

Processor SDK: One for All and All for One



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With devices as complex and feature-rich as embedded processors, there is no one size fits all. This is especially true for industrial products since there is such a large difference between the requirements for a robotic vacuum cleaner in your home and a human machine interface (HMI) in a factory floor. This diverse set of system requirements poses many challenges related to supported features, cost, future-proofing and more.

The TI Sitara™ processor portfolio addresses these challenges. To develop and get to market quickly with a high-quality end product, TI's Processor software development kit (Processor SDK) is a common software development environment across all Sitara processor families. Processor SDK supports Linux, real-time operating systems (RTOSs) and Android, so you can focus on developing your applications and differentiating your product.

The drivers and middleware components are kept consistent across the entire portfolio to minimize the investment required to learn the specifics of the platform. You can reuse and apply knowledge gained through the development of a first-generation product as you expand and update your product platforms with existing and future Sitara devices. The broad coverage of Processor SDK within the Sitara portfolio enables developers to also re-use software written for one platform on another to further help reduce development costs and efforts when designing new products. With the open-source model of the Processor SDK, mainline kernel and Yocto project, you can create software products using an environment with which you are already familiar.

Different applications come with different processor requirements, connectivity peripherals and software architectures. The Processor SDK, as show in Figure 1, provides the tools you need to easily adapt to the changing industrial landscape.

Voice	PLC	TSN	Robotics	Audio	Servo	Drives	IPC
Analytics	Deep-learning	HMI	EPOS	Grid Automation	Home automation	Factory automation	Lighting
Medical	Display	Appliances	Display	Test Equipment	CNC	Graphics	Security
Processor SDK							
AM3	AM4	AM5	K2G	C55x	OMAPL1X	66AK2X	AMIC

Figure 1. Industrial Applications and Single Software Platform

In addition to creating standard embedded products with your OS of choice, using Processor SDK tools and software enables you to bring your product to market faster using available resources like the programmable real-time unit (PRU), digital signal processors (DSPs), graphics accelerators, multimedia accelerators, on-chip microcontrollers, and much more. Open-source programming methodologies (OpenCL, OpenVx and OpenGL, for example) are available to exploit the hardware capabilities of Sitara devices and provide critical value-add options for customers.

The Processor SDK is a single software platform that can enable a range of industrial applications with all Sitara processors.

Additional Resources

- Explore our portfolio of [Sitara processors](#).
- Get started with [Processor SDK](#) by watching our video training series.

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