Next generation smart meter made possible with the EFM32™ Gecko

Situation:
MANAS, a leading company in smart meter development headquartered in Turkey, began developing a next generation smart water meter. MANAS started with a low-cost competitor MCU product, but soon faced platform constraints and limited RAM scalability. At the very least, the competitor's product only performed the most basic operations, and MANAS was searching for more.

Solution:
After extensively researching alternative MCUs, MANAS selected the Silicon Labs EFM32 Gecko due to the fast wake-up and process time and low total power consumption. In addition to a superior technical product, Silicon Labs also provided MANAS extensive support and all the resources.
necessary to maximize the EFM32’s capabilities. The MANAS software was up and running on EFM32 in no time. The total switch-out time from the legacy MCU to the EFM32 was less than three weeks.

"After an extensive search, the EFM32 gecko from Silicon Labs is clearly the best choice for our metering products. the combination of very low energy consumption and feature options is unmatched."

Project Leader | Manas

Benefit:

Not only was MANAS able to achieve an environmentally friendly and extremely energy-efficient smart water meter with a lifespan of 15 years and innovative features at a low unit cost, but the company also received premium support from the Silicon Labs team every step of the process to ensure a seamless development to production experience.

MCU Fundamentals:

- **Autonomous Peripherals**: Designated parts of the microcontroller that can perform complex operations on their own while the main processor core remains in sleep mode
- **Energy Profiler**: An energy debugging tool that uses Advanced Energy Monitoring data from development tools for real-time profiling and debugging of object code
- **Efficient Energy Modes**: Operating condition that balances effective circuit operation within the lowest possible energy usage. EFM32 offers five levels of energy mode: Run, Sleep, Deep Sleep, Stop and Shutoff
- **Simplicity Studio**: A suite of software and documentation tools for automatic code creation, debugging and power profiling, enabling designers to easily capitalize on IoT design challenges