



FTTx and 5G network design and management

Bringing together data and planning tools for optimal workflows

FTTx and 5G provide high-speed, low-latency networks that power innovation in business, government and consumer experiences. From entertainment to smart cities to autonomous driving, they are enabling a digital transformation of society.

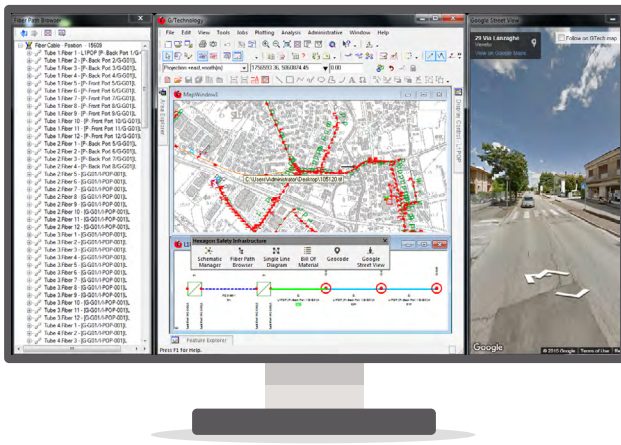
To support more and faster fiber and 5G roll out, telecommunications network operators need to solve a variety of problems, from design process standardization and information sharing to work management and cost control. They require ever more intensive collaboration between the field and back office and better insights into ongoing activities and their progress.

Simultaneously managing the vast scale of infrastructure, equipment, teams and construction sites requires an evolution of information systems to support efficient construction of the network. While a functionally capable network model that delivers accurate, current information across organizations is the right approach, conventional GIS tools lack the detail and ability to model the relationships needed to integrate with operational systems and coordinate the network's logical and physical elements.

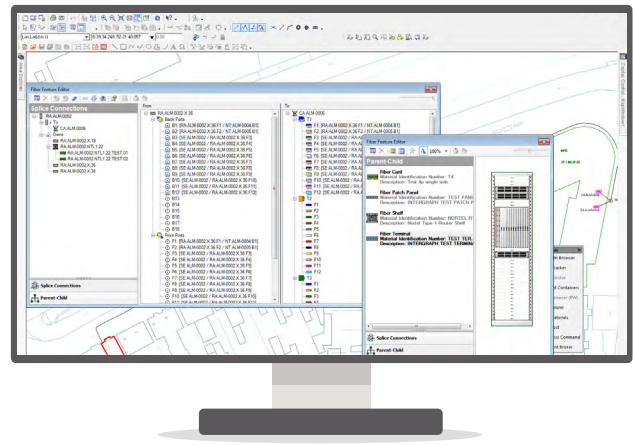
HxGN NetWorks Comms, Hexagon's advanced telecommunications GIS, solves this problem by streamlining engineering processes — from planning to maintenance — and maintaining an operations-ready network model accessible across the business. Here are six ways HxGN NetWorks Comms helps operators transform their networks through a distributed, modular and cross-platform multiuser design environment.

1. It allows users to share and follow design best practices, even when operating in large teams across the country. This ensures a high level of support for knowledge sharing and collaboration through powerful network design tools that include easy-to-understand network schematics and splice views shared between the back office and field teams.

2. It unifies network data, tools and procedures, which reduces costs, delays and lost business opportunities. Some operators manage design, construction and operations with separate software systems, using computer-aided design (CAD) applications for the physical network and supporting civil infrastructure, whereas logical network data is recorded and maintained in spreadsheets or local databases. As there is no connection between the records, engineers spend hours searching for and connecting the data when changes are required, with significant risks of errors and inconsistencies.



Comprehensive client view showing the inventory, fiber path and single line diagram

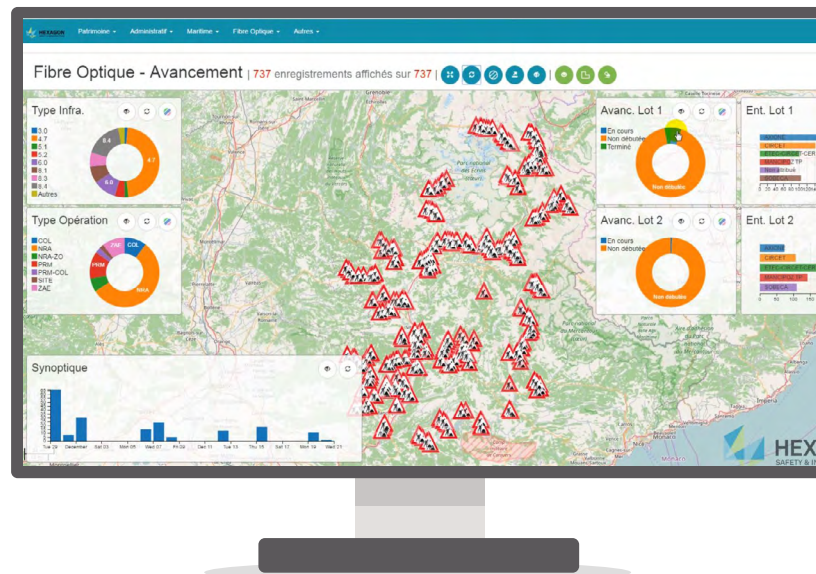


Simultaneous management of the vast scale of infrastructure, equipment, teams and construction sites

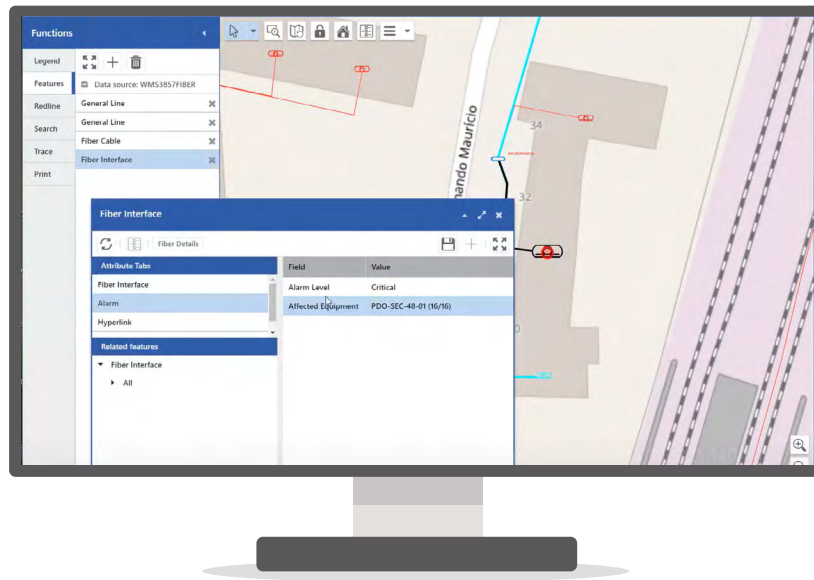
3. It helps reduce overall project time and costs by allowing teams to create and assess alternative design scenarios, compare relative costs and benefits, and determine in advance the list of materials and work necessary to construct the chosen scheme.

4. It captures data in the field through a mobile component and shares it with designers in real time, which provides increased control across the entire network development, including initial design, pre-realization technical feasibility verification and monitoring realization phases and scheduling.

5. It improves network maintenance and reduces response times to network failures — capabilities linked to reliability and customer satisfaction — by allowing users to track the network, locate the true source of the problem, identify and communicate with affected customers and help field engineers resolve the issue.



Intuitive analytical dashboard enhancing faster decisions with real-time data



Overall view of network and circuit trace to locate and identify problems in the field

6. It aids operators in addressing civil infrastructure and permit problems, both of which impact build-out time and costs. By creating a centralized electronic register related to access authorizations or rental agreements, it increases the availability of information. It also provides document management functions that make it easier to archive and search forms when monitoring contract deadlines and/or permissions.

With a wide range of solutions, experience and market share, including more than 250 customers in Europe, Hexagon is a valuable technology partner for companies designing and managing FTTx and 5G networks.

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications. Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Safety, Infrastructure & Geospatial division improves the resilience and sustainability of the world's critical services and infrastructure. Our solutions turn complex data about people, places and assets into meaningful information and capabilities for better, faster decision-making in public safety, utilities, defense, transportation and government. Learn more at [hexagon.com](https://www.hexagon.com) and follow us [@HexagonAB](https://twitter.com/HexagonAB).

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