

# Geospatial Information Systems for Better Information Management

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## SUMMARY

The convergence of Geographic Information Systems (GIS) and Building Information Modelling (BIM) is revolutionizing the way we address some of today's most complex challenges. This integration is creating innovative solutions that enhance efficiency, accuracy, and collaboration across various sectors. GIS, with its robust spatial data analysis capabilities, and BIM, known for its detailed 3D modelling and information management, are merging to provide a comprehensive view of both the built and natural environments. This synergy allows for more informed decision-making, improved project outcomes, and the ability to tackle issues such as urban planning, infrastructure development, and environmental sustainability more effectively. The changing landscape of GIS and BIM integration is driven by advancements in technology and the increasing demand for smarter, more sustainable solutions. Key players in this transformation include software developers, urban planners, architects, engineers, and government agencies. Companies like Esri and Autodesk are at the forefront, developing tools that facilitate the seamless integration of GIS and BIM. These tools enable professionals to visualize and analyse spatial data within the context of detailed building models, leading to more holistic and efficient project planning and execution. Examples of this convergence can be seen across various markets. In urban planning, the integration of GIS and BIM helps in creating smart cities by providing a detailed understanding of the spatial relationships and infrastructure needs. For instance, city planners can use these integrated systems to optimize traffic flow, manage utilities, and plan for future growth. In the construction industry, BIM models enriched with GIS data allow for better site analysis, risk management, and resource allocation. This leads to reduced costs, minimized delays, and enhanced safety on construction sites. Environmental management also benefits significantly from the GIS-BIM convergence. By combining spatial data with detailed building information, environmental scientists can better assess the impact of construction projects on natural habitats and develop strategies to mitigate negative effects. This integration supports sustainable development

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practices by ensuring that environmental considerations are factored into every stage of the project lifecycle. □ This presentation will show examples of where the convergence of GIS and BIM is transforming how we approach and solve some of today's most pressing problems. By leveraging the strengths of both systems, professionals across various fields can achieve more accurate, efficient, and sustainable outcomes. As technology continues to evolve, the integration of GIS and BIM will undoubtedly play a crucial role in shaping the future of urban development, construction, and environmental management. □ □ □

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