

“Smart cities use information and communication technologies (ICT) to be more intelligent and efficient in the use of resources, resulting in cost and energy savings, improved service delivery and quality of life, and reduced environmental footprint - all supporting innovation and the low-carbon economy.”



Connecting the Points, Lines, Arcs & Circles



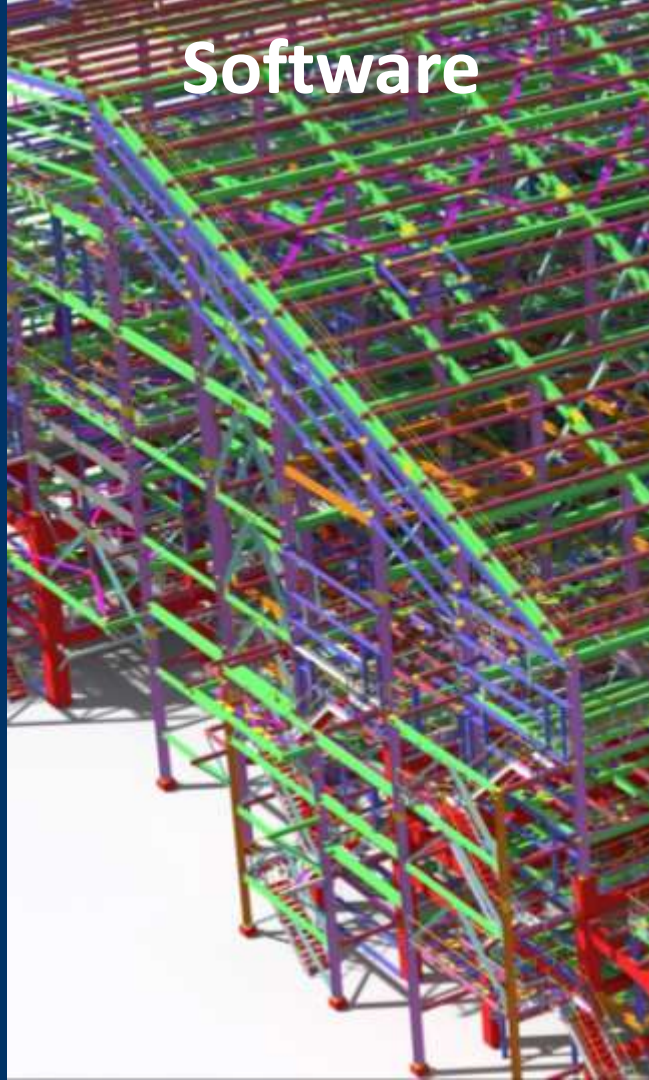
Connecting the Points, Lines, Arcs & Circles

Nikhil Nayak
Architecture - India & Middle East

Hardware



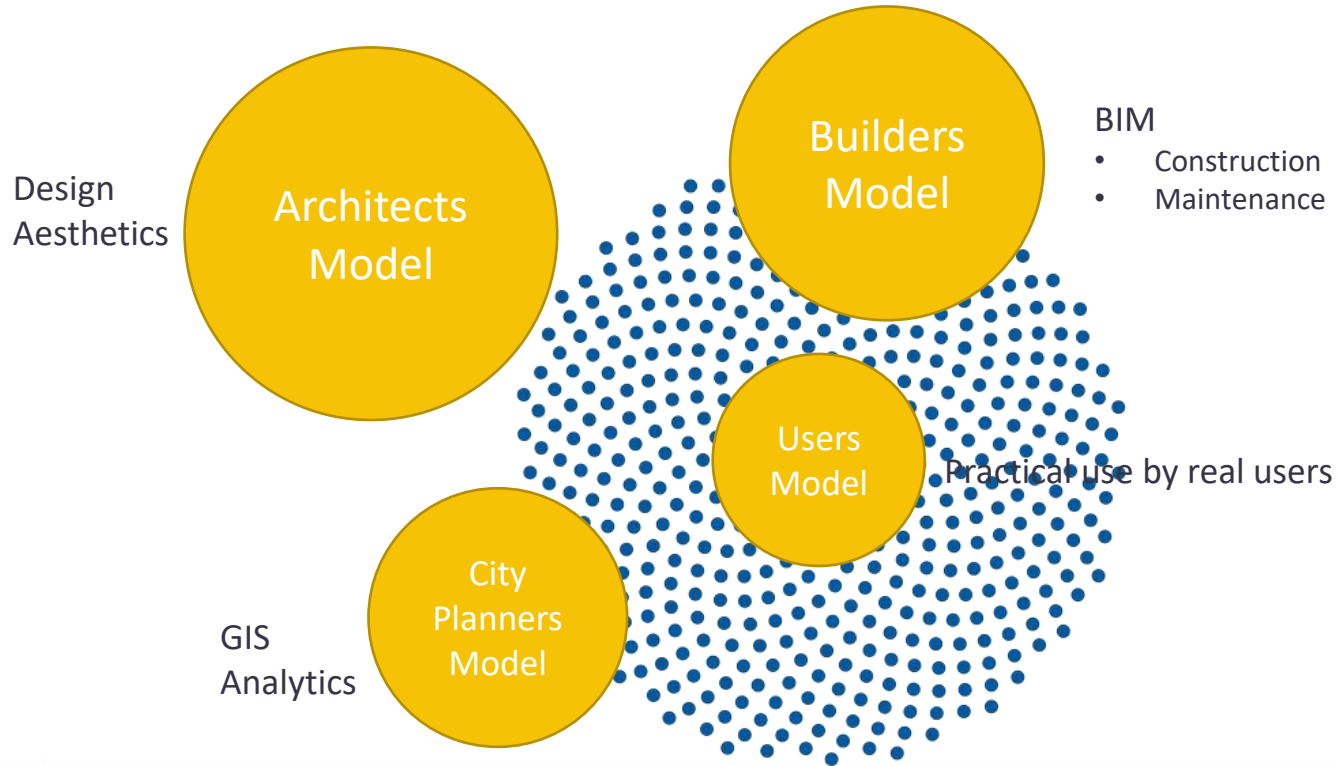
Software



Solutions

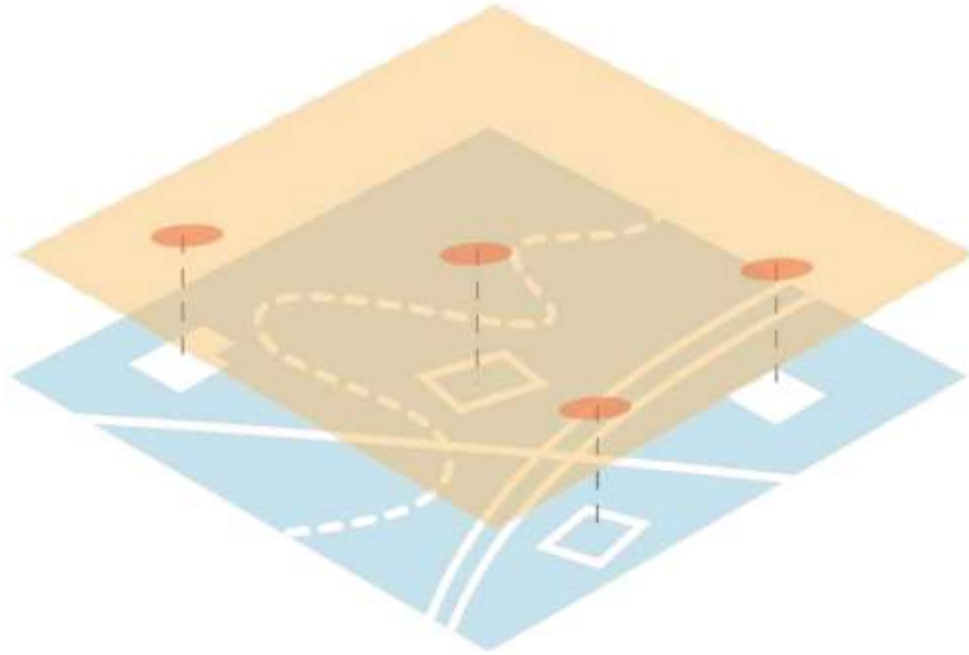


Built Environment 3D Models

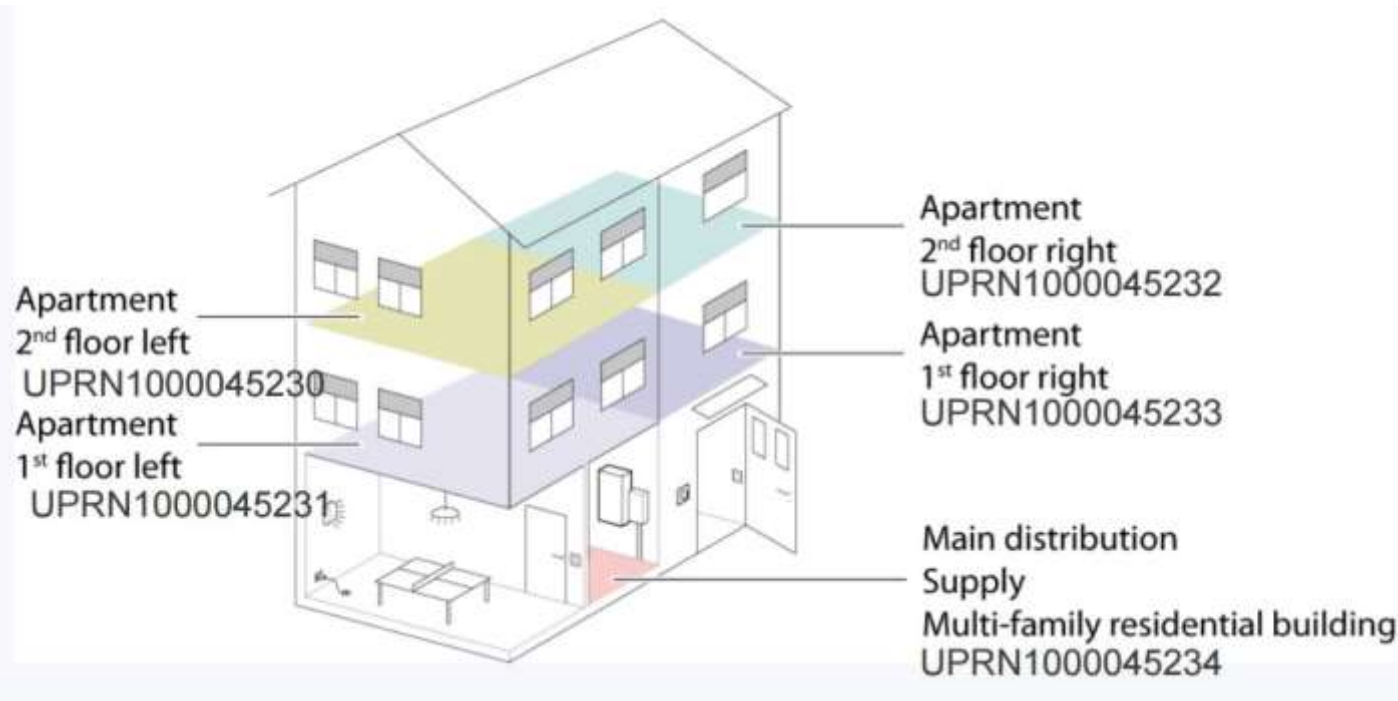


Information Accessibility is Critical





UPRN – Unique Property Reference Number is consolidating information from various sources about the property





Map

Map

☐ Include nearby homes

♥ 0 Shortlist

Sort by: Relevance



1 of 1 Results

< 1 >

[View more homes matching your requirement](#)

☐ Include nearby homes

Nearby localities

Properties in March

Properties in Chandrasekhar

Properties in Amniotic Nucleus

Department of Health, Education and Welfare

Properties of Para-Niger
Adiantum nigrum L.

Properties in Kunen's proof

LOCALITY

90

Main Street, Near Galleria Shopping Mall, Hirvandani Garden,
Powai, Mumbai

| | | | |
|---------------|------------|-----------------|---------------|
| Built-up Area | 1040-sqft. | Price per sqft. | ₹31250 /sqft. |
|---------------|------------|-----------------|---------------|

| | | | |
|-----------------|----------|--------|------|
| Age of Property | 12 years | Eating | West |
|-----------------|----------|--------|------|

| | | | |
|-------|---|--------------|----|
| Floor | 4 | Total Floors | 18 |
|-------|---|--------------|----|

| | | | |
|-----------|---|---------|---|
| Bathrooms | 2 | Parking | 2 |
|-----------|---|---------|---|

Society Amenities

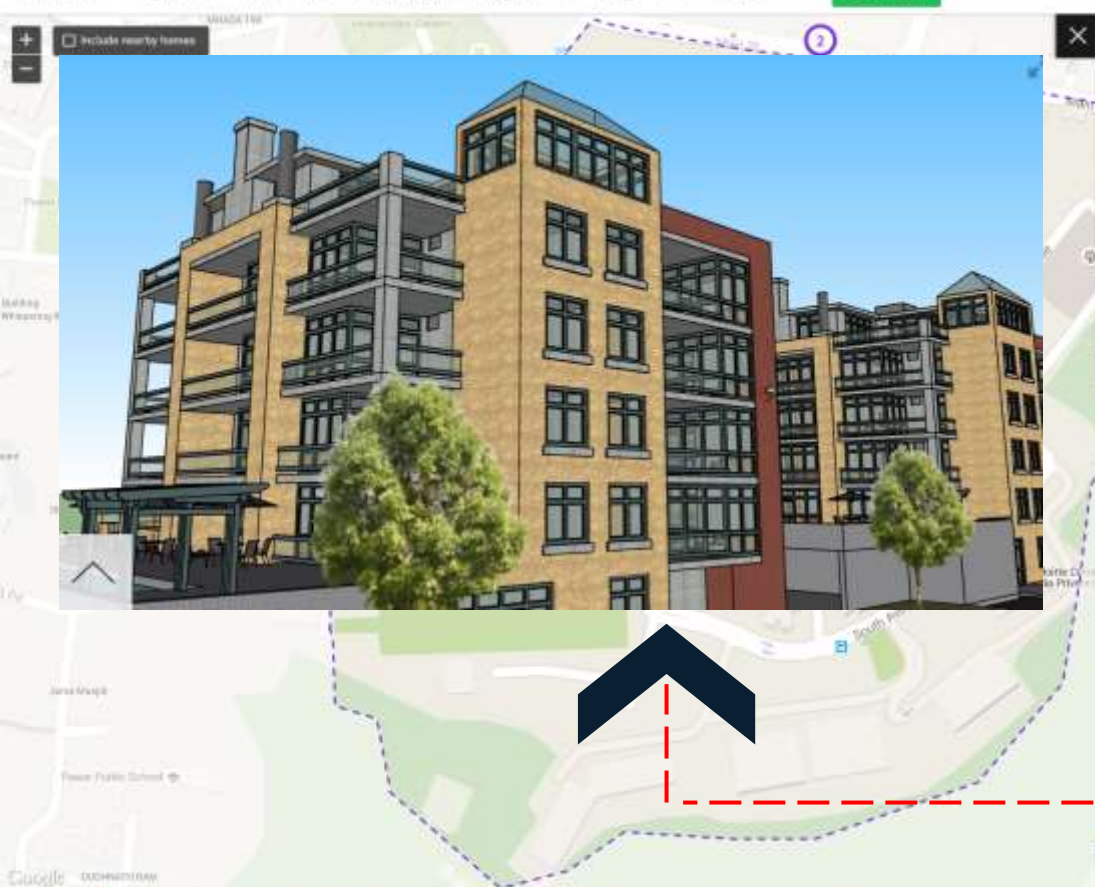
 LIM

© Gyrn

Commute Overview

 Contact Agent

 Add to Shortlist



2 BHK Apartment 9.0 Lifestyle

Main Street, Near Galleria Shopping Mall, Hiranandani Garden, Powai, Mumbai

| | | | |
|-----------------|------------|-----------------|---------------|
| Built-up Area | 1040 sqft. | Price per sqft. | ₹31250 /sqft. |
| Age of Property | 12 years | Facing | West |
| Floor | 4 | Total Floors | 16 |
| Bathrooms | 2 | Parking | 2 |

Society Amenities

- Lift
- Gas Pipeline
- Gym
- Swimming Pool

Check 3D Model

Commute Overview

Contact Agent Add to Shortlist

1 Result 0 Shortlist

Sort by: Relevance

2 BHK, 1040 sqft. Hiranandani Gardens ₹3.25 Cr (₹31.3 K/sqft)

1 - 1 of 1 Results

View more homes matching your requirement

☐ Include nearby homes

Nearby localities

- Properties in Marol
- Properties in Chandivali
- Properties in Anand Nagar
- Properties in Pardi Nagar
- Properties in Karmaveer
- Properties in Gaudhi Nagar

Retrofitting Project

- Heritage Conservation
- Energy Efficiency
- Structural Improvements
- Architectural Reuse

Retrofitting Project

Trimble Scanners



Point Cloud Data



SketchUp Model



QTO in VICO





QTO & Estimation in VICO

Vico Office R3 - Villa MeBo3

3D View Cost Planner

X-ray Mode Outline Mode Planning Mode Selection Mode Navigation Mode Measure Length Measure

Cost Planner Project & References - Modified Cost Planner & 3D - Modified Cost Explorer - 3D - Cost Plan

1 Project

- View Dashboard
- Define Settings
- Select Module
- Import from Excel
- Compare & Update
- Define Targets

2 Content

- Edit Tags

3 Model Management

- Manage Models

4 Takeoff

- Takeoff Model
- Manage Takeoff

5 Cost Planning

- Plan Cost
- Explore Cost

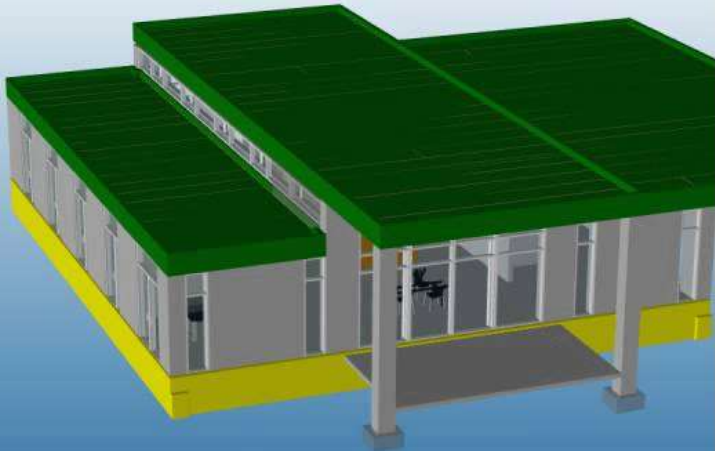
6 Reports

- Create Reports

Cost estimate

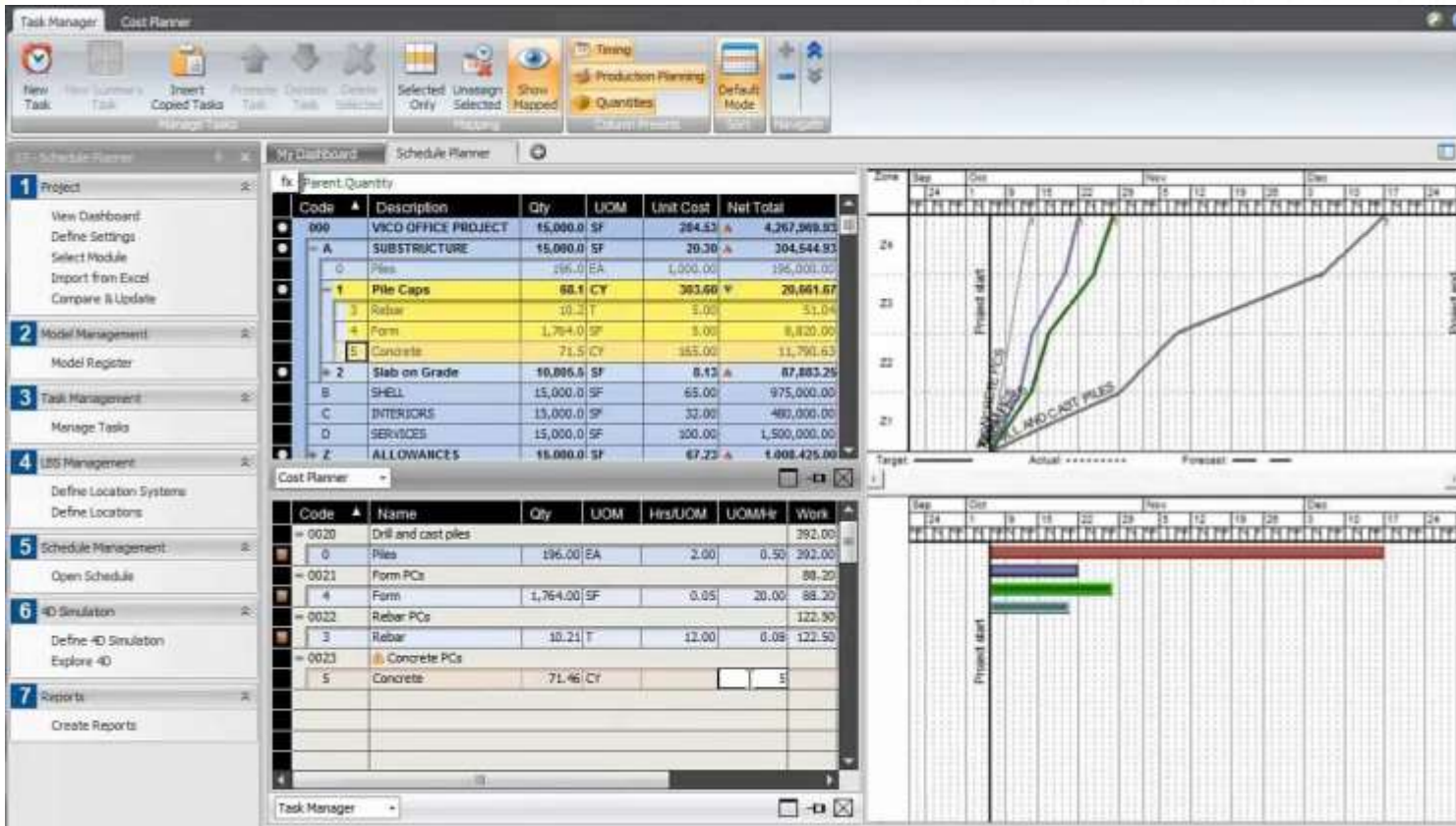
| Code | Description | Source Q. | Consumption | Qva. | Unit | Unit Cost | Total Price | WasteFa. |
|----------|--|-----------|-------------|-------|------|------------|--------------|----------|
| 000 | Villa MeBo3 | 1,0 | 1,000 | 1,0 | | 3.307.645 | 3.307.645,42 | 1,00 |
| 01 | Terrændæk og fundamenter | 1,0 | 1,000 | 1,0 | | 436.205,30 | 436.205,30 | 1,00 |
| 01.10 | Fundamenter | 1,0 | 1,000 | 1,0 | | 230.676,79 | 230.676,79 | 1,00 |
| 01.10.10 | Stribefundamenter | 64,6 | 1,000 | 64,6 | M3 | 3.500,00 | 225.961,79 | 1,00 |
| 01.10.30 | Punktfundamenter | 1,2 | 1,000 | 1,2 | M3 | 4.000,00 | 4.715,00 | 1,00 |
| 01.40 | Terrændæk | 1,0 | 1,000 | 1,0 | M2 | 205.528,51 | 205.528,51 | 1,00 |
| 01.40.10 | Terrændæk | 316,2 | 1,000 | 316,2 | M2 | 650,00 | 205.528,51 | 1,00 |
| 01.50 | Aktiviteter relateret til underbygning | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 01.50.10 | Udgravning | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 02 | Råhus | 1,0 | 1,000 | 1,0 | | 1.430.336 | 1.430.336,65 | 1,00 |
| 02.10 | Bærende konstruktioner | 1,0 | 1,000 | 1,0 | | 765.216,83 | 765.216,83 | 1,00 |
| 02.10.10 | Etagedæk | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 02.10.20 | Tag | 410,1 | 1,000 | 410,1 | | 1.865,93 | 765.216,83 | 1,00 |
| 02.10.80 | Trapper | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 02.20 | Facade | 1,0 | 1,000 | 1,0 | | 605.243,23 | 605.243,23 | 1,00 |
| 02.20.10 | Udvendige vægge | 156,7 | 1,000 | 156,7 | M2 | 1.800,00 | 281.975,47 | 1,00 |
| 02.20.20 | Udvendige vinduer | 70,9 | 1,000 | 70,9 | M2 | 3.500,00 | 248.267,76 | 1,00 |
| 02.20.50 | Udvendige døre og porte | 15,0 | 1,000 | 15,0 | STK | 5.000,00 | 75.000,00 | 1,00 |
| 02.30 | Tag | 1,0 | 1,000 | 1,0 | | 59.874,59 | 59.874,59 | 1,00 |
| 02.30.10 | Taginddækning (zink) | 410,1 | 1,000 | 410,1 | M2 | 146,00 | 59.874,59 | 1,00 |
| 02.30.60 | Tagvinduer | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 03 | Indvendige bygningsdele | 1,0 | 1,000 | 1,0 | | 419.651,38 | 419.651,38 | 1,00 |
| 03.10 | Indvendige konstruktioner | 1,0 | 1,000 | 1,0 | | 161.714,81 | 161.714,81 | 1,00 |
| 03.10.10 | Indvendige skillevægge | 205,6 | 1,000 | 205,6 | M2 | 750,00 | 154.214,81 | 1,00 |
| 03.10.20 | Indvendige vinduer | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 03.10.30 | Indvendige døre | 11,0 | 1,000 | 11,0 | STK | 2.500,00 | 27.500,00 | 1,00 |
| 03.10.60 | Hævet gulv | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 03.10.70 | Nedhængt loft | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 03.10.90 | Særlige indvendige bygningsdele | 1,0 | 1,000 | 1,0 | | 0,00 | 0,00 | 1,00 |
| 03.20 | Finish | 1,0 | 1,000 | 1,0 | | 237.936,57 | 237.936,57 | 1,00 |
| 03.20.10 | Vægoverfald | 4,0 | 1,000 | 4,0 | | 47.976,60 | 12.376,60 | 1,00 |
| 03.20.30 | Gulve | | | | | | 793.939,99 | 1,00 |
| 03.20.40 | Finish trapper | | | | | | 0,00 | 1,00 |
| 03.20.50 | Loffer | | | | | | 31.619,77 | 1,00 |
| 04 | Installationer | | | | | | 379.456,09 | 1,00 |
| 04.20 | VVS | | | | | | 37.167,11 | 1,00 |
| 04.20.10 | Vandinstallationer | 49,0 | 1,000 | 49,0 | | 350,00 | 17.167,11 | 1,00 |

Cost estimate



[illegible]

Project Scheduling in VICO



Immersive Experiences



Immersive Experiences

Visionary customers- L&T
Hardware/OS agnostic

Themes

- Context-driven workflow - AR
- Closing gaps - Tango
- Real 3D - VR



HoloLens
MR



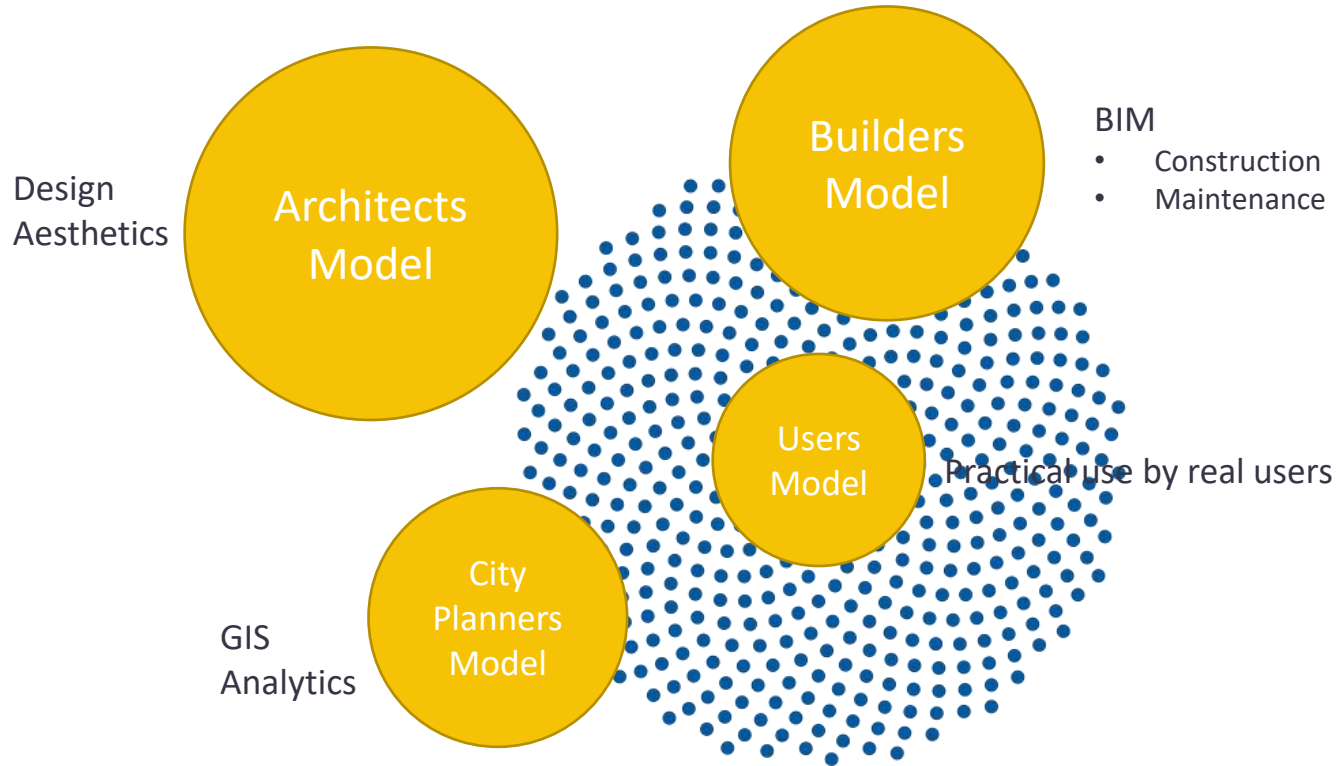
Tango
AR



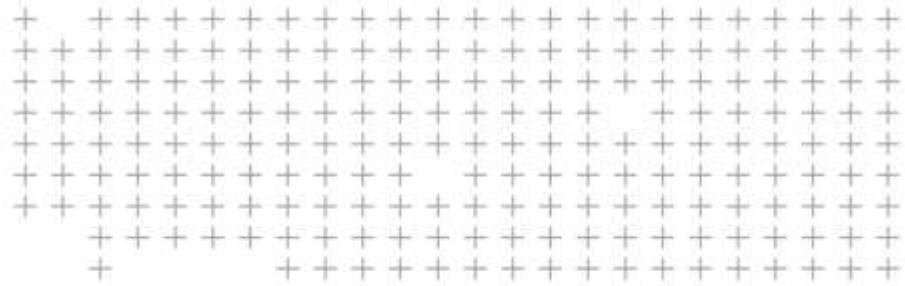
Oculus
VR



Built Environment 3D Models







Q & A

