

# ALTEN Global Technologies



ALTEN Global Technologies Private Limited (ALTEN GT) is part of the ALTEN Group of companies with primary focus on Automotive, Aerospace, Embedded & Enterprise products and engineering services.

With strong background in Built-to-Spec Safety Critical Product Development, ALTEN GT has made significant contribution towards been working on the automotive vertical in the areas of GPS, Telematics, Motor Control Units, Communication Stacks, Bootloaders & Functional Safety Engineering Services on several customer programs

Over the years, ALTEN GT has chartered an impressive record of accomplishment In customer satisfaction, innovation, sales and profitability. This has been made possible with continuous enhancement of Competence in Technology, Quality Processes, Project Management and Customer Focus.



## Automotive Offerings



### VISION

To build the best Engineering Brand in the world.



### MISSION

We shall provide innovative Products and Services to our customers in the field of Aerospace, Automotive, Embedded and other Safety Critical Systems including Commercial Systems.

We shall strive to be the most trusted partner to our customers, consistently exceeding the expectations through Innovation, Commitment and Passion for Excellence.



### VALUES

- Innovation
- Nimble
- Social Responsibility
- Passion
- Integrity Fairness
- Reliability & Safety
- Excellence

### QUALITY



**ALTEN Global Technologies**

(Formerly Accord Global Technology Solutions Pvt. Ltd.)

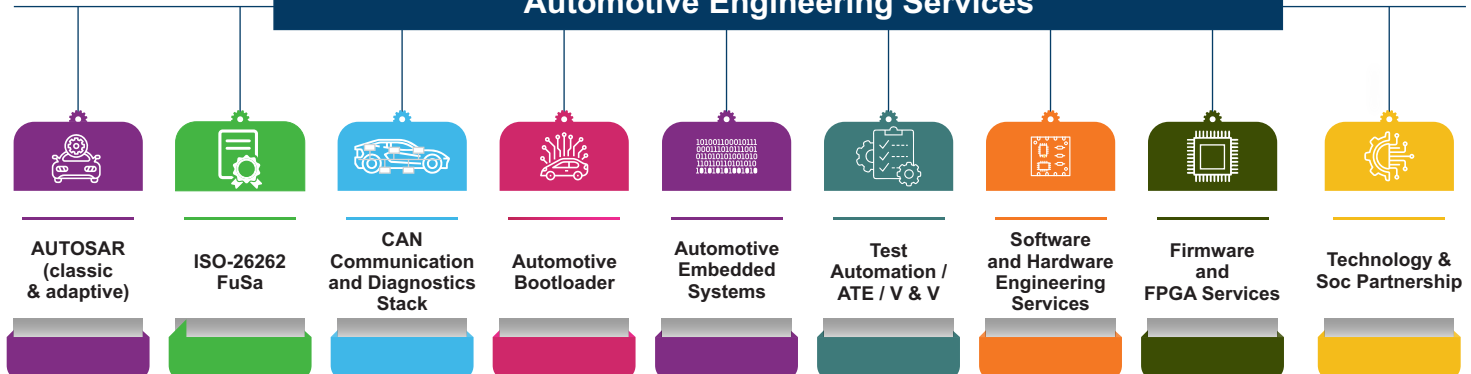
ISO 9001:2015  
AS9100:2016 Rev D  
CMMI Level 5 V2.2

## 31 Years of Excellence in Product Engineering Services

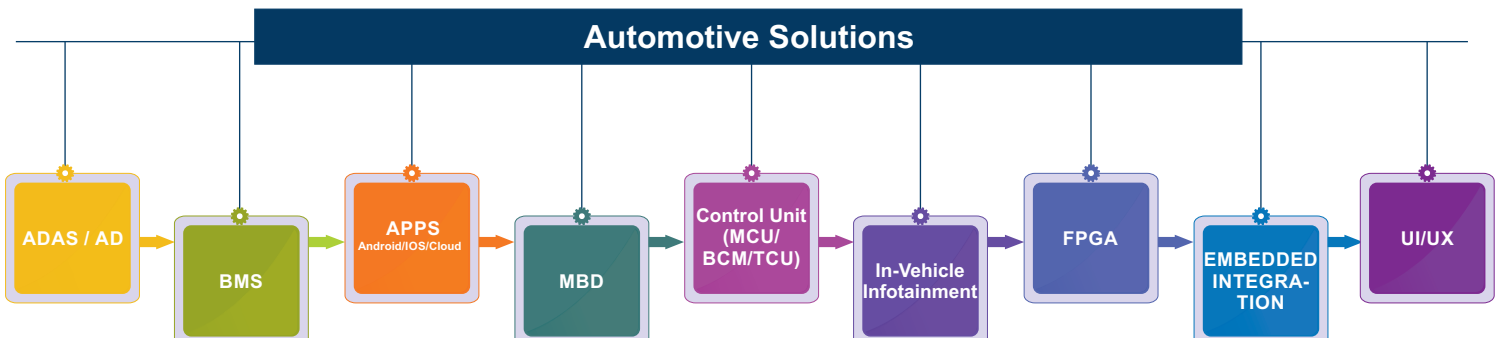


**Our International Presence**

## Automotive Engineering Services

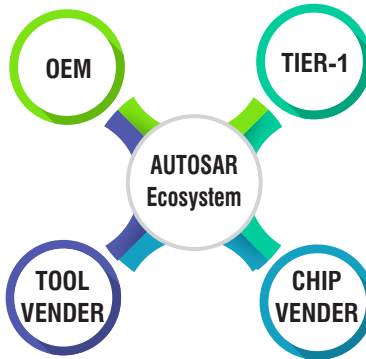
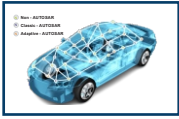


## Automotive Solutions



## AUTOSAR

- Integration partner for OEM's Series Production Suppliers ←
- Research Projects ←
- Comparison of existing specs with AR ←
- Migration/Maintenance of Functions ←
- Tool Development Services ←



- Development and/or Migration of AR Application
- Integration of BSW with Application Components
- Custom (NON-AUTOSAR / Hybrid) development
- Maintenance of AUTOSAR ECUs



- Authoring Tool Development Services ←
- BSW Component Development ←
- Maintenance ←

- MCAL Development & Porting
- Maintenance
- Expertise with I/O Drivers, Microcontrollers & Communication Drivers

## Hardware Engineering Services

- Design & Development of automotive ECUs
- Design for functional Safety
- System Integration
- Highspeed multilayer board design
- Power Electronics & DC-DC design
- FPGA Coding
- PCB Layout for Multi layered boards
- Compliance testing/product qualification
- Reliability analysis-FMEA & MTBF

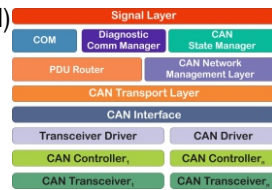


## Software Services

- Automotive software full life cycle per ISO26262 ASIL-D QM
- Automotive software partial life cycle V&V per ISO26262 ASIL-D QM
- Desktop / Web Application Development
- Mobile Application Development
- Tools development and qualification
- Requirement management
- BSP and driver development
- Re-usable and shared component development
- Hardware-software integration testing
- Engineering and process quality assessment services
- Certification services
- RTOS support

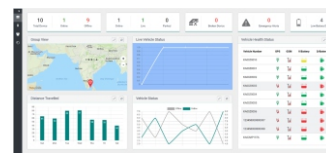
## Communication Protocol Stacks

- ISO 15765 (CAN Communication)
- ISO 14229 (Diagnostics UDS on CAN)
- CanOpen
- CAN 2.0B and CAN FD (Driver)
- Specification Development support
- Network design support
- Network Review support
- System performance evaluation support
- Secured Data Transfer Encryption & Decryption
- Performance metrics analysis

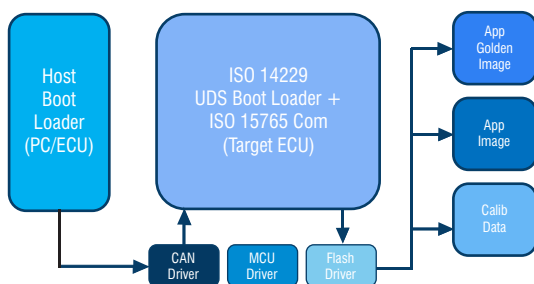


## Telematics Ecosystem

- AIS-140 compatible Telematics device for a Tier 1 Automotive giant - Deployed in more than 40,000 vehicles across India
- FMS platform hosted on cloud for a Tier 1 Supplier - managing more than 20,000 vehicles



## Automotive Bootloader



- ISO 14229 (UDS Boot loader on CAN)
- Secure Boot loader

## ISO 26262 and 25119 FuSa Practice

- Hardware design-Architecture/FMEDA/Diagnostics
- Software FMEA/FTA/DFA coverage analysis
- Integration & Testing-Hardware/Software safety validation
- Model Based Development-MIL/SIL/PIL Testing
- Fault injection testing
- Regression/backto back testing
- Complete product life cycle support
- Safety & Reliability analysis
- Tool Development & Validation
- BSW & MCAL Development/Migration/Porting/Verification

## Battery Management System - BMS

- In-House Battery Characterization and Data Generation
- Advanced and accurate state estimations (SoC and SoH)
- Experience with BMS AFE – NXP, AD, MAXIM, TI
- Model Based Algorithms
- Passive Cell Balancing
- Targeted for wide battery chemistry (currently targeting LFP battery)



- Built to address centralized, modular and distributed BMS architecture to cater to wide variety of vehicle platforms
- BMS Smart Algorithms Development
- Model Based Design and Development
- Embedded Software Design and Development
- Hardware Design and Development
- SIL, MIL and HIL Testing
- Functional Safety-ISO26262

## Motor Control Unit - MCU

- Motor Plant Modeling, Inverter Modeling
- PID Control Parameters Tuning
- Control algorithm simulation
- Control algorithm development
- Hall sensor & Encoder sensor interfaces
- Model based design and development
- Board support package design and development
- Boot loader
- CAN Communication protocol
- MIL, SIL and PIL testing
- Verification
- Parameters tuning software



### Software and Hardware components of a motor control solution

- Microcontroller platform
- Integrated Inverter/Power stage
- Communication and Diagnostics stacks

### Product Engineering Services for Motor Control Solution Development

- Hardware and Software Development Services
- Model Based Development
- Porting and Integration Services

## Advanced Driver Assistance System - ADAS

### Phase 1:

1. Adaptive Cruise Control (ACC)
2. Forward Collision Warning (FCW)
3. Autonomous Emergency Braking (AEB)

### Phase 2:

1. Lane Departure Warning (LDW)
2. Lane Keep Assist (LKA)
3. Lane Centering (LC)
4. Blind Spot Monitoring (BSM)
5. Rear Cross Traffic Alert (RCTA)



### Phase 3:

1. Object Detection (Deep learning Model) - OD
2. Traffic Sign Recognition (TSR)
3. Pedestrian Detection (PD)
4. Driver drowsiness detection (DDD)
5. Driver Monitoring (DM)

### Phase 4:

1. Adaptive cruise control (ACC) with LIDAAR, RADAAR, CAMERA

## AIML



- Deep Learning Apps
- Image/Video Analytics
- Data Analytics
- Image Processing
- ML Model Development
- Embedded System Deployment
- Virtual Assistants

## Cloud Services

- Amazon webservices
- Microsoft AZZURE
- Google Cloud Platform
- Web hosting Services
- Enterprise Migration application support
- Cloud Infra planning procurement & Execution
- Mobile/Web stack development
- Protocol stack development & Validation
- Microservices/API gateway services
- Ecommerce development & Validation
- Smart home Application design Development & Validation





## ATE/HIL

- Design, Development, Validation & certification, installation of ATE
- LabVIEW, LabWindows, Python, Matlab & Simulink RT, Perl based fully automated application
- ATE for analog / digital discrete I/Os, RF and microwave signals, Audio/Video, Avionics & MIL Interfaces
- Hardware Development Platform PXI/e, VXI, PCI/e cDAQ and custom hardware

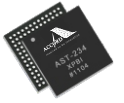


## ASIC Engineering

- Feasibility study, analysis
- Device evaluation & Qualification
- Automotive grade ASICs
- RF & Communications grade ASICs
- PLD / FPGA development using VHDL or Verilog
- FPGA to ASIC engineering
- Re-usable IP for ARINC 429, MIL-1553, FFT blocks
- SEU mitigation schemes
- Complete DO-254 life cycle services- Level A, B, C



AST-230



AST-234



AST-GLSRF



AST-GPSRF

# GREEN TECHNOLOGIES



- Cloud Enabling Legacy Equipment
- Data Collection & Analytics for Remote industrial locations
- Benefits of IoT/Cloud Integration
- Data Availability - Strategically located small devices continuously collect environmental and performance data
- Reduce Operational Cost - Monitoring important parameters remotely improves Performance & Efficiency, Saves cost and Protects assets
- Reduce Downtime – Achieved by Predictive Maintenance

## Features

Data Integration	On Demand Data Transfer	Multiple Sensor Support
BLE Enabled	Remote Data Storage	Time Sync
	NFC Communication	

# Automotive Integrated Solutions



Telematic Control



Cloud Support



Home Automation



AI/ML



[www.altengt.com](http://www.altengt.com)