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# CEC BIM PROFILE

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## Capital Engineering Consultancy

Architecture | Structure | MEP | Project Management | Cost Management  
| Interiors | Quantity Surveying | Supervision | Energy | Safety Audits | BIM

### Head Office:

Unit 203, Sama 2 Tower, Abu Shagara,  
Sharjah, United Arab Emirates  
P.O. Box 68253  
Tel +971 06 553 6806 Fax +971 06 553 6807  
Email : [info@capitalengg.com](mailto:info@capitalengg.com) Web : [www.capitalengg.com](http://www.capitalengg.com)

### Capital Offices

United Arab Emirates  
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# CEC BIM

## Why BIM is Booming ?

BIM is a centralized platform which provides the opaque information regarding a building project to all of the involved stakeholders and their needs to streamline processes which helps in dealing with clashes and contradictions. The BIM allows to reproduce all the information for the existing buildings to help planning, redesigning any renovations, maintenance - facility management. BIM is not just a 3D modeling tool as of the 2D applications available. BIM provides the platform where an interdisciplinary management and project process interfaces can be managed effectively unlike the conventional management tools.



The BIM process doesn't limit itself to a 3D digital visualisation of the building. Indeed, it adds new dimensions to a building project:

- Time (4D, scheduling)
- Cost (5D, budgeting)
- Lifecycle management (6D, facility management)

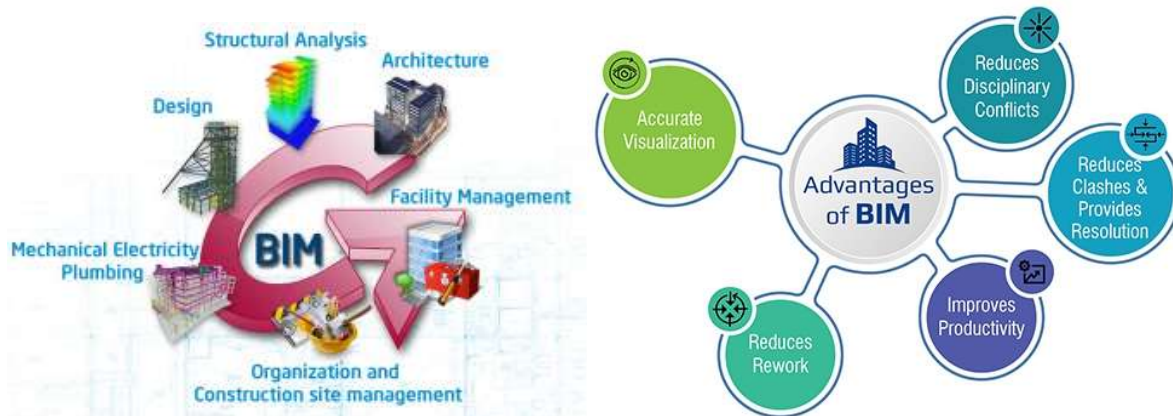
The BIM process possesses its own language to link its Level of Details (LOD) phases to the regular building life cycle process. Autodesk's sustainability workshop website provides a good summary of the building project phases and levels of development. This new building methodology and the new tools it requires also mean that the BIM has a substantial impact on the organization and the skills required to lead and execute building design projects. For instance, data management, collaborative work and stakeholder's coordination are key to the success of a BIM project.

# CEC BIM

## Why CEC BIM ?

### High-Quality & Cost effective BIM solutions for better Building Designs:

CEC BIM offers a comprehensive range of BIM services to a global clientele, across multiple construction disciplines including architecture, structure, MEP and other mechanical disciplines. This allows the design team to pursue a truly "Integrated Design" approach.



We provide tailor-made 3D BIM modelling services to all AEC stakeholders - architects, contractors, engineers, surveyors, designers, consultants and engineering design firms. Our experienced BIM engineering team have extensive domain expertise for delivering BIM solutions. We are experts in creating virtual building models and drawings that can be used for clash detection and coordination before building on-site.

### 3D BIM modeling solutions empowered by technology

As a BIM service provider we use the latest technology like Revit to deliver fully coordinated 3D BIM models, Revit drafting, BIM workflow and bespoke building products for our clients. Our Revit BIM services are catered for every building type or project including residential, commercial, Hospitality, industrial, mixed-use buildings, healthcare facilities, airports and other construction projects.

Our company is structured as an integrated association of design & engineering teams and operates by the core management, which gives us flexibility in delivery projects of different scale and programmatic conditions keeping operational expenses as low as possible to offer our clients the best competitive fees.

## 3D Modeling Services

Our BIM expert team delivers 3D BIM services from LOD100 upto LOD500 for different building types, Residential & commercial Buildings, Hospitality, Airports & Railways, Hospitals, Residential townships, Infrastructure, Industrial Production Plants and much more. We are well versed with LOD specifications across the world in order to ensure consistent modelling standards.



Architecture



Structure



Mechanical



Electrical



Plumbing



Fire

- 2D CAD Drawings to BIM Conversion
- SD, DD & CD stage 3D BIM modelling
- Sketch up to BIM
- Code compliance
- Design option study & Design Coordination
- BIM for Design and Engineering
- BIM for Construction
- 3D BIM Modeling Visualization
- 4D BIM Planning, Scheduling and Sequencing
- 5D BIM Cost Estimation & Quantity Take-Offs
- 6D BIM Sustainability & Energy Analysis
- 7D BIM Facilities Management and Maintenance
- BIM Clash Detection & Resolution
- BIM Rendering & Walkthrough Services

## Revit Family Creation

At CEC we create, extract, standardize & manage BIM content. This includes 2D drafting details, 3D components and project file furniture. We follow a strict and accurate protocol for how the content should be built, named and accessed. The level of detail in the content is optimized so that the desired result is achieved, without making the files very slow. CEC specializes in creating smart content & templates for different types of project deliverables.



- Revit Templates
- Architectural Revit Family Creation
- Structural Components Family Creation
- MEP Revit Families Creation
- Building System Components
- Legends & Title Blocks
- Fixtures, Custom Applications
- Partitions, Walls, Windows And Doors
- Company Specific Revit Library and Standards

# CEC BIM

**We deliver LOD for different levels as classified by American institute of Architects (AIA):**

**LOD 100:** A conceptual model where parameters like area, height, volume, location and orientation are defined.

**LOD 200:** A general model where elements are modeled with approximate quantities, size, shape, location and orientation. We can also attach non-geometric information to the model elements.

**LOD 300:** Accurate modeling and shop drawings where elements are defined with specific assemblies, precise quantity, size, shape, location and orientation. Here too we can attach non-geometric information to the model elements.

**LOD 350:** LOD 350 includes model detail and element that represent how building elements interface with various systems and other building elements with graphics and written definitions.

**LOD 400:** Model elements are modeled as specific assemblies, with complete fabrication, assembly, and detailing information in addition to precise quantity, size, shape, location and orientation. Non-geometric information to the model elements can also be attached.

**LOD 500:** Elements are modeled as constructed assemblies for Maintenance and operations. In addition to actual and accurate in size, shape, location, quantity, and orientation, non-geometric information is attached to modeled elements.

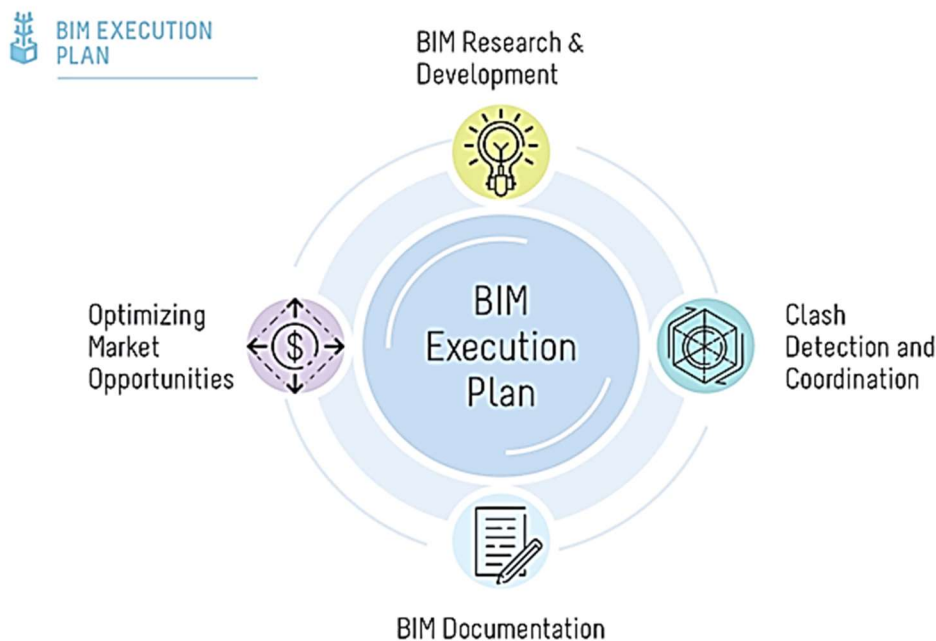
The LOD framework enables effective and accurate planning and tracking of several facets of the project delivery process at multiple stages. Our purpose built LOD models will enable you to gain better control over projects, streamline workflows and increase productivity.



# CEC BIM

## BIM Execution Plan (BEP)

A BIM Execution Plan (BEP) is a valuable and necessary part of a construction project. While working on the international collaborative project, it becomes essential to ensure that everyone, working on the project has seamless collaboration & coordination among themselves. The initial BIM Execution Level is often created on pre-contract basis, which focus on how the suppliers are intending to approach to the project and how they are planning to carry it out. Once a formal contract is done, a secondary BIM Execution Plan will be created to focus on the capabilities of the supply chain.



At CEC, we use the latest software application to transform current business processes for good. We start by reviewing the current processes. CEC is quite transparent and ensures that we can define, train and implement BIM methodologies for enhancing overall processes and workflows within the Software.



## BIM Implementation

We at CEC follow a comprehensive implementation approach beginning with the development of an internal BIM deployment. This deployment focuses on the internal resources, practices and infrastructure needed to successfully manage BIM-based project delivery. This deployment plan is tightly coupled with best practice guidelines, project start up, management checklists and execution standards that describe specific internal processes that improve the consistent adoption of BIM methods.

## BIM Project Management

We at CEC, assist building project plans with the optimum use of technology and added value to your deliverables. As BIM Solution provider, we will evaluate the project requirements, timing and complexity and provide a structured framework for your project teams. This includes:

- Creating a resource plan
- Enabling a BIM workflow between all teams involved
- Producing the technical action plan to drive the use of the technology
- Managing the risks associated to the use of BIM technology in your environment
- Providing leadership and assistance to project teams in the execution phase
- Monitoring the general progress and results of the project





## On-Site BIM PMC

Building Information Modeling is not only beneficial to architects, civil engineers and MEPF professionals but it is also useful on-site as BIM PMC (Project Management Consultancy). BIM process acts as a project management tool which integrates all trades in reality. At CEC, we work closely with main contractors, General Contractors and ensure that all other contractors are also a part of the process where they can get BIM advantage in their area of work. Implementing on-site BIM can be advantageous during Execution Phase. Additionally, on-site BIM team can be useful to optimize many aspects of construction.



- Virtual 3D model of exterior and interior views
- Project-related information such as material specs, material quantities, project schedules, costs, etc.
- 3D visualizations of the 3D models walkthrough and rendering
- BIM professional from CEC deployed on site to ensure proper BIM implementation
- Trainings & On site User support
- Provide with a high-end workstation and required software tools
- Ensure effective use of BIM Model on site
- Assist all the sub consultants to increase efficiency through BIM Output
- Daily tracking of Project and monthly construction progress report generation
- Assist Architecture in 3D Coordination of different discipline
- Incorporate on site changes to ensure sanctity of as built models