StartUs insights

Automotive

Trend Report

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Innovation Intelligence at Your Fingertips

At **StartUs Insights**, we make the world's information on innovation, emerging companies, and technologies accessible. Our **Big Data & AI-powered Discovery Platform** covers over **2,5 million startups & scaleups globally**, making it the world's leading resource for data on emerging companies.

This technology enables you to identify what's next by quickly and exhaustively scouting startups, scaleups, emerging technologies & trends that matter.

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Our Innovation Analysts conducted an exhaustive analysis of 4.859 solutions and present the top 10 Automotive Industry Trends & Innovations. Discover impactful industry trends, promising startups & emerging companies, and our Global Startup Heat Map in this article!

A comprehensive survey of automotive industry trends reveals information-centric technologies playing a central role in the future of the industry. The industry is adopting new technologies in its operations at an unprecedented scale. In addition to technologies such as artificial intelligence (AI) and big data & analytics that have been around for while, newer technologies such as the internet of things (IoT) and blockchain also find numerous applications in automotive.

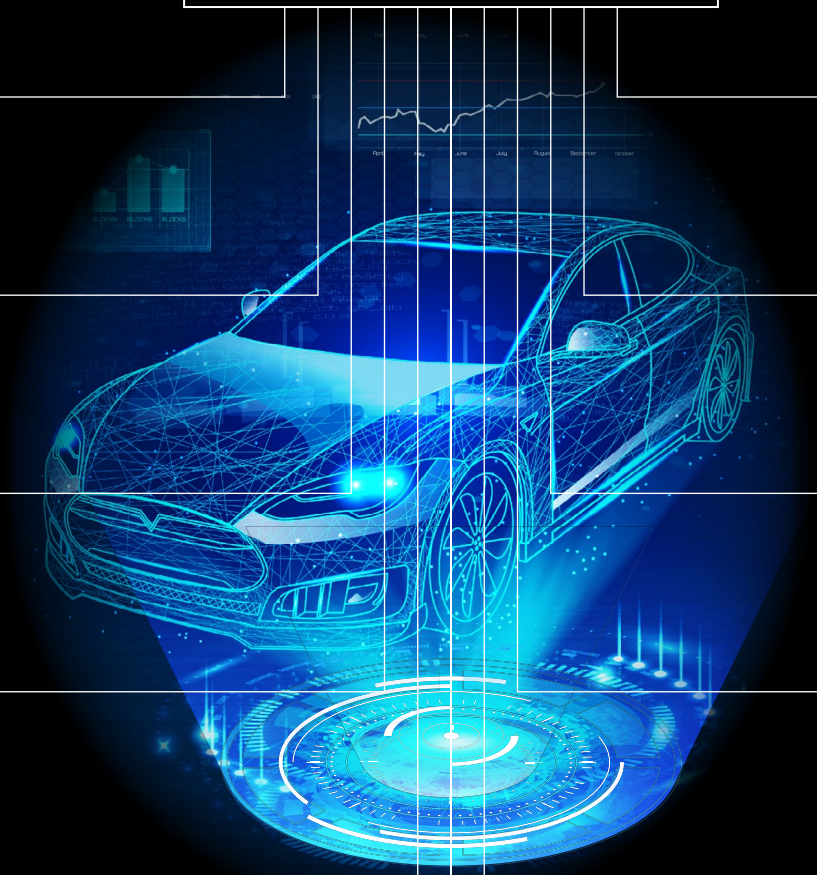
Covering over 2,5 million startups & scaleups globally, we use our Big Data and AI-powered Discovery Platform to identify innovative applications, technologies, and companies impacting the Automotive Industry. This exhaustive, data-driven startup scouting pinpoints emerging trends and technologies in the Automotive Industry. For this research, we analyzed a sample of 4 859 startups and scaleups and present the Top 10 Trends along with 20 highly relevant solutions.

In the Innovation Map below, you get an overview of the Top 10 Automotive Industry Trends & Innovations that impact companies worldwide.

Innovation Map: Automotive

4859
Startups & Scaleups

- Autonomous Vehicles
- Connectivity
- Electrification
- Shared Mobility
- Artificial Intelligence
- Big Data and Data Analytics
- Human-Machine Interface
- Blockchain
- Additive Manufacturing
- Internet of Things



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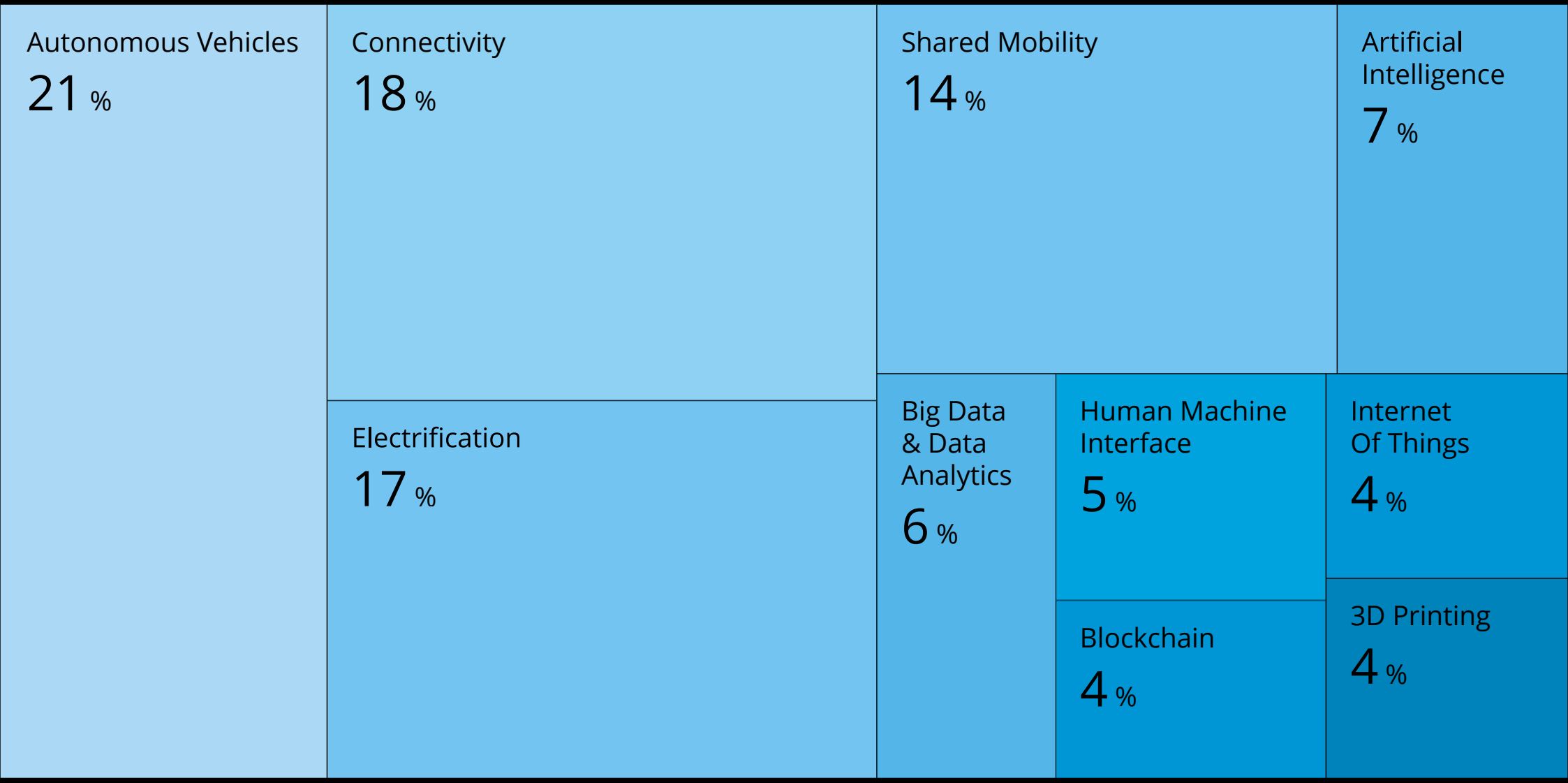
Tree Map: The Impact Of Automotive Industry Trends

The Tree Map below illustrates the top 10 automotive industry trends that will impact companies. Emerging companies are working to build the first fully autonomous vehicle for city roads, which in turn accelerates the advancements in-vehicle connectivity and IoT. Further, as countries look to move away from fossil fuel use, a significant number of emerging electrification startups develop electric vehicles and the associated charging infrastructure. Another way to reduce the number of cars on the road involves promoting and creating shared mobility solutions that include first and last-mile connectivity along with urban mass transit.

Top 10 Automotive Industry
Trends & Innovations



StartUs insights | This tree map illustrates the top 10 innovation trends & their impact on the Automotive Industry

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Global Startup Heat Map: Automotive Startups & Emerging Companies

For this analysis, we used a data-driven startup scouting approach to identify the most relevant solutions globally. The Global Startup Heat Map below highlights the global distribution of startups & emerging companies that also include the 20 promising examples out of 4.859 relevant automotive solutions. Depending on your specific needs, your top picks might look entirely different.

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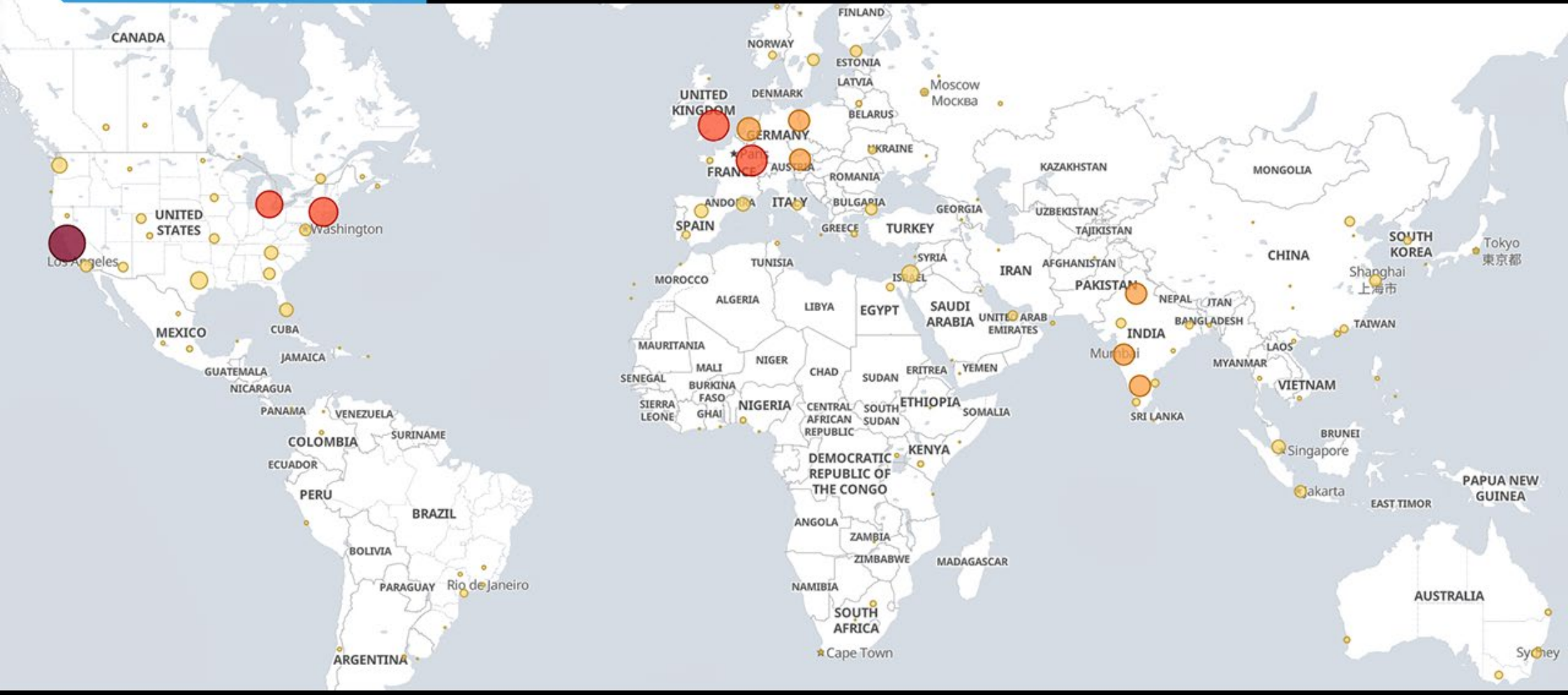
Global Startup Heat Map: Automotive



This Global Startup Heat Map illustrates the geographical distribution of 4859 startups & emerging companies we analyzed for this topic

Autonomous Vehicles

Autonomous vehicles or self-driving vehicles aim to minimize the need for human drivers and look poised to transform everyday transportation. Fleets of AVs expand the scope of last-mile deliveries, reduce downtime, and aim to make public transportation relatively safer. For example, by reducing accidents caused due to driver fatigue or negligence. AVs are equipped with advanced recognition technologies, such as AI-enhanced computer vision to identify obstacles along the route.

The US-based startup Intvo develops a pedestrian behavior prediction technology. Unlike two-dimensional (2D) and three-dimensional (3D) object detection technologies that consider limited parameters, their solution checks for head position, eye contact, and leg movements of the pedestrians, weather conditions, and assigns a risk level. This reduces false positives in pedestrian detection and enhances the safety of autonomous vehicles.

The US-based startup Udelv provides autonomous vehicles for last-mile deliveries. It combines advanced AI algorithms and hyper-speed teleoperations for human-assisted guidance in unique situations. The startup's vans have a payload capacity of approx. 360 kg (800+ lbs) and reach speeds up to approx 100 km/h (60 mi/h). The vans deliver groceries from nearby stores and send out a push notification when the order arrives.

Connectivity

Nowadays, vehicles come with a tamper-proof digital identity that differentiates them from other vehicles in the network. This enables easy tracking of vehicular data for various use cases such as insurance, driver safety, predictive maintenance, and fleet management. Sharing vehicular data helps not just the individual customer, but overhauls the entire mobility ecosystem.

British startup V2X Network offers a vehicle-to-everything (V2X) platform for autonomous transactions that combines geo-networking and caching to enable low latency real-time communication. The platform runs on distributed ledger technologies (DLTs) and allows for a high degree of scalability. The startup uses enterprise-grade encryption in order to provide users control over their data to enhance security and privacy measures.

Israeli startup NoTraffic develops an AI-powered traffic signal platform that digitizes road infrastructure management and connects drivers to the city roadways to manage various traffic-related challenges. The data of all road users is streamed and processed in real-time to empower smart mobility. The solution also serves as the base for additional services such as micropayments and micro-mobility.

Electrification

The depleting fossil fuel reserves and the harm to the environment caused by their use call for promoting the use of electric vehicles (EVs). For greater adoption, EVs need to address issues such as high price, poor battery, inadequate charging infrastructure, fleet electrification, as well as powering renewable energy-based charging grids.

The US-based Startup Lordstown Motors Corps makes an all-electric pickup truck. The truck, EnduranceTM, is designed to be a sturdy work vehicle and comes with fewer moving parts compared to traditional commercial vehicles, thus enabling easier maintenance. It features 4 hub electric motors to provide a four-wheel drive and is capable of traveling more than 250 miles (400 km) on a single charge.

German startup ChargeX offers a modular EV charging solution that converts parking spaces into charging stations. The startup's platform, Aqueduct, is easy to install, has 4 charging modules with up to 22kW, provides monthly reports, and uses a Typ2 charging cable. The solution recognizes the power requirements of every car and automatically controls the charging speed for each vehicle.

Shared Mobility

With connected vehicles, new business models have come up that focus on shared mobility as an alternative to traditional vehicle ownership. This enables mobility-as-a-service (MaaS) and discourages unused vehicles. Such solutions meet the requirements of a city or a business without adding new vehicles, thus reducing waiting time for fleets and pollution caused by petrol or diesel vehicles.

The US-based startup Launch Mobility develops a platform for a range of shared mobility solutions. The platform LM Mission ControlTM offers free-floating or station-based car sharing, advanced shuttle services, shared dockless scooters, keyless rental programs, and peer-to-peer shared mobility. The LM Mission ControlTM dashboard allows business users to manage their fleets. Further, their drivers use out-of-the-box or white-labeled apps to manage reservations or remotely access vehicles.

Singapore-based startup Beam focuses on e-scooters to promote shared mobility in the Asia-Pacific region. Their scooters use an aviation-grade aluminum frame and are customized for sharing, safety, reliability, and durability. Users discover the nearest Beam scooter on the app and park it in visible public spots after the ride. Further, the micro-mobility platform offers a sustainable alternative to short-distance rides and helps regulate traffic flow in cities.

Artificial Intelligence

Artificial intelligence technologies such as machine learning, deep learning, and computer vision find applications in robotic automation within the automotive industry. These guide self-driving cars, manage fleets, assist drivers to improve safety and improve services such as vehicle inspection or insurance. AI also finds applications in automotive manufacturing, where it accelerates the rate of production and helps reduce costs.

Indian startup RevitsOne offers an AI-powered fleet-management software that is suitable for fleets of varying sizes. The startup's vehicle management system provides insights into speed, running vitals, and health information. Drivers benefit from Voicera ID, a voice-based virtual assistant that helps them keep track of the information they need. Additionally, the onboard speed recorder limits the speed to discourage dangerous driving behaviors.

The US-based startup Apex AI enables automotive companies to implement complex AI solutions. Apex.OS runs on automotive electronic control units (ECUs) and offers robust, reliable, and secure APIs to develop autonomous mobility solutions. ApexAutonomy offers modules to build 3D perception, localization, and control to enable autonomous vehicles. Lastly, MARV.Automotive is a configurable and extensible data management platform that reliably transmits data from the vehicle to the cloud.

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Big Data & Data Analytics

In the age of big data, advanced data analytics informs various decisions throughout the lifecycle of a vehicle. Data gathered from vehicles enables predictive maintenance, informs managers about their fleets, and alerts concerned authorities in case of accidents. Moreover, customer automotive data finds applications in driving sales, optimizing supply chains, and enhancing product design for newer vehicles.

The US-based startup Procon Analytics leverages big data to offer a solution for automotive finance. The solution captures millions of data points in real-time and analyzes them to enable lenders to instantly assess and reduce risk. This allows Buy Here Pay Here (BHPH) dealers to expand their businesses and extend credit to high-risk customers. Further, this also offers software solutions for fleet and asset tracking as well as connected cars.

Swiss startup Unit8 uses big data and analytics to offer digital solutions for various industries. For automotive, the startup develops predictive models that encourage car companies to improve marketing or operations and increase their revenue. These models provide insights into product build, price, as well as after-sales service.

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Human-Machine Interface

As self-driving cars and connected cars transform the automotive landscape, it will fundamentally change how drivers interact with vehicles. Human-machine interfaces (HMI) use voice-based or haptic feedback to operate vehicles. These expand the scope of how and what aspects of a car that users control. Consequently, such interfaces make the driving experience safer and more enjoyable. Another form of HMI includes smart virtual assistants who help drivers and riders interact with the vehicles and other service providers.

The US-based startup Awayr develops human-machine interfaces for vehicles, unmanned aerial vehicles (UAVs), and robots. The startup works with automotive original equipment manufacturers (OEMs) to decrease HMI development cycle time and enhance the safety of interfaces. Awayr also builds solutions to manage driver attention in unconventional situations, such as autonomous vehicles that may occasionally need human intervention.

German startup Apostera offers an advanced driver-assistance system (ADAS). The startup's platform combines augmented reality (AR), smart camera, and surround-view monitoring to illuminate the route on turns, curves, slopes as well as complex junctions. This assists the drivers in keeping lanes, prevents collisions, and enables autonomous driving options. Moreover, the solution is customizable to any car model or specific OEM requirements.

Blockchain

Blockchain finds multiple applications in the automotive industry. These include sharing vehicle data over a secure network for connectivity and shared mobility solutions such as ride-hailing, urban transportation, and deliveries. Moreover, it finds application in verifying the supply chain of spare parts or making sure that the raw materials and spare parts are sourced exclusively from legal and trusted sources.

British startup Cube Intelligence develops a blockchain-based security platform for autonomous vehicles. The startup's technology utilizes hash codes to block malicious attacks or hacking attempts on autonomous cars and connected cars. The hardware used gathers real-time data on mobility and emissions. Additionally, Cube Intelligence offers ride-hailing and valet parking services for AVs, as well as smart parking management systems.

Israeli startup DAV offers a decentralized autonomous vehicles platform based on blockchain technology. The platform allows autonomous vehicles to discover AVs, service providers, or clients around them. The vehicle-to-vehicle (V2V) communication is either on-blockchain, with smart contracts, or off-blockchain using DAV's protocols. The startup develops protocols for drone charging networks, drone flight planning, and open mobility.

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Additive Manufacturing

3D printing helps the automotive industry in three primary ways. Firstly, it enables rapid prototyping with 3D printed models that accelerate the design and testing phases of production. Secondly, it allows manufacturers to print spare parts to match their requirements. Lastly, additive manufacturing of composite materials leads to automotive parts that are lighter, stronger, and more durable.

Swiss startup 9T Labs employs additive manufacturing to produce carbon composites for use in the automotive industry. The startup's design software Fibrify optimizes fiber placement and automates equipment production with additive fusion technology to mass-produce carbon fiber products. The 3D printed composites are more affordable, lightweight, dimensionally stable, corrosion-resistant, and also offer increased strength and stiffness.

Italian startup Moi combines thermosetting composite materials and 3D printing to manufacture high-performance parts for the automotive industry. Moi uses continuous fiber manufacturing (CFM) technology, robotic intelligence, and digital fabrication to deposit fibers. As a result, the solution is easily scalable for producing composites for panels, frames, and interior components. The startup also serves other industries, such as aerospace, construction, and biomedical.

Internet of Things

In the automotive industry, IoT enables secure communication between vehicles as well as vehicles and infrastructure components. The technology improves road safety, solves traffic congestion, and reduces pollution and energy expenditure with better fleet management. Startups and emerging companies develop advanced sensing technologies to gather more data about the vehicle as well as allow the vehicle to understand its surroundings. The technology also automates payments for fuel and tolls.

Operating from Germany and the US, EcoG is a startup offering an IoT-based operating system and platform for EV charging. The startup provides manufacturers with tools that make the development and maintenance of EV charging infrastructure simple, fast, and scalable. It also allows operators to integrate services and microservices in the chargers to make the charging process profitable. In addition, the solution works with any EV charger and enables new features to be shipped throughout the network.

Canadian startup KonnectShift provides IoT solutions to optimize fleet and asset management. The startup develops Konnect – GS01, an automatic electronic logging device (ELD) to continuously track vehicular health. The solution includes route planning and optimization for real-time dispatch, advanced analytics to enable alerts regarding driving, vehicles, and fuel, predictive maintenance alerts to reduce downtime, as well as developing driver management apps.

What Does This Mean For Automotive Companies?

Additive manufacturing near production sites, AI-based automated inspections, the use of big data to inform design and production, and human-machine interfaces are reinventing the manufacturing processes for automotive players. The push for electric cars and driverless cars is strengthened by advancements in machine learning and IoT. These also enable new business models in shared ownership of vehicles, analytics-driven maintenance, safety improvements, and insurance. Further, startups and emerging companies develop solutions that enable vehicles to securely communicate and transact over a network.

To overcome key challenges such as complexity and cost pressure, diverging market, digital demands, and a shifting industry landscape, leading automotive companies need to recognize that the technologies developed by startups & emerging companies have the potential to alter the entire industry. Taking a closer look at these companies and understanding their technologies and vision to form strategic partnerships with them gives today's industry leaders the edge they need to stay on top tomorrow.

WHAT OUR PARTNERS SAY

Collaborating with StartUs Insights is a great way to get to know new startups and ideas for our future. It gives us fresh input & a good overview on startup-driven innovation.

ZKW Innovation Manager
Yvonne Danzinger

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Identify What's Next

The [StartUs Insights Discovery Platform](#) covers over **2,5 million startups & scaleups globally** – making it the world's largest resource for data on emerging companies. The SaaS Platform enables you to **easily**, **quickly**, **and exhaustively scout relevant companies**, **technologies**, **& trends** for your innovation activities. This saves your time and increases efficiency, which is why more than 650 leading corporate partners including Samsung, Kyocera, and Nestlé already trust our technology.

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