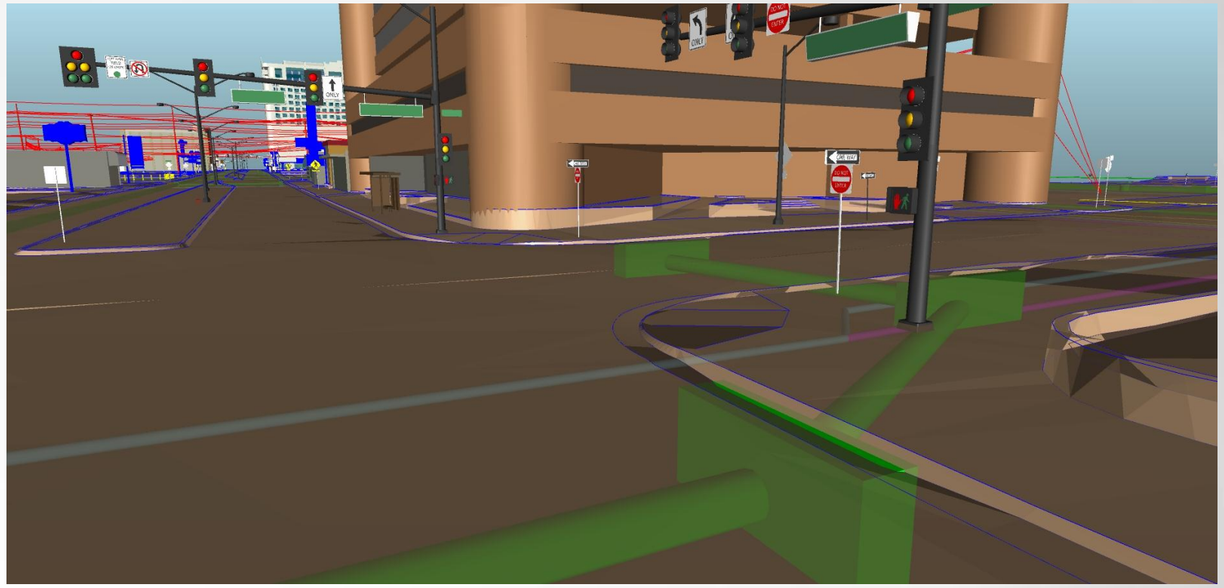


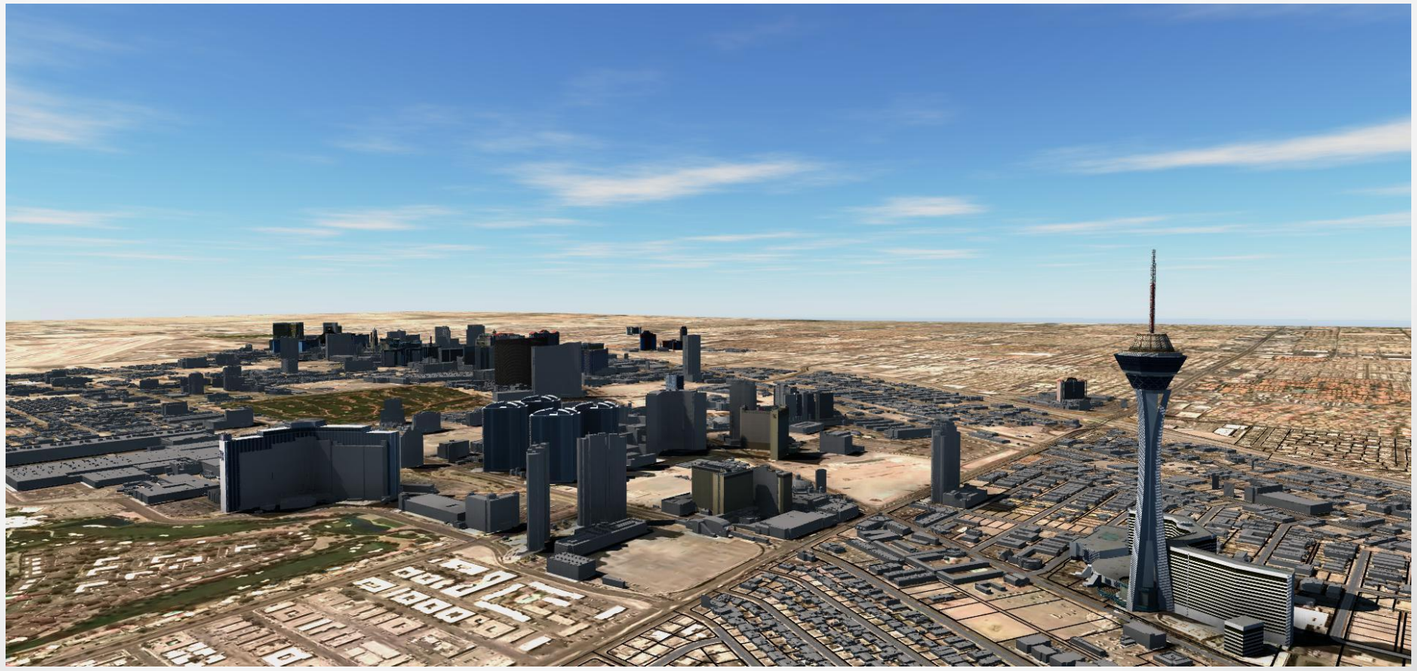
At the end of this class, you will be able to:

- Find data to create compelling models
- Setup model file with coordinate system
- Create Surface and drape aerial photo
- Add models (building, power poles, street signs, etc.)
- Exporting from Civil 3D
- How to share data with cloud services
- Create compelling stories for your stakeholders

Solutions

- ✓ 3D Geospatial Data (GIS)
- ✓ 3D Intelligent Modeling
- ✓ Urban Planning and Design
- ✓ Space Planning





Integration of:

- Engineering Design and As-Built
- Construction Data
- Architecture Design Data
- Survey Field Data / Point Cloud Data (HDS)
- Coordinate Reference System (CRS)
- GIS – Parcels, Zoning, Future Land Use, Flood Zones, Etc.
- Emergency Response

Where do I get the data?

Free data sources:

- ✓ USGS for Terrain & Imagery http://viewer.nationalmap.gov/viewer/ (formerly Seamless)
- ✓ Municipalities for GIS data
- ✓ Open Street Maps
- ✓ Tiger Data (Streets)
- ✓ Trimble 3d Warehouse for buildings

How do I get started?

Terrain

Terrain, or an elevation model, is required to get started using Infraworks. GeoTiffs, DTMs, and DEMs are freely available from a variety of sources. USGS is the first place to start.

Aerial

Aerial or satellite photos provide color, texture, and orientation to the model, but no depth. They also provide a stencil for tracing city features such as buildings, trees, or roads.

Roads

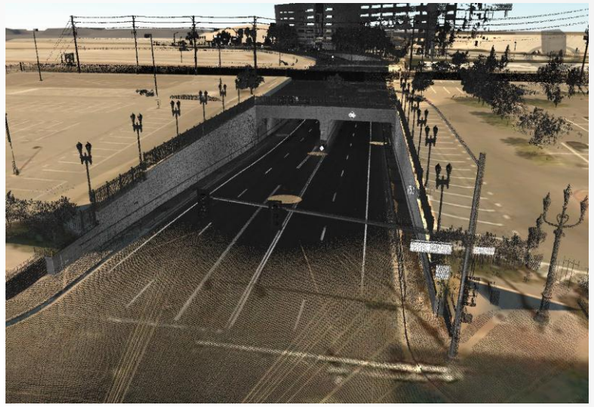
Roads also provide context to the model, as well as a data source to display road names via tooltips in the model.

Class Demo

Utility Infrastructure

City Planning

Point Cloud Scan



Mobile App
Cloud Serves

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