

Board Support Package Use Cases and Applications

Board Support Package contains Low level device driver and HAL layer. It is the essential to boot the system. By this virtue, BSP finds its application in almost every automotive ECU software.

Following are some of the industry applications of BSP:

- Seating Control ECU software
- Infotainment and Car Head-up Display (HUD) Applications
- Advanced Driver Assistance System (ADAS)
- Power Train ECUs
- Battery Management System in Electric Vehicles and more.

Salient Features

- Low-level drivers such as CAN, SPI, LIN, MCU, GPT and others are part of the package.
- HAL (Hardware Abstraction Libraries).
- HAL layer component supports major 8/16/32 bit microcontroller platforms.
- HAL layer can be customized on the basis of target hardware platform.
- Integration-level and module-level testing and verification performed.
- MISRA-C Compliant Code
- Conformance test (with multiple test-cases) for LIN and CAN bus system.
- Compliant with both AUTOSAR and non-AUTOSAR architecture depending on customer requirements.

Engagement Model and Overview

We offer our Board Support Package (BSP) on a **one-time license fee** model. This model makes our customers the owner of the entire **BSP source code** along with the solution **IP rights**.

This implies that the customer becomes entitled to re-use the BSP solution across **multiple projects**.

A number of trusted and global automotive OEMs and Suppliers have leveraged this business model for **successful integration** of board support packages, with their several **vehicle production programs**.

BSP design: Solution Highlights and Hardware expertise

Embitel offers ready-to-deploy Board Support Package (BSP) reference design solution. This BSP solution has been designed for deployment across all major hardware platforms, popularly used for various **automotive applications**.

In addition to **BSP reference design** solution, we also provide **custom board support package solution** that is designed as per your specific project requirements.

Following are some of the hardware platforms, for which our team has project delivery experience:

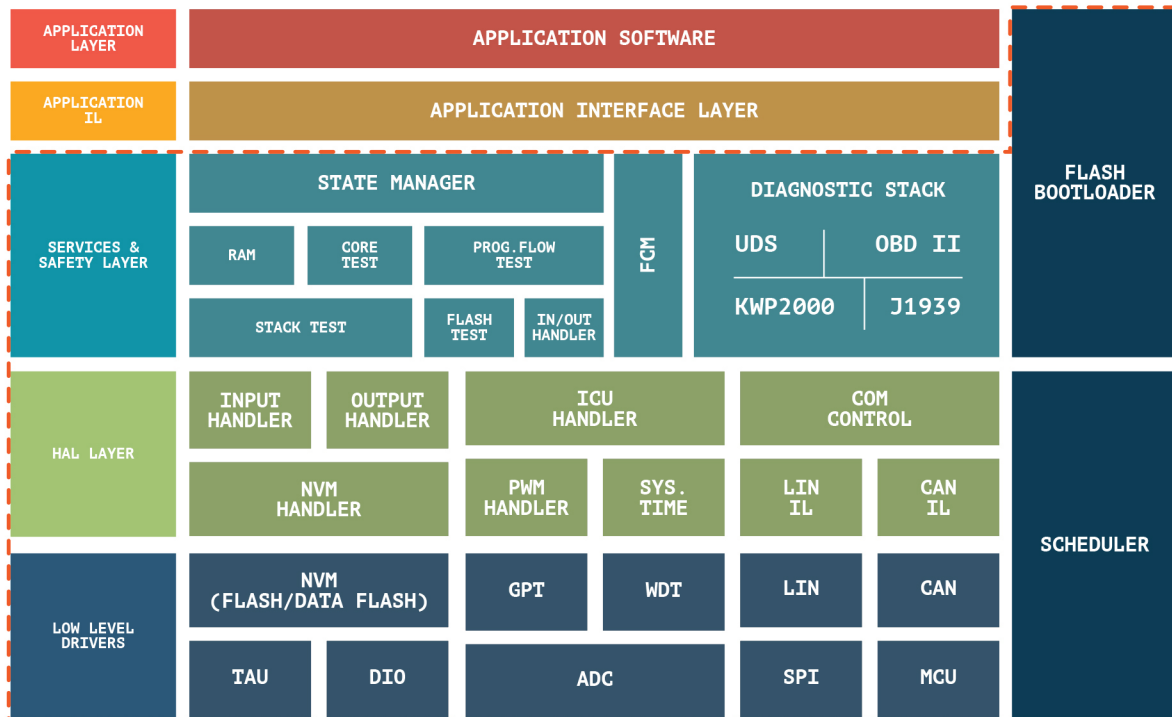
1. Freescale(S12G128, MPC56XX)
2. Renesas (RL 78, RH 850)
3. Fujitsu, Texas, Atmel, STMicroelectronics and Cypress

What's inside our Board Support Package?

Our Board Support Package comprises the **hardware abstraction libraries** and **low-level drivers** that are required for efficient board bring-up.

The HALs and the drivers can be customized on the basis of number of **CAN, ADC and PWM Channels**.

The following components are part of the complete Board Support package:



UDS Stack Integration, Testing and Support Services

- Device driver development to allow OS to communicate with the hardware components
- Hardware Abstraction Layer development for hardware initialization, memory management and more
- Board Support Package customization
- Testing and Verification services including unit, functional and integration testing
- Safety module development including RAM/ROM corruption test, CPU overload test, program flow test etc.
- Fault code memory integration
- ECU state manager module development and integration
- Support and Maintenance services at any phase of vehicle testing, post BSP deployment

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