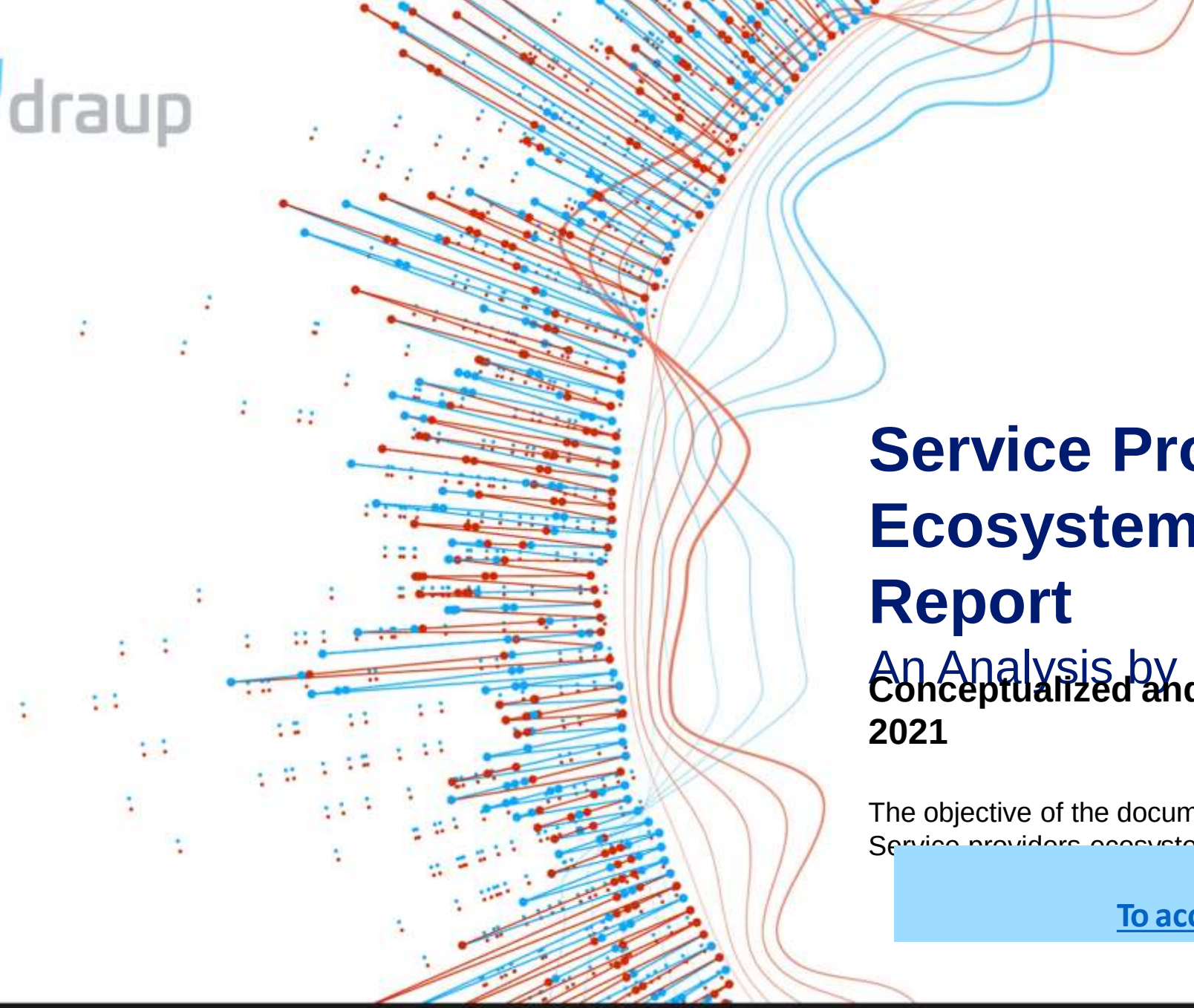

Service Providers Ecosystem in Automotive Report

An Analysis by Draup

Conceptualized and Developed: December-2021

The objective of the document is to provide an overview of the Service providers ecosystem in Automotive around the globe

CLICK HERE

To access the full report

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AGENDA

01	Market Overview
02	Service Provider Capability Analysis
03	Globalization Technology Footprint
04	Vendor Engagements
05	Service Providers Deepdive
06	Service Providers Capability Comparison and Overview
07	Key Focus and Opportunity Areas

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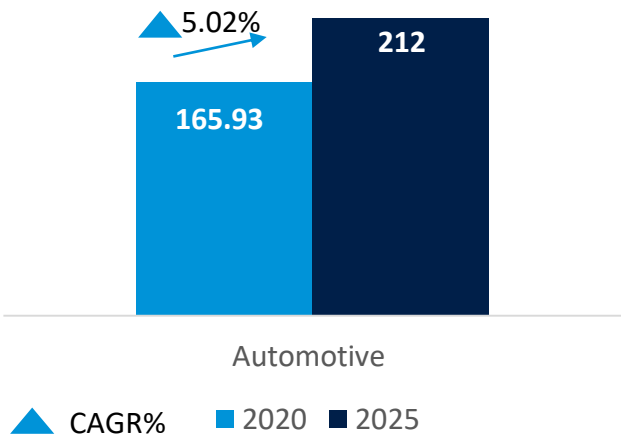
Automotive ER&D Overview: The automotive players are keen in enabling E-mobility and focused on investing in development of autonomous vehicles to meet the demand across the market

Automotive ER&D Spend (USD Bn)



Key Trends

- E-mobility has emerged as the main feature of investment according to the 2021 R&D survey results, namely around battery technology and management systems, e-motors, and power electronics
- Vehicle manufacturers are seeing regulatory challenges that are influencing business and pushing electrification
- Car companies have an ambitious plan to deliver BEVs that have to comply with all upcoming regulations from Europe, Greater China, North America, and other regions
- Many car manufactures are looking forward to developing autonomous vehicles to meet customer demand and reduce human interventions in complex traffic situations

Factors Affecting Automotive ER&D Market

Robotic Process Automation

The enhanced Artificial Intelligence in the assembly lines has streamlined vehicle production, making the manufacturing process more productive, efficient, and cost-effective.

Low Preference for Diesel Cars

Air quality concerns and taxation changes have led to a significant decrease in diesel vehicle sales, contributing significantly to the fall of new car registrations worldwide.

Feature Enhancements

OEMs are focusing on introducing and enhancing vehicle features driven by greater demand for safety & security and the need for seamless connectivity.

Covid-19 Impact

The Covid-19 pandemic has caused disruptions in the export of parts, large-scale manufacturing interruptions, and the closure of assembly plants across the globe.

Electrification

Expanding the use of Electric Vehicles across the various countries to achieve carbon neutrality and enhancing the e mobility solutions for the customers to drive towards electrification

Autonomous Cars

Evolving customer preferences has led to a shift in the R&D priorities of carmakers with an enhanced focus on the software layer to enable autonomous and ADAS capabilities.

Source: Economic Times, Markets and Markets, Globe Newswire, DXC Technology Newsroom

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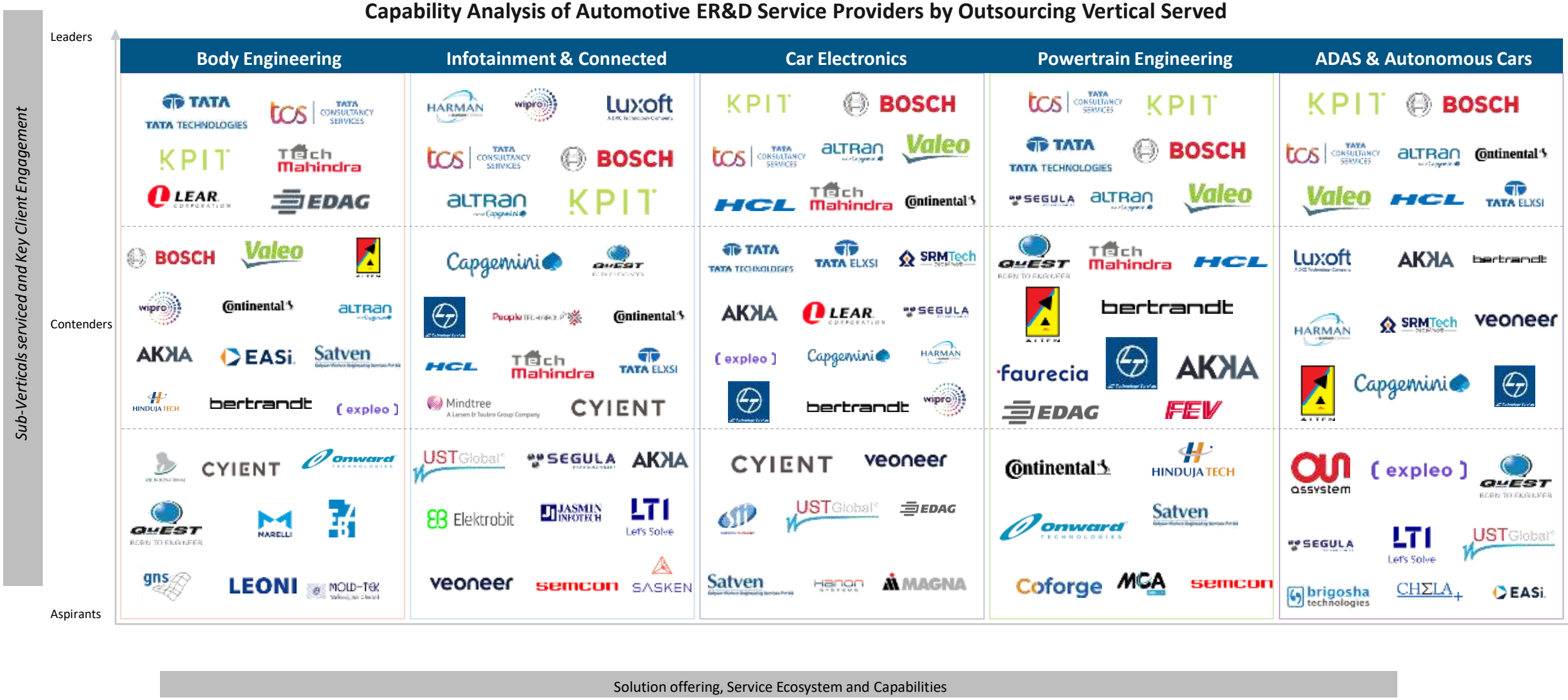
ER&D Capability Analysis: TCS is the major service provider with engagements across Body Engineering, Infotainment & Connected, Powertrain Engineering, Car Electronics and ADAS & Autonomous Cars

Capability Analysis of Automotive ER&D Service Providers by Outsourcing Vertical Served



Source: Draup Outsourcing Module
Note: The list of Service Providers is not exhaustive

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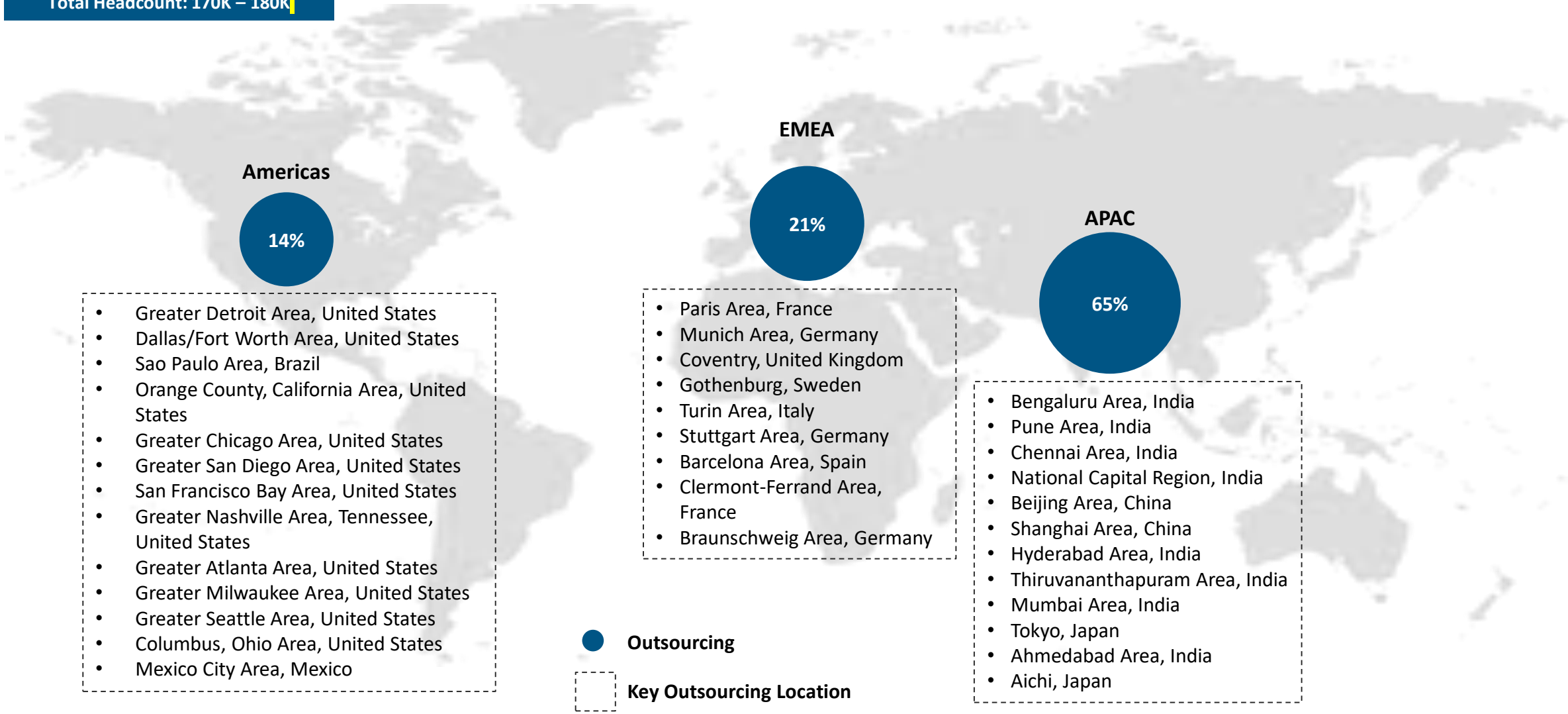
Globalization Technology Footprint: APAC region dominates Automotive Industry's global Technology workforce landscape

Outsourcing engagement across the region

Total Headcount: 170K – 180K



Source: Draup Globalization Module
Note: The represented data illustrates the number of centers by Geography and the bubble size is proportional to overall HC Installed in the area.

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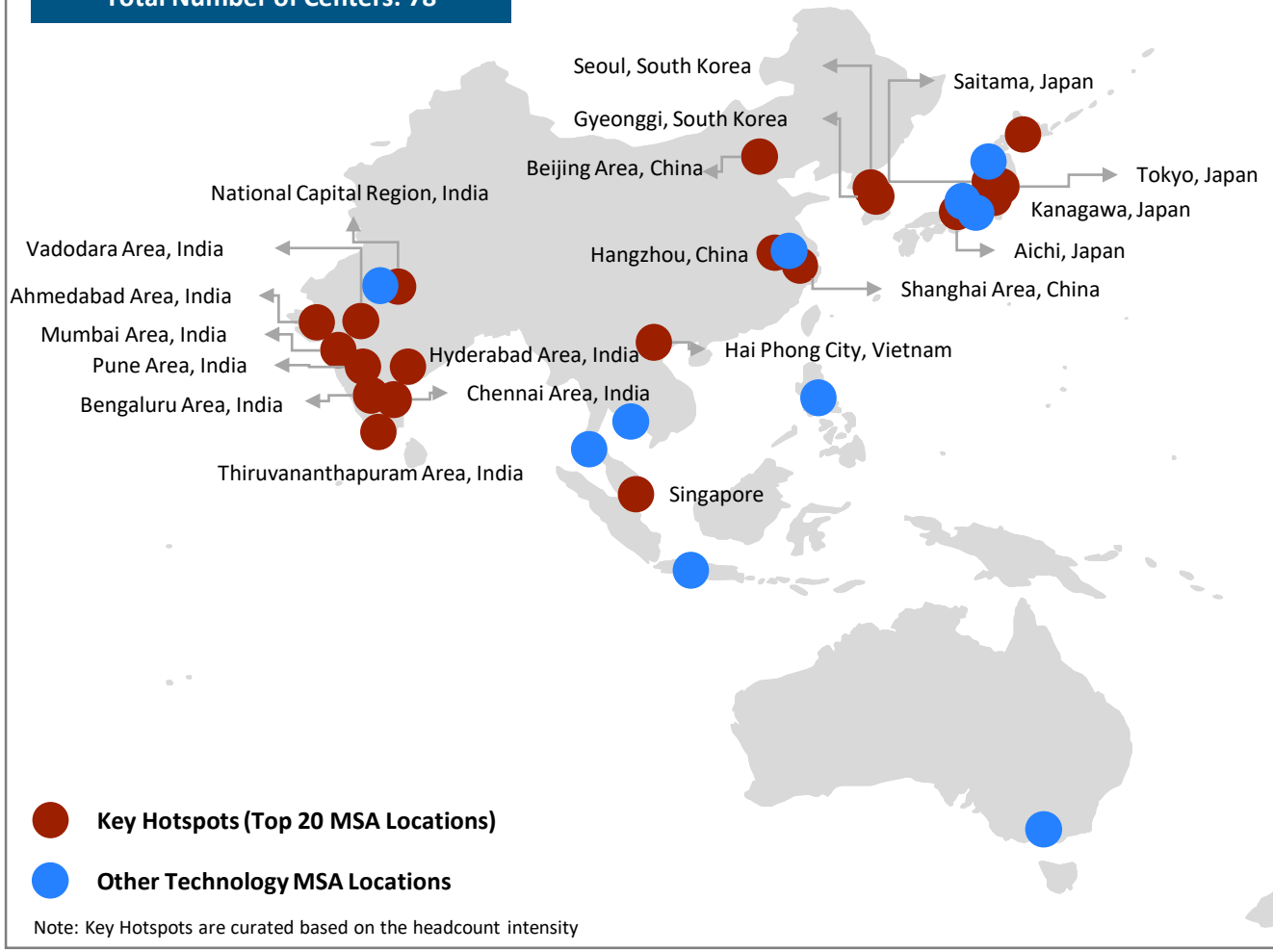
APAC Region Technology Footprint: India (Bengaluru Area, Pune Area, Chennai Area, National Capital Region), and Beijing Area, China, are the major client locations across the APAC region

Top MSA Locations across APAC Region

Total Headcount: ~110 K

Total Number of Centers: 78



Note: Key Hotspots are curated based on the headcount intensity

Associated Sub verticals

- IT Consulting
- Software Testing
- Server, Network, Desktop Management
- Application Development & Maintenance
- Business Intelligence
- System Integration

ER&D SP

TCS, KPIT, BOSCH, TATA TECHNOLOGIES, HCL, wipro, Tech Mahindra, HARMAN

IT SP

TCS, Infosys, Capgemini, HCL, Tech Mahindra, accenture, wipro, IBM

Associated OEM's

Ford, BMW, DAIMLER, Cummins, gm, STELLANTIS, JAGUAR LAND ROVER, NISSAN, HONDA, TOYOTA, VOLKSWAGEN, IBM

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Source: Draup Globalization Module
Note: The represented data illustrates the number of locations by Geography.

Key Locations Highlights (1/2): Bengaluru Area, India, Pune Area, India, and Chennai Area, India are the major locations with ~76% of the total technology workforce

Locations	Associated Sub verticals	Associated Service Providers	Key OEMs	Key Engagements
Bengaluru Area, India	• IT Consulting • Server, Network, Desktop Management • Software Testing	HCL, TCS, Infosys, Capgemini	GM, Daimler, Volvo, IBM	• Development, Testing, and Maintenance of AutoSAR Architecture. • Develop ADAS software, valid traffic objects labeled or marked & highlighted using proprietary client tools. • Involve in the maintenance of Diagnostics and Software download applications.
Pune Area, India	• IT Consulting • Server, Network, Desktop Management • Software Testing	TCS, KPIT, Tata Technologies, Infosys	Continental, Volkswagen, Stellantis, Jaguar Land Rover	• Design and Develop Power Window Switch. • Design and develop BIW Rear Door Inner Panel for Light Commercial Vehicles. • Simplify the draglink and valve block in the twin steering system. • Design and develop parts for assembly, validation, and changes.
Chennai Area, India	• IT Consulting • Software Testing • Application Development & Maintenance	TCS, Tech Mahindra, HCL, Cognizant	Ford, Stellantis, Daimler, Volvo	• Reduce forces on passengers during a possible crash event. • Execute feature to assist the driver with various Illumination moods. • Execute display as graphics for every action of driver entry-exit times.
National Capital Region, India	• IT Consulting • Server, Network, Desktop Management • Software Testing	Wipro, IBM, Capgemini, KPIT	Honda, Panasonic, Hitachi, Maruti Suzuki	• Modify Compressor Casing, Brackets to avoid vibrations. • Create reports specifications based on reports layout as per client specification. • Design of Air intake manifold, Cam cover, Thermostat, Air duct, and their modifications
Beijing Area, China	• Server, Network, Desktop Management • IT Consulting • Application Development & Maintenance	Accenture, Capgemini, NTT Data, Infosys	BMW, Audi, Volkswagen, FAW	• Control of the steering, vehicle speed, gearbox, and automatic brake. • Execute V2X applications like Vehicle-to-Vehicle (V2V), Vehicle-to-Infrastructure (V2I), and Vehicle-to-Phone (V2P) applications. • Develop a new process of NVH refinement from concept level to production level.

Source: Draup Globalization Module
Note: The above-mentioned Locations are the Hubs and Satellite for Automotive

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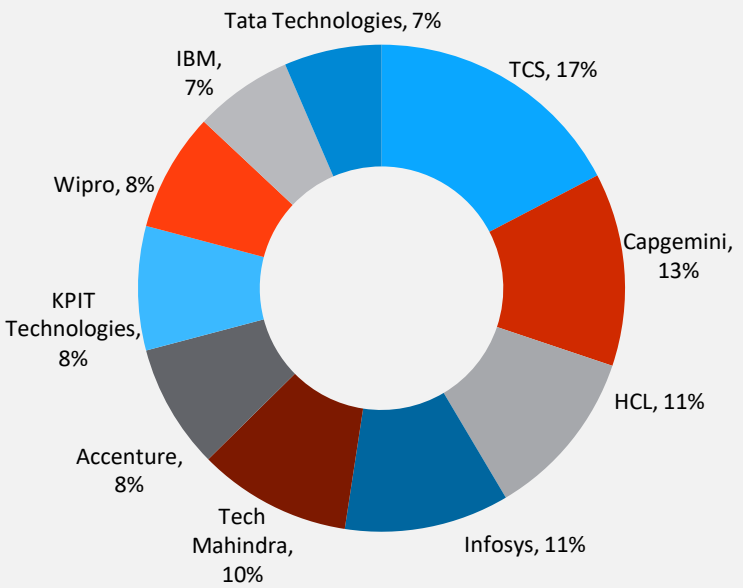
Vendor Analysis: TCS, Capgemini, HCL, Infosys, and Tech Mahindra are the major contributors to the outsourcing engagements for Automotive Industry

Total Service providers Analyzed
~ 1479

Total Sub Verticals Analyzed
6

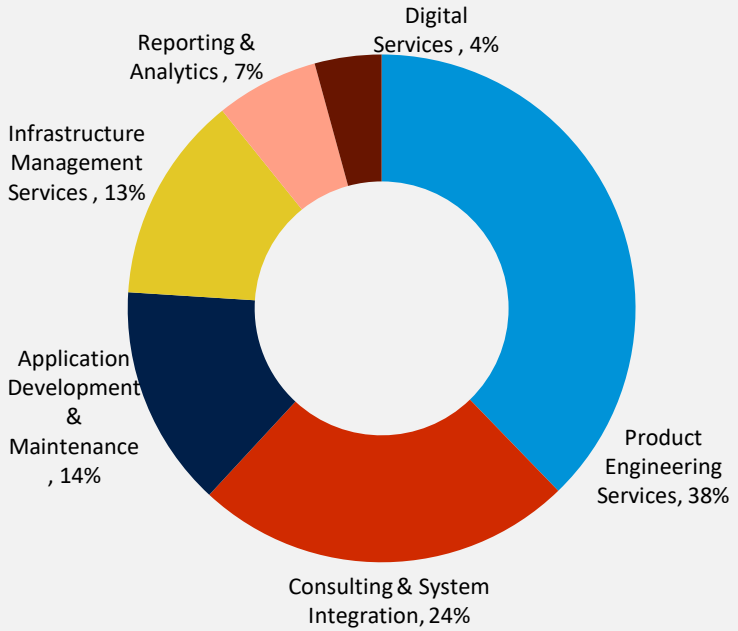
Total Clients Analyzed
~272

Split by Top Service Providers

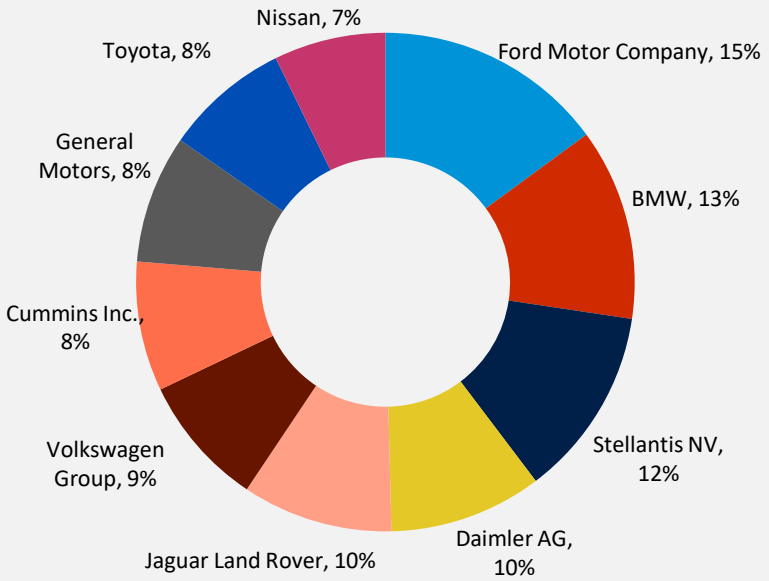


Note : The above chart is analysed by only considering top ten service providers, the list of service providers is not exhaustive

Split by Sub Verticals



Split by Top Clients



Note : The above chart is analysed by only considering top ten clients, the list of clients is not exhaustive

- Product Engineering Services – 38%, Consulting & System Integration – 24%, and Application Development & Maintenance – 14%, are the key services provided in automotive industry
- TCS – 17%, Capgemini – 13%, HCL – 11% are the key service providers of automotive industry
- Ford Motor Company – 15%, BMW– 13%, Stellantis NV – 12% are the key clients of automotive industry

Source: Draup Outsourcing Module

Note: Outsourcing analysis is based on curation and analysis of deals data from various secondary sources followed by computation through Machine Learning models and manual effort. Deals are then tagged to Draup's Predefined Sub service segments and HC estimation is a result of estimation models based on aggregation of data collected from various secondary sources.

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I	ER&D Vendor Analysis
II	IT Vendor Analysis

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ER&D Outsourcing Overview: BMW, Ford Motor Company, Jaguar Land Rover, Renault, General Motors are the key players associated with ER&D outsourcing engagements

No. of Clients Analyzed	Total Outsourcing Headcount
~207	66K – 67K

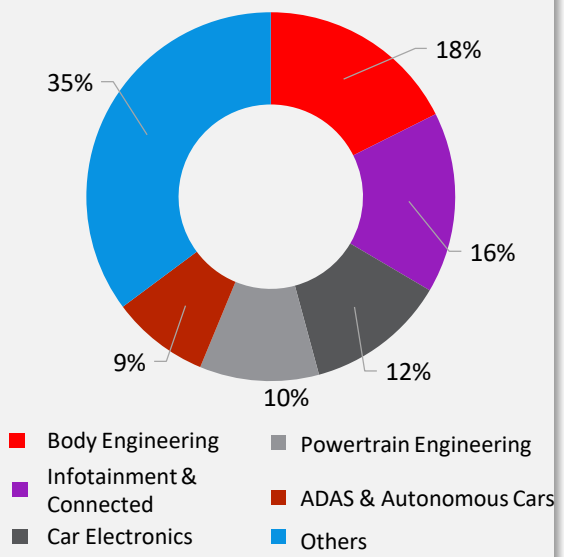
Key Client Locations

- Bengaluru Area, India
- Chennai Area, India
- Pune Area, India
- National Capital Region, India
- Beijing Area, China
- Paris Area, France
- Munich Area, Germany
- Shanghai Area, China
- Ahmedabad Area, India
- Greater Detroit Area, United States

Key Provider Locations

- Bengaluru Area, India
- Pune Area, India
- Chennai Area, India
- Hyderabad Area, India
- Paris Area, France
- National Capital Region, India
- Bucharest, Romania
- Greater Detroit Area, United States
- Coimbatore Area, India
- Munich Area, Germany

Micro Vertical Split



Top Clients

Top Clients Engagement Snapshot

Top Clients	Top Client MSA	Associated Micro Verticals	Key Workloads
BMW	• Beijing Area, China • Munich Area, Germany • Linz-Wels -Steyr Area, Austria	• Application Development & Maintenance • Software Testing • ADAS & Autonomous Cars	• Integration with emerging technologies with the product framework • Preparation of test strategy, test plan, and execution of test cases
Ford	• Chennai Area, India • Ahmedabad Area, India • Greater Detroit Area, United States	• Body Engineering • Infotainment & Connected • Car Electronics	• Preparation of Test Specification document Creating Test Scripts using CAPL. • Creation of Test Spec Based on the Customer Requirement
Jaguar Land Rover	• Pune Area, India • Coventry, United Kingdom • Bengaluru Area, India	• Body Engineering • Infotainment & Connected • Powertrain Engineering	• Development of Fuel System commodity as per Program delivery timing plan • Maintenance of Vehicle package & Design Reviews
Renault	• Paris Area, France • Bucharest, Romania • Chennai Area, India	• Body Engineering • Powertrain Engineering • Car Electronics • Infotainment & Connected	• Design and Development of Door Panel • Analysis of manufacturing process and lean manufacturing implementation
GM	• Bengaluru Area, India • Greater Detroit Area, United States • Toluca Area, Mexico	• Body Engineering • Infotainment & Connected • Powertrain Engineering • Car Electronics • ADAS & Autonomous Cars	• Design of park system and Dress kit 10L Program and Layout Work in powertrain transmission

Source: Draup Outsourcing Module

Note: Outsourcing analysis is based on curation and analysis of deals data from various secondary sources followed by computation through Machine Learning models and manual effort. Deals are then tagged to Draup's Predefined Sub service segments and HC estimation is a result of estimation models based on aggregation of data collected from various secondary sources & Other Micro Verticals are mentioned in Appendix.

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II	IT Vendor Analysis

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IT Outsourcing Overview: Ford Motor Company, Stellantis NV, Daimler AG, Toyota, and Cummins Inc. are the key players associated with IT outsourcing engagements

No. of Clients Analyzed	Total Outsourcing Headcount
~245	108K – 109K

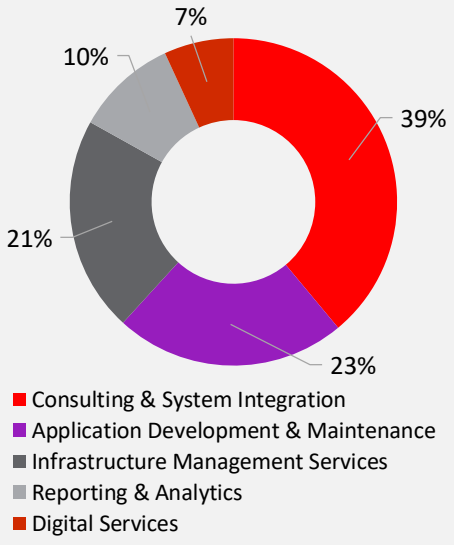
Key Client Locations

- Bengaluru Area, India
- Pune Area, India
- Chennai Area, India
- National Capital Region, India
- Beijing Area, China
- Greater Detroit Area, United States
- Paris Area, France
- Shanghai Area, China
- Thiruvananthapuram Area, India
- Gothenburg, Sweden

Key Provider Locations

- Bengaluru Area, India
- Hyderabad Area, India
- Pune Area, India
- Chennai Area, India
- National Capital Region, India
- Mumbai Area, India
- Paris Area, France
- Greater Detroit Area, United States
- Sao Paulo Area, Brazil
- Kolkata Area, India

Micro Vertical Split



Top Clients

Top Clients Engagement Snapshot

Top Clients	Top Client MSA	Associated Micro Verticals	Key Workloads
Ford	• Chennai Area, India • Greater Detroit Area, United States • Mexico City Area, Mexico • Chelmsford, United Kingdom	• IT Consulting • Software Testing • Application Development & Maintenance • Server, Network, Desktop Management	• Execute test cases through Test Link/JIRA and log Gemini, TFS, and JIRA defects. • Develop and maintain test automation framework.
STELLANTIS	• Pune Area, India • Hyderabad Area, India • Greater Detroit Area, United States • Turin Area, Italy	• IT Consulting • Application Development & Maintenance • Server, Network, Desktop Management	• Develop and implement selection screens and ALV for web portals using web Dynpro. • Implement SAP S4 HANA.
DAIMLER	• Bengaluru Area, India • Portland, Oregon Area, United States • Stuttgart Area, Germany • Chennai Area, India	• IT Consulting • Application Development & Maintenance • Server, Network, Desktop Management	• Develop the Scripts for the test cases and Execute with Debug mode. • Create Jenkin for microservices and Android applications.
TOYOTA	• Bengaluru Area, India • Dallas/Fort Worth Area, United States • Aichi, Japan • Sao Paulo Area, Brazil	• IT Consulting • Application Development & Maintenance • Server, Network, Desktop Management	• Implement Android application for testing and debugging purposes. • Troubleshoot, analyze and resolve computer problems related to both hardware and software.
Cummins	• Pune Area, India • Greater Minneapolis-St. Paul Area, United States • Indianapolis, Indiana Area, United States	• IT Consulting • Server, Network, Desktop Management • System Integration • Business Intelligence	• Prepare technical specification documents using the approved requirements. • Develop Web APIs, Master Address API.

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Source: Draup Outsourcing Module

Note: Outsourcing analysis is based on curation and analysis of deals data from various secondary sources followed by computation through Machine Learning models and manual effort. Deals are then tagged to Draup's Predefined Sub service segments and HC estimation is a result of estimation models based on aggregation of data collected from various secondary sources.

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TCS Overview: Autonomous and Connected Vehicle Experiences, Shared Mobility, Electric Mobility, and Neural Automotive solutions are the key Automotive Solutions provided by TCS

Tata Consultancy Service (TCS) is an Indian multinational information technology (IT) services and consulting company headquartered in Mumbai, Maharashtra, servicing in key areas like outsourcing, consulting, and IT management

Key Automotive Solutions

- *Autonomous and Connected Vehicle Experiences*
- *Shared Mobility*
- *Electric Mobility Solutions*
- *Neural Automotive Solution*
- *Smart Driver Vehicle Inspection Report Solution*
- *Data Analytics*

Key Leaders

Aaswad Kulkarni
Head - AUTOSAR, Automotive Engineering

Balaraman Thekkedath
Head - Connected Vehicle, Automotive Engineering

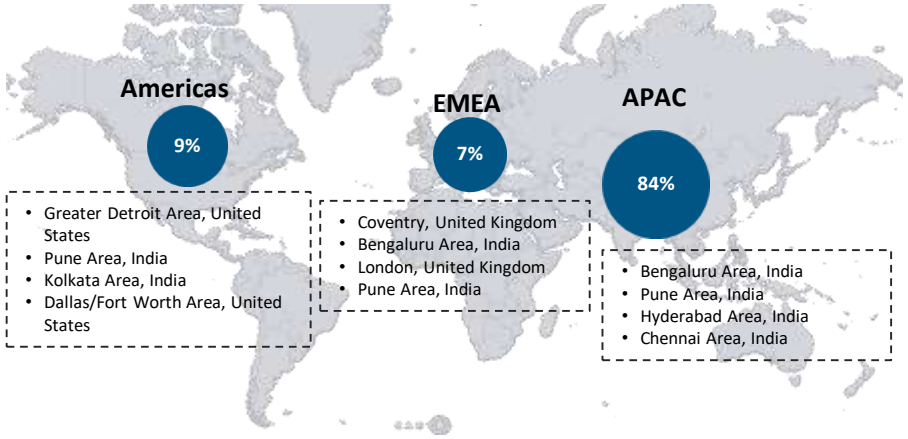
Abhishek Gupta
Head - Active and Passive safety Components, ABS/ESP/EPS/Airbag and ADAS

Associated Micro verticals

IT Consulting	Application Development & Maintenance
System Integration	Software Testing
Body Engineering	Infotainment & Connected
Business Intelligence	Powertrain Engineering
Server, Network, Desktop Management	Car Electronics

Globalization Footprint

Total Headcount: 13.2K – 13.3K



Associated Workloads

Key Workloads

- Design of passenger car interiors, as well as exteriors, includes door trims, top ceiling, floor mat, sensor cover, sub trunk, seat, bumper, garnish & attachments) for a Japanese OEM
- Design and development of BIW upper body A to B pillar parts & quarter panel assembly
- Design of conceptual of A-pillar to meet the durability requirement given by CAE team
- Design of sill outer assembly to align with BSO styling and to meet the crash requirements
- Performance of KPIs and specified evaluation parameters to the ADAS suppliers

Associated Clients

Source: Draup Outsourcing Module
Note: The represented data illustrates the number of centers by Geography and the bubble size is proportional to overall HC Installed in the area. The intensity of Micro vertical is curated based on the Sub verticals.

High Medium Low

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IBM Overview: Connected Vehicle Solutions, Vehicle Data Analytics, and IBM SAP consulting service and solutions are the key Automotive Solutions provided by IBM

IBM Creates innovative, personalized vehicle experiences and improves operational efficiencies and resiliency with automotive information technology.

Key Automotive Solutions

- *Connected Vehicle Solutions*
- *Vehicle data analytics*
- *Cybersecurity for Data Generated by Cars*
- *IBM SAP consulting services and solutions*
- *Product development solution*
- *Industry 4.0*
- *ACES Mobility*

Key Leaders

Stefan Schumacher
Global Director - Head of Automotive Strategy & Solutions - Digital Products & Services

Thomas Bartsch
Senior Managing Consultant, Global Solution Leader Connected Vehicle and System Engineering

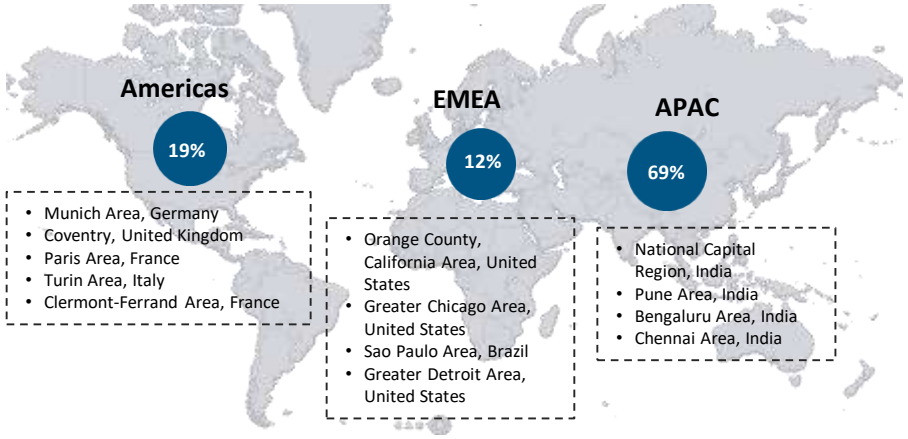
Charla Stracener
Electronics, Automotive, Aerospace & Defense Industry Lead

Associated Micro verticals

Server, Network, Desktop Management	IT Consulting
System Integration	Application Development & Maintenance
Business Intelligence	Software Testing
IT Risk Management	Distributed and Cloud Computing
Data Warehouse	Mobile Application Development

Globalization Footprint

Total Headcount: 4.9K – 5K



Associated Workloads

Key Workloads

- Development of mobility concepts and creating plans to shape the mobile future of the automotive industry
- Improvement of product design and internal operations through insight from the vehicle lifecycle
- Development of next-generation vehicles and address all the associated challenges
- Improvement of all areas of automotive production and assemble with Industry 4.0
- Development of connected car software to integrate real-time data of drivers, vehicles, and environments to optimize the in-car experience

Associated Clients

HONDA, STELLANTIS, MICHELIN, Panasonic, HYUNDAI, VOLKSWAGEN, gm, DAIMLER, HYUNDAI AutoEver

Source: Draup Outsourcing Module
Note: The represented data illustrates the number of locations by Geography and the bubble size is proportional to overall HC Installed in the area. The intensity of Micro vertical is curated based on the Sub verticals.

High Medium Low

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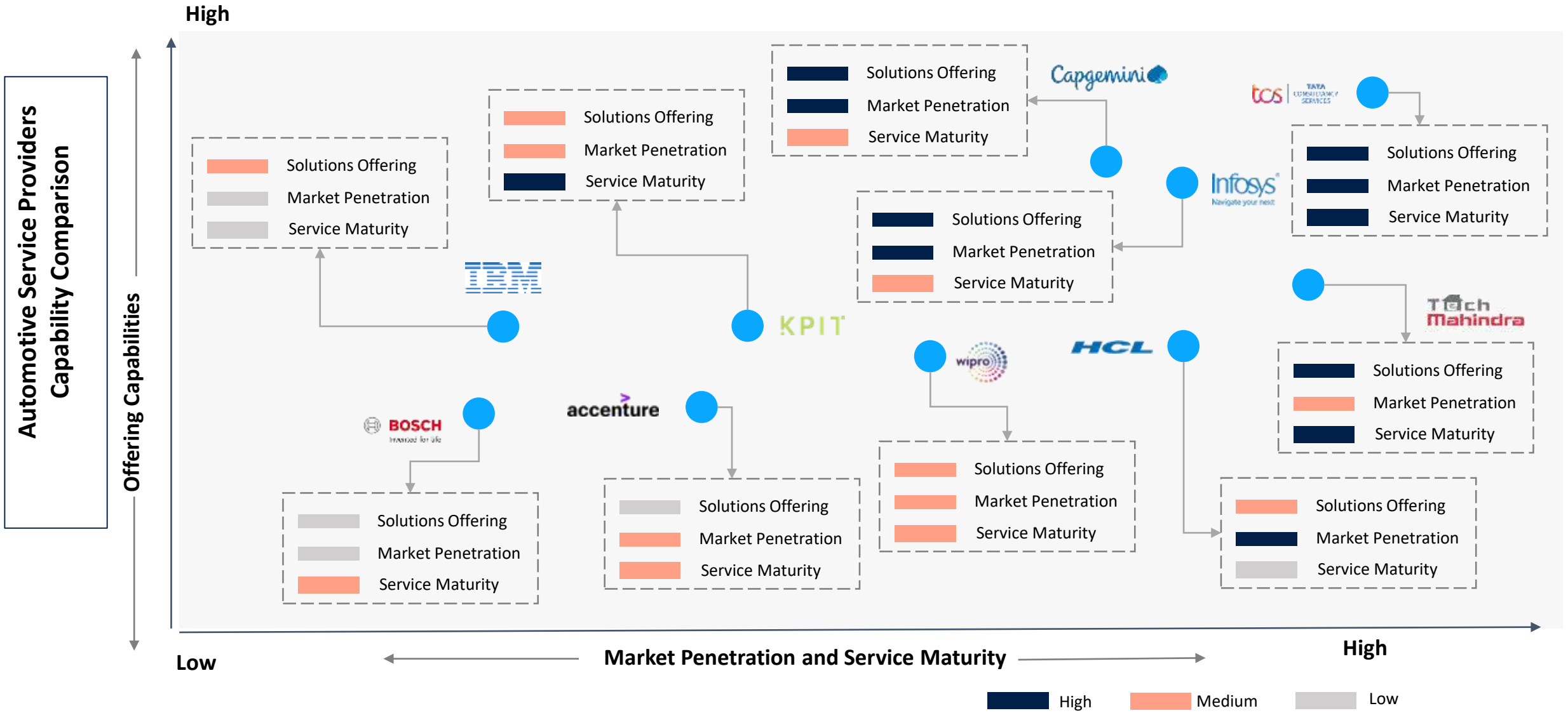
Service Providers Capability Comparison: TCS, Capgemini, and HCL are the leading automotive service providers delivering ER&D and IT solutions to the major players in the Automotive market



Note: Y axis shows Offering Capabilities- Intensity of Automotive solutions and initiatives
X axis shows intensity of Market penetration and Service Maturity

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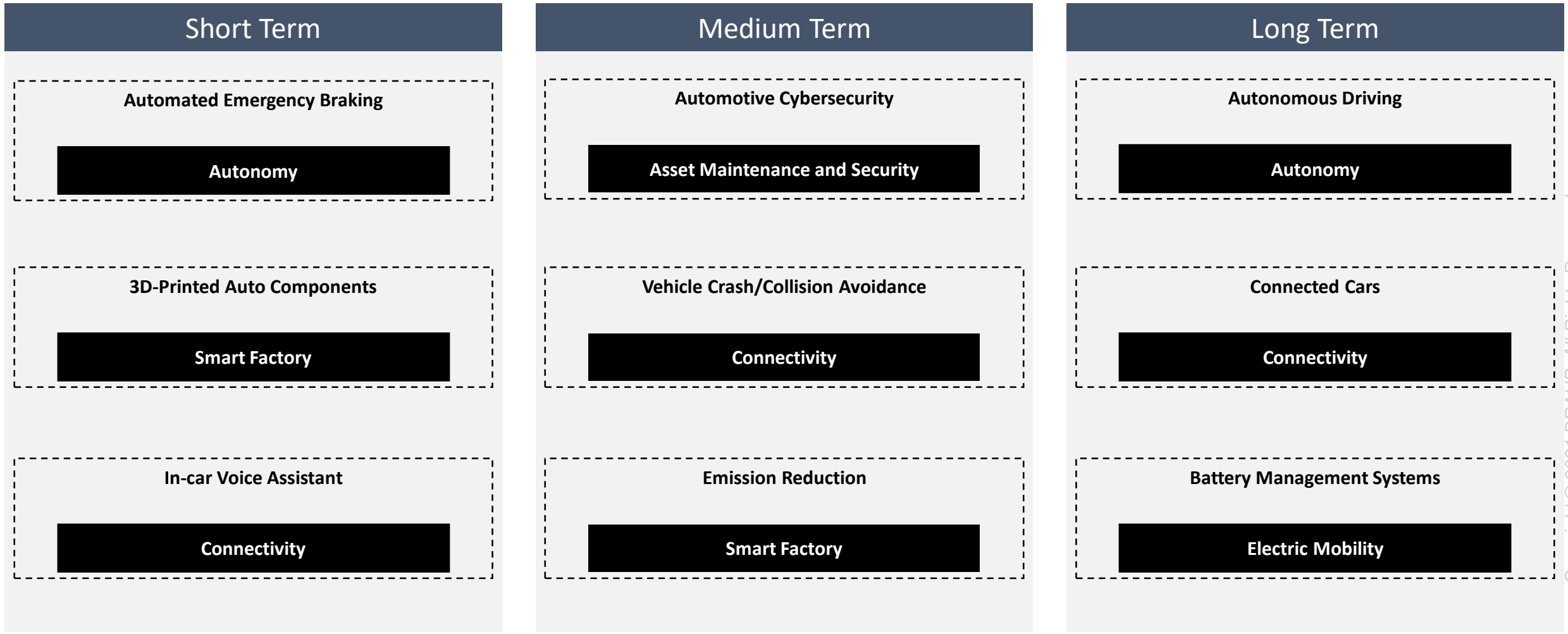
Key Focus Areas: By Analyzing Service Providers Ecosystem in Automotive, DRAUP has identified the following strategic key focus areas



Source: DRAUP Teams Analysis of products and solutions for Automotive Industry
Note: Above chart is indicative only

Note: Short term : 0-5 Months; Medium term: 5-10 Months; Long term: > 10 Months

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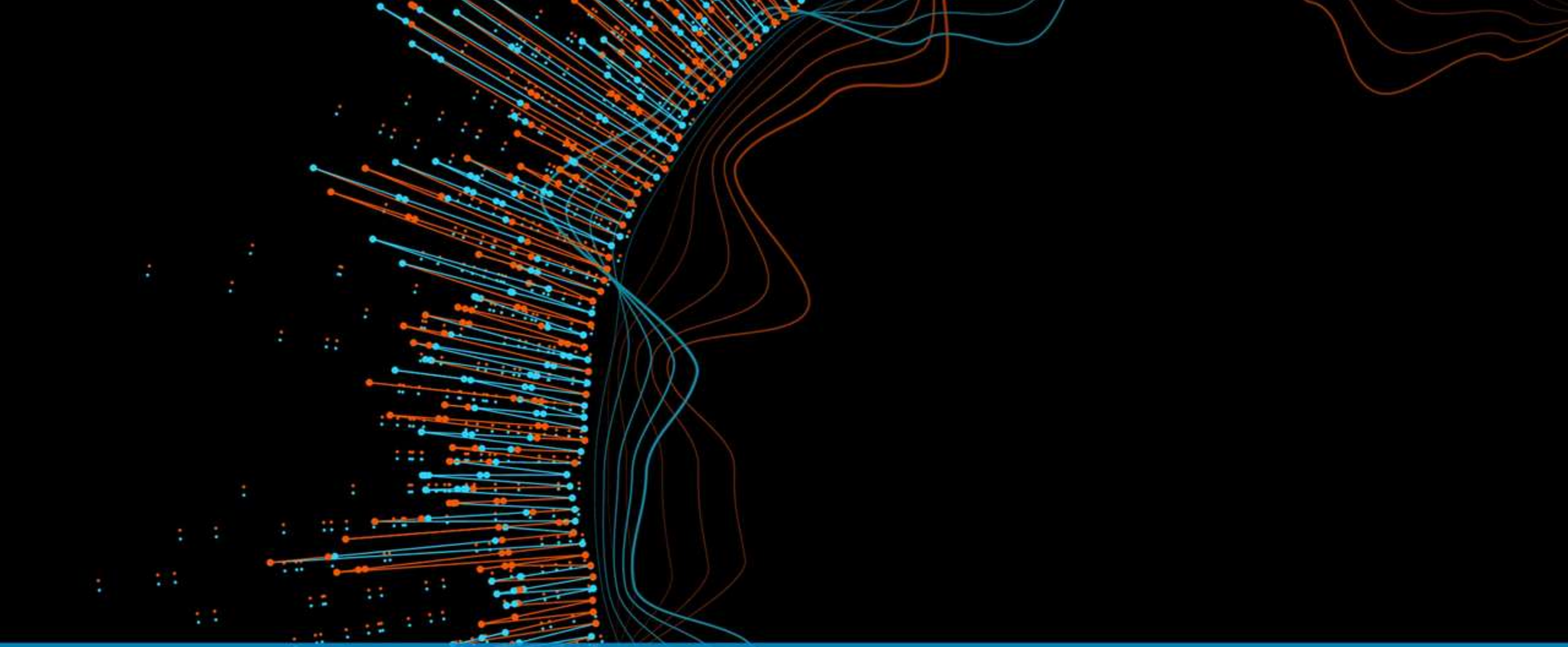

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