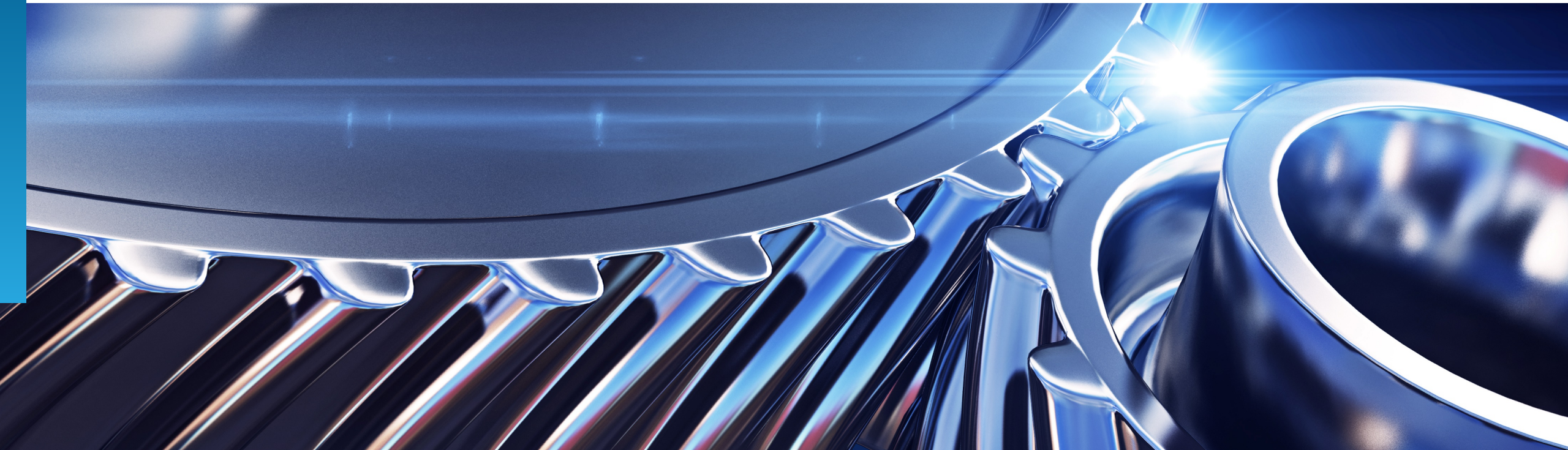


# Exploring the Future of Mobility: Autonomous, Connected, Electric, and Shared (ACES) Mobility Automotive Engineering Service Provider Compendium 2021

September 2021: Complimentary Abstract / Table of Contents



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## Background and introduction of the research

Changing global demand and perception surrounding a vehicle and the evolving experience-centricity around what it can offer is altering the automotive landscape. We see several trends impacting the industry; large OEMs have already started their journeys toward what is being perceived as the next normal. Some of these trends include:

- Global sustainability concerns, a carbon-free society, and reducing dependence on fossil fuels have resulted in moving propulsion technologies to hybrid and electric
- Technological advances in artificial intelligence and machine learning, combined with the low cost of sensors and improved networking technologies, have created a significant market for autonomous driving and Advanced Driver Assistance Systems (ADAS)
- Connectivity and data management are being used to optimize R&D and production costs, and even implement predictive maintenance and other new services
- Rising software-centricity in a vehicle and the entry of newer players is disrupting the market and accelerating the shift toward a technology-centric future

These developments have fueled the need to establish a compelling ecosystem of partners, and engineering service providers are actively enhancing their capabilities and offerings to help enterprises tackle these challenges in their automotive engineering journey, stay relevant, and create experience-centric offerings for the end-consumers.

This research, the third edition of Everest Group's **ACES Automotive Engineering Services PEAK Matrix®** Assessment, evaluates 23 engineering service providers, features them on the PEAK Matrix®, and shares insights into enterprise sourcing considerations. The study is based on RFI responses from service providers, interactions with their automotive engineering leadership, client reference checks, and an ongoing analysis of the engineering services market.

**The report assesses the following 23 leading engineering service providers featured on the ACES Automotive Engineering Services PEAK Matrix®:**

- **Leaders:** Alten, Capgemini, HCL Technologies, KPIT, LTTS, TCS, and Wipro
- **Major Contenders:** Akka Technologies, AVL, Bertrandt, Cognizant, DXC Luxoft, FEV, IAV, Intellias, NTT DATA, Tata Elxsi, Tech Mahindra, and UST Global
- **Aspirants:** eInfochips, Sasken, Semcon, and Sigma Software

### Scope of this report:



**Geography**  
Global



**Service providers**  
23 leading broad-based and pure-play engineering service providers



**Services**  
Automotive engineering services



# The report focuses on ACES automotive engineering services and offers insights into prominent service providers operating in this space

NOT EXHAUSTIVE

## Consulting & design

Strategy formulation, roadmap creation, product ideation & design, and technology assessments

## Development & implementation

Core product ideation & R&D support, platform development, embedded & hardware engineering

## Verification & validation

Performance testing, certifications, parameters verification, test automation & unit testing

## Maintenance & management

Ongoing management, monitoring, support, and upgrades/updates

 Focus of research

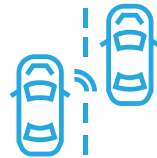
## ACES\* automotive engineering services – market definition

ACES automotive engineering services covers the emerging segments of autonomous, connected, electric, and shared mobility within the auto industry.



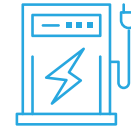
### Autonomous

ADAS, L1-L5 autonomous capabilities, driver monitoring, object detection & tracking, and intelligent systems.



### Connected

Vehicle to vehicle communication, telematics, systems integration, diagnostics, HMI, and advanced infotainment.



### Electric

Battery and powertrain engineering, charging systems, energy optimization, and power electronics.



### Shared

Platforms for shared mobility services, fleet and network management, and integrated transportation systems.

The report focuses on evaluating service providers offering mechanical engineering, embedded orchestration, and software solutions across the ACES domains within automotive engineering services.

Note: While these themes may in some cases overlap or work in conjunction with one another, this assessment aims to capture both individual and aggregated views of these segments within the automotive space

# The ACES automotive engineering service provider compendium report has profiles and buyer case studies for 23 leading engineering service providers

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## Service Provider | ACES automotive engineering services profile (page 1 of 4)

Everest Group assessment – L

Market impact		
Market adoption	Portfolio mix	Value

### Strengths

- Well-balanced mix of client portfolio across small, medium, and large enterprises spanning all key geographies
- Compelling and market recognized expertise in vehicle engineering and design, and next-generation vehicle engineering and design, and next-generation vehicle engineering and design
- Strong partnership-led engagement with top clients in terms of delivery, time-to-market, and competitive pricing

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## Service Provider | ACES automotive engineering services profile (page 2 of 4)

### Overview

#### Vision & strategy

Service provider is a leading independent software development partner, which aims to help mobility leapfrog toward an autonomous, smart, and connected future. With 7,000 employees specializing in embedded software, AI, and digital solutions, it accelerates clients' implementation of next-generation technology on their mobility roadmap. It has its engineering centers in Europe, Thailand, and India. The company's vision statement is to help you create a cleaner, smarter and safer world.

It intends to achieve its vision by offering automotive software solutions for autonomous driving and Advanced Driver Assistance Systems (ADAS) and conventional powertrains; vehicle diagnostics, digital solutions for vehicles' AUTOSAR, middleware, and vehicle engineering. Its strategy is to focus on its top 25 clients and strategic customers, building on Service provider's expertise in the latest development and technology trends.

#### ACES automotive engineering services revenue (Jan 2020-Dec 2020)

<US\$100 million	US\$100-250 million	US\$250-500 million
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#### YoY growth rate in ACES automotive engineering services revenue (Jan 2020-Dec 2020)

<10%	10-20%	20-30%
------	--------	--------

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## Service Provider | ACES automotive engineering services profile (page 3 of 4)

### Case studies and solutions

#### Case study 1

**Business challenge:** Develop an Autonomous Emergency Steering (L3+) feature for a vehicle. Testing and vehicle testing poses a challenge due to the lack of test vehicles.

**Solution and impact:** Service provider developed and validated Autonomous Emergency Support, and Emergency Avoidance (EA) features. This included compliant scenarios, and emergency avoidance features that can be implemented in the next two years.

#### Case study 2

**Business challenge:** The challenge was to build and integrate software for a crucial charging, high-voltage electronics, and drive control for electric vehicles.

**Solution and impact:** Service provider played the role of lead integrator, owning software development and integration with the OEM & Tier 1. The project involved time reduction through the CI/CD framework. Service provider restructured the architecture and design and began new development of charging protocols (CHAdemo, GB/T, and Chao) for electric vehicles.

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## Service Provider | ACES automotive engineering services profile (page 4 of 4)

### Investments and partnerships

#### Key alliances and partnerships (representative list)

Company	Details
AUTOSAR	Service provider provides products and services for the various layers of AUTOSAR stack for OEMs, Tier 1s, and semiconductor Original Design Manufacturers (ODMs)
Association for Standardization of Automation and Measuring Systems (ASAM)	Key contributor and premium partner for ASAM, an association under German Law that defines protocols, data models, file formats, and application programming interfaces for use in the development and testing of automotive electronic control units
Udacity	Partnership to upskill and build the engineering talent ecosystem for autonomous technology, including self-driving cars and autonomous flight
Autonomous Vehicle computing consortium	Service provider joins the Autonomous Vehicle Computing Consortium to contribute insights and expertise in software development for autonomous driving technology
CharIN	The membership in CharIN e.V. is a continuation of the vision and investments that Service provider is putting towards reimagining electric mobility. Service provider plans to be an active member of CharIN e.V. by contributing to the ecosystem's efforts in standardizing and adopting CCS as a global standard
Connected Vehicles Consortium	Service provider is a part of the CV consortium, giving insights and expertise in software development & integration for connected vehicles

#### Recent ACES automotive engineering services investments/acquisitions (representative list)

Investment/Target	Company description
Microfuzzy	Acquisition of Microfuzzy to offer automotive consulting and engineering services, and gain a foothold in the clean energy electric vehicle space
Pathpartner	Acquisition of PathPartner. PathPartner is a specialist design service and solution provider for operating system software and low-level software for automotive, camera, radar, and multimedia devices

Source: Everest Group (2021)

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# Research calendar

## Engineering services

■ Published
 ■ Planned
 ■ Current release

### Flagship engineering services reports

	Release date
Reaching New Frontiers in Experience-centricity and Resilience: Software Product Engineering Services PEAK Matrix® Assessment 2021	March 2021
Semiconductor Engineering Services PEAK Matrix® Assessment 2021: Enabling the Hyper-connected Intelligent World	March 2021
A Transformational Leap in Cyber-physical Convergence – Industry 4.0 State of the Market Report 2021	April 2021
<b>Exploring the Future of Mobility: Autonomous, Connected, Electric, and Shared (ACES) Mobility Automotive Engineering Services PEAK Matrix® Assessment 2021</b>	<b>September 2021</b>
State of the Market – Software Product Engineering Services PEAK Matrix® Assessment 2021	Q3 2021
5G Engineering Services PEAK Matrix® Assessment 2021	Q3 2021
Medical Devices IoT Services PEAK Matrix® Assessment 2021	Q4 2021
Digital Engineering Services PEAK Matrix® Assessment 2021	Q4 2021

### Thematic engineering services reports

	Release date
Digital Twins and their Adoption Across Industries	February 2021
The Role of Global Business Service (GBS) Organizations in the Automotive Industry: What Lies Ahead?	March 2021
Engineering Services Enterprise Pulse: Are Engineering Enterprises Truly Happy with Their Service Providers?	April 2021
Engineering Services Top 50	June 2021
Trends in the Top 200 Engineering Research & Development (ER&D) Enterprises	Q3 2021
Extended Reality and its Applications Across Industries	Q3 2021
Engineering Services Enterprise Sourcing Handbook	Q3 2021
Trailblazers: Cloud Engineering Service Providers	Q4 2021

Note: For a list of all of our published ES reports, please refer to our [website page](#)





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