



Motor control meets Automotive  
Services for Infineon Embedded Power ICs

- > Services for the TLE986x and TLE987x families

Hitex is Embedded Power Preferred Design House (PDH)





Questions about Embedded Power? Ask us  
Services for sophisticated embedded applications

## Content

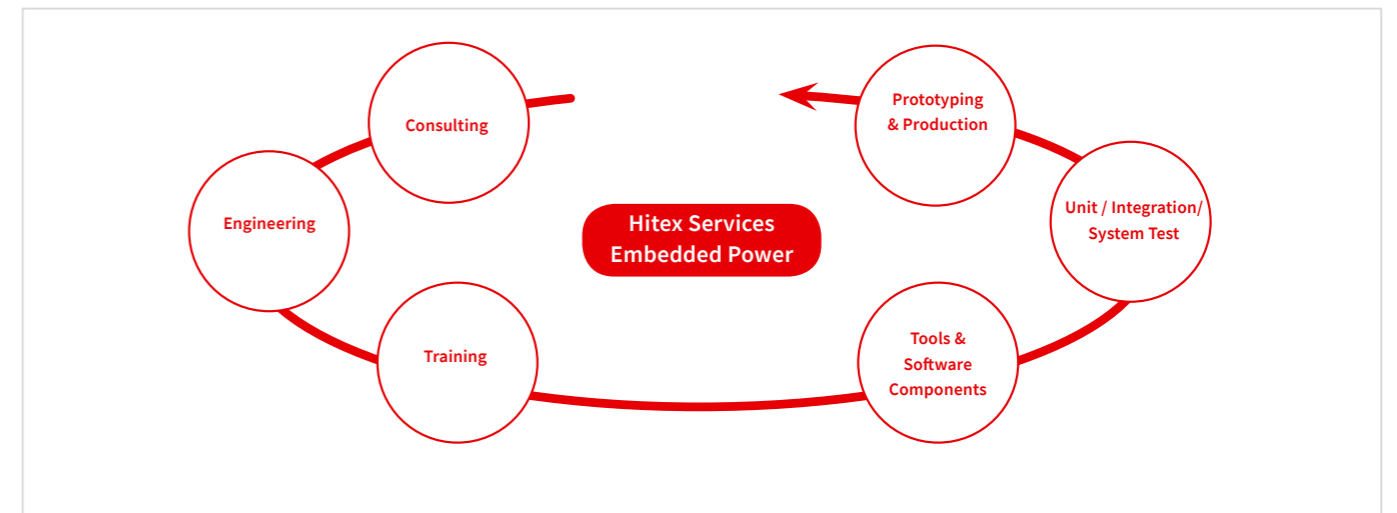
Infineon has combined its wealth of experience in motor control drivers for automotive applications with all the benefits of an industry-standard core. The unique result, the 3rd Generation Embedded Power IC based on ARM® Cortex®-M cores, addresses a wide range of smart 3-Phase Brushless DC motor control applications like, fuel pumps, HVAC fans, engine cooling fans, electrical water pumps.

Produced on Infineon's first-in-industry automotive qualified 130nm Smart Power technology, the Infineon Embedded Power System-on-Chip solutions offer an unmatched level of integration of all functions required to sense, control and actuate a motor. TLE 9xxx controllers provide the most advanced peripheral set for these applications, offering highly configurable, largely autonomous and unique functionality in many cases.

To help customers to make best use of this powerful architecture, Infineon has appointed Hitex as Embedded Power Preferred Design House.

## Consulting and Training

Hitex provides start-up assistance for Embedded Power ICs as well as training and consultancy for tools, middleware, functional safety and security. We can also assist with achieving certification as well as prototype and system production.



- ✓ TLE microcontroller architecture, peripherals, applications, concepts
  - ✓ TLE tools (compiler, evaluation boards, adapters etc.)
  - ✓ Middleware (RTOS, file systems, communication stacks)
  - ✓ Clarification and consultation of safety concepts
  - ✓ Software quality and testing
  - ✓ Security
  - ✓ Certification requirements
  - ✓ Training
- plus many more ...



## Engineering

With a vast array of real-world experience gained from numerous customer projects, the engineering team at Hitex can either take on the whole project (both software and hardware) or just the Embedded Power element to speed up delivery of your project or application.

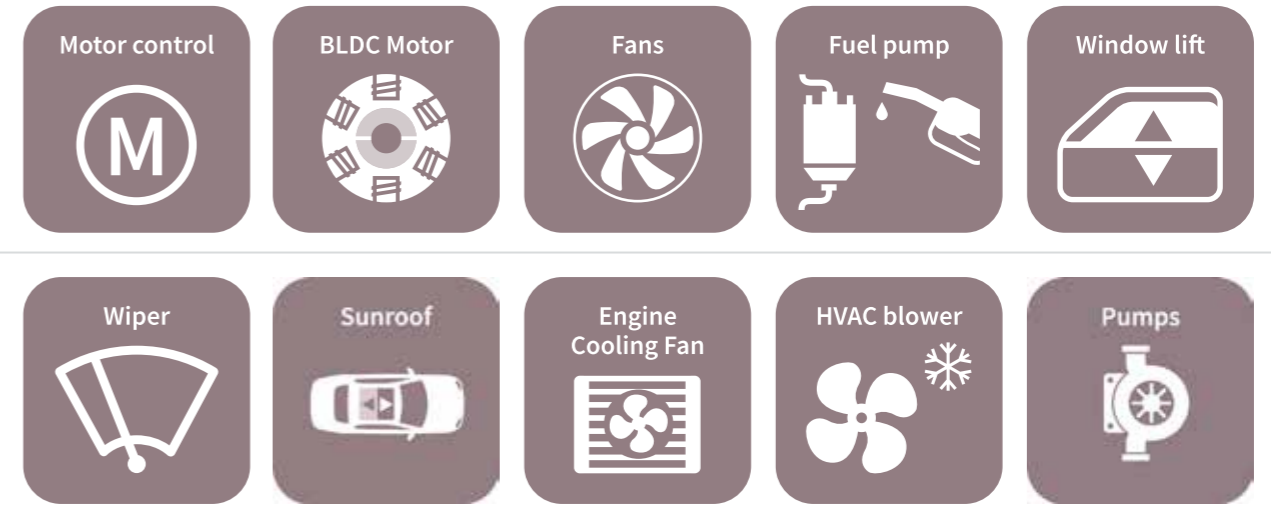
### Software

- Detailed software design specification
- Implementation of software (Low-level drivers, GUI)
- Class-B safety libraries
- Test specification
- Unit testing
- Code reviews

### Hardware

- High speed digital design
- Schematic entry (various EDA tools)
- PCB layout
- FPGA design
- Test specification
- Mechanical design (housing, packaging)
- Production of prototypes

## Record of successful development projects in:



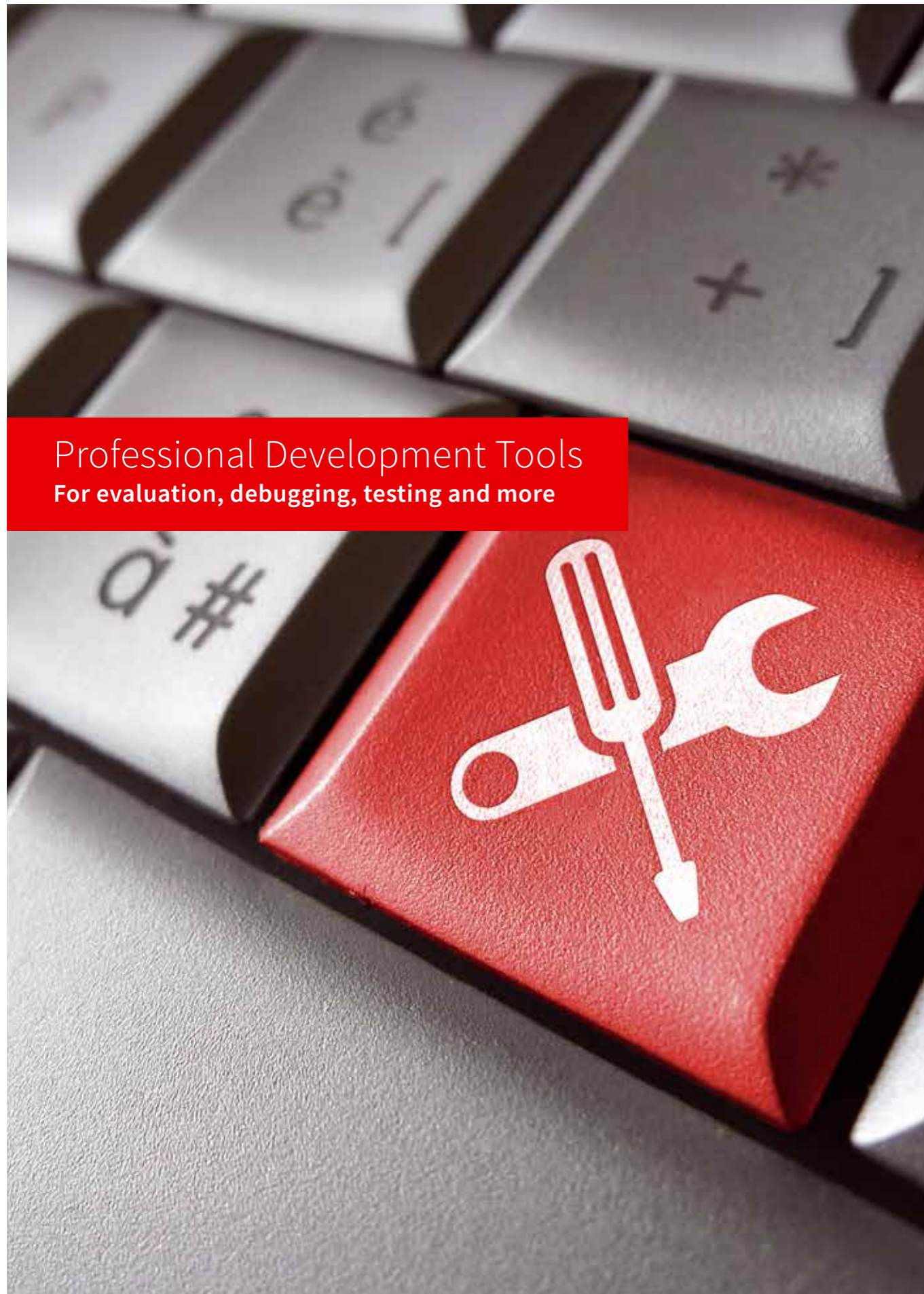
... and many others

## Testing

Unit and integration testing is a part of the development which can easily be outsourced. Hitex's test experience ranges from testing according to QM standard right up to SIL3/ASIL D.

Unit testing, integration & system verification and validation:

- ✓ Perform unit tests of software modules with validated unit test tools (eg. TESSY)
- ✓ Perform both system and integration tests



Professional Development Tools  
For evaluation, debugging, testing and more

## Development Tools

Starting with the humble evaluation board, our range of development tools contains everything you need for a professional result. From compilers and debuggers right up to unit test and static code analysis software tools, we have the right tools for the job.



Embedded Power  
Evaluation Boards

Hitex evaluation tools and starter kits make it possible to begin your first software development project quickly and efficiently. Hitex offers a variety of evaluation boards as well as starter kits.



MDK-ARM  
Microcontroller Development Kit

Keil MDK-ARM is the software development solution for ARM Cortex-M microcontrollers. It includes IDE, C/C++ compiler, debugger, software pack management and CMSIS.



Certified  
ARM C/C++ Compiler

For projects with high quality or safety requirements, a TÜV certified compiler edition with extended maintenance is available.



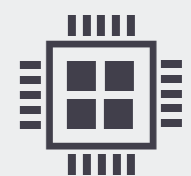
Unit Test Tool  
TESSY and CTE

TESSY performs automated dynamic module/unit and integration testing of embedded software and determines the code coverage along the way.



Static Code  
Analysis Tool

Static code analysis analyzes source code without executing the code, to pin-point potential bugs, vulnerabilities and security threats.



State-of-the-art  
Programmers

Hitex offers a variety of simple and easy-to-use programming solutions for product and application development, service and maintenance. This then allows updates or modifications of flash contents to be made in the field.



Safer & cheaper with the right software  
**Software components for Embedded Power ICs**

## Software Components

Instead of reinventing the wheel, professional software components can speed up your project. Using proven and tested software components can significantly reduce your time to market. Hitex helps your development team to improve their productivity while shortening development times at the same time.



**RTOS**

Hitex offers Real-Time Operating Systems designed for Cortex-M devices. It allows you to create programs that simultaneously perform multiple functions for applications which are better structured and more easily maintained.



**File Systems**

File systems and flash storage are an important part of many embedded systems. A seamless integration of the file system and flash storage is essential.



**Bootloaders**

Hitex offers bootloaders that have the ability to boot using Flash, USB or serial interfaces and use minimal resources on the target controller.



**Communication  
 (USB, TCP/IP, Bluetooth)**

Hitex offers industry proven communication stacks for all important communication standards.



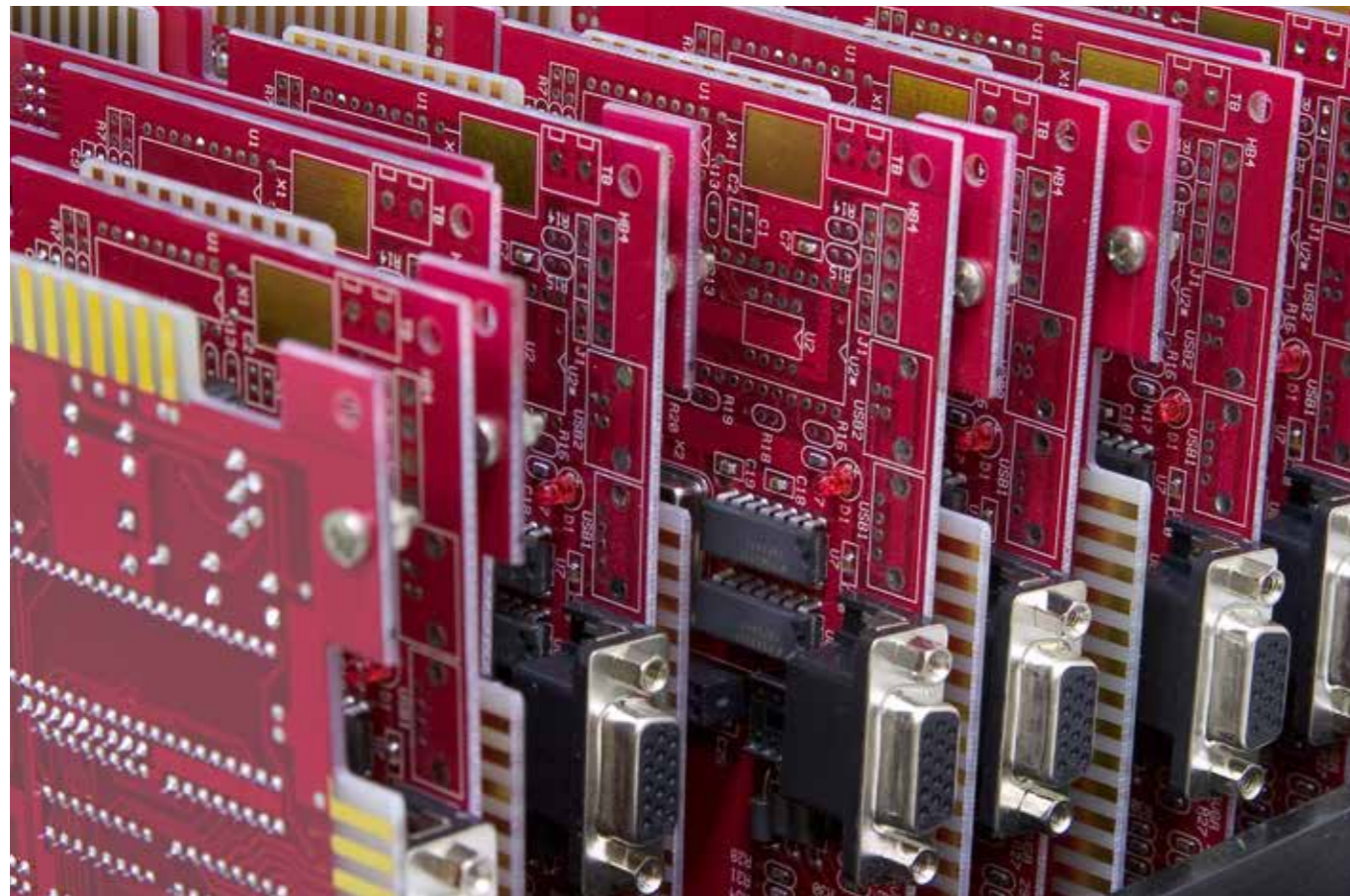
**Embedded Security**

To reduce risks special encryption technologies are taken into consideration. Hitex offers security solutions for de- and encryption plus advanced features such as secure boot.



**Class-B Libraries for XMC**

Our field-tested software libraries make sure that the silicon and diagnostic coverage required by your standard are implemented with the lowest effort possible.



## Manufacturing

System Architecture- & Detailed Design Specification and Implementation

### Board Level

- Boards designed either by the customer or Hitex
- Prototype, small run, or mass production options
- Component procurement
- In-house production test

### System Level

- Quality control
- Fulfillment
- Hitex webshop sales platform
- Worldwide logistics
  - Experts in export control and customs
  - Classification of products according to AL and ECCN
- Maintenance

## Manufacturing

Everything you need under one roof:

### Production of prototypes and series products

Get your products to market faster and cheaper with Hitex new Product Introduction (NPI) Services. Central to these NPI processes is early phase prototype development. The aim is to establish the quickest and most efficient route to market and meet agreed volume production levels and timescales.

Hitex Electronics Manufacturing (EMS) Services provides all options for the production of standard products from low to high volume quantities. This includes SMT production, electrical assembly, THT assembly, lead-free soldering and traceability.



### Fulfillment (system assembly, logistics, export control)

Hitex will advise and support you with selecting the best packaging for your system assembly requirements. From a simple brown carton to elaborate folding boxes or any other packaging needed, we can help. Hitex also takes responsibility for the assembly of all prototypes. Whichever solution is the right one for you, all our materials are responsibly sourced.

Our comprehensive logistics services cover not only packaging, but also storage and shipping to effortlessly deliver your products to market - all at very competitive rates. We send worldwide while adhering to the regulations set by export regulation. Customs and export control issues are consistently implemented and monitored.



### CE certification with EMC tests

Our testing services for electromagnetic compatibility include both interference and emission tests.

These tests ensure that an electronic device is neither influenced by, or interferes with, any other devices nearby.



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