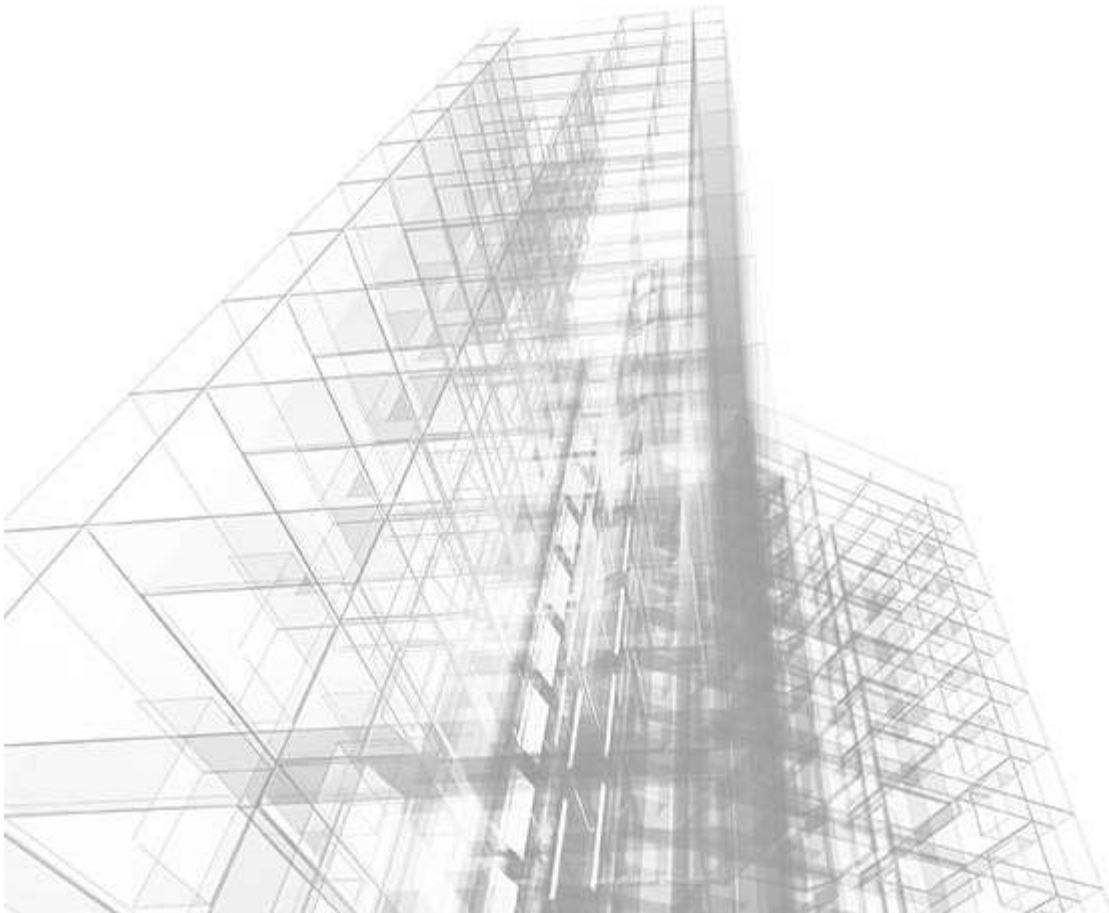




Digital Transformation of Airports

Executive Summary





Pinnacle at a Glance



2012: ISO 9001:2008
Quality Management
System



2021: ISO 27001:2013
Information Security
Management Systems



2023: ISO 19650
Management of Data and
Information



Creating Impact



Vision

Lead the global AECO industry to **certainty** and **efficiency** using technology.



Mission

Help the AECO industry **optimize resources, cost and quality** through innovative use of technology for the **entire project lifecycle**.

Global Delivery Centers



Play Corporate Video

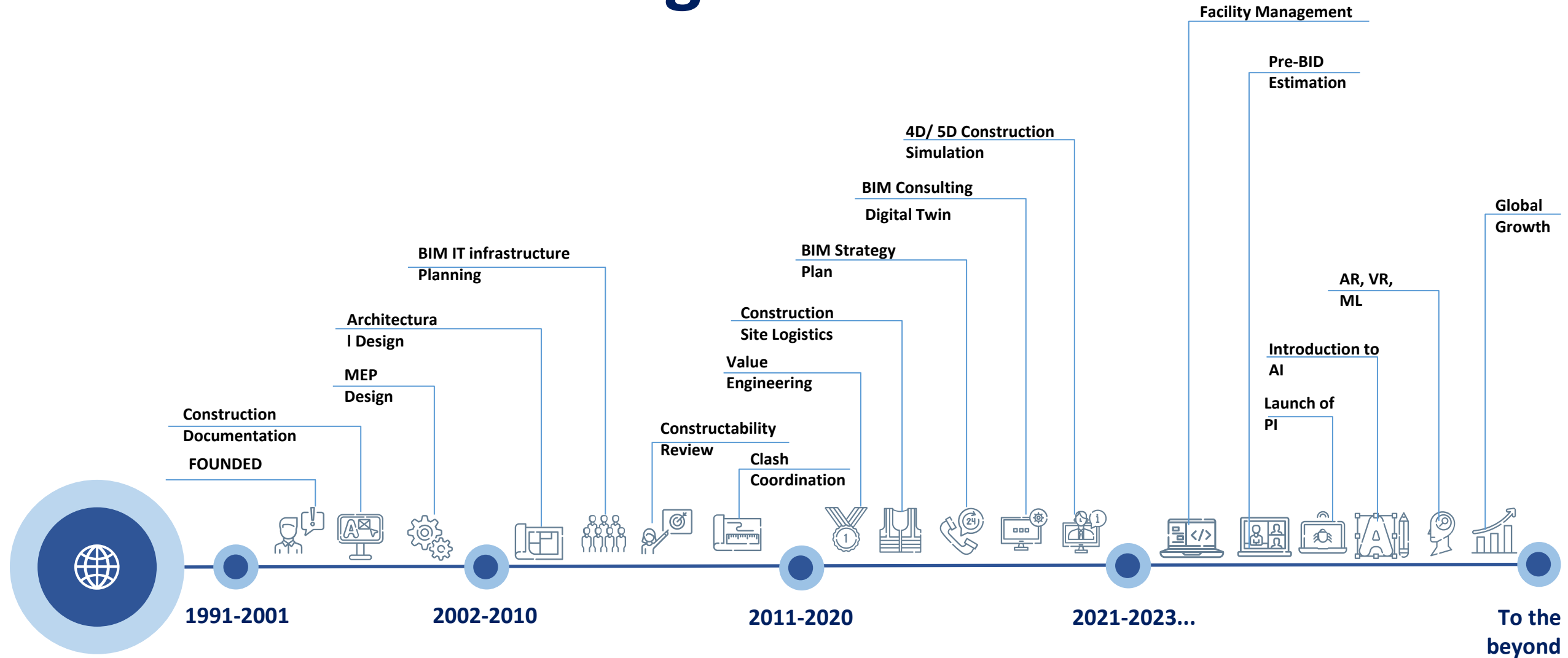


Countries Served





Pinnacle: Embracing Innovation





Pinnacle Major Airport Experience Across the Globe

USA
24 Airport

KUWAIT
01 Airport

SAUDI ARABIA
02 Airport

UAE
02 Airport

TAIWAN
01 Airport

BANGLADESH
01 Airport

India
04 Airport

The image features a world map with callout boxes for various airport projects. Each callout box is connected to a specific geographic region on the map and includes a grid of small images showing different views of the airport, such as aerial views of runways and terminals, interior views of passenger halls, and exterior views of terminal buildings.



Why Digital Transformation

Why Now?



"Digital First" Travelers

Expect real-time, mobile, contact-free journeys

75 % of travellers
'digital first'



Digital retail



Targeted media



Dynamic parking

Non - aero revenue is forecast to double to \$306B by 2033



Revenue Generation

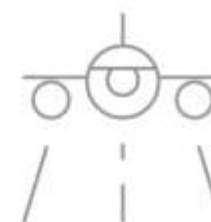


Operational Efficiency

Airlines push landing fees down;
Airports must unlock New Revenue
and shave OPEX to stay profitable.



Net-zero roadmaps



ICAO CORSIA



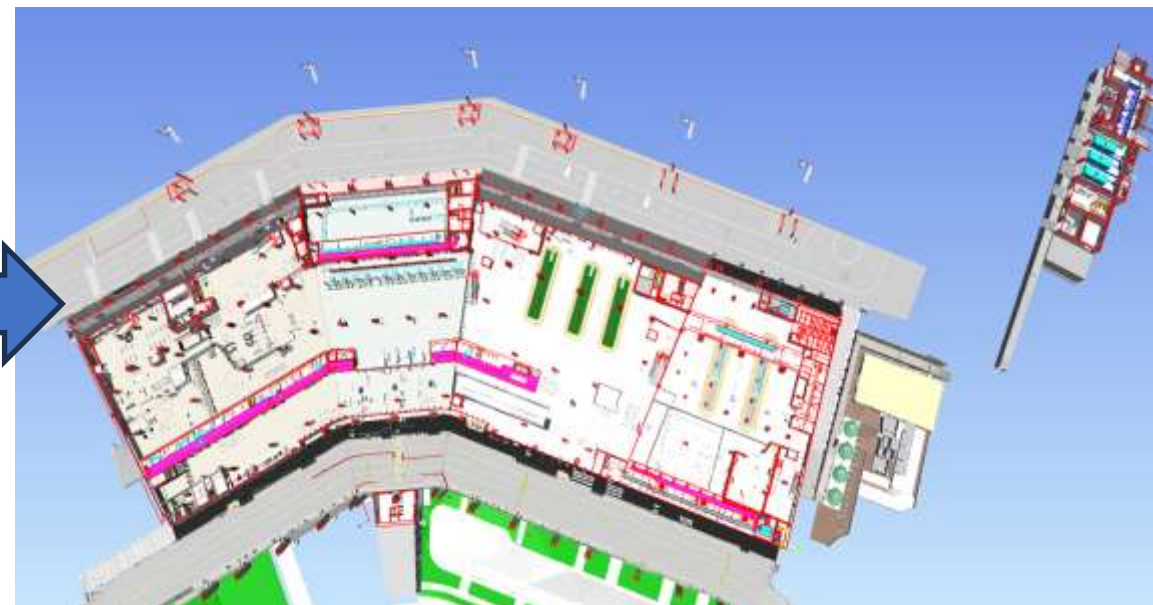
EU taxonomy

Regulators tightening on carbon
& resilience



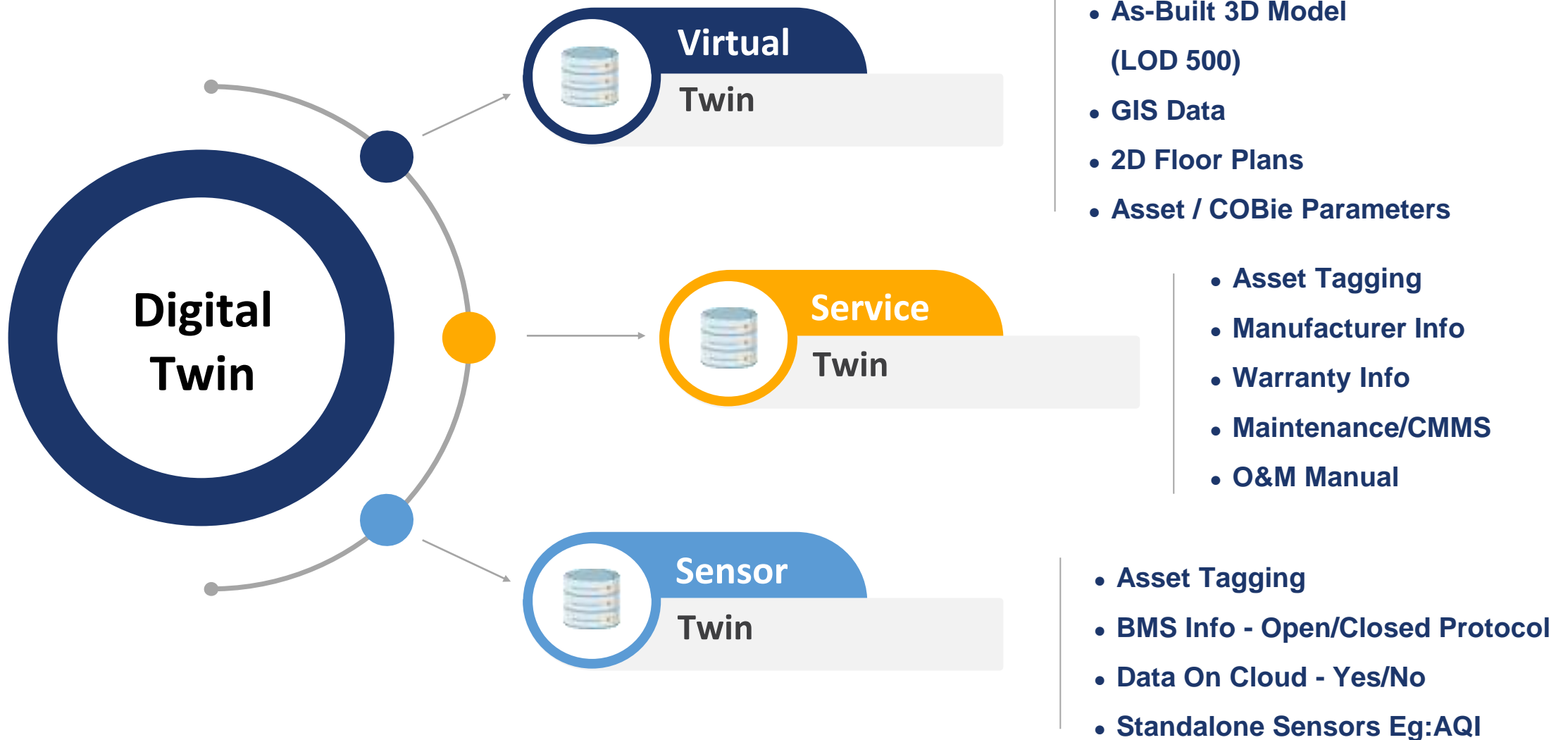
Built World Digitization - The Missing Piece

You can't optimize what you can't visualize



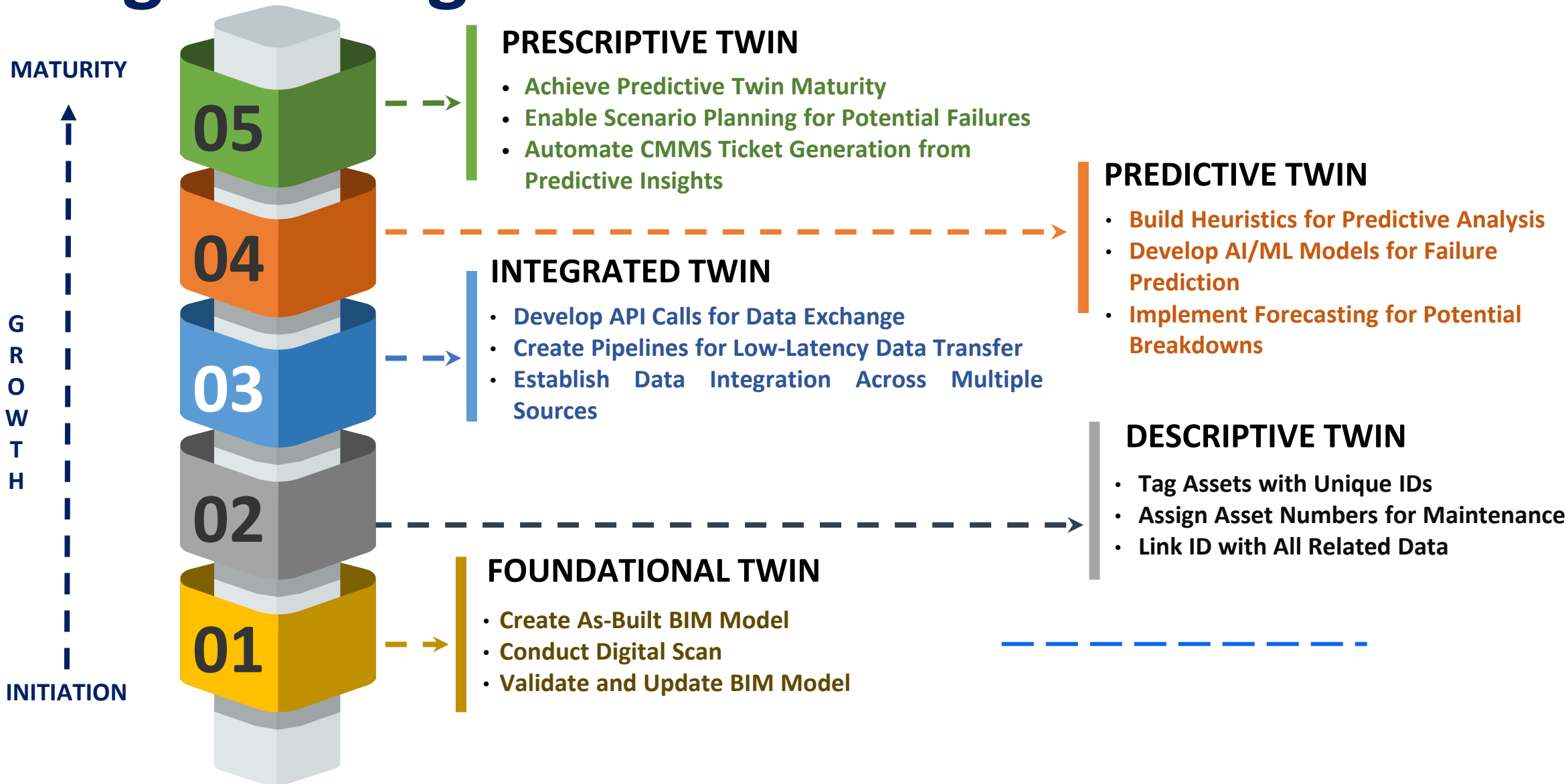


Anatomy of Data Requirements





Stages of Digital Twin





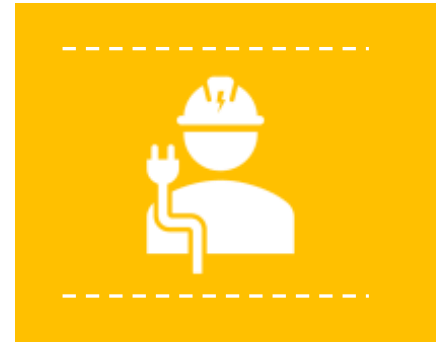
Key Benefits



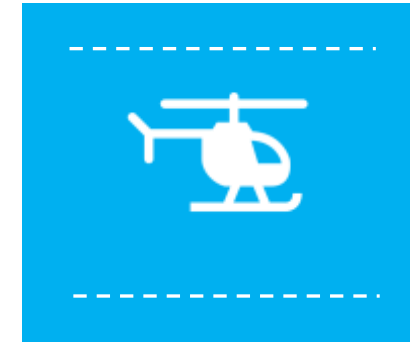
Expansion &
Renovation



Operations &
Maintenance



Risk &
Compliance



Non-Aero
Revenue



Expansion & Renovation Efficiency

01

Informed Decision Making

- Prioritize budget expenditure based on projected ROI
- Quick asset lookup with QR/barcode scanning

02

Accurate As-Built Data

- Lower design cost and time due to data availability
- Verification of design intent based on performance data

03

Facility Lifecycle Analysis

- Asset Performance Data to extend life and delay replacement
- Accurate budgets for asset upgrade projects

04

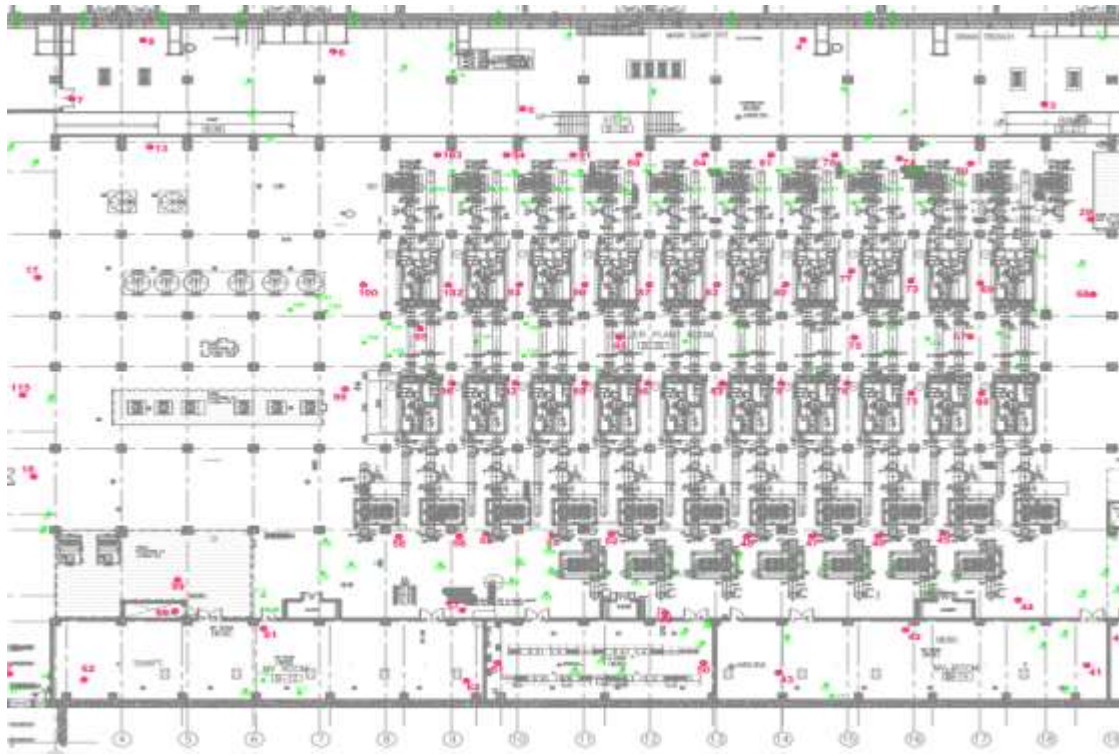
Scenario Planning

- Simulation Analysis
- Cost planning



Centralized Certified Model

2D Drawings



3D Visualization





Operational & Maintenance Excellence

01

Centralized Asset Management

- Asset Health condition rating & reliability assessment
- Asset locator workflows via barcodes and 3D data

02

Predictive Maintenance

- Maintenance by demand ; not schedule
- Reduction in unplanned asset outages

03

Energy Optimization

- Reduction in per passenger energy consumption
- Analyze trends and identify wastage or optimization opportunities

04

Emergency Response

- Incident Management response pre-configured in 3D Twin
- Safety Performance Monitoring

05

Team Task Management

- Assign tasks to team based on availability, skill, and priority
- Real-time status updates and alerts

06

GIS Integration

- 3D Visualization of all landside and airside assets
- Digital Mapping of all airport assets



Asset Visualization workflows





Compliance & Risk Management



Unified Asset Register → +100 % asset data completeness



Life-Safety Drawings → latest and accurate



Automated Regulatory Logs → Audit-ready e-Trail for incident reporting



Safety Management System → Integrated Performance Monitoring



Pax experience & Revenue Generation

01

Lease & Tenant Analysis

- Tracking actual floorspace usage vs contract
- Future Lease planning -> increase lease revenue by 15-20%

02

Passenger Experience

- Track well-being metrics like AQI and toilet cleanliness
- Simulate passenger flow to address congestion points

03

Dynamic Engagment

- Traffic Heatmaps for premium placement of advertisement
- Smarter Digital signage based on trend analysis

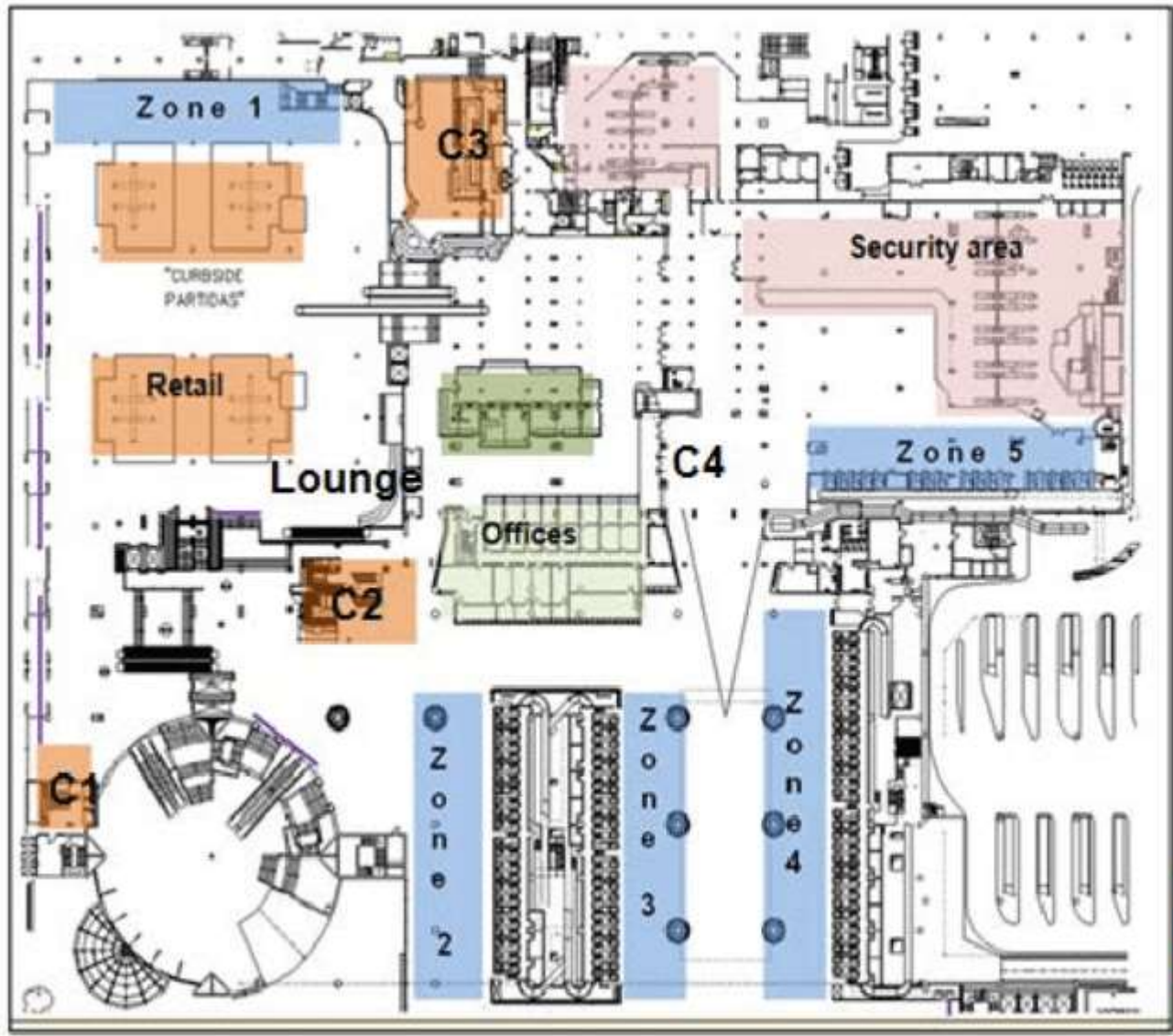
04

Business Intelligence Tools

- Identify trends via passenger demographic analysis
- Innovate use of unused space for revenue opportunities



Space Management



- Check-in Zones
- Retail activities
- Offices
- Security



Thank You



Countries Served



Website: pinnacleinfotech.com | Email: bim@pinnacleinfotech.com | Phone: +91 343-6602222