

## Efficient Development on Open Source Platforms



SMA Solar Technology AG is a leading company worldwide in the development, production and marketing of solar inverters as well as the corresponding monitoring systems. As energy management group, SMA offers innovative key technologies for the energy supply structures of the future. In this dynamic environment, quality and the ability to innovate rapidly are important competitive advantages. Against this background, efficient product development and maintenance are essential.

A typical example of this is the platform strategy that SMA, together with emlix, has been following for the past year. Multiple devices with very different application contexts can be developed using the same hardware basis and the same basic operating system software.

The platform hardware is slightly modified for each application context and the hardware development costs are reduced for each new device developed. The operating system used on this board is a slim, hardware-specific SMA embedded Linux board support package (BSP). If a new device is developed on this platform, the investment in the operating system is reduced to the adaptations to the specific requirements of the device.

Because of standard development paradigms and a standard source code management and build process, the complete system is so flexible that functionalities and drivers can be taken over from other devices. This takes place with minimal effort even when the module in question was originally developed for a different hardware platform.

The development capacities at SMA and emlix can therefore be used to concentrate on the innovative aspects of the new device. The „basic development“ has already taken place and has been subjected to comprehensive quality assurance procedures. Right from the beginning e2factory, which has been optimized for industrial projects over a period of many years, was used as the source code

management and build system. Via a so-called e2factory workbench, SMA can access the complete current code and can maintain its own software development activities.

The fact that the long-term cooperation between the developers also results in a frictionless and efficient relationship is a positive side effect of great significance.

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## SMA Sunny Home Manager

The Sunny Home Manager takes care of comprehensive energy monitoring as well as intelligent energy management as part of the system solution SMA Smart Home – and thus increases one's own use of the energy generated. Thanks to the calculated recommendations for action, PV system operators can coordinate generation and consumption of solar power optimally. The Sunny Home Manager brings about, for example, the storage of PV electricity or activates controllable consumers such as the washing machine automatically.

