Enabling Smart Cities by Delivering the Fiber Infrastructure Edge

Smart City Solution

Telecom Division
CHANGING WITH THE TIMES

The main catalyst of smart cities is change, change in global and urban environments as well as change in consumer thinking and lifestyles. The world in which we live is being changed by resource depletion, urban issues such as crime, issues brought about by climate change and the increase in population and its concentration in cities. Consumer purchasing habits are changing from products to services for the sake of efficiency and sustainability. In addition, advances made in information and communication technologies have changed the nature of work and study opportunities in an urban environment. A city has to accommodate these changes in order to be economically competitive, environmentally sustainable and generally livable.

Smart cities use technology to offer better civic services, maximize energy efficiency by reducing waste and greenhouse gas emissions, enhance public security, manage urban congestion and optimize overall operational efficiency.

A FUTURE-PROOF FOUNDATION

A smart city is one that is effectively interconnected via a networked infrastructure to optimize the efficiency of various services and improve sustainability. The right infrastructure will affect the way each city will be created and evolve. Powering a smart city with vital data and communication networks is beyond the capabilities of the old copper network which was built for voice calls. With the world’s data expected to grow over 50 times by 2020 according to the latest research by IDC, smart cities will need the capacity to handle such volumes seamlessly.

Ultimately smart cities will require national fiber optic networks. There simply is no other technology that can handle the capacity of data and applications that will be needed to run the cities and countries from today onwards. This infrastructure needs to be robust. It has to have enormous capacity. It needs to be secure and to be able to protect privacy. There is simply no other infrastructure technology that is up to that job. Optic fiber, together with the fast-evolving speeds of local wireless networks (which also in turn need optical fiber to function) is the only long-term option for this task.

At MER, we enable smart cities by delivering robust, turn-key solutions for fiber optic infrastructure projects.

MER SMART CITY Infrastructure Solution

At MER Telecom we offer turn-key solutions for fiber optic infrastructure projects. With an in-house planning group with extensive engineering experience to adapt solutions to customer requirements, MER Telecom is able to implement complex large-scale projects that cover nation-wide installations. Our vast experience in fiber optic infrastructure projects spans tens of thousands of kilometers across the globe.

State-of-the-art Equipment

The infrastructure solution includes a range of state-of-the-art transmission and receiving equipment (voice, video and data) for security/surveillance, broadcast networks, and ITS (Intelligent Transportation Systems). Passive equipment includes patch cables, optical couplers, WDM, fiber optic cabling with low insertion loss and high isolation.

Field Equipment and Testing

As part of the installation and testing process, MER uses advanced field equipment, which includes splicing vehicles and dedicated tents, blowing machine for fiber cables, power meters, DWDM optical spectrum analyzers. Our in-house engineering team uses advanced equipment and methodologies to ensure optimal link lengths, splices insertion loss, fibers insertion loss and return loss.
Project Implementation Process
MER's turnkey approach covers the entire lifecycle of the project including the post implementation maintenance and upgrade services.

- Planning and marking FO route
- Trenching
- Blowing fiber optic cables
- Fibers splicing
- Installation of communication equipment
- Quality tests
- Documentation

The fiber optic networks deployed by MER transport the communications of the existing systems, such as surveillance cameras, control systems, and more. MER is also the provider of smart devices and software solutions for Smart City services.

VALUE ADDED SMART SERVICES

- **City administration**: streamline management and deliver new services in an efficient way
- **Education**: increase access, improve quality, and reduce costs
- **Healthcare**: increase availability, provide more rapid, accurate diagnosis, provide wellness and preventive care, and become more cost-effective
- **Public safety**: use real-time information to anticipate and respond rapidly to emergencies and threats
- **Real estate**: reduce operating costs, use energy more efficiently, increase value, and improve occupancy rates
- **Transportation**: reduce traffic congestion while encouraging the use of public transportation by improving the customer experience and making travel more efficient, secure, and safe
- **Utilities**: manage outages, control costs, and deliver only as much energy or water as is required while reducing waste
KEY BENEFITS

City councils everywhere are facing numerous growth challenges. To revitalize their economies and attract both residents and businesses, a city must implement a high-speed broadband network fiber infrastructure as access to advanced communications services is a number one selling point.

Benefits for the Municipality

• Improving competitiveness (attract businesses and people to the area)
• Financing and facilitating infrastructures capable of surviving any short term directional electoral changes or other critical incidents
• Lowering OPEX by making working processes more efficient
  - Reduce communication costs within and between municipal department
  - Eliminate unnecessary and cost inhibitive digging for communication
• Increasing public security using video surveillance in public areas
• Real time information of public traffic, parking availability and traffic upheaval due to road works
• Making the city attractive for people to live in

Benefits for the Residents/Businesses

• Shorter travel time
• Real time traffic information
• Fast reaction times to relieve traffic delays
• Increased security
• Reduction in pollution
• 24/7 public service desk
• Fast access to all cloud services

About Mer Group

Established in 1948, the MER Group maintains a diversified portfolio of over a dozen subsidiaries focusing on three main sectors – telecom, security and cleantech – while investing in other areas including satellite communications, biotechnology and materials science. Publicly traded (TASE: CMER) since 1992, MER Group has a substantial global footprint with approximately 40 offices around the world employing close to 1400 people. For more information visit www.mer-group.com

Mer Group, 5 Hatzoref St, Holon, Israel, Tel. +972-3-557-2555, info@mer-group.com

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