



# Reinforce your working domain with leading-edge BIM training and skills to thrive and succeed

As we move forward into a highly competitive future, individuals and professionals must reinforce their working domain with leading-edge skills to thrive and succeed. Professional or skill development is no longer a rarity, it's a potential requirement. With disruptive trends, technology, and processes taking over, honing a specialized skill-set makes it easier for you to do what is expected of you, or something that piques your interest. The construction sector on a global level is one of the fastest-growing sectors in every country for people, companies, and professionals. Furthermore, if construction enterprises need to thrive, they do require skilled professionals to build a robust platform that is capable of working on a global level.



Reinforce your working domain with leading-edge **BIM** training and skills to thrive and succeed.

**Phone** : +91-7350255855

**Visit Us** : [www.nibt.education](http://www.nibt.education)



The world of construction and infrastructure has its advantages and disadvantages. One of the most critical aspects of construction engineering is the presence of the word or phenomenon called “disaster”. Through modernized tools and processes like Building Information Modeling (BIM) and autonomous technology or automation, disaster risks can be mitigated substantially. These new improvements have changed the way AEC professionals design, analyze, and build projects.

The Current Construction Scenario.

Looking at the current population scenario, it is important to reflect on technological advancements from the AEC fraternity and provide a means to help the current population through sensitive conditions. The word “disaster” carries a myriad of meanings, which could range from human errors in building infrastructure, usage of low-quality materials, lack of skill, or natural disasters.

The lack of knowledge in people that move from a rural setup to an urban one creates inferior or substandard construction that lacks optimum structural components to withstand disasters. Understanding the word “resilience” comes from an understanding that talks about the capacity of a person, system, or thing to recover with flexibility. It is important to understand that resilient construction is not the same as sustainable construction.

New technological tools and processes use resilient tools and technology to design buildings, communities, or landscapes that respond extremely well to any kind of construction disaster. Moving from traditional workflow to a BIM or automated workflow has contributed to the resilience factor. A legacy or traditional retrofit comprises processes that include limited scalability in terms of –

### Data Compilation

Architects, engineers, and various AEC professionals are included in this process wherein a survey records all the measurements of building elements viz. floors, walls, doors, etc. This is the first data stack; the second data stack is collected and analyzed for seismic parameters.

### Data Conversion:

Vulnerability judgment – Data in terms of vulnerability includes seismic processes like earthquakes, floods, etc.

Structural study – To come up with a seismic calculation, structural engineers take into consideration the exact structural configuration of the building or project.

### 3. Documentation

This process includes the process of creating high-quality documents or document stacks that include crucial information like –

- Existing building plans
- Study of structural analysis

- Retrofit Information
- Building details
- Cost estimation or BOQ

## Construction Process

Once the construction process is complete and approved by all the parties – internal and external, the installation of elements like slabs, walls, and various other elements begins.

With this traditional retrofit method, the project experienced a myriad of bottlenecks that made the whole process inefficient and non-resilient.

- Traditional methodologies to create spreadsheets
- Absence of an integrated platform for all the stakeholders
- Manual modeling techniques to include digital models in a retrofit setting
- Manual hand-sketching techniques for a geometric survey

## BIM's contribution to disaster management

New processes like BIM integrated with modern tools and technology optimizes disaster resilience, performance, and sustainability for a construction project. BIM can be referred to as an Information and Communications Technology nerve center that facilitates the use of information at every stage of the project lifecycle.

The deployment of BIM is extremely beneficial for every project phase or lifecycle viz. design, development, FM, and demolition. The role of BIM for pre and post-disaster management can be listed as –

### Pre-Disaster Phase

The Design Phase –

- Assess design options
- Facilitate design team involvement early on in the design process
- Minimize construction waste
- Run structural performance & resilience simulations

### Design and Construction

- Adopt health and safety standards

### Construction Phase

- Use lean processes to improve onsite construction

## Post-Disaster Phase

### Evacuation & Rescue –

- Quick evacuation
- Assess or evaluate evacuee conduct or attitude
- Governing BIM data compliance
- Furnishing accurate BIM data corresponding to disaster management
- Escorting evacuees to the nearest safe locations
- Optimizing fire safety

### Recovery & Reconstruction

- Deploying 4D BIM to enhance quality management and optimize the process for change orders

Enhance new construction resilience

### Leverage new mechanization

Moving from traditional workflows to efficient ones using modern processes and technology takes construction to an all-new level. Legacy processes in construction never took into consideration the value of “data” or “information” gathering, sharing, and analysis. This is where Building Information Modeling (BIM) makes a substantial stand.

Adoption of BIM with tools or software like Revit, Navisworks, Laser Scanners, IoT, or autonomous systems boosts project efficiency, and productivity, and reduces turnaround times thereby cutting down on costs and construction waste.

Offering various skill-set training programs for professionals expands the scope of an enterprise to take-in global projects and showcases its services and solutions. There are various job roles in the construction sector that require a specialized skills-sets viz. General Laborers, Surveyors, Project Managers, Civil Engineers, Production Managers, etc.

Visit Us : <https://nibt.education/>

Contact Us : +91 73502 55855