



Fibre Based Integrations and Cepton Undertake Smart City Projects to Address Traffic Challenges in Cape Town

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Lidar-enabled vehicle detection systems provide data-rich traffic analytics through a network of smart intersections

SAN JOSE, Calif.--(BUSINESS WIRE)--Mar. 1, 2022-- Silicon Valley-based smart lidar solution provider Cepton, Inc. (Nasdaq: CPTN) ("Cepton") and [Fibre Based Integrations](#), an established fiber optics systems house, are working together to develop lidar-based vehicle detection solutions in Cape Town, South Africa, to enable smart transportation infrastructure city-wide.

This joint effort combines Fibre Based Integrations' expertise in optics system integration and Cepton's [innovative lidar technologies](#) to help the City of Cape Town monitor lane usage and identify vehicles using incorrect lanes. Fibre Based Integrations has deployed vehicle classification systems on traffic lights at intersections and overhead devices that utilize Cepton's [Helius® Smart Lidar System](#) with [Vista®-P lidar sensors](#).

Many of Cape Town's roads have designated bus lanes to ensure the efficiency of public transportation, and Fibre Based Integrations' lidar-enabled systems will allow the city technology department to gather highly accurate, real-time lane usage data to enable analytics that help identify ways to improve traffic flow and safety for motorists and pedestrians.

By utilizing lidar's outstanding perception capabilities, the systems can provide useful information such as vehicle size, traffic volume, frequency, lane positioning and potential obstructions. Based on this information, system operators can gain valuable insight about how a specific intersection or piece of road is being used – including unauthorized vehicle types in designated bus lanes, peak traffic time windows, real-time lane occupancy status, wait time at traffic lights and accident-prone areas.

Josh Goosen, System Engineer at Fibre Based Integrations, said: "The reason we chose to deploy lidars in our vehicle detection and classification systems is their superior accuracy. We have previously tested radars and some other types of sensors, and we found that they lack the resolution needed to accurately locate and count vehicles and provide accurate 3D information about their sizes and speeds.

We found Cepton lidars to be the best performing and most accurate compared with others we tested, and this has unlocked new possibilities for implementing our smart city solutions with the City of Cape Town."

Lidar technology has come to play an increasingly important role in the smart cities sector. It brings a higher level of accuracy and efficiency to existing sensor technologies to help the overall system eliminate detection errors. Lidars offer a much higher spatial resolution than radars, and perform better than cameras in various weather and lighting conditions to provide high-accuracy data 24/7. Lidars also help protect people's privacy as [they do not capture biometric information](#), making them suitable in venues where cameras might raise privacy concerns. The addition of lidars to smart city applications helps effectively reduce false negatives and false positives, while making systems more data efficient.

Cepton's lidars use a patented imaging technology called [Micro Motion Technology \(MMT®\)](#) to help system integrators maximize the benefit of the lidar technology. The rotation-free, mirrorless and frictionless MMT design makes Cepton lidars reliable, rugged and compact, which in turn offers ease of integration and affordability for scalable applications.

In the solutions deployed by Fibre Based Integrations, Cepton's Vista-P lidar sensors are interconnected through the Helius perception software, creating a network of smart lidar sensors to offer real-time detection, tracking and classification of vehicles and pedestrians. This enables extendable smart transportation infrastructure that collects and analyzes traffic data from different locations, while helping optimize its overall bandwidth allocation, as lidars output only a fragment of the data volume output from video camera-based alternatives.

Fibre Based Integrations and City of Cape Town are also exploring using Cepton's lidars to augment the city's analog and video systems with an additional layer of functionality and performance. The aim is to blend human and vehicle classification, enabled by lidar, with an AI platform to understand how both interact with the city environment. This will help collect useful information for traffic management and urban planning through machine learning, while minimizing disruption to people's daily lives.

Klaus Wagner, Director of Product Management and Marketing at Cepton, added: "If our cities are to become smarter, then plug and play solutions like the ones we have created with Fibre Based Integrations must play a vital role in helping them do so.

Lidar has the ability to make people's everyday lives easier even without them being fully aware of it, and that is what makes smart transport systems so intelligent. We look forward to continuing our work with Fibre Based Integrations in our effort to make Cape Town and other cities in South Africa safer. We also believe that by enabling a higher level of traffic efficiency, we can help cities build a greener environment."

About Cepton, Inc.

Cepton is a Silicon Valley innovator of lidar-based solutions for [automotive](#) (ADAS/AV), [smart cities](#), [smart spaces](#) and smart industrial applications. With its patented Micro Motion Technology (MMT®), Cepton aims to take lidar mainstream and achieve its vision of safe and autonomous transportation for everyone.

Cepton has been awarded the largest known ADAS lidar series production award in the industry to date, based on the number of vehicle models awarded, to support General Motors' Ultra Cruise program. Cepton is also engaged with all other Top 10 global OEMs.

Founded in 2016 and led by industry veterans with decades of collective experience across a wide range of advanced lidar and imaging technologies, Cepton is focused on the mass market commercialization of high performance, high quality lidar solutions. Cepton is headquartered in San Jose, CA and has a center of excellence facility in Troy, MI to provide local support to the OEM and Tier 1-studded Metro Detroit area. Cepton also has a

presence in Germany, Canada, Japan, India and China to serve a fast-growing global customer base. For more information, visit www.cepton.com and follow Cepton on [Twitter](#) and [LinkedIn](#).

About Fibre Based Integrations

Fibre Based Integrations is an established fibre optic systems house serving major project houses and end users in the Telecommunications, CCTV, Process and Datacomms industry.

Our success in attracting business from our customers is as a result of our commitment to supply a total turnkey solution and to maintain a general quality standard that permeates all aspects of the project, from documentation to all the components and the optical line terminating equipment used.

As a result of years of experience gained in the field of fibre installation and integration, our highly skilled installation staff is the foundation on which the company is built. To enable Fibre Based Integrations to work to the most exacting standards, the installation teams are backed by the latest state of the art fusion splicing machines, OTDR testing equipment and installation equipment. All commissioning activities are conducted to fully documented procedures, which form an intrinsic part of the final hand-over.

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