iModel 2.0 and the iModel Hub

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Senior Engineering Consultant

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Advancing Infrastructure

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i-model 1.0

Multi-Disciplines +
Various Data-Formats

Optimized for Purpose

- Design Review
- Clash Resolution
- Material Estimating
- Energy Analysis
- Construction Simulation
- Data Handover

Accurate → Provenance → Self Contained → Lightweight

i-model 1.0

iModel 2.0 Platform

New workflows

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iModel Growing Pains

2007

Creation of i-model

Initial launch of i.dgn format to resolve scale and performance issues in Bentley Navigator

2014

New iModel

Launch of new SQLite based .imodel format to support mobile apps

- File format changes
- Publishing changes
- Compatibility issues

2017

iModel 2.0

Launch of new iModel 2.0 and iModelHub

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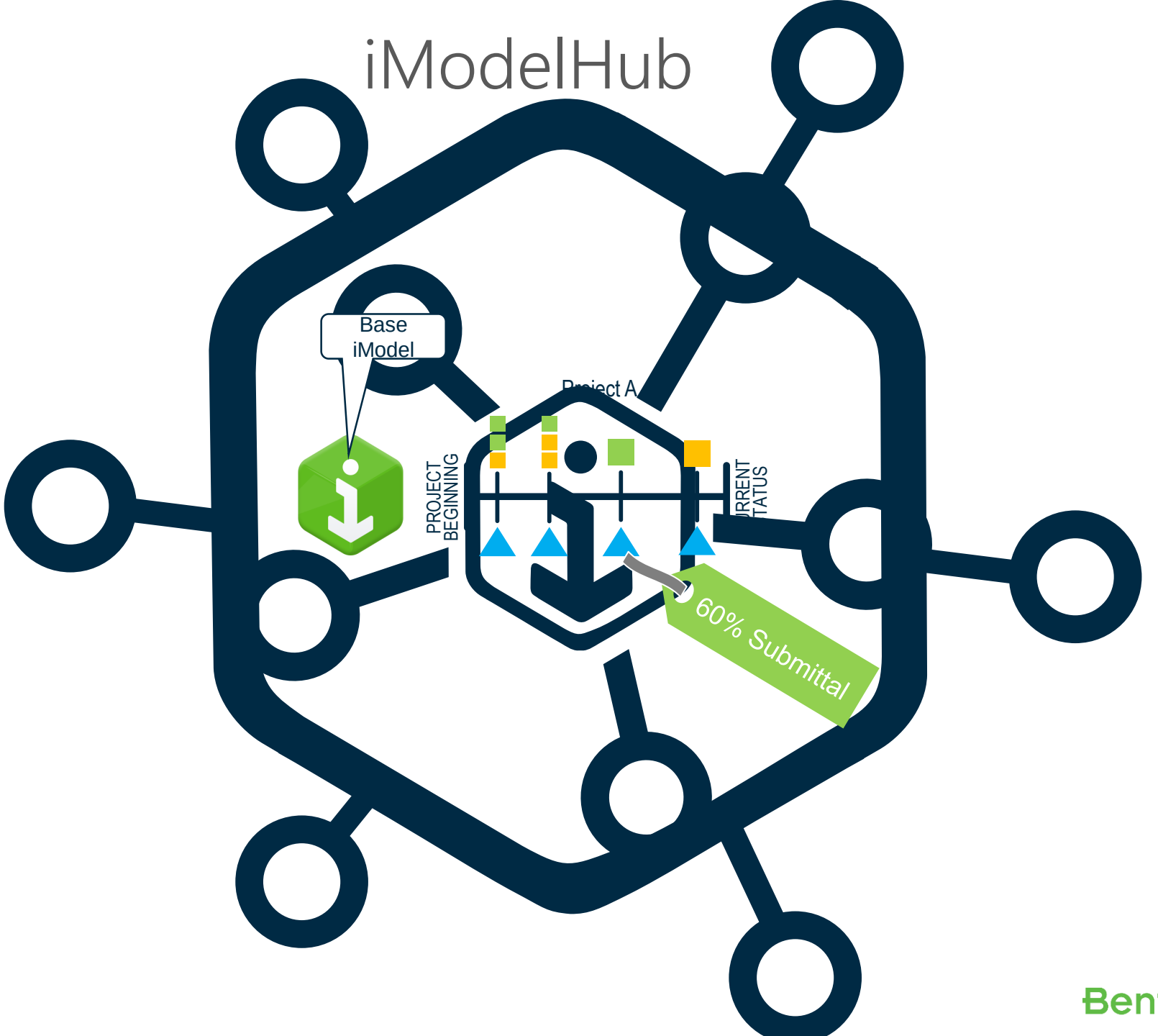
iModel

iModelHub



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An iModel is a relational database

Not Client-Server Architecture
(A local database with no network latency)

Powerful SQL Queries:

```
SELECT * FROM DOOR
```

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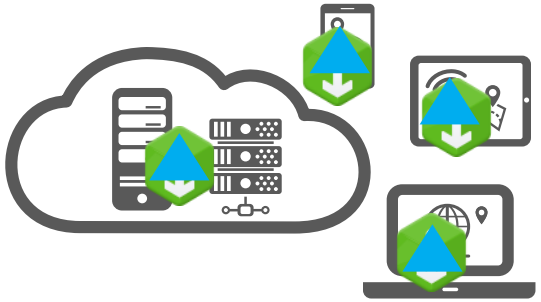
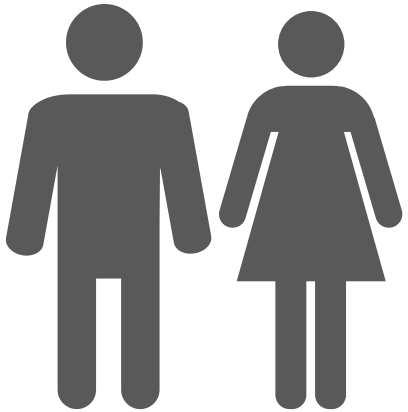
iModelHub

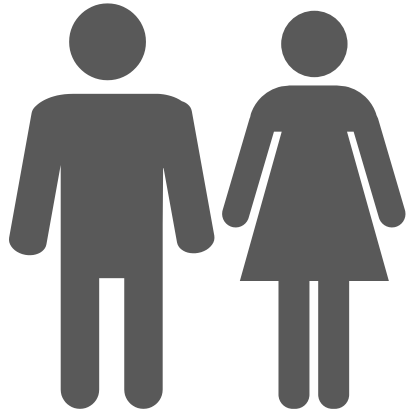
Distributed Database





Distributed Workflows

(Geography, People, Organizations)



Scale-out

(No Bottleneck Database)

ACCESSIBILITY

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ALIGNMENT

ACCOUNTABILITY

ACCESSIBILITY

SmartPlant 3D

Bentley

AUTODESK REVIT

OpenRoads Designer

OpenBuildings Designer

...

ALIGNMENT

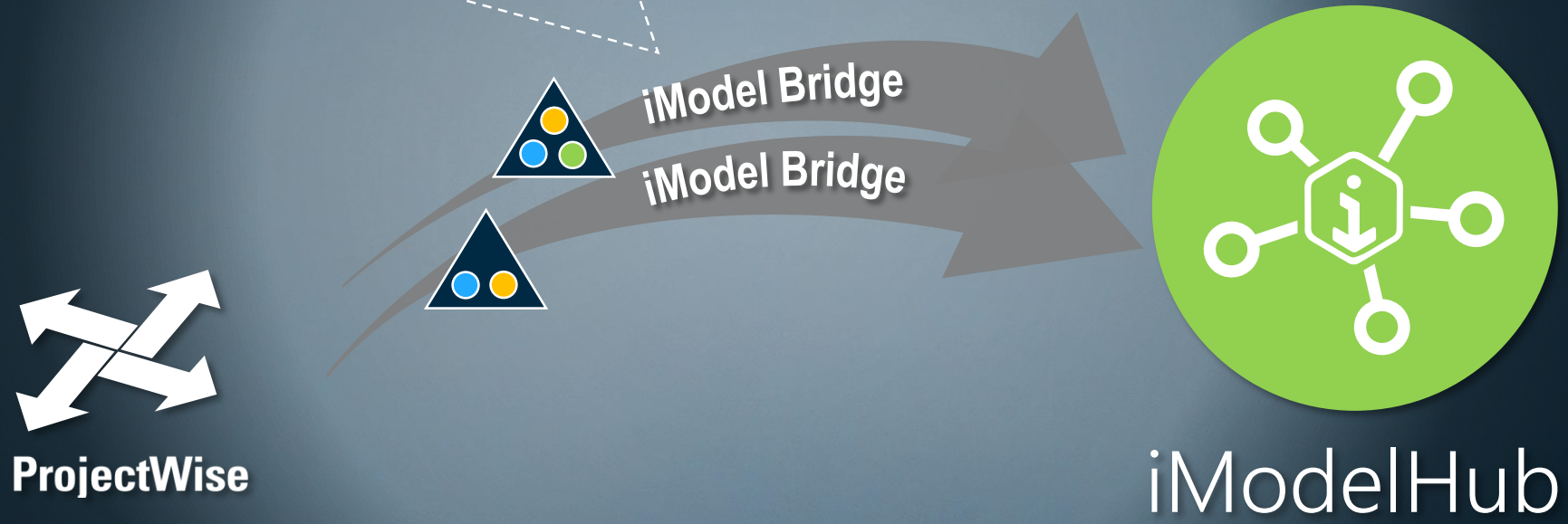
iModel Bridge

iModel Bridge

ProjectWise

iModelHub

- Detects incremental changes
- Transforms data into aligned structure
- Aggregates changed from many sources into a single, consistent iModel



ACCOUNTABILITY

ProjectWise

BSI 100 West Station

Project Details

Registered:	Thursday, August 31, 2017
Modified:	Friday, September 15, 2017
Industry:	Rail and Transit
Asset Type:	Stations and Platforms
Latitude:	37.804139°
Longitude:	-122.293271°
Time Zone:	Singapore Standard Time
Data Center Location:	East US

ProjectWise Connections	0
ContextShare Connection	
SharePoint Connections	0

Edit Project Details

Team Members

- AB Abeesh Basheer
- AM Adam McCarthy
- AG Akshay Govekar
- AN Alexander Nikitin
- AK Alexey Krylov

Manage Members

Notifications

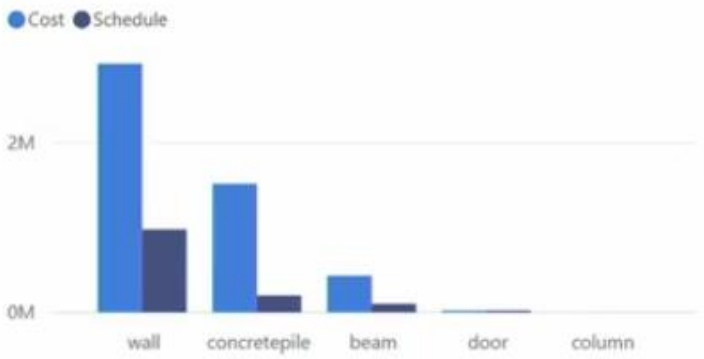
No notifications

ProjectWise Connection Services

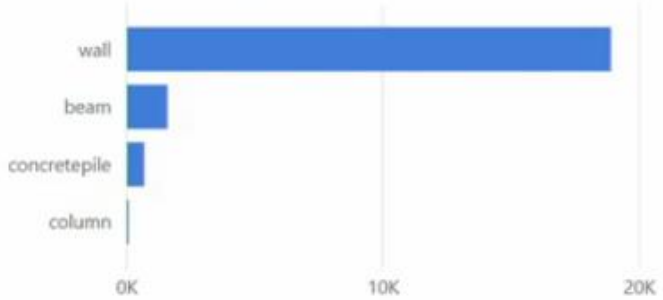
- Share
- Deliverables Management
- Performance Dashboards
- Issue Resolution
- Field Data Management
- Project Synchronization

ACCESSIBILITY

Design Element Cost & Schedule

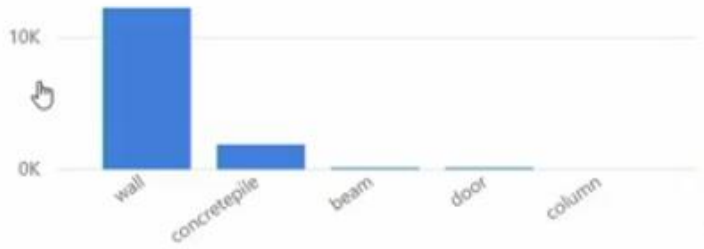


Design Element Distribution by Volume

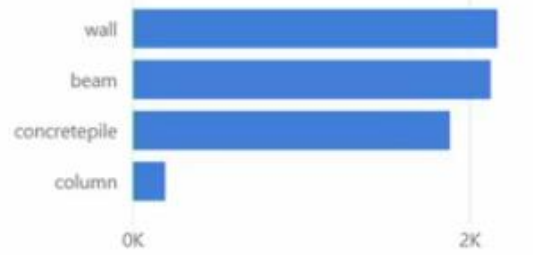


Material Assignment

Design Element Safety Index



Design Element Distribution by Length

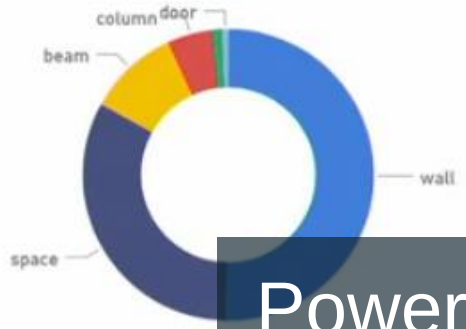


Section Variety

Volume Anomalies

element	area	length	Model	Calculated
beam	63.53	2,122.72	1,536.13	1,585.05
column	0.60	191.31	0.00	3.62
concretepile		1,881.31	671.94	671.94
wall		2,163.69	17,662.60	18,894.37
Total	**64.13**	**6,359.03**	**19,870.67**	**21,154.98**

Design Anomalies



Section Variety

element	section	Count of section
beam	1000x1500	20
beam	1220x16	23
beam	1500x1000	2
beam	1500x1500	6
beam	3000X1500	1
	900 X 400	14
Total		361

Power Bi dashboard

Going Digital (Twins): Bentley Inaugurates *iTwin™ Services!*

October 16, 2018 | YII Press Release

Confluence of technologies enables project digital twins and performance digital twins for infrastructure engineering

LEARN MORE

https://yii.bentley.com/

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Connected Data Environment

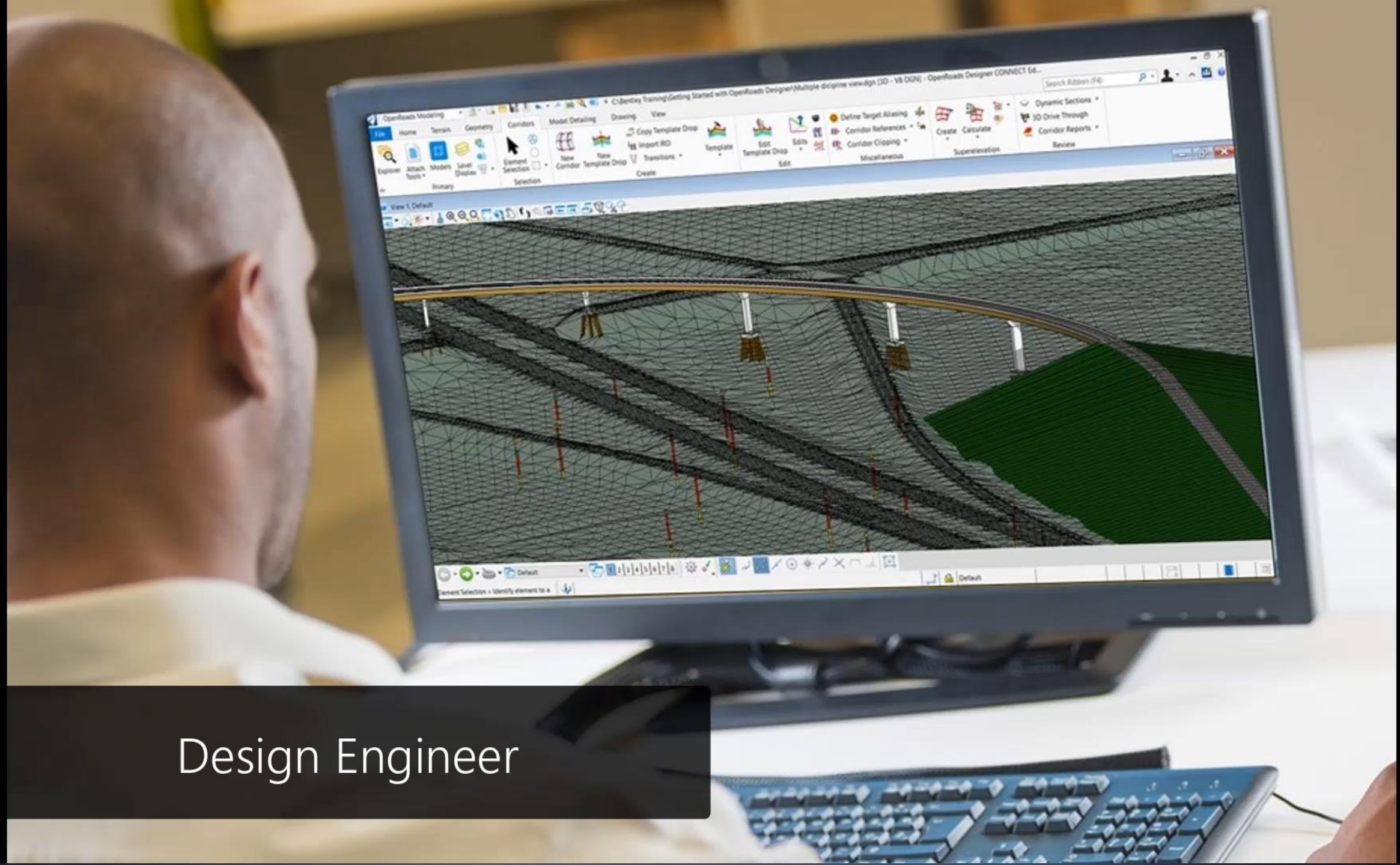
iTwin Services

iModelHub

ContextShare

Web visibility

Transportation Examples


Design Engineer

Navigator CONNECT

Projects

IHL
IHL

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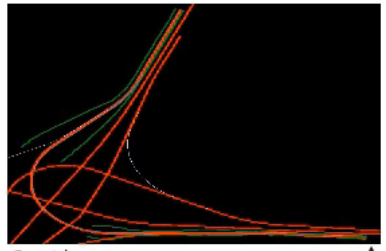
iModelHub

Download Superelevation	Download Plan Pro London Road	 Corridors	Download IHL Complete
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