



## A Look into the Emerging Trend of In-System Programming



# FlashRunner's Competitive Edge

**“We investigated several alternative programmers from several different vendors. None combined the features and value of FlashRunner.”**

### Programming Trends

With the widespread diffusion of new-generation, Flash-based microcontrollers with built-in programming capabilities, in-system programming solutions are becoming more popular than traditional socket programming solutions.

In the past year, 30% of all programming was done in-system. This figure is growing at an increasing pace and in the near future almost all of programming will be done in-system. This trend is caused by two main reasons:

- Faster ISP protocols leading to shorter programming times
- Shorter time-to-market

### FlashRunner Advantages

FlashRunner is the first true universal, in-system programmer specifically designed for the production environment. The FlashRunner family includes several models, which share the same programming engine and basic features, but with specific characteristics that make them suitable for different needs. FlashRunner is:

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| <ul style="list-style-type: none"> <li>• <b>Universal</b></li> <li>• <b>Flexible</b></li> </ul> | <ul style="list-style-type: none"> <li>• <b>Fast</b></li> <li>• <b>Reliable</b></li> </ul> |
|---|--|

In medium to large programming volumes scenarios, in-system programming allows a significant reduction of the programming cost per part. FlashRunner easily allows to save tens of thousand dollars per production batch.

### Competitors

Since in-system programming is a relatively new market, no other in-system programming solu-

tions have yet evolved into a complete system such as FlashRunner. Several low-cost, silicon-specific ISP tools exist on the market, which (depending on the situation) may be suitable for programming a narrow spectrum of microcontrollers, but none features the reliability and flexibility of FlashRunner. At the other end of the market offering, a few expensive solutions exist, but either they are difficult to use, or they don't sport the vast array of FlashRunner features and connection possibilities. FlashRunner packs powerful features, production-grade reliability at an interesting price point, and will be the market benchmark for years to come.

### Testimonials

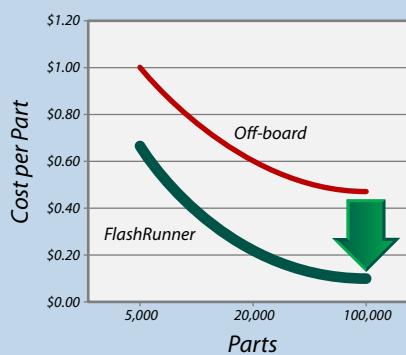
With an installed base of more than 1,000 units, FlashRunner has been greeted with enthusiasm by worldwide customers, both OEM and system integrators.

*“We decided to use an high-end programmer such as FlashRunner because it will allow us to save up to 2,000 production hours per year with respect to the on-socket programming scenario. FlashRunner proved to be easy to integrate in our existing equipment.”* (Bpt)

*“We investigated several alternative programmers from several different vendors. None combined the features and value of FlashRunner.”* (Intrinsic Quality)

*“FlashRunner is definitely a robust and reliable solution.”* (Continental)

*“Great product at an affordable price!”* (Excal)



### Time is Money

The more parts to be programmed, the smaller the programming cost per part, and the bigger the total saving. FlashRunner allows a dramatical reduction of the total programming cost with respect to traditional, off-board programming.

In this real-world, 100,000-part production example, FlashRunner allows to save up to \$38,000.

### About SMH Technologies

SMH Technologies ([www.smh-tech.com](http://www.smh-tech.com)) is a global, independent, high-tech company, leader in Silicon Device In-System Programming and services for the Manufacturing Industry. The company's patented FlashRunner technology is widely used by OEM/ODM/EMS and kept-up worldwide by SSA, the SofTec Support Alliance network. Major Silicon Device Manufacturers and ATE Producers trust SMH Technologies and FlashRunner technology.



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