Telensa
making brighter cities

Connected lighting for smarter cities

How smart streetlights create environmental, economic and social benefits for communities and their citizens

Making a difference

Save energy

The smart choice for street lighting

Smart street lighting solutions from Telensa help cities, utilities and local government organisations around the world to reduce their energy consumption and carbon emissions. Telensa supports cities as they strive for greener, more liveable and safer neighbourhoods for all.

Adding wireless remote control to street, roadway and area lighting makes financial sense, whether it's done as part of a switch to LED or as a retrofit project to existing fixtures.

Smart streetlights save energy by only using the precise amount of light needed and by accurately measuring every watt used.

A connected streetlight system cuts maintenance costs with real-time fault monitoring and uses detailed operational intelligence to improve day-to-day effectiveness and planning.

Smart streetlights create environmental, economic and social benefits for communities and their citizens and are a fast-track technology for reaching net zero.

The case for wireless controls

Cities and power companies across the world are investing heavily to install cleaner, more reliable LED street lighting. Adding wireless controls completes the potential of LED, increasing energy savings by up to 30% and cutting maintenance costs with automatic fault alerts and self-diagnosis.

Controls also provide accurate energy metering and service level statistics for auditing LED investment performance.

Smart streetlights save energy, improve service levels and make lighting more responsive to citizen need. Central control transforms streetlight assets into the connected foundation for other smart city sensor applications.

Most of all, controls enable lighting to adapt to the needs of the city, both in real-time and over the long term.

A closer look at adaptive control

Save energy

By taking minute-by-minute control of the light output of every fixture, major energy savings can be made. This is achieved by varying light output during the night, by making on/off times more precise, and by adjusting power to deliver a constant light output that adapts both to cleaning regimes and to the natural degradation of LEDs and conventional lamps over time.
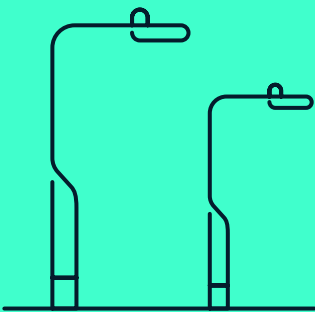
Streamline asset management

Authorities often lack accurate streetlight inventories causing problems with customer billing and in scheduling maintenance. The process of installing GPS-enabled controls during an LED upgrade provides an opportunity to build such an asset inventory with new lights automatically declaring themselves in the central management system.

Revenue-grade metering

Smart controls on streetlights work as part of a system to improve billing accuracy and to support revenue-grade metering and billing. Smart metering capabilities within the system can be used to move away from estimated bills, to check their accuracy and to measure the impact of energy saving initiatives.

Reduce maintenance costs

Having a real-time graphical view of the status of every streetlight asset in the city removes the need for costly night maintenance patrols. Harnessing this central intelligence also ensures that maintenance teams are only on site when really needed, and analytics tools enable fixture lifecycles to be anticipated and planned for.

Flexible control

Smart controls transform streetlights into a dynamic asset. Lights can be grouped by zone or by the type of activity they support so that residential areas, major highways, industrial zones or areas of high crime can all be lit differently. Changes can be made on-the-fly.

Improve citizen well-being and security

Street and area lighting is an emotive issue. For every community concerned about light pollution there is another where fear of crime is the main issue. The fact is that community and business needs are diverse, locally specific and they vary over time. Wireless remote control allows the lighting experience to be precisely tailored, to evolve over time, and to be directly changed when events dictate.

Welcome to Telensa

Proven all over the world, Telensa's smart streetlight control system has a footprint of over two million lights and is in active use by cities, municipalities, utilities, ports, airports, retail parks and at campus deployments.

Combining rich functionality, scale and flexibility, Telensa PLANet® is an end-to-end intelligent street lighting system, consisting of wireless nodes connecting individual lights via a wireless network and a central management system.
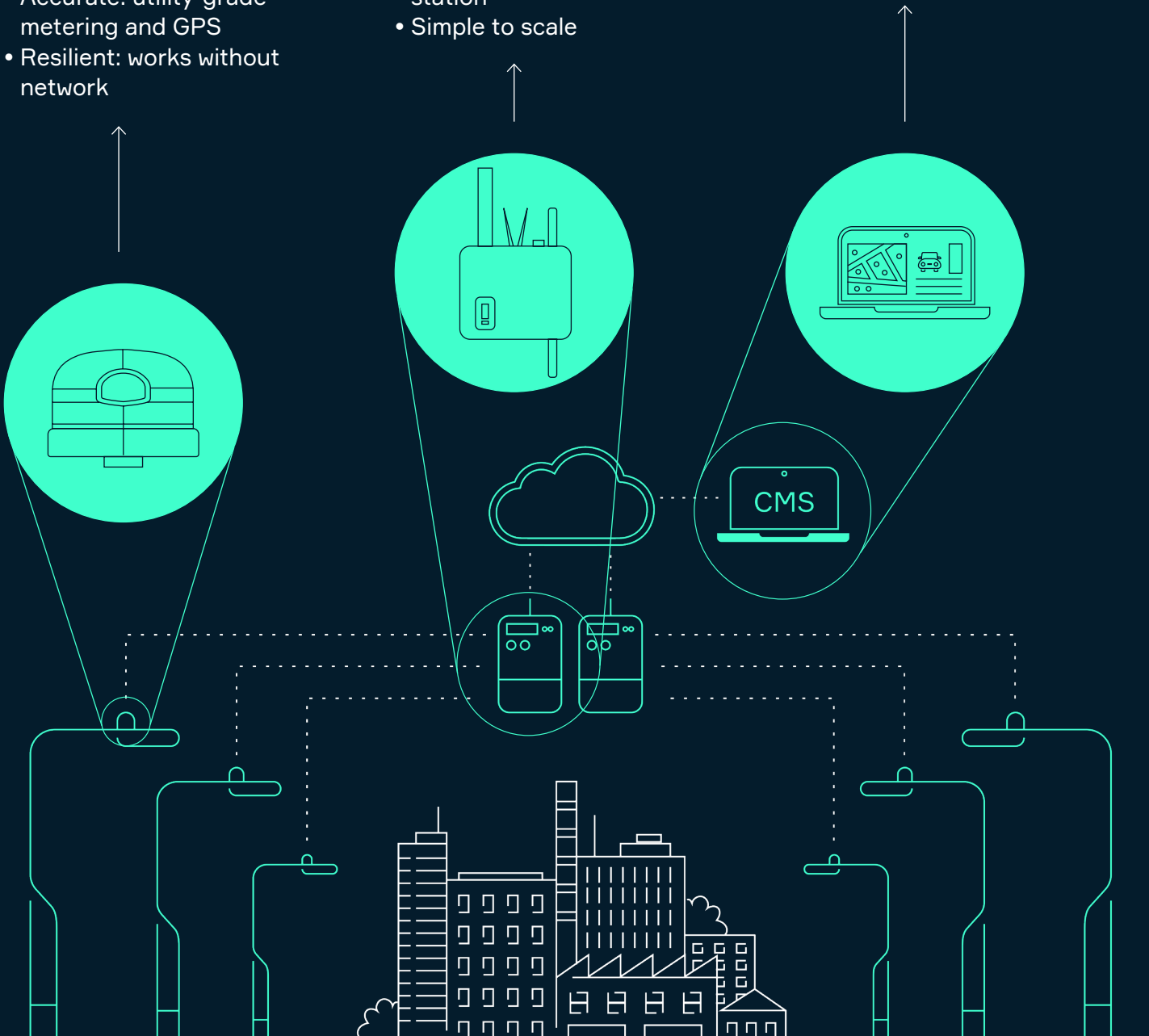
Control node
- Discreet: size of a regular photocell; no visible antenna
- Flexible: NEMA, internal & decorative; all variants fixture independent
- Accurate: utility-grade metering and GPS
- Resilient: works without network

Smart network
- Long range radio up to 10 miles/16 km
- No ongoing connectivity costs
- Fast and easy deployment
- Capacity 5,000 telecells/base station
- Simple to scale

Central management system
- Cloud-hosted secure system
- Complete control & map view
- Scales to millions of telecells
- Integrates with other systems and devices

CMS

A complete technology solution

3rd party control nodes
PLANet orchestrates entire streetlight deployments from more than one vendor. Proven at scale in the field, this native interoperability gives customers vendor independence and avoids supplier lock-in

Outlying streetlights via cellular
Telensa enables customers to mix lowest cost with widest flexibility in a single smart streetlight system. Small numbers of remotely located streetlights may not justify the installation of an additional base station. Instead, the node can be connected to PLANet via a cellular network. This hybrid network approach presents to the customer via a single dashboard so it can be managed as one
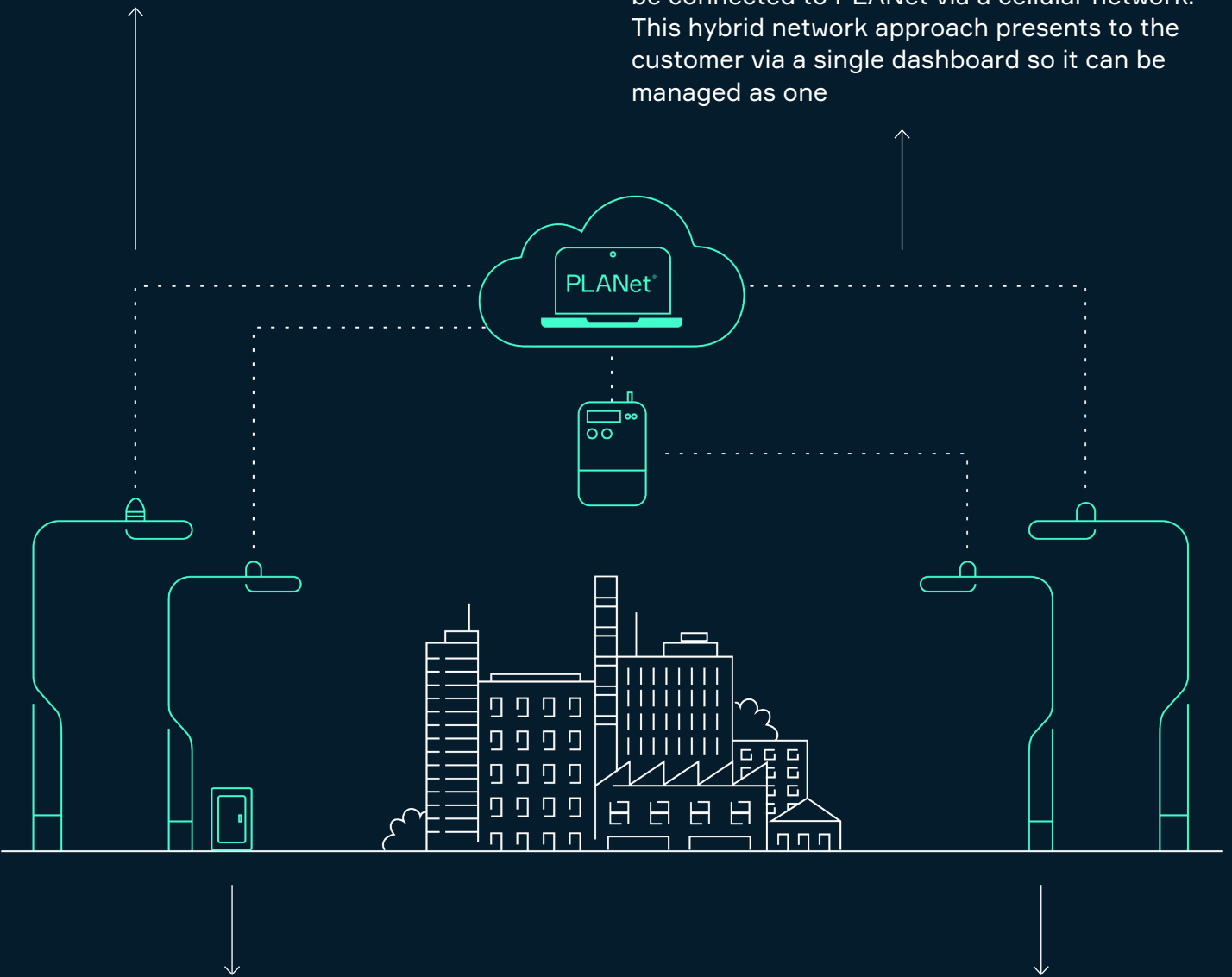
Cabinet solution
Telensa has a smart connectivity solution for those customers that use a mix of cabinet (group) and individually switched mechanisms to operate their streetlights. The dual smart streetlighting solution gives customers a single UI to seamlessly operate the entire network

Light control via UNB
Purpose built for connected streetlight solutions, Ultra Narrow Band provides a long-range star radio network. Capable of supporting up to 5,000 lights per base station, relay options provide extensive coverage and network resiliency. Unlicensed spectrum is readily available and inexpensive to deploy. Dense coverage means additional streetlights can be added easily at any time

Creating additional value from the smart infrastructure

UniConnect
Telensa UniConnect combines APIs, TALQ certification and interoperable interfaces to create bespoke smart streetlight solutions where technology is on your side

- Open interfaces that are pre-integrated with the day-to-day systems in use by lighting managers such as workflow, asset management and building management systems

- Open interfaces which provide customers the ability to mix different network technologies on the same CMS system

- Open interfaces to enable advanced smart city features and future smart city integration such as traffic adaptive lighting and air quality monitoring

- TALQ CMS interfaces which mean PLANet manages and controls not only Telensa control nodes but also control nodes from other third-party vendors
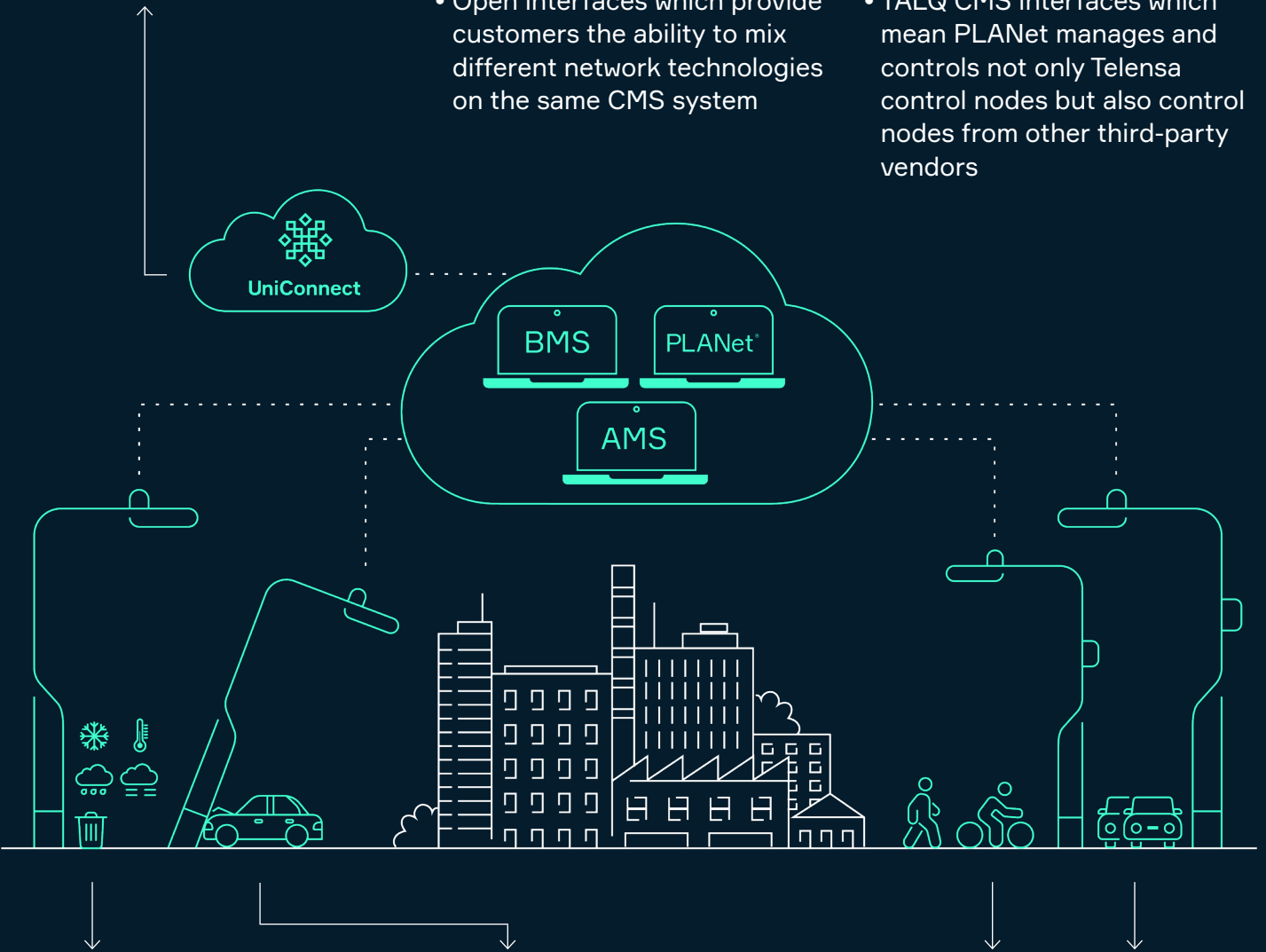
Data driven lighting
PLANet works in harmony with other data feeds dynamically optimising ambient light levels based on a range of environmental factors. Weather or air quality sensors could be used to make streetlight adjustments when it is raining, when it's foggy or when air pollution is high

Impact sensing
Automatic alerts warn when lamp columns get dislodged from storms or accidents. The tilt function also provides motion analysis over time for predictive maintenance purposes

Traffic Adaptive Lighting
A 'presence detection' feature uses cars, pedestrians and cyclists to control ambient light levels. Lights are dynamically adjusted based on the data fed into PLANet from these sensors

Telensa has deployed millions of control nodes for more than 100 customers across the world including Georgia Power in North America, Suffolk County Council in the UK, Wellington in New Zealand, Uberlandia in Brazil and for the 2020 Expo in Dubai

Millions of control nodes

Telensa for municipalities

Essex County Council has one of the largest streetlight central management systems in the world helping the council to control its street lighting more efficiently.

"Essex will make savings every year as the remaining non-LED streetlights get upgraded to LEDs with smart controls. We know from experience that they will save on average around 60% energy usage, so reducing costs and saving thousands of tons of carbon emissions involved in generating electricity. The new programmable LED lights will be controlled and monitored by the Telensa central management system, PLANet, and via Telensa's next-generation of smart controls."

Councillor Lee Scott,
Essex County Council's Cabinet Member for
Highways Maintenance and Sustainable Transport

Telensa for energy companies

In some jurisdictions streetlights are under utility ownership. Energy companies recognize the benefits of deploying LEDs with smart controls.

PLANet helps to:

- Reduce the overheads associated with streetlight operations and maintenance
- Build and maintain an up-to-date streetlight asset database
- Improve the accuracy of customer billing
- Introduce tariffs based on energy consumption or time-of-use
- Monetise additional services based on the new infrastructure

Telensa's customer, Georgia Power, is one of the pioneers in street lighting services in North America

Telensa for area lighting

Telensa provides smart outdoor lighting solutions to airports, retail parks, exhibition hall estates, open air carparks, campuses and sea ports. PLANet provides the flexibility to light different zones with different lighting policies via a click of a mouse

"The Telensa facility has proved invaluable during the last 18 months where cargo volumes have fluctuated due to supply chain variability. We have been able to light individual zones, adapting the lighting in line with the type and level of activity taking place, and make substantial energy savings of 15% by controlling the light output of compounds based on usage."

Andy Robertson,
Associated British Ports Southampton
Electrical Engineering Team

We're on your side

Safe pair of hands

Telensa supports well over one hundred connected lighting networks throughout the world from smaller deployments of 1500 light points to our largest project of more than 400,000 nodes. End-to-end project management and professional services combine to oversee installation and commissioning and deliver projects on time.

World-class network operations and a dedicated team of customer support professionals identify issues before they arise. Available 24/7, the team is vastly experienced for rapid resolution. They also proactively monitor the system for unusual activity to provide a first warning to customers.

Customer-first solutions

Our 'hybrid network' approach is about putting the customer first. As part of Signify, Telensa has a complete connectivity solution with a comprehensive portfolio of private radio and cellular technologies. Customers benefit from our hybrid network approach which puts the customer's unique environment at the heart of network design.

Not constrained by technology choice, our smart streetlight network deployments are customised around the specific needs of each deployment and include a bespoke network design every time.

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Telensa is a Signify company that works autonomously and sell its systems and services under its own brand name.

Learn more about Telensa:
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