



AutoTech: | Interiors & UX DETROIT Conference

June 2022

Report 1003

SBD Insight – AutoTech: Detroit 2022

Conference Summary

About SBD Automotive

Management & technology consultants to the automotive industry for over 20 years



Our expertise:

Connected

Autonomous

Shared Mobility

EV

Cybersecurity

Anti-theft

Click to find out more

Our role:

As our industry faces...

Uncertainty



We provide our clients with...

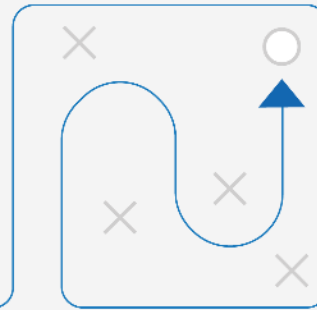
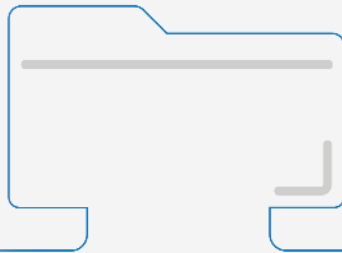
Data



Insight



Advice



Seeing Beyond Data

Turning data into actionable advice



Research Portfolio



Consulting Services



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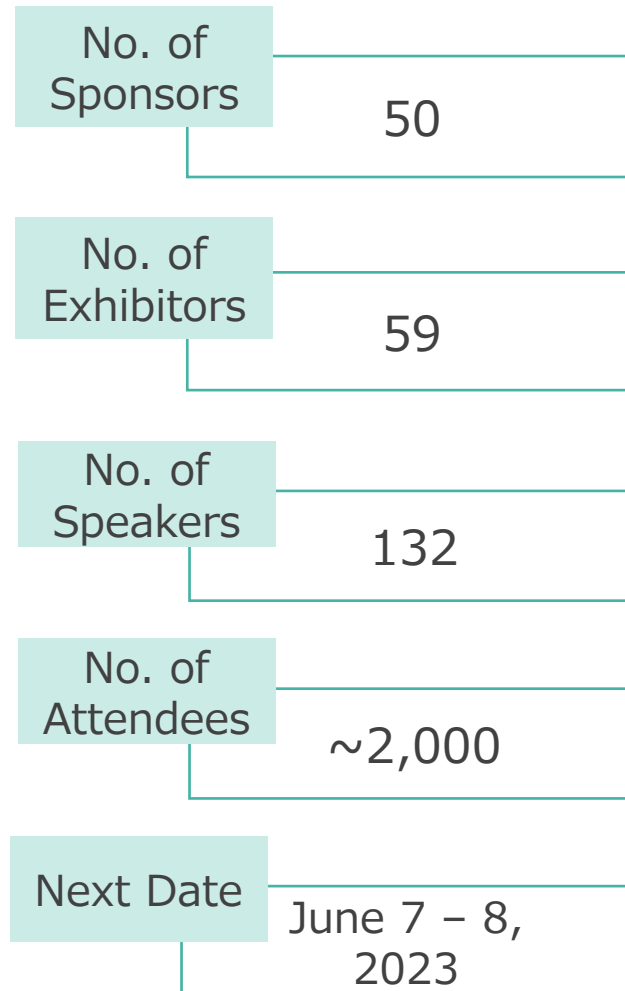
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Summary & Key Takeaways

The buzz topics and key trends from this year's AutoTech: Detroit conference - and what they mean

AutoTech: Detroit 2022 in numbers



What is AutoTech?

AutoTech: Detroit (formerly TU-Automotive), hosted at the Suburban Collection Showplace in Novi, MI, brings automotive technology experts together to explore the future of the industry by showcasing the latest technologies and vehicles – centered around the user experience and interiors.

- **Conference** – keynote speakers, fireside chats, expert panels, and more discuss technology, software, and connectivity as an integral part of the vehicle interior and user experience from concept to design, manufacturing, and future use cases.
- **Exhibition** – developers, suppliers, and new technology startups gather to present their latest products, platforms, services, and knowledge.
- **Awards** – AutoTech hosts both the Informa Tech Automotive Awards and the Wards 10 Best Interiors and UX Awards.

In addition, sponsored events took place around the Showplace, including the COVESA AutoTech Networking Reception and the BlackBerry | QNX Telematics & Tonics social.



AutoTech highlights a return to togetherness



Events are back in full swing!

The AutoTech floor was abuzz with excitement as the industry makes its return to face-to-face events.

It was a refreshing experience for new and familiar faces alike to come together, engage, and get hands-on with technology demonstrations, guided tours, vehicles, and resources.

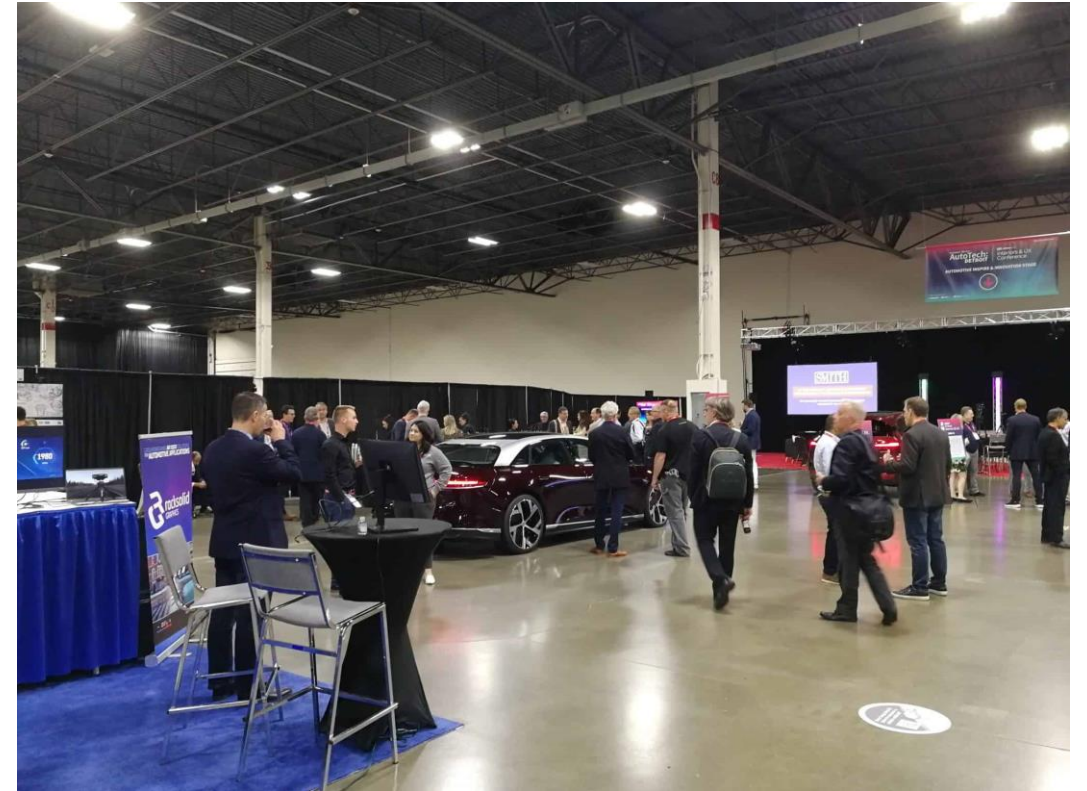
There is no better time to foster industry collaboration than now, as the industry propels itself ever-faster towards a new era of electrification, connectivity, and the software-defined vehicle.

Whether or not you were able to attend, we hope the insights gleaned from AutoTech: Detroit 2022 get you as excited for the future as we are – because this is just the beginning:

SBD Automotive and key industry players will also be at the

- [North American International Auto Show](#) | September 14 – 25, 2022
- [LA Auto Show](#) | November 18 – 27, 2022
- [Consumer Electronics Show](#) | January 5 – 8, 2023

See you soon!



Source: Auto Connected Car



Source: Wards Auto

The Top Trends



The conference and exhibition covered a host of topics pertaining to interiors and the user experience. In particular there was a heavy slant towards the software-defined vehicle and everything that encompasses. Along with the exhibition's demonstrations of products and services, there was an interesting conversation surrounding the need for supply chain, talent, and business alignment with automaker and supplier strategies that are already in place.

AutoTech: Detroit 2022 saw participation from automotive and connectivity giants such as **Ford, GM, Stellantis, SiriusXM, Verizon, AT&T, and T-Mobile**; suppliers and service providers such as **ZF, HERE Technologies, and Lyft**; and start-ups including **Faraday Future, Rivian, and Lucid**.



Software-Defined Vehicles

5G Connectivity

Digital Cockpit & the Future of Infotainment

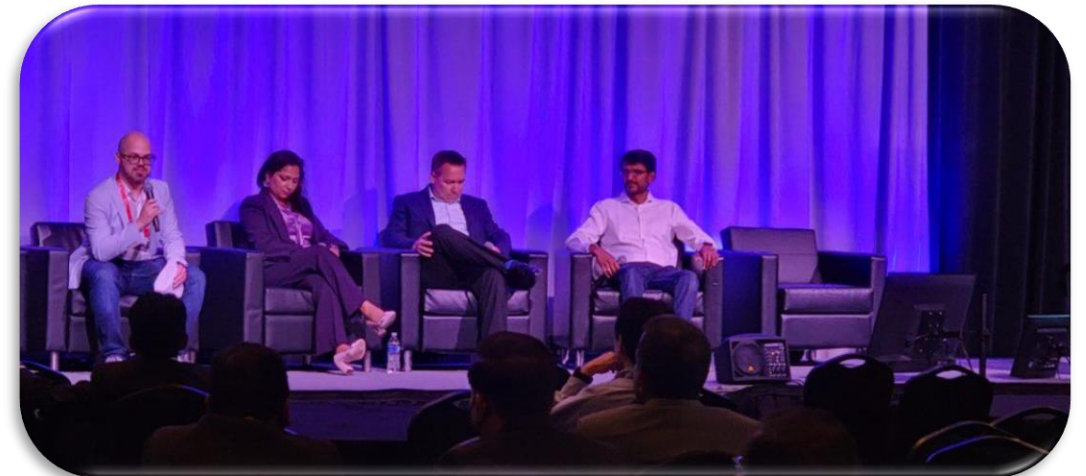
Autonomy

Safety

Sustainability

Software-Defined Vehicles stole the show

- Exhibitors, demonstrations, and conference panels all seemed to revolve around the overarching theme of software and its increasing role in vehicle development.
- Representatives from **Stellantis** and **SBD's** Alex Oyler hosted a fireside chat to talk about the **"Software Defined Future of Mobility."** Of note, ~\$22.5B USD in revenue is planned by 2030 through software alone, including via new business models such as Stellantis' "data entity," the monetization potential of connected car data, services and subscriptions, on-demand features, service retention and maintenance (e.g., cross-selling and up-selling), and the inclusion of software features in a vehicle's MSRP.
- **GrapeUp** presented on their emerging concept the **"Future of Digital Twin – Virtual World and Knowledge Model in the Cloud."** The "virtual world is an extension of the vehicle shadow concept, where the multiple types of digital twins coexist in the same environment knowing their presence and interfaces." The virtual world digitally represents vehicles, road infrastructure, positioning systems, pedestrians, and more, and all vehicles considered within the same environment may share data regarding the position of other objects. This can allow for historical and predictive modeling of accidents / collisions and traffic to route human drivers or autonomous vehicles.
- Representatives from **Ford, GM, Informa, Sonatus, Rolling Wireless,** and **Sibros** gathered to discuss how to **"Remove the Pain of Software Integration,"** considering the steps OEMs must take to facilitate a seamless connectivity and platform collaboration that enables future development within a software-defined vehicle. This goes beyond over-the-air updates to address full software lifecycle management.
- **Wards Intelligence** and **NXP** discussed the **"Impact of Software-Defined Vehicles on Vehicle Architectures"** and noted that there are two EE architecture shifts ongoing: a logical path created by up-integrating functionality into existing domains, and a physical path that focuses on simplifying hardware by altering electronic components, limiting wire routing, and lowering the cost of manufacture. Both shifts have an impact on the level of performance, safety, cybersecurity, and connectivity required for operation.

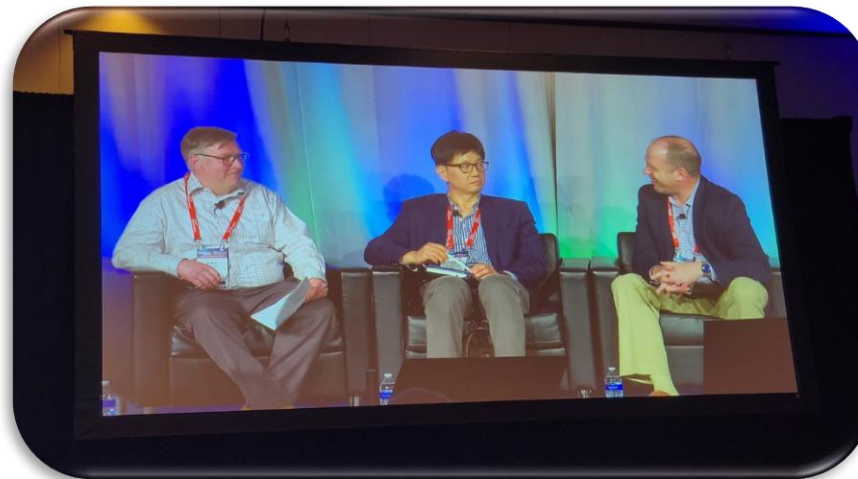


5G connectivity enables current and future technology

- A panel on “Exploring 5G” with Verizon and AutoCrypt discussed at length the trends and challenges surrounding the transition to 5G connectivity. 5G communications will be adopted on a larger scale soon enough, but there is still work to be done. Verizon - specifically VZ Connect – is currently focused on fleet management opportunities and core UX in the vehicle.

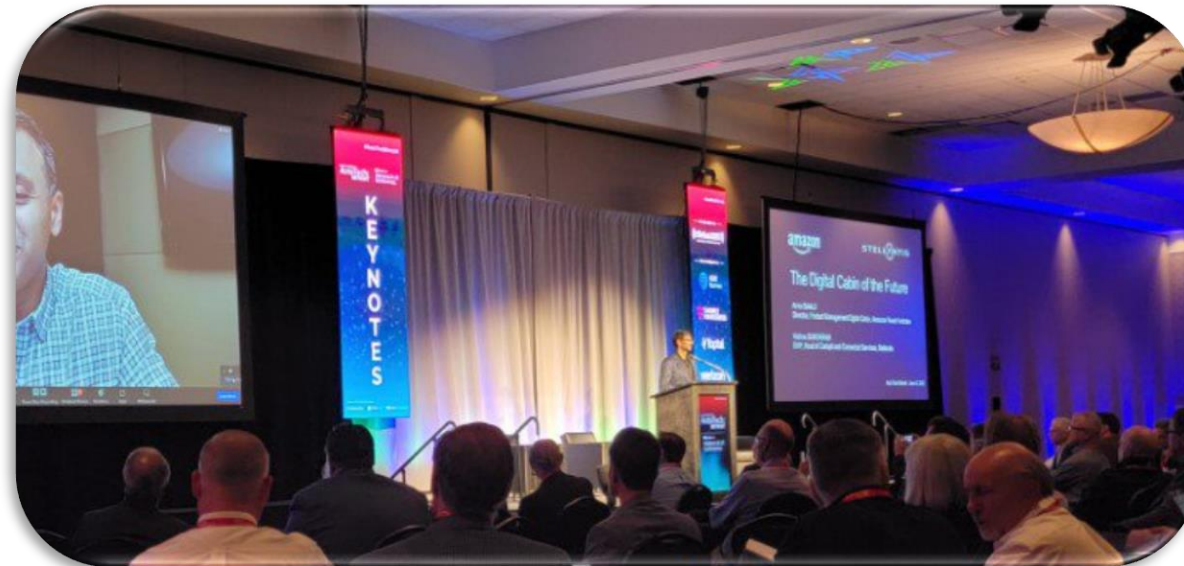
In the near-term, increasing the data throughput available will notably change the experience within the vehicle. On top of secure information transfers, in-vehicle experiences will be more unique between front seat telematics and backseat entertainment opportunities. These experiences are feasible with this level of connectivity and data availability. There is also value to OEMs in terms of the increased volume of telematics data and marketing data based on UX and pattern/behaviour recognition enabled by 5G.

However, this transition is not without hurdles. Government transport infrastructure and V2G/V2X communications must align and apply, as transport and mobility solutions are key enablers for 5G. In addition, few U.S. OEMs have announced 5G strategies, and in the near-term the curve in length of vehicle ownership is going to change as vehicles become more reliable and owners keep their vehicles longer. Vehicles must be future proofed for OTA updates capable of 5G improvements. The chip shortage has also had a significant impact on 5G and connected services and has forced a need for consolidation (i.e., eliminating the need for multiple chips in one vehicle). OEMs, telematics service providers, and governments must also all consider how to secure the communications and safely store and archive the massive influx of data coming through these systems.



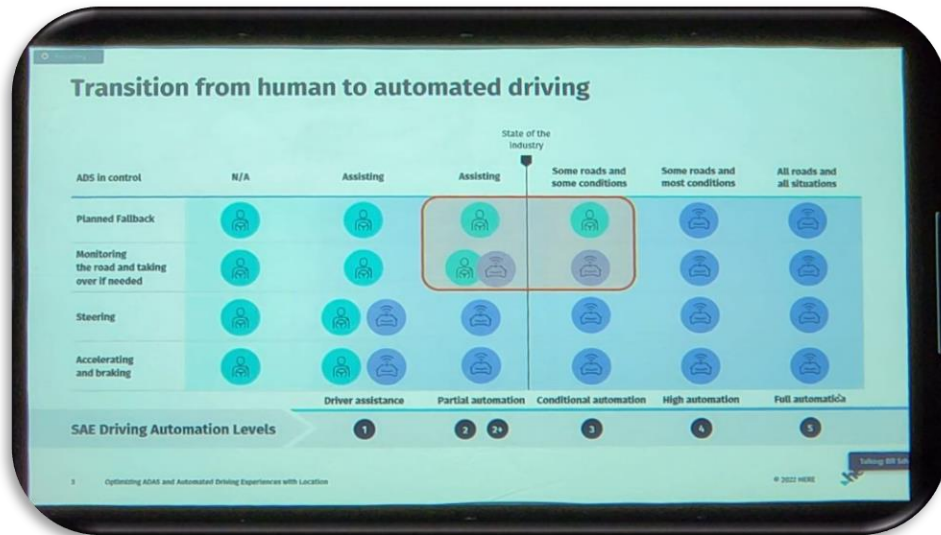
Smart, digital cockpits are the future of interiors

- June 8th's keynote panel **"The Digital Cabin of the Future"** was hosted by experts from **Stellantis** and **Amazon Smart Vehicles**. Stellantis envisions a digital cockpit and vehicle experience that brings customers closer to the brand and rethinks how they interact with features over the vehicle lifetime. Specifically, Stellantis believes in 4 pillars of the smart cockpit: cloud-first intelligence, empathetic UX, multi-modal UX, and closed loop feedback. Amazon, who is partnering with Stellantis, is providing the OEM with tools and services to pivot towards a software-defined vehicle, including cloud computing, AI, and machine learning to improve the in-vehicle experience.
- **"Cockpit of the Future – Transforming the Vehicle to the Third Space,"** hosted by **GM, Continental, Faurecia,** and **Guidehouse Insights,** discussed how to create a seamless and unique interior that promotes brand loyalty – without having to trade off between interior improvements and the digital space. Speakers identified the steering wheel as central to the concept of the future cockpit.



Autonomy requires ongoing advancements in data and simulation

- **HERE Technologies**, a company leading innovation in location technology and spatial intelligence, gave a presentation on “**Optimizing ADAS and Automated Driving Experiences with Location.**” The presentation covered how the automated driving experience can be supported and enhanced through more detailed data, including the enabling and improvement of in-vehicle functionality. HERE highlighted the challenges in transitioning from human drivers to automated technologies, including the uncertainties of real-world behaviours, the need for a wealth of global data that goes beyond individual sensors or limited simulations, and the need for consistency in UX between IVI and AD.
- “**The Agile Development of Testing and Simulation**” panel, hosted by **Siemens, APTIV, GERPISA, and Aurigo**, also touched on the hurdles (namely, time and funding) in recreating a simulated autonomous testing environment that accurately mimics real-world scenarios, including the need for an increased volume of real-world data. The panelists also discussed how testing for different levels of autonomy varies widely and suggested that OEMs explore methods to integrate different testing methods into a cohesive system.
- In **Lyft’s** keynote presentation on “**Commercializing Autonomous Technology,**” the ride-hailing service explained how multiple years of data and analysis informed valuable insights to support the user experience and the future of autonomous mobility services. These insights spanned the scope of personal interactions with the vehicle to pedestrian and occupant safety.



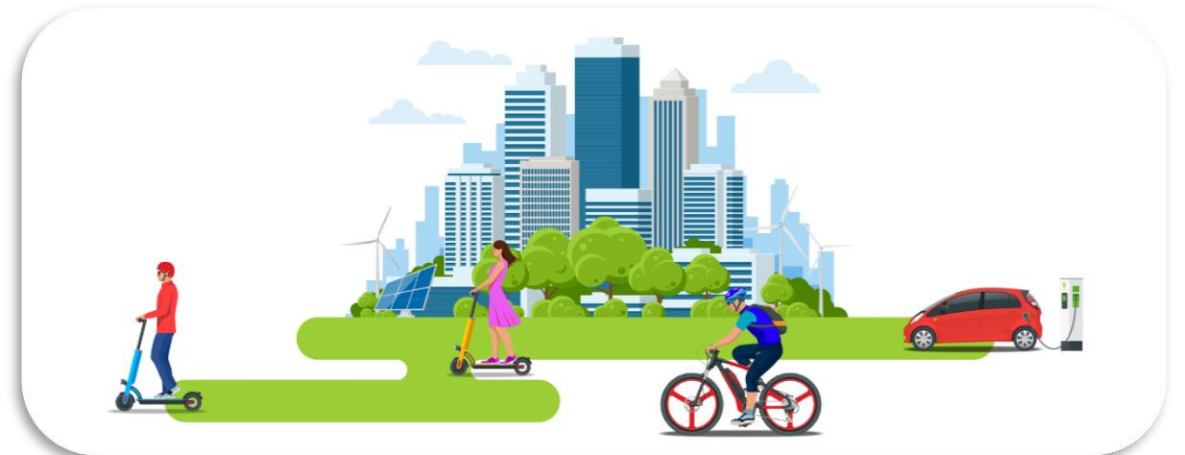
Public safety is a key consideration in autonomous and connected driving

- The “Driving Vehicle Safety Forward to Meet the Demands of a Connected World” panel, with representatives from **SiriusXM, Honk, Core Technology**, and **SBD’s** own Mo Al-Bodour, touched on how safety is the #1 concern for most consumers when purchasing a new vehicle. The panel considered how this is translating into the new era of connected cars, including connectivity’s impact on emergency events and the wealth of new vehicle and telematics data that both results from and informs connectivity advancements.
- A fireside chat on “Advancing Safety in an Electrified, Autonomous Future through Public-Private Collaborations,” hosted by representatives of **SiriusXM, the Orange County Transportation Corridor Agency, and the Michigan DOT**, discussed in part the collaboration needed between OEMs and governments to incorporate in-vehicle safety features that consider road and pedestrian safety. Speakers considered to what level and how government agencies should play a role in the regulation of safety features currently in production in order to guarantee ‘safety for all.’



Sustainability allows OEMs to reimagine the whole vehicle experience

- **“Sustainability of Materials – Creating a Carbon Neutral Interior,”** hosted by representatives from multiple material suppliers and advisors, covered automakers’ transition towards recycled materials and away from ‘traditional’ materials such as leather; the unique hurdles associated with using new materials; and whether there are specific production methods (i.e., digital cutting) that are more sustainable than existing processes such as the dye press.
- The **“Beyond Zen Minimalism: How to Create True Luxury in EVs”** panel featured interior design experts from **Lucid, Rivian, Lincoln, and Magna Seating** who in part discussed the future of sustainable materials (such as leather replacements) in EV interiors to create a luxury experience while maintaining a cohesive environmental story.
- A panel discussion on **“Sustainability & the Future of Transportation,”** led by representatives of **Strategy Analytics, Pratt Miller Mobility, and AMPLY Power (BP)**, discussed the need for OEMs to pivot their supply chain processes and business models to support sustainability at every level; the partial role of electrification in broader net-zero policy commitments; and how sustainable mobility has grown to encompass all segments of transportation including rail, shipping, and air.



Exhibition Highlights

Exhibition and announcement highlights of brands supplier and start-ups divided by category

Exhibitors (1/2)



DriveU.auto



HAAS ALERT



INMOTION



Exhibitors (2/2)



mojio[®] nuralogix[™] nexteer[®] AUTOMOTIVE Nota AI Opsys Technologies

pulse labs ontosense Qt RIDECELL RENESAS

Ruptela Transport Telematics SBD SiriusXM[®] CONNECTED VEHICLE SERVICES SIBROS SHEEVA

SONATUS TATA TATA ELXSI TomTom TASKING TUNE IN

Tech Mahindra ThirdLaw Get a Reaction TACTILE MOBILITY INVEST WINDSOR ESSEX VRCAVE

vayyar[™] WirelessCar wolfSSL wolfSSL.com

Announcements / Exhibit

- HAAS Alert showcased their embedded digital alert as a safety service for connected vehicles.

Maturity

On Sale

Highlights

- The alert provides drivers with a visual notification that a real-time, active roadway safety hazard is approaching or nearby.
- The system is first launching with Stellantis and the exhibit featured a Jeep Wrangler demonstrating the alert system for an emergency and disabled vehicle.
- HAAS Alert gathers data from working directly with fleets and emergency responders.

Concept

Planned

On Sale



HAAS ALERT

Announcements / Exhibit

Maturity

Highlights

- TomTom provided demonstrations of their IndiGO digital cockpit platform.

On Sale

- IndiGO is “the world’s first open, modular digital cockpit development platform.”
- IndiGO seamlessly unites vehicle interfaces, systems, and apps to bring drivers’ digital profiles into the vehicle – without sacrificing data privacy and security.

Concept

Planned

On Sale

TOMTOM 

Announcements / Exhibit

Maturity

Highlights

- Continental displayed their third space concept via a remodeled, 50-year old VW microbus.

Concept /
Planned

- The theme of third space concept was "Retro Meets the Future."
- The third space concept highlights how connected and autonomous vehicles can be used to "drive, work, and relax."
- The vehicle highlights new surface materials inside the vehicle that meet sustainability and durability trends, like the Benova Eco Protect and Staynu technology.
- The vehicle also includes a demonstration of Continental's smart glass, the Ac2ated sound system, and in-vehicle charging.

Concept

Planned

On Sale

Continental 

150
YEARS

Announcements / Exhibit	Maturity	Highlights
<ul style="list-style-type: none">Wireless Car demonstrated their Journey Log app and Alexa integration with Polestar.	On Sale	<ul style="list-style-type: none">For customers using Android Automotive OS, Wireless Car's Journey Log application can stream vehicle-generated location data.The data can be transformed into a normalized format and stored as a single point, or as one component of a journey.Wireless Car has partnered with Polestar to launch the features globally.The vehicles and services also support Ask Alexa integration.



Announcements / Exhibit

- Tactile Mobility showcased a joint software solution to improve vehicle health management, safety, and performance by detecting changing road surfaces and tire conditions.

Maturity

On Sale

Highlights

- The software can detect whether road surfaces are wet, dry, icy, and more, as well as monitor tire stiffness, tread depth, and other conditions.
- The solution acts as a component of the steering system and will enhance the connection between the driver, vehicle, and road.
- The exhibit offered a live demo of a vehicle traveling in real-time at the Nexteer testing ground in Saginaw, MI. The vehicle passed over a variety of surface types, highlighting its monitoring and identification capabilities on top of the cloud system UI.

Concept

Planned

On Sale



Announcements / Exhibit

Maturity

Highlights

- GrapeUp presented on their Digital Twin with a concept of the Virtual World as an extension of Digital Twin and its tie-in to the software-defined vehicle.

Concept

- GrapeUP supports OEMs on software development for software-defined vehicles.
- The “virtual world is an extension of the vehicle shadow concept where the multiple types of digital twins coexist in the same environment knowing their presence and interfaces.”
- The virtual world digitally represents vehicles, road infrastructure, positioning systems, pedestrians, and more.
- All vehicles are within the same environment and may share data regarding the position of other objects.

Concept

Planned

On Sale

grape up[®]

Announcements / Exhibit	Maturity	Highlights
<ul style="list-style-type: none"> SiriusXM highlighted a number of products and services, including their connected vehicle business, Advanced Collision Notification + (ACN+), and e-commerce. 	<p>On Sale</p>	<ul style="list-style-type: none"> SiriusXM Connected Vehicle is in the “a la carte” business – functions of their connected vehicle platform can be integrated with OEM platforms and does not require vehicles to be on the SXM platform to use specific services. ACN+, an e-call service offering accurate digital exchange and expanded data, is active on over 1M vehicles and has reduced emergency service dispatch time by over 30s on average. SXM’s e-commerce solutions are complimentary and are designed to utilize common backend components from themselves or OEM-specific sources. Products include SXM Wallet, subscription services, and a new PayTollo service for toll payments.



Announcements / Exhibit

- Sonatus gave two demonstrations pertaining to Dynamic Data Management and Vehicle Automation UI.

Maturity

On Sale

Highlights

- The Dynamic Data Management solution enables OEMs to dynamically and securely collect, process, store, and access all vehicle data virtually. It requires no ECU software updates or specific hardware. It is currently enabled in several Hyundai and Genesis production vehicles.
- The Vehicle Automation UI solution is a no-code solution enabling OEMs to apply advanced logic and orchestrate actions of existing features and functionality to create new and personalized features. Simple and complex features are defined in user-friendly cloud-based interfaces via "recipes."

Concept

Planned

On Sale

SONATUS

Announcements / Exhibit	Maturity	Highlights
<ul style="list-style-type: none">• QT featured a brand new UI demo, Outrun.	On Sale	<ul style="list-style-type: none">• Outrun is an automotive UI demo showcasing the possibilities of building a multi-screen digital cockpit of the future.• Outrun features 3D, cinematic camera movements that replace traditional transitions and enhance immersion.• QT has also added VFX to bring user experience to the next level, including a new particle system that allows for easy effect generation and life-like animations.



Announcements / Exhibit	Maturity	Highlights
<ul style="list-style-type: none">Nota.AI demonstrated their in-cabin, AI driver monitoring system.	<p>Planned</p>	<ul style="list-style-type: none">Nota.AI's driver monitoring system shows how AI can recognize and differentiate between diverse driver behaviours.The software is capable of running at varying levels on multiple devices, including a Raspberry Pi.Nota.AI was able to develop a 'fast and light' driver monitoring system through the hardware-aware AI optimization platform NetsPresso, which is designed for lightweight AI model development and enabled Nota.AI's Edge AI solution.



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How to get in touch for all your post-AutoTech needs



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Do you have any questions?

If you have any questions or feedback about this research report or SBD Automotive's consulting services, you can email us at info@sbdautomotive.com or discuss with your local account manager below.



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