

DP **BUILDING SERVICES & UTILITIES**

JANUARY 2020 - MARCH 2020
VOL 2 | ISSUE 3 | ₹100

ELECTRICAL &
ENERGY MANAGEMENT

PLUMBING & WASTE
MANAGEMENT

HVAC &
AUTOMATION

FIRE, SAFETY
& SECURITY

VERTICAL
TRANSPORTATION

FACILITIES
PLANNING

LIGHTING

ACOUSTICS

**EFFICIENT
ENVIRONS**
KABIR HOTEL & SPA

**GLAZING
DESIGN**
AND ITS IMPACTS ON
BUILDING SERVICES

GIS & BIM : INTEGRATION OF TWO DISRUPTIVE TECHNOLOGY

The information visualized by these two technologies have altered the ways in which projects were planned and designed by saving great amounts of time and money.

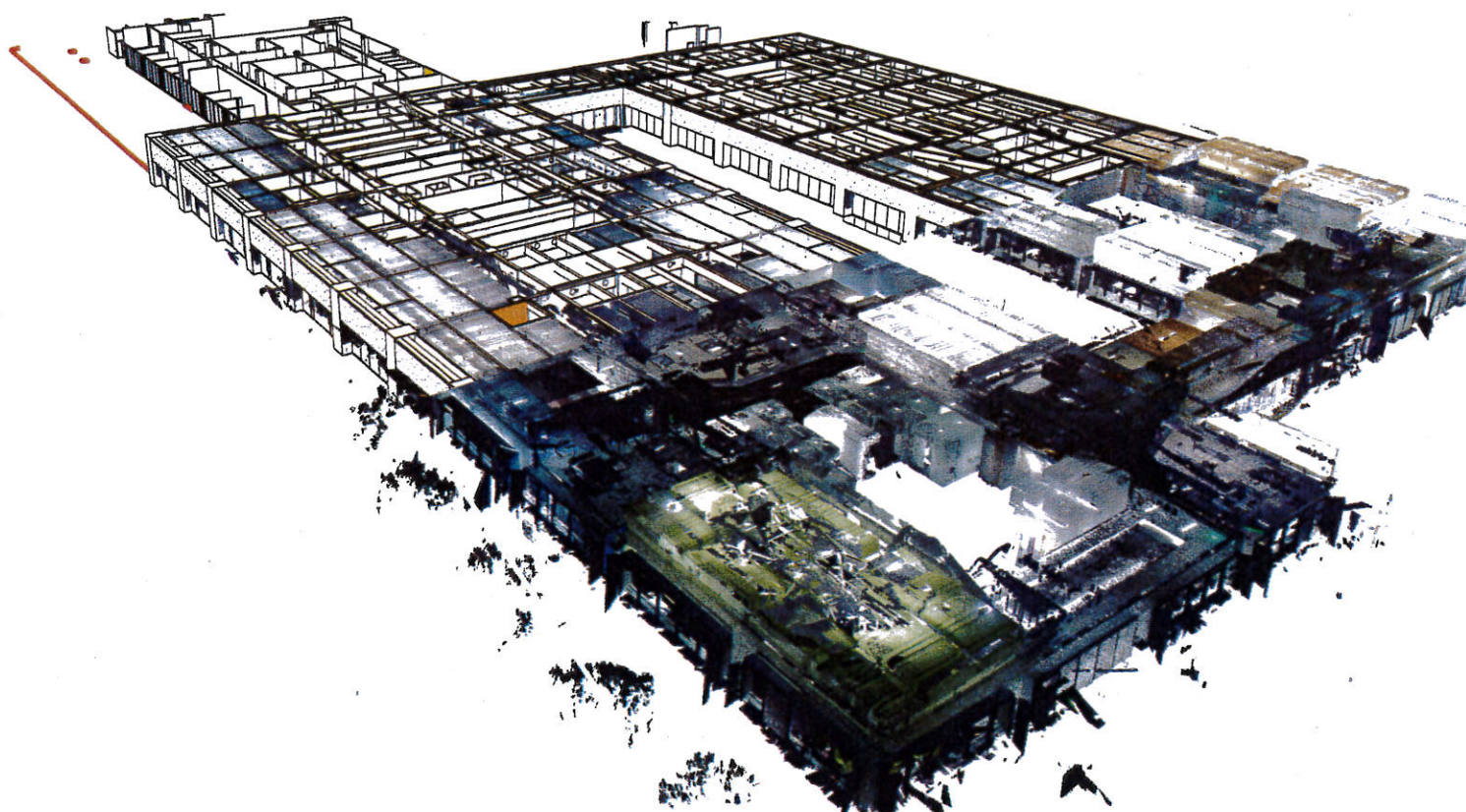
GIS (Geographical Information System) and BIM (Building Information Modelling) are two disruptive technologies that have massively impacted the way of traditional work. Both the systems have paved for innovative ways to store and analyze massive amounts of data, operating at completely distinct scales. The information visualized by these two technologies have altered the ways in which projects were planned and designed by saving great amounts of time and money.

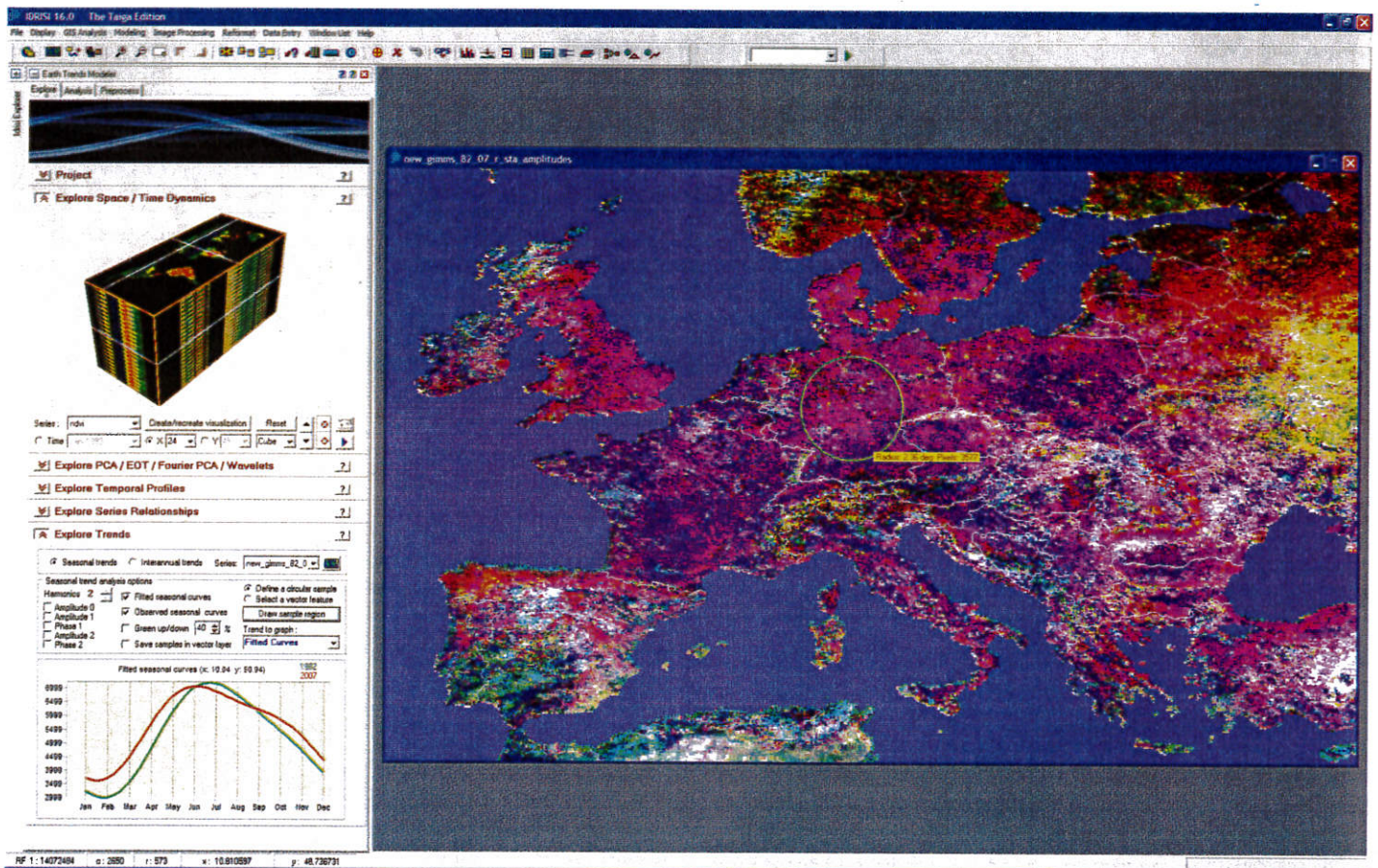


MS. SOUMYA DAS

Director - RIPL

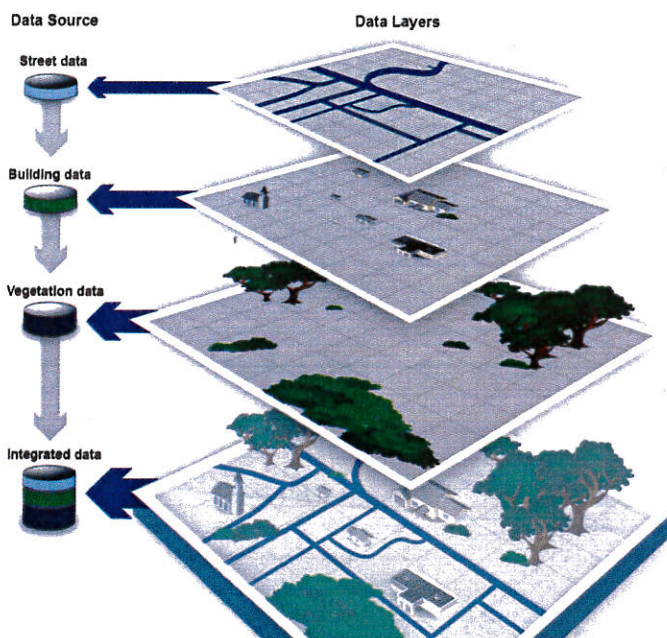
RudrabhishekInfosystem Pvt. Ltd. Having nearly completed 15 years of experience, Ms. Soumya Das is a seasoned professional in the domain of GIS, Planning and Architecture. She is an expert in handling large scale projects in infrastructure as well as real estate sectors. Application of advance technology in large scale construction projects have been her active professional interest, also handling important initiatives on the spread of BIM (Building Information Modelling) in engineering and construction industry.





The technological key word is 'Geography'

GIS is a platform made to visualize, analyze, store and edit geographical information in the map. It helps in spatial analytics, modelling and forecast. GIS can easily share information and can help designers in planning large infrastructure projects. A few decades back, this was traditionally done using paper maps and measurement tools.

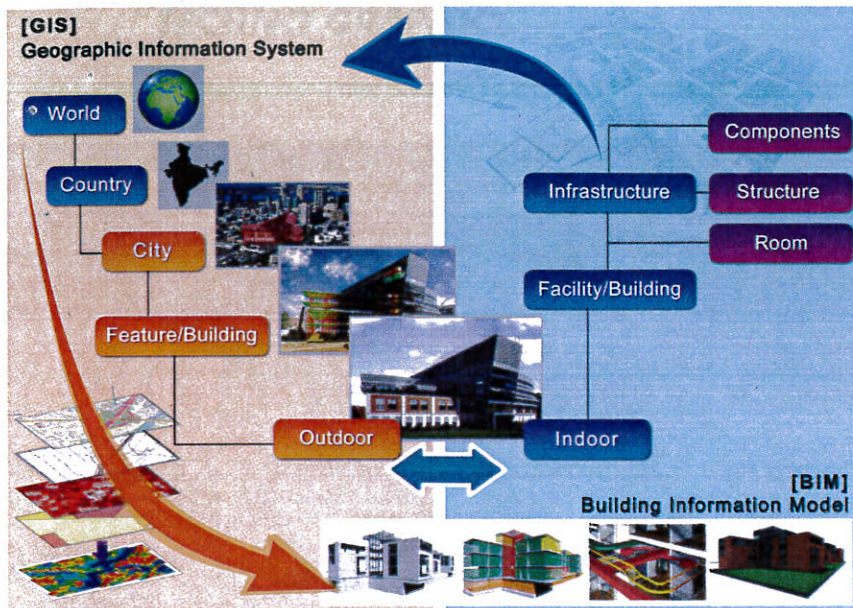


This is beyond three dimensions. . .

BIM is a software driven interface which provides the project delivery team with a 3D virtual visualization of the look and feel of the building yet to be constructed. The traditional building designs were majorly depended upon the 2D technical drawings techniques such as plans, elevation and sections, whereas this software extends beyond the third dimension. BIM is augmented in three spatial dimensions Width, Height and Depth, with Time as the fourth (4D), Cost as the fifth (5D), Estimation as the sixth (6D) and Facility Management as the seventh (7D).

Integrating both seems to be effective in giving clear analysis and data to design

BIM offers a detailed 3D visualization with huge volumes of data related to buildings that interpolates with time and money to achieve the most effective results. GIS is applicable for planning in large areas such as a city, locality or multi-site environment. It is highly customizable and well equipped for analysis outside buildings, whereas BIM is best suited for managing and designing a building in a specific shape or structure. GIS is used for planning roads, bridges, airports, rail networks and other infrastructure in context of their surroundings. BIM information is used as a key enabler for the design and construction of those structures. By the integration of GIS in BIM, a layer of geospatial context gets fused with BIM model. For example, GIS can provide insights regarding flood prone areas and thus aiding the designer with accurate



information to incorporate within the structural design of the building, orientation and even construction materials. This shows that GIS and BIM technologies are complementary to each other rather than being competitive. Integration of BIM and GIS with time information, allows project participants to better understand the impacts of decisions before, during and after the construction of a project. This integration enables users to unlock the value in diverse data sets to enable applications including citizen engagement, sustainability analysis, disaster preparedness, and much more operational and management uses. The strength of GIS is the ability to work at any scale moving between them seamlessly. It is for this reason that GIS is gaining importance in the BIM and facilities management spaces. The managers and building contractors can now have a common operating picture which delivers an appropriate level of detail based on the context. The real power of scalability comes with the ability to view data at both levels. This way, the questions can be easily answered regarding life cycle cost, carbon footprint etc.

An innovative platform that saves a lot and gives a lot

In ACE industry, critical data gets lost in between every stage from planning, designing and construction till operation. But with the GIS- BIM integration the data/information is stored in the cloud, thus minimizing the loss. Infrastructure and project stakeholders will be able to manage data from any part of the world. Overall this integration helps in providing better designs and long term savings.

Since GIS and BIM are originally used for different purposes, numerous challenges have to be faced while integration. However when a geospatial context is provided to BIM processes, it brings excellent results, better designs in construction, and saves a great deal of money. This innovative new platform will bring about a reformative change in the infrastructure and construction scenario in India. //

