5.9 GHz POTENTIAL UNLEASHED BY FCC

The ITS sector has welcomed the US Federal Communications Commission (FCC) decision to grant a joint waiver request to deploy cellular Vehicle to Everything (C-V2X) technology in the upper 20 MHz part of the 5.9 GHz band.

Various car manufacturers, US departments of transportation and ITS tech companies signed the request, and now it will be easier for them to deploy C-V2X, which allows vehicles to communicate with one another and with road infrastructure.

ITS America has long called for its widespread introduction as a way of reducing the 40,000 or so deaths each year on US roads. "All of our good technology is only going to be useful if we can deploy it," says ITS America president and CEO Laura Chace (pictured).

The FCC decision "gives us new momentum".

Brad Stertz (above, left), Audi government affairs director, commented: "It's been a journey of decades." The FCC waiver "gives us a great deal of flexibility – we're eager to get started," he added.

Blaine Leonard (above, right), transportation technology engineer at Utah DOT, says: "We've been waiting for 20 years: this is a beginning – not the beginning – but a beginning. We need to move forward together to deploy this tech."

There has been a 'chicken-and-egg' aspect to C-V2X deployment, with vehicle manufacturers and infrastructure operators both waiting for each other to some extent. Jim Misener, Qualcomm global V2X ecosystem lead, says:

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Steve Sandbo of Vance Street Capital with the management team from Synapse

SYNAPSE ITS SPARKS URBAN MOBILITY INNOVATION

Urban mobility is changing – fast. Electrification is surging, automated vehicles are hitting the streets, and micromobility is suddenly everywhere.

While vehicles are an easy focal point of the transformation, the fact is they're only part of it. The other, just as critical, part is the transportation infrastructure these vehicles - and people - connect to.

That's the focus of Synapse ITS, a comprehensive new transportation technology platform from private equity firm Vance Street Capital, conceived to spark innovation and help cities actualise the vast benefits of data, connectivity, and enhanced safety.

Uniting the industry-leading brands Eberle Design Incorporated (EDI), Polara Enterprises, Carmanah Technologies and Diablo Controls, Synapse ITS leverages the expertise and pioneering spirit of each business to deliver high-performance systems that are both technologically advanced and simple to install and use.

From intersections to highways, crosswalks to parking areas, Synapse brands have a decades-long reputation for setting the standard by which others are measured.

Now, as apps, software and connectivity open the door to new possibilities, Synapse ITS is once again leading the way with new physical and digital tools that help agencies increase safety, optimise resources and meet Vision Zero goals. To see what's next in transportation technology, visit Polara (Booth 400) and EDI (Booth 1200).

▶ **Booth 1200**
www.synapse-its.com

5.9 GHz POTENTIAL UNLEASHED BY FCC

Continued from cover ❯❯

"Think about it as a virtuous circle. Both sides have to complete their part of the circle. But this [decision] allows this to happen."

The Infrastructure Investment and Jobs Act has also made significant money available for agencies to invest in innovation.

"There is a historic amount of funding potentially available for this too. So it comes at a very good juncture for the FCC - not only to be a champion, but also to precipitate change themselves," Misener adds.

Bryan Mulligan, president at Applied Information, says,

"The industry has said C-V2X is ready to deploy. Now it is time to deploy."

Andres Castrillon, director, government affairs at Qualcomm, told Daily News, "It marks a real turning point in the industry's effort to utilise connected vehicle technology

to reverse the rising fatalities on our roadways. We've got a really serious public health crisis on our roadways. Technology can help. This is the first step in doing so. This is a really important milestone on the road towards broad scale deployment, coast to coast."

DENSO SHARES CONNECTED SERVICES VISION

Shinnosuke Tanaka of Denso

From blockchain to V2X, Denso is here with demonstrations showing how it supports a connected world for cleaner, safer, and more efficient mobility.

For instance, one demonstration will outline how Denso is using blockchain technology and advanced QR codes to increase the carbon footprint traceability of vehicle batteries. This helps build trust and reliability in supply chains and contributes to greater sustainability as electric vehicles proliferate.

Another demo, run by Denso Products and Services Americas, the company's aftermarket unit, showcases how the company's V2X on-board unit and road-side unit products can help address an array of mobility issues. These range from traffic congestion to pedestrian safety, collision avoidance, emergency vehicle prioritisation and more.

"Denso has two great causes: Green - achieving carbon neutrality by 2035, and Peace of Mind - creating a safe and seamless world for all," said Roger Berg, VP of North America R&D at Denso. "ITS America Conference & Expo is a great opportunity to not only share how we're implementing connected technology to meet these goals, but also to meet potential partners with similar priorities who can help accelerate our journey."

▶ **Booth 1416**
www.denso.com

Flow Labs finds the funds

If success is defined by demand, Flow Labs says the company is on its way. The "find issues, fix problems, fund projects" company has three speaking slots throughout the week at the ITS America Congress & Expo. It will also unveil a low-cost pedestrian safety module in the Education Theatre on Wednesday.

Flow Labs' hardware-free AI platform analyses, monitors and optimises traffic flow at an intersection or across a city in seconds. Flow Labs says it reduces crash risk by 51%, travel times by 24%, and emissions by 21%.

Importantly, the reductions are data driven because Flow Labs says it has the best signal, sensor and connected vehicle data transportation. The platform collects 10 times the data of detectors, is 94% accurate and costs 1/300th the price of traditional solutions.

The company's platform captures intersection data and identifies dangerous and inefficient intersections, generating timing plans to reduce crashes, build efficiency and lower emissions.

The "fund" part of Flow Labs' mantra "find, fix, fund" is particularly important because the company says it knows where the grants are and it can help its customers find ways to pay for the service.

▶ **Booth 1617**
www.flowlabs.ai

Tampa chooses One.network for real-time info solutions

Tampa Hillsborough Expressway Authority (THEA) has chosen One.network to provide the agency with traffic management, work zone notification and construction planning software solutions. The collaboration will provide Tampa and Hillsborough County residents with real-time information on work zones, planned events and road disruptions.

THEA is one of only 10 organisations designated a connected and autonomous vehicle test bed by the US Department of Transportation (USDOT), and will deploy the One.network platform in two phases to address a number of scenarios.

The initial phase will provide immediate benefits from modules including One.network's traffic management platform, a real-time digital mapping solution and Live Link. It allows authorised workers to update lane closures and schedules right from the work zone.

In phase two, THEA will deploy Plan Share, allowing construction firms to streamline and simplify the permitting process, explained James Harris, One.network's founder and CEO.

THEA manages the Selmon Expressway in Tampa. But because one.network is already ingesting data from the city of Tampa and Hillsborough County, the project will provide residents with continuous regional information streams across jurisdictions. According to One.network, the agency was looking for a holistic solution, and this agreement delivers on its goal to constantly improve its connected vehicle and communications strategies as new technologies emerge.

As part of the agreement, One.network will build a Work Zone Data Exchange (WZDx) feed for THEA and deliver work zone data to the Federal Highway Administration's national repository of work zone data. It will be shared with other agencies and third parties across the nation. Florida Department of Transportation's (FDOT) state-wide Lane Closure Notification System is already powered by One.network's Live Link software, providing GPS companies with real-time work zone data throughout the state.

Traffic management software from One.network displays real-time work zone, planned event and incident information on an intuitive digital map. The company said that Live Link is a first of its kind programme that allows work zone crews to close lanes right from the roadway, sharing that data with GPS providers including Google, Waze and other companies in their native formats. Plan Share provides road construction firms and utilities with a comprehensive yet simple platform to plan and permit road construction projects.
▶ **Booth 1321**
https://us.one.network/

Iouri Nemirovski
of Yunex

YUNEX TRAFFIC GOES "BACK TO THE FUTURE"
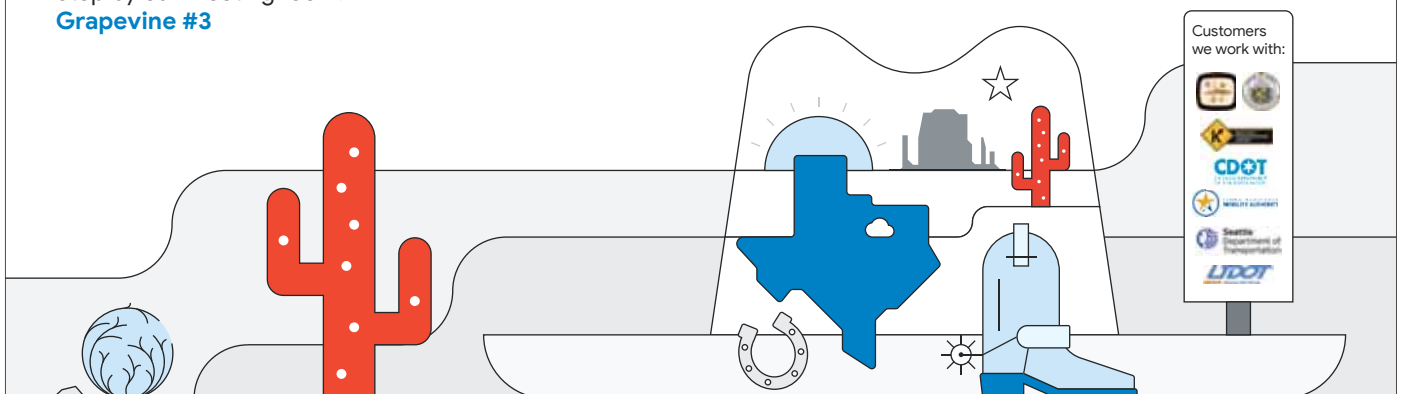
Yunex Traffic has chosen the ITS America Conference & Expo for the launch of its Yutraffic Blade Advanced Traffic Controller Platform for the US market. This next-generation controller platform is capable of easily and efficiently managing traffic with the highest level of security.

Like the iconic Delorean '*Back to the Future*' car, the new Yutraffic Blade controller is ready for the future of traffic control. It's dual-core processor and powerful engine allows for the controller to expand and manage traffic control applications of today and those that haven't even been developed. It is powerful enough to run multiple advanced solutions and advanced enough to grow and expand with technology.

Its scalable architecture and powerful computing engine simplify complex intersection management and consolidates traffic solutions into a single platform, allowing the system to grow and expand as future technologies are adopted.

The device features a 7" colour touchscreen monitor, hot swappable dual power supplies and customisable analytics stored directly on the controller.

Among its capabilities, the Yutraffic Blade can manage C-V2X technologies and applications such as pedestrian and wrong-way detection, provide travel time and origin and destination data, using its WiFi capability. Yunex says that it is the only controller on the market that arms traffic engineers with historical intersection data and advanced analytics. They can optimse timing plans without the need for expensive third-party reporting solutions.
▶ **Booth 601**
www.yunextraffic.com

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Toshya Leonard of Cubic

CUBIC HDR ENHANCES GRIDSMART CAMERAS

Cubic Transportation Systems (CTS) is in Grapevine to showcase the latest improvements to its Gridsmart cameras product line that allow traffic professionals to detect and track vehicles and pedestrians with more clarity than ever.

Higher-quality imaging and image stabilisation give traffic agencies better insight into roadway and intersection conditions. Built with durability, the enhanced cameras provide all road users with a safer and more efficient intersection experience.

"While it's exciting to be leading new applications of technology and AI, Cubic always remembers that transportation is about people - people moving safely, freely and efficiently," said Jeff Price, VP and general manager, Cubic ITS.

"These third-generation cameras have capabilities that improve image quality in challenging conditions, empowering traffic agencies with an improved product for road safety."

The enhanced Gridsmart cameras continue the evolution of Cubic's ITS portfolio of congestion management solutions. The FE3 is an enhancement of the Gridsmart iconic fisheye camera and now includes multi-exposure high dynamic range (HDR) technology that improves image quality in challenging, variable lighting conditions. For advanced detection, the AC3 camera delivers state-of-the-art image stabilisation, improving range and accuracy even in high winds.

Visitors will recognise the iconic bell of the FE3 and the familiar form of the AC3 hardware with the same mounting kits as previous generations, including pole assemblies and junction boxes.

These enhanced cameras will begin shipping at the end of April and require Gridsmart software version 23.1.
▶ **Booth 629**
www.cubic.com

Calling all ITS future leaders

ITS Texas, in collaboration with Southwest Research Institute (SWRI), is hosting a Future Leaders Program designed to bring students, emerging leaders and young professionals to the ITS America Conference & Expo. As part of the program, ITS Texas is providing students with the opportunity to get career advice, find a mentor and get their resume reviewed at the ITS Texas Booth April 26 from 3:00pm until the end of the show. ITS Texas also holds a meeting annually which brings together the membership, presenters and exhibitors for two and a half days of exciting and informative sessions and presentations. Typically starting on a Wednesday with technical training and finishing on Friday with a business lunchtime, the meeting locations are rotated around the state of Texas. This year's meeting will be at the Hilton College Station on November 15-17.
▶ **Booth 1523**
www.itstexas.org

Ride the Mecwave with Harman

Harman's Savari Mecwave is a multi-access edge computing software platform that enables automakers, network operators and government agencies to deploy next-gen features and reimagine connectivity. It does so by harnessing V2X capabilities and ultra-low latency applications. MECWAVE leverages 5G cellular edge networks to enable a variety of real-time shared services and applications that enhance safety, mobility and infotainment experiences using in-vehicle, roadside and third-party data. Applications like Collision Core, Virtual Roadside Unit and On-Demand Video Streaming can be deployed on a number of connected devices such as TCUs, automotive aftermarket devices, smartphones, wearables and more.
▶ **Booth 729**
https://car.harman.com

Swarco McCain showcases traffic management systems

S warco McCain makes its ITS America Conference & Expo debut under the all-encompassing One Swarco umbrella.

Part of the Swarco group since 2016, San Diego-based transportation technology firm Swarco McCain designs, develops and manufactures ITS and traffic control products to promote increased roadway safety, improved traffic efficiency and more sustainable communities.

The main focus of Swarco McCain's offerings on its booth are the company's industry-leading traffic management software solutions.

These include Transparity traffic management system (TMS) that enables transportation professionals to proactively manage traffic flow and promote mobility through real-time traffic data collection and management tools.

Built around user input and decades of industry expertise, the modern architecture of Transparity TMS is designed to meet the demands of today's transportation network and

Steven Atkins of Swarco McCain

adapt with customers' needs as they evolve.

Also being showcased is the Omni eX Intersection Control Software, a revolutionary tool for managing the most demanding traffic control applications. The software provides a single solution for any infrastructure and, when integrating with

Transparity TMS, enables complete ITS functionality by controlling all NTCIP devices through one system.

Visitors should also check out Swarco MyCity a new modular traffic management platform for ITS. It is the smart city solution when it comes to urban mobility management and is designed

to solve the most pressing challenges in multimodal mobility.

It does this by tightly integrating common transportation services via an ultra-modern cloud computing infrastructure.
▶ **Booth 1001**
www.mccain.swarco.com

ANTAIRA BOOSTS POWER

Antaira is showcasing its latest Ethernet switch at the ITS America Conference & Expo in Dallas this week—highlighting its ability to power high-power cameras with up to 95 watts per port.

According to Joe Cook, national ITS sales manager for the company, the LMP-1204G-SFP-bt-24-T-BOS managed light layer 3 industrial switch powers equipment on first responder vehicles up to 95 watts from 12VDC, solar applications up to 180W from 24VDC and traffic

cabinets up to 240 watts from 55VDC.

The switch also comes with a refreshed management UI that allows users to easily implement features such as Ping Alive that automatically reboots power to connected edge devices, Safe PoE Disable that turns on or off power to a single PoE port and Persistent PoE that provided powered devices with uninterrupted power in the event of a firmware upgrade.
▶ **Booth 904**
www.antaira.com

No blind spots with Arity

Reducing accidents on the road requires a clear and accurate view of the behaviours that lead to crashes. Arity's Mobility Intelligence solutions allows highways agencies and DOTs to swiftly diagnose the riskiest road segments so the right remedies can be implemented as soon as possible.

Arity's Mobility Intelligence solutions go beyond simple and limited data that tells a DOT that crashes happened. Instead, DOTs get abundant location-specific insights into exactly how and why the event occurred.

The facts speak for themselves: More than 30 million first-party telematics connections, over 90 million continuous mobile trips per day and around 1 trillion miles covering all regions and road types without vehicle age or model bias. This is based on mobility insights informed by more than 15 years of understanding insurance risk.
▶ **Booth 1611**
www.arity.com

EDI USHERS IN NEW SAFETY ERA

Traffic control has evolved dramatically over the past century, and it's reinventing itself once again as cities become more connected while environmental sustainability, multimodal transportation, autonomous vehicles and Big Data take hold.

While conventional traffic cabinets like the NEMA TS-1, NEMA TS-2, ITS v1, and Caltrans 33x served agencies well in the past, they can't support the increasingly sophisticated needs of current and future smart cities.

Combining the latest standards and technological advancements, EDI says its advanced transportation controller cabinet components (ATC) deliver increased reliability, functionality, and ease of maintenance – and that's just to start.

Its compact size and modular design make it a breeze to install, configure and expand while its high-density components can be arranged (and rearranged) to accommodate a broad

John Shearer of EDI

range of intersection types and operations. It also offers a significant safety upgrade, for both drivers and technicians. Its CMU current load monitoring detects a dark approach immediately, and its majority low-voltage components make installation and maintenance

much safer. Add to that true LED compatibility that can support the latest ultra-low-power LED signals, and EDI says it's no surprise the ATC standard has had the fastest adoption rate of any cabinet standard in history.

EDI says it remains committed to driving forward innovations

in life-saving technology, now alongside its partners at Synapse ITS, a transportation technology platform focused on increasing roadway safety, efficiency and accessibility through innovative infrastructure.

▶ **Booth 1200**
www.editraffic.com

Sensys Networks for critical traffic safety applications

Tad Carter of Sensys Networks

Sensys Networks' US supply chain qualifies for federal funding that favours key traffic safety applications. The company is here in Dallas to highlight how its products provide results around the world and point out that in the US, funding is set aside specifically to implement traffic safety solutions. The Infrastructure Investment and Jobs Act of 2021 provides an additional $32.5bn dedicated to traffic safety over five years.

Examples of how municipalities are improving safety with Sensys traffic detection include Mayetta, Kansas, where vehicles are detected on side streets by FlexMag wireless sensors at the stop bar to trigger flashing crossing signs upstream of the intersection, warning approaching vehicles. Virginia uses automated incident detection AI

to alert operators, law enforcement and drivers when vehicles have crossed barriers going the wrong way on express lanes. Meanwhile, the UK employs real-time speed data from FlexMag wireless sensors on managed motorways to set dynamic speed limits to reduce injury accidents by 13%: FlexMag also powers speed enforcement systems on roadways in Saudi Arabia.

In Victoria, Australia ramp queue flushing is used to actively clear backups from highways and avoid high-speed rear-end collisions. Automated incident detection is also used on New York State bridges to detect crashes within seconds and scramble emergency response personnel to avoid secondary crashes and provide medical help.

▶ **Booth 621**
www.sensysnetworks.com

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Viva is demonstrating its new AI-powered 3D collision detection technology at the ITS America Conference & Expo in Dallas. Called Near Miss, the AI smart road safety solution is being piloted by New York City DOT with 12 sensors deployed around multi-modal intersections in Manhattan, Brooklyn and the Bronx.

The Near Miss sensor collects width, height, length, speed and direction data to determine the trajectory of vehicles, bicyclists and pedestrians as a way to calculate the probability of a collision. DOTs can then use this data to identify event hot spots and take appropriate action to prevent them.

Near Miss can also use the data to predict how proposed solutions will impact the rate of collisions, allowing DOTs to first try cheaper, less disruptive solutions—such as additional

signage or traffic light timing— before implementing more disruptive solutions.

According to Peter Mildon, Viva's co-founder and Chief Operating Officer (COO), data collection and video analysis is

conducted on the end device rather than in the cloud or a remote server. When accessed, the captured video is blurred out to protect driver and pedestrian privacy.

"Near Miss is a diagnosis tool,

not a big brother tool," Mildon said. "We want to prevent collisions before they happen rather than punish people for violations after the fact."
▶ **Booth 1140**
www.vivacitylabs.com

Peter Mildon of Viva

VIVA HOPES FOR A NEAR MISS

Stuttgart pushes high-speed cameras

Eliminating the need to get out of vehicles to issue tickets for speed violations has the potential to save police officer lives, says Gerhard Lamprecht, CEO of Stuttgart, a manufacturer of transportation safety products.

Lamprecht's company hopes to do just that by combining radar enforcement with high-speed cameras.

The Stuttgart Model S is the company's latest megapixel radar moving violation enforcement camera, featuring a quad-core CPU and an ultralight, compact design that can be mounted on a tripod or the dashboard of any police cruiser. Speed enforcement officers can then set triggers based on grace speeds to automatically capture violators that exceed the speed limit without getting out of their vehicle and into traffic.

The Model S has a digital beam forming radar able to simultaneously track each vehicle on the road, as well as its speed, acceleration and lane. It includes a 20-48 megapixel camera for day and night photos as well as a 8 megapixel video camera. In addition to its 8 CPU cores, it also has a

Gerhard Lamprecht of Stuttgart

neural processor for a machine learning engine to assist with offence classification.

The mobility of the cameras improves efficacy of speed enforcement by making drivers aware of police presence and by allowing officers to focus on roadways where speeding is excessive to the point of reckless driving.

▶ **Booth 1019**
www.stuttgart-usa.com

"We need to end this streak of daily death"

Texas DoT's road safety campaign #EndTheStreakTX is part of a plan to reduce traffic deaths to zero in the Lone Star State by 2050. The agency's executive director **Marc Williams** explains why it's needed…

I t's a sobering fact that the state of Texas has seen at least one person killed every day on the roads since 7 November, 2000. For that reason, Texas DoT created its #EndTheStreakTX campaign in 2015 to raise awareness about a grim run that has impacted families and entire communities across the state.

"The reality is this," says Texas DoT executive director Marc Williams. "We need to end this streak of daily deaths on Texas roads."

#EndTheStreakTX began mostly as a grassroots, word-of-mouth campaign. But it has grown, with TxDoT providing more funding to safety projects and dedicating millions of dollars for improvements along Texas roadways.

Team effort required

In May 2019, the Texas Transportation Commission voted to adopt two substantial goals regarding system safety: to halve the number of deaths on Texas roadways by 2035 and to have zero traffic deaths by 2050.

But this will only be achieved with a team effort between TxDoT and drivers themselves.

"It's a change in behaviour that is needed to help everyone get home safely," says Williams. "Social media has several platforms that allow us to have conversations with other Texans and to engage them in a way that resonates."

With more than 325,000 followers on Facebook, more than 450,000 on Twitter and 8 million more on NextDoor, this is clearly happening – not least through celebrity endorsement.

"We all know our sports teams and pro sports players have influence, especially here in Texas," Williams says. "Getting several of our pro teams involved to partner with us to help share our messages is a big step in reaching as many people as we can - to share messages that stick. We're lucky because we've had great partnerships this past year with several professional teams - from the Texas Rangers and Dallas Cowboys to Nascar driver Joey Logano. We hope it continues."

NextDoor, in particular, has proven to be an additional valuable asset when it comes to reaching the public. "It's helped us reach an even broader audience for those who don't use the traditional social media platforms like Facebook, Twitter and Instagram," explains Williams.

Connecting Texas 2050

TxDoT has a vision for where it wants to get to, developing a long-range transportation plan called Connecting Texas 2050. "This is yet another way for us to engage with the public," Williams explains. "With unprecedented population growth, increasing demands on our transportation system, and technological innovations reimagining how we move, TxDoT wants to hear from the travelling public as the agency looks toward 2050. No matter where you work, live or how you get around, this plan impacts everyone in Texas. That's why we want to reach out to all Texans to hear their priorities in what transportation will look like in 30 years."

The agency is organising a state-wide virtual public meeting and regional in-person open houses, and social media posts help get the word out to encourage people to attend those meetings and give their feedback and goals for 2050.

Texas is an incredibly diverse and beautiful state that borders a gulf, holds deserts, forests, mountains, hills and the northern plains where winter weather is common every year. This is a big challenge for TxDoT's engineers.

"Throughout these different climates, TxDoT is responsible for maintaining 80,000 miles of road and supporting aviation, maritime, rail and public transportation across the state," Williams concludes.

"Each individual region brings different climate challenges as we work to maintain our infrastructure and build improvements. That's why we have engineers and experts who work on different strategies throughout the state to make sure our roadways are smooth and safe for the travelling public." ∎

"Digitalisation opens up the opportunity to quickly see where problems exist"

Kurtis McBride, Miovision co-founder and CEO, talks about the importance of data – and why one bit of hardware capable of running a range of software solutions could be the future of transportation

How much of road safety is in design, and how much traffic management, do you think?

The first step to answering that question is to know where high risk areas exist. Data can help. Once they know where a high risk area exists, a traffic engineer can apply their expertise to then explore causes and mitigations – whether that's road design, poor signal timing or something else.

How will digitalisation of infrastructure help in this regard? What are some of the challenges here?

Digitalisation – the shift towards flexible hardware that can run a range of software solutions – opens up the opportunity to quickly see where problems exist. A near miss, in traffic data terms, is two road users occupying a specific zone at the same time. CO_2 emissions from fossil fuel-powered vehicles correlate in a predictable way with acceleration and speed. Reducing stops and starts can reduce emissions. We know how to measure these things – access to that kind of data across a traffic network gives traffic engineers a much clearer picture on where there's opportunities to make improvements that will have a real, measurable impact.

Climate change is perhaps the most pressing issue of our age – how can ITS technology help us to decarbonise transportation?

I think there are two main opportunities. The first is to support growing policy trends to encourage more efficient modes of transportation – walking, cycling and transit. That involves a significant traffic management shift from simply trying to move as many vehicles as possible to balancing the needs of very different road users. Being able to measure the impact of changes on all road users – to pilot new ideas and ensure that larger initiatives are having the desired impact – is critical to getting these changes right.

The second is the opportunity to keep existing, fossil-fuelled vehicles moving at a moderate speed with fewer stops, because we know that this reduces fuel consumption, which in turn reduces CO_2 emissions and other pollutants. It doesn't hurt that it's also a much more pleasant driving experience!

You've spoken recently about the industry moving towards a 'software-first paradigm'; can you expand on this?

Traffic infrastructure – particularly traffic signals – have traditionally been hardware-centric. Each function is provided by dedicated hardware. That hardware is fairly expensive and therefore has a fairly long replacement cycle – about 25 years.

That worked when traffic engineers were mostly trying to accomplish one thing – moving vehicles quickly and safely. But, transportation policy now has multiple goals – and will soon need to accommodate emerging changes like the advent of autonomous and connected vehicles.

If every time we want to support a new policy or add a new feature, we plan to roll a truck out to an intersection to install a new bit of dedicated hardware – well, that can't possibly scale to meet today's needs. It's too expensive and it will take far, far too long to implement at every intersection.

Of course, we've solved this problem in other realms already. The functions you have on your smartphone all used to be separate devices too: a camera, a typewriter, a Rolodex, a calendar, a music player, a map and more. We don't carry all those devices around – we carry one, flexible bit of hardware that is capable of running a whole range of software solutions that can be downloaded quickly and easily from an app store.
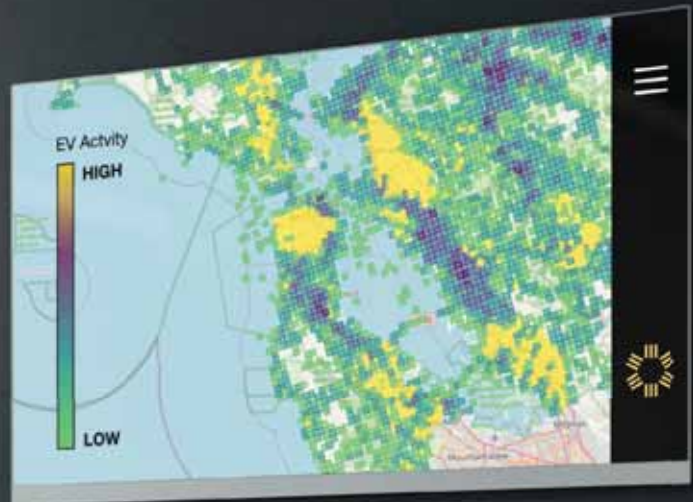
Imagine that paradigm applied to traffic infrastructure – install one piece of flexible, connected hardware, then download software solutions to address whatever policy goal you are trying to achieve. That's where I think the industry is headed. ◼

Steven Sheffield
of Seoul Robotics

PERCEPTIVE TRAFFIC INSIGHTS FROM SEOUL ROBOTICS

Seoul Robotics has unveiled a comprehensive end-to-end intersection traffic solution here in Grapevine. This cutting-edge system transforms raw data from infrastructure-based 3D sensors to provide actionable insights that drive real-world outcomes for urban mobility.

By utilising this technology, municipalities and DOTs can leverage 3D perception data to make informed decisions that have a profound impact on roadway operations, such as optimising traffic signal controllers and deploying digital messaging signs.

The new solution is powered by Seoul Robotics' patented 3D perception platform, Sensrtft, the industry's most accurate 3D perception software. It leverages deep learning AI to track, detect and identify pedestrians, vehicles and bicycles simultaneously within 4cm for maximum reliability in ITS deployments. Equipped with dynamic weather-filtering capabilities, Sensr ensures the highest level of accuracy day or night, even in the harshest conditions. Seoul Robotics is a leader in smart city mobility, transforming the way cities move by powering deployments such as the largest smart intersection network in the US, and capturing insights on vehicle movement to detect incidents like wrong-way driving. Visitors to the company's booth will have an unmissable insight into how the company's technology will revolutionise the way cities mobilise across the globe.

▶ **Booth 1222**
www.seoulrobotics.org

Caught in the iNET

Parson's smart mobility platform, iNET - short for Intelligent NETworks - helps improve the management, efficiency, effectiveness, sustainability and safety of transportation networks.

It does this, says Parsons, by monitoring and recommending actions using real-time traffic monitoring, predictive analytics, active traffic management, integrated corridor management, dynamic device control, intelligent decision support, artificial intelligence, connected and autonomous vehicle integration, mobile applications and free-language voice response.

The cloud-based system is also sharable. It can be operated by multiple agencies simultaneously, allowing for seamless inter-agency cooperation and more efficient operations.

Parsons says iNET has been making a difference for customers in more than 40 cities, making it the most operated traffic management software in the world. It has been shown to reduce accidents by 40% while increasing traffic flow by 22%. Overall freeway delay is reduced up to 30% and throughput is increased up to 28%.

Importantly, the arrival time of emergency responders is faster by 15% and on the environmental side, carbon monoxide and other emissions-related pollutants are cut by as much as 30%.

▶ **Booth 1107**
www.parsons.com/
products/inet

SmartCTY trio showcases trio of traffic management solutions

Exhibitor SmartCTY Technologies will be showing off three ITS solutions at this week's ITS America Conference & Expo in Dallas.

The SmartCTY Traffic and Analytics Tools (STAAT) works with Trafficland's nationwide CCTV footprint to provide transportation agencies and businesses with the data they need to mitigate congestion, reduce carbon emissions, eliminate road hazards, improve safety and ensure resilient supply chain infrastructure.

The Traffic Misery Index (TMI) collects citizen sentiment and geospatial analytics to engage with constituents about planned or on-going projects, and the Smart Exit and Entrance Ramp (SEER) Tool helps agencies ease traffic flow for vehicles entering and exiting highways.

▶ **Booth 501**
smartcty.com

Left-right: Brent Fine, Brien Green and Nathan Shay

StreetLight's intelligence is vital for EV planning

I t is not an exaggeration to say that the electric vehicle sector is a revolution in progress. It promises to reduce transportation emissions dramatically, create a new market and change driving habits. But only if public agencies, charge point operators and commercial properties locate their chargers in places where people can actually use them. As StreetLight is demonstrating at the ITS America Conference & Expo

this week, its transportation intelligence for EV infrastructure ensures that operators can place chargers based on critical driving behaviors.

In Nevada, StreetLight's software powered Jacobs' work on the state's charger deployment plan and funding request. The team is also overlaying StreetLight's demographic metrics to support NDOT's public outreach, promoting equitable distribution of funds, and

meeting current Justice40 requirements.

StreetLight has rolled out its EV infrastructure solution at a time when demand for chargers has never been higher. The U.S. has set a goal of more than 500,000 public EV chargers, and federal money from the Bipartisan Infrastructure Law is available to support that growth via NEVI funding and the Charging & Fuelling Infrastructure grant.

"Transportation intelligence

ensures you place your EV chargers where they are needed most by providing critical insights into travel demand patterns," says Streetlight's Brent Fine. "This includes trip purpose and length; demographics of travelers; vehicle dwell time at different locations; relative activity of EV trips compared to non-EV trips; and existing charger deployment."

▶ **Booth 1119**
www.streetlightdata.com

AMAG AND P3MOBILITY DELIVER MORE SAFETY FOR VRUS

AMAG - Advanced Mobility Analytics Group - and P3Mobility have teamed up to deliver augmented perception with J3224 Sensor Data Sharing Messages to boost safety for vulnerable road users (VRUs).

The detection of VRUs is enabled by the SMART Platform from AMAG which uses research-tested computer-vision machine learning models and video analytics at the edge and in the cloud to detect, classify, track, analyse and alert traffic engineering, operations, planning and road-users to critical safety and operating risks.

P3Mobility successfully integrated with AMAG's computer vision-enabled SMART Platform to create and broadcast SAE J3224 Sensor Data Sharing Messages (SDSMs) for

cooperative perception. The SDSMs are being broadcast at the University of Michigan's Mcity Test Facility, a connected and automated vehicle proving ground.

The software platform from P3Mobility - a digital infrastructure project development firm which provides consulting services and a software platform that enables a sustainable commercial business model in the V2X ecosystem - enables V2X Roadside Units (RSUs) to broadcast SDSMs in real time. This allows both autonomous vehicles and human drivers to receive information on VRUs that may be out of sight of the vehicle.

Broadcasting these messages is important for the growth of the V2X ecosystem because the majority of VRUs – such as pedestrians

and bicyclists – are not able and are not expected to have devices that directly communicate with V2X infrastructure and vehicles. The SAE J3224 message standard establishes a common message format for V2X participants to share and build consensus on detected VRU presence. This enables vehicles, drivers and infrastructure to enhance VRU safety.

"We are very excited to be partnering with AMAG to deliver this new capability. Vulnerable road user safety is a crisis in the United States where pedestrian traffic fatalities are at a 40-year high," said Jeremy Ward, director of operations at P3Mobility. "Delivering these safety messages w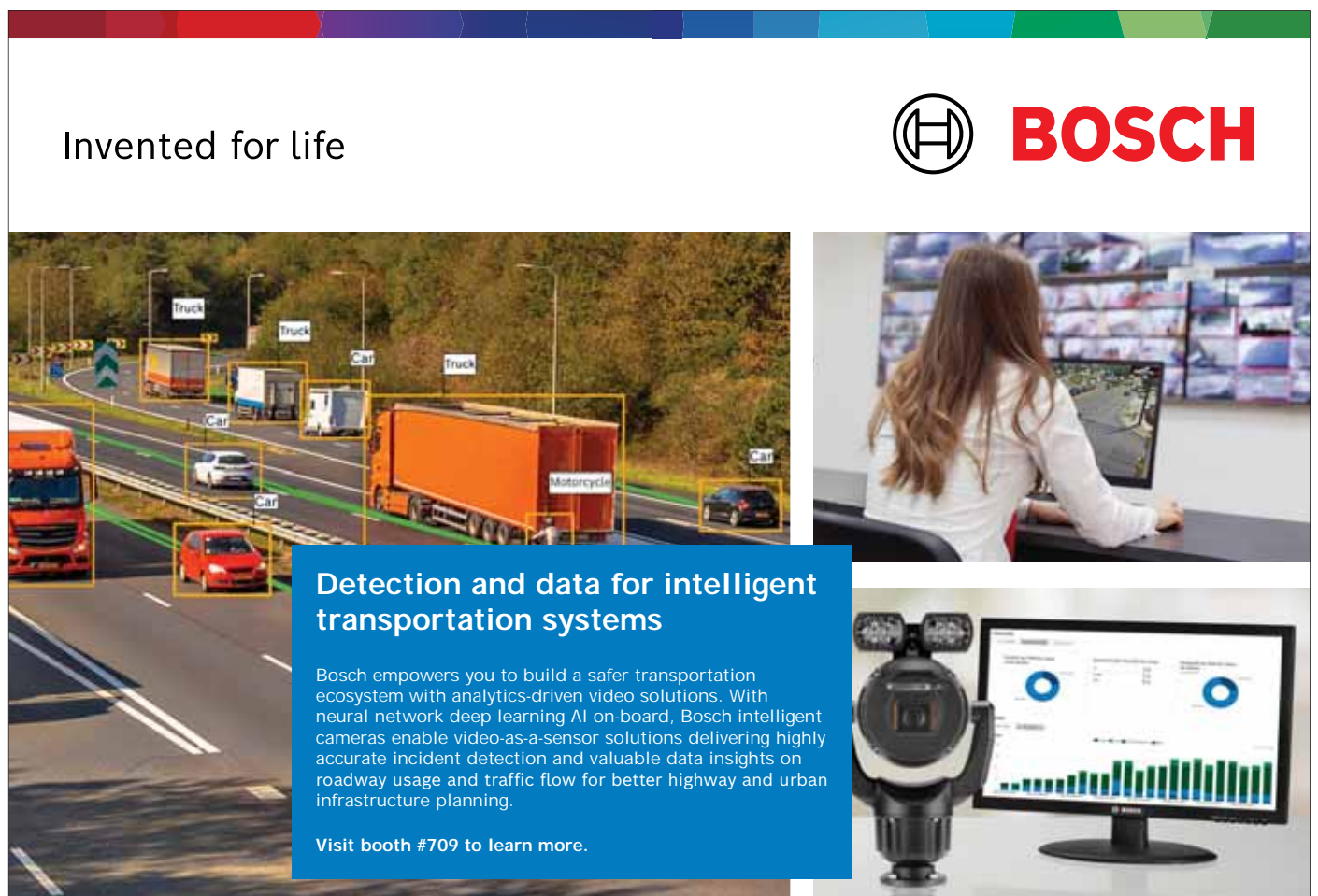ill pave the way to safer roads for all."