



The intelligent way to develop instruments

Prevas Instrument Platform is a development platform that is the result of 20 years of experience in product development. The platform is a modular technical platform and a development environment for instrument development. The platform has been successfully applied in Medical, Biotechnology, Measurement and Control, and Telecom business areas.

Why use a platform?

To make a more competitive product - Our experience has shown that using Prevas' Instrument Platform dramatically reduces the time and cost to bring an advanced instrument to the market. Through its modularity and easy-to-use design, it enables your focus to be on the unique functionality that makes your product competitive. It also enables you to rapidly build bench-top prototypes for early testing and evaluation.

What is the platform?

- A number of implemented and verified functionality modules. These include data acquisition, motor control, displays, GPS as well as communication solutions such as GSM/GPRS, Bluetooth and Ethernet.
- Complete technical specifications and test documentation for the basic functionality. Only your product's specifics need to be added to ensure a complete set of quality assured documentation.
- Established supplier network including close cooperation with major component suppliers and contract manufacturers.

What are your benefits?

- Minimized development time – only your unique functionality need to be developed.
- Early feedback - a fully functional prototype for proof of concept early in the development process.
- Gained competitiveness – focus on optimizing your unique features.
- Cost effective solution - due to a modular and distributed architecture your instrument can be cost optimized.
- Assured quality and minimized risk - the platform has been used in several successful projects.
- Full control – documentation and support material to ensure total control of mass production and future up-upgrades are included. You choose suppliers and production partners.
- Take advantage of future upgrades, functionality and cost reductions as other clients implement Prevas Instrument Platform in new products.

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Prevas is an innovative IT company with a strong corporate culture that gives its customers a world-class competitive edge. Prevas has delivered profitable solutions for the future for over 20 years. Innovation, quality assurance and delivery reliability characterize Prevas' solutions, which has qualified Prevas for many successful assignments from leading global enterprises.

Prevas is the leading Nordic Design House for outsourcing of complex R&D projects for the medical device, biotech and in-vitro diagnostic industry. Working with Prevas, you get experience, enthusiasm and desire. You get the help of a committed partner in the development of intelligent products for the future.

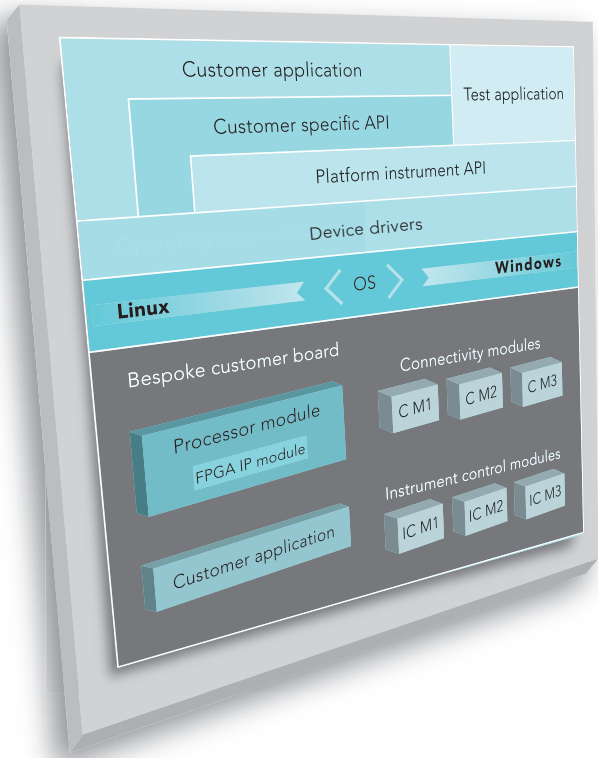
Technical Information

The Prevas Instrument Platform architecture

The hardware architecture is modular and distributed which makes it possible to design the customized solutions on one or several PCBs. The main processor handles communication, display interface and high-level logic while separate DSP modules control data acquisition, sensors and high power drivers such as motors, pumps and valves. This architecture provides a rapid, cost efficient and flexible solution. The main processor and memories can be placed on a SODIMM board to ensure high flexibility and easy upgrades.

The modular, layered software makes the system quick and efficient to implement and test. The bottom layer is the operating system (OS) with drivers for the different external modules. The second layer is an API for low-level control of the hardware (eg control of individual motors etc.). The third layer is the customized API for customer specific functionality. It typically consists of a set of primitives for control of instrument modules (eg pumps, dispensers, xyz-movement etc.) The customer specific application software is the top layer. All software can be stored in Flash to enable quick and simple software updates or be resident on an embedded ROM-memory.

Architecture diagram (overview)



Technical Specification ¹⁾

Processor	Samsung S3C2410A (ARM920T, 266 MHz)	Buses	SPI, I ² C, I ² S
RAM	32-128 Mbyte SDRAM	Audio	Microphone input, Speaker output
ROM	NAND Flash 32 Mbyte – 1 Gbyte	Misc	GPS/DGPS
OS	Windows CE, NET 5.0, Linux	API	Software interface for control of all existing hardware
Measurement & Control interface	Configurable amount of analog and digital I/O	Test	Test software for all existing modules
Motor Control	DC-motor, 2- and 3-phase stepper motor (up to 256 micro steps)	Environment	Industrial specified temperature
Display	LCD/TFT-dispaly, Touch screen, Resolution: QVGA – maximum SVGA	Power supply	Battery operation possible (for eg PDA)
Communication	USB, UART, Parallel, Ethernet, IR, Bluetooth WLAN, GSM/GPRS, TDD-CDMA, CAN	Size	Physical size from 100 x 60 x 12 mm (depending on configuration)
Removable storage	SD Card, USB Mass storage	Other	Specifications, Source code, CAD drawings and Production doc. according to QSR & EN ISO 13485. Facilitates compliance with IVDD (IEC 61010)

¹⁾ Example: Prevas processor module HM10, other processor modules can also be used