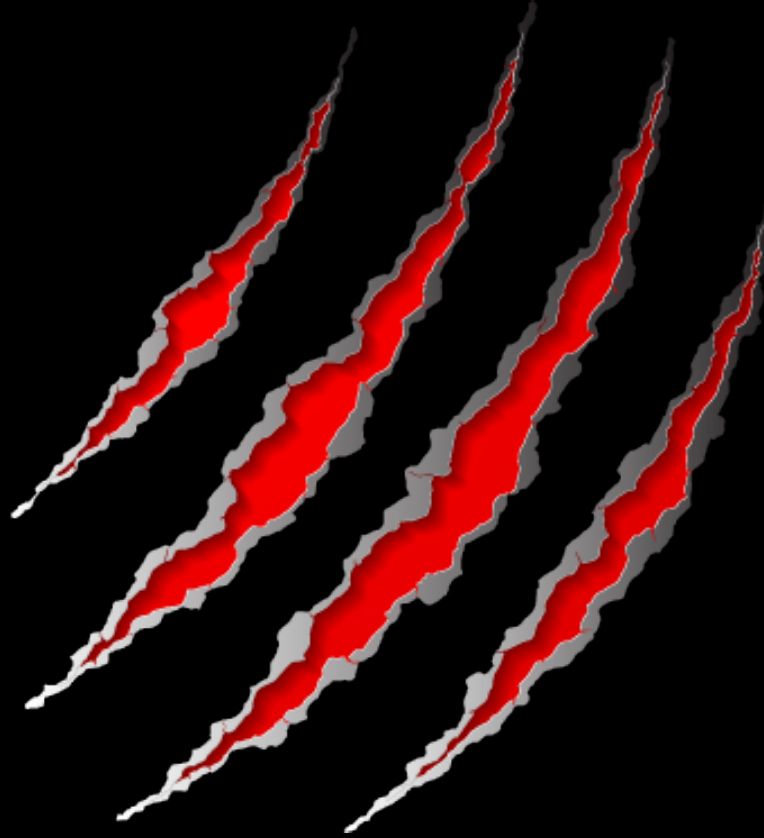


One step closer to a battery-free world, TI introduces world's lowest power MCU platform



Slashing all MCU power consumption in half

Unprecedented ultra-low-power “Wolverine” MCUs enable a smarter & greener world



Eliminate batteries...



Energy scavenging



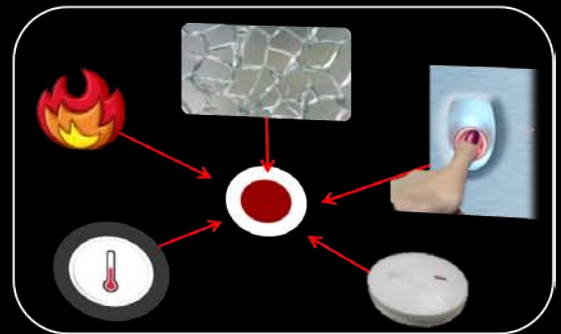
Go wireless...



Intuitive interface & control



Add features...



Unlimited integration

Low power matters



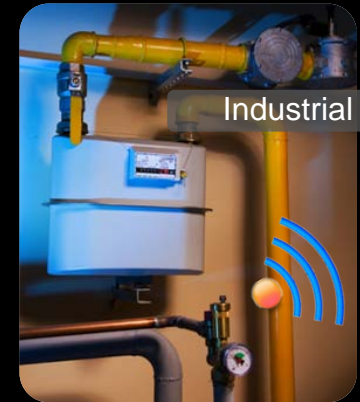
According to NASA ,
~ 2.5 billion
batteries are
disposed of
every year in
the U.S.
alone

Intelligence in new places

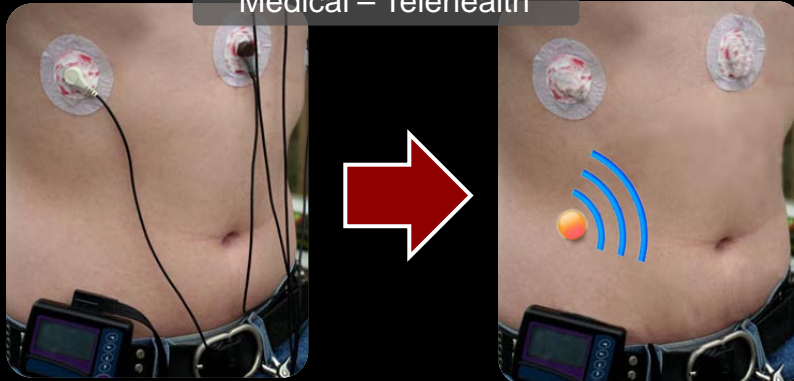
Building Automation



Industrial



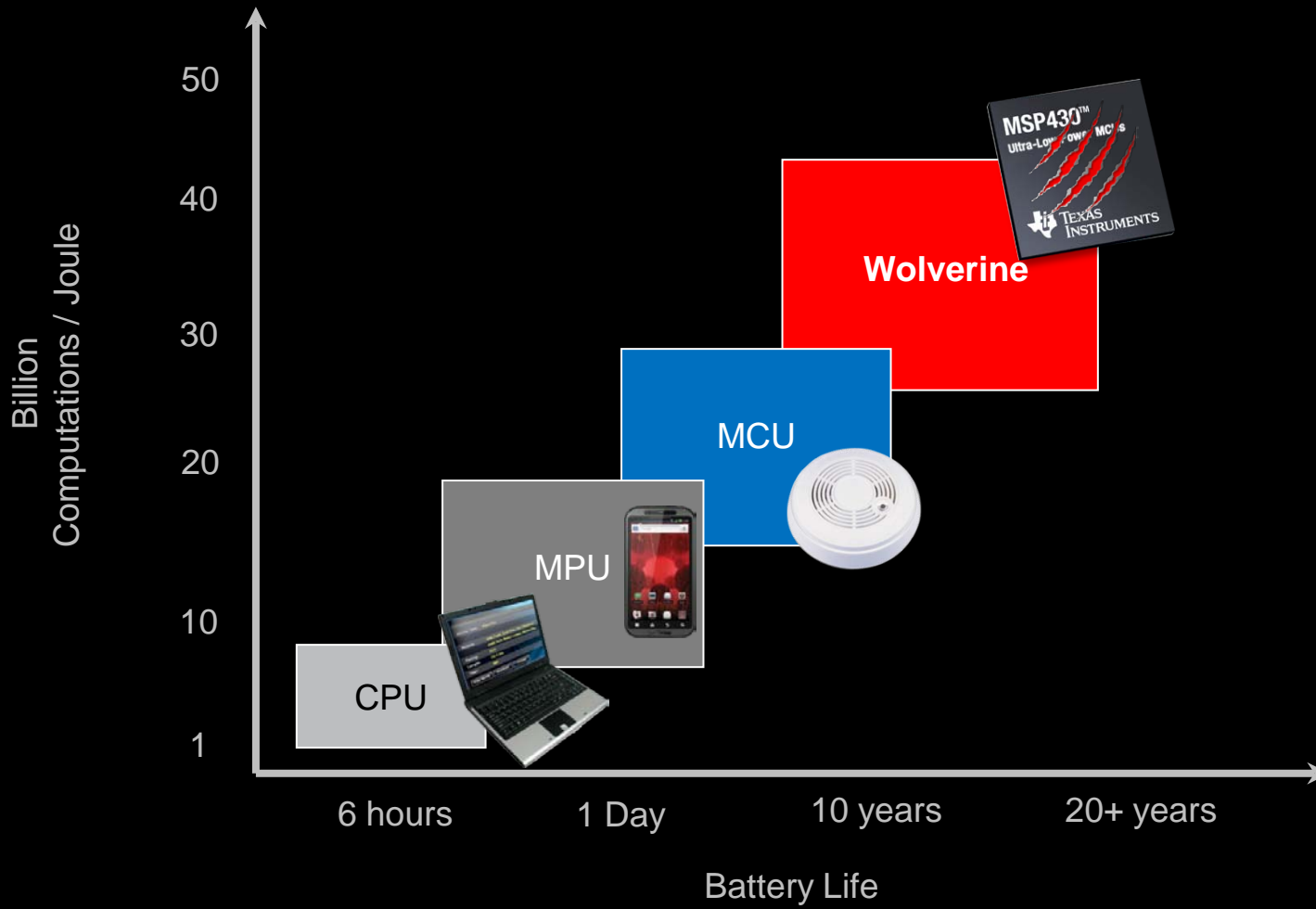
Medical – Telehealth



Sports Fitness

To make the planet smarter, greener, healthier, safer and more fun

MCUs push low power limits



MSP430™
Ultra-Low Power MCUs



“Wolverine:” Industry’s lowest power MCU platform



Ultra-low leakage process technology

- Unique mixed signal ultra-low leakage process technology
- Enables variety of new low-power peripherals
- Consistently low power at any temperature

Unparalleled performance with unified FRAM

- World’s lowest power memory type is 250x less energy per bit
- Speed and flexibility of traditional RAM
- Near infinite endurance and 100% non-volatile

MSP430™ DNA Evolved

- Continuing to pioneer the low-power landscape
- Leading power efficiency over entire system architecture
- Industry-leading analog integration
- Complete software package for easiest development

Lowest Memory Power

Lowest Standby Power

Lowest Active Power

Lowest Peripheral Power

TI showcases innovation in process technology



- TI has re-engineered the 130nm process node
 - Below 180 nm, physics prevents low power optimized leakage vs. performance in design
- Created a mixed signal process with:
 - >10x improvement in leakage
 - 15% decrease in active power
 - More than 30 new analog, digital, capacitive design components
- Consistent low power at any temperature

FRAM: World's lowest power memory

Example writing 13kB

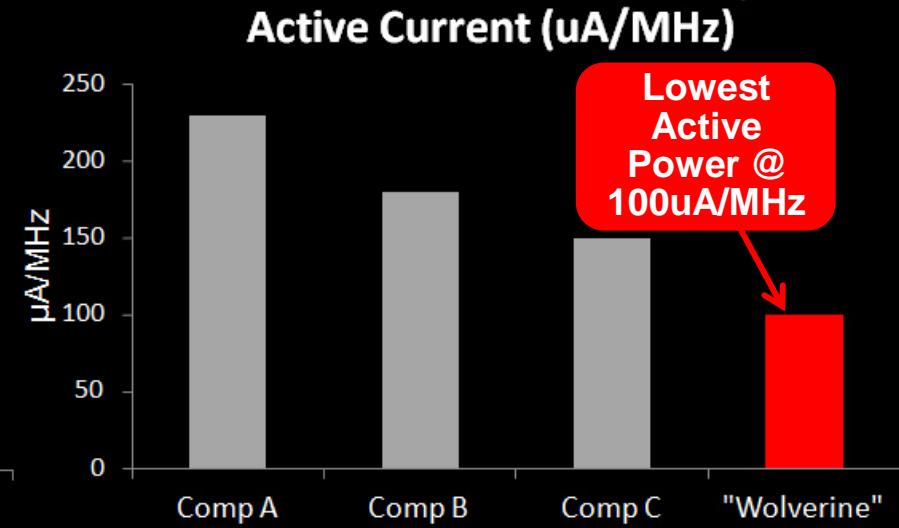
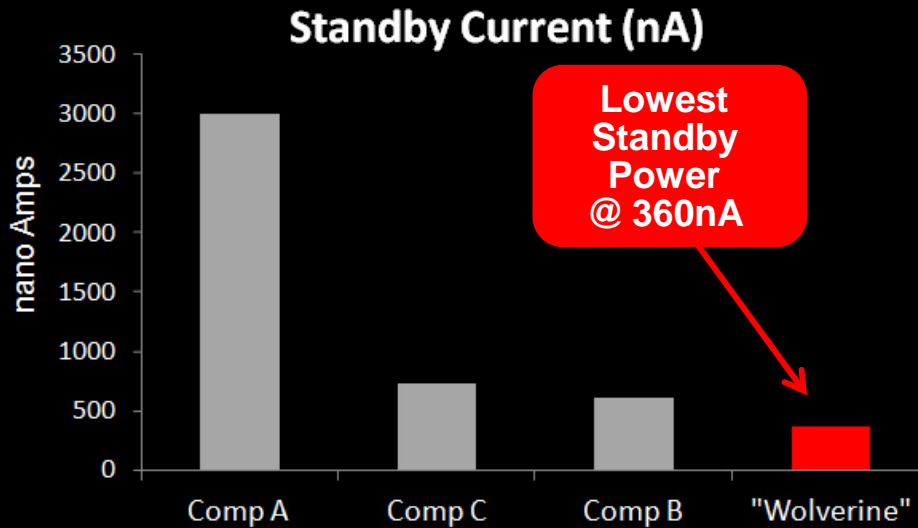
Flash consumes
6600 μ W



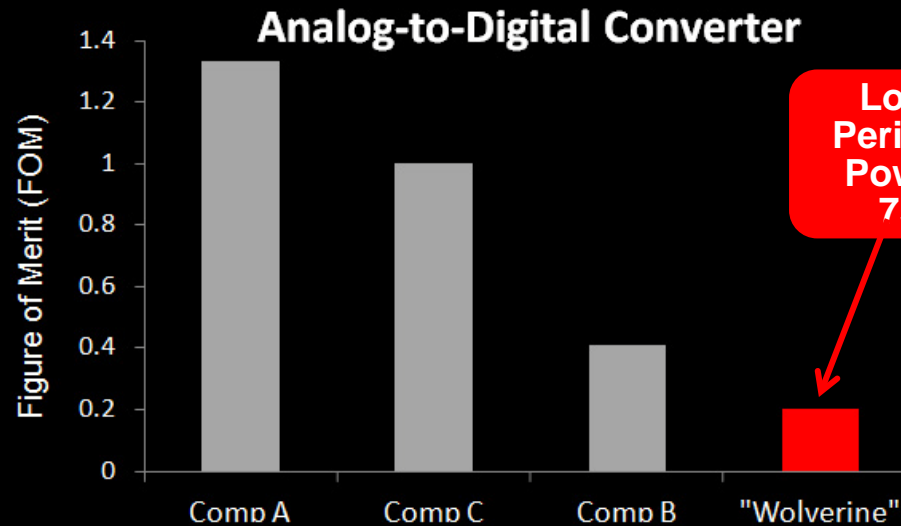
FRAM consumes
27 μ W

$\frac{1}{250}$
the power

TI's "Wolverine" delivers the lowest power – No qualifiers

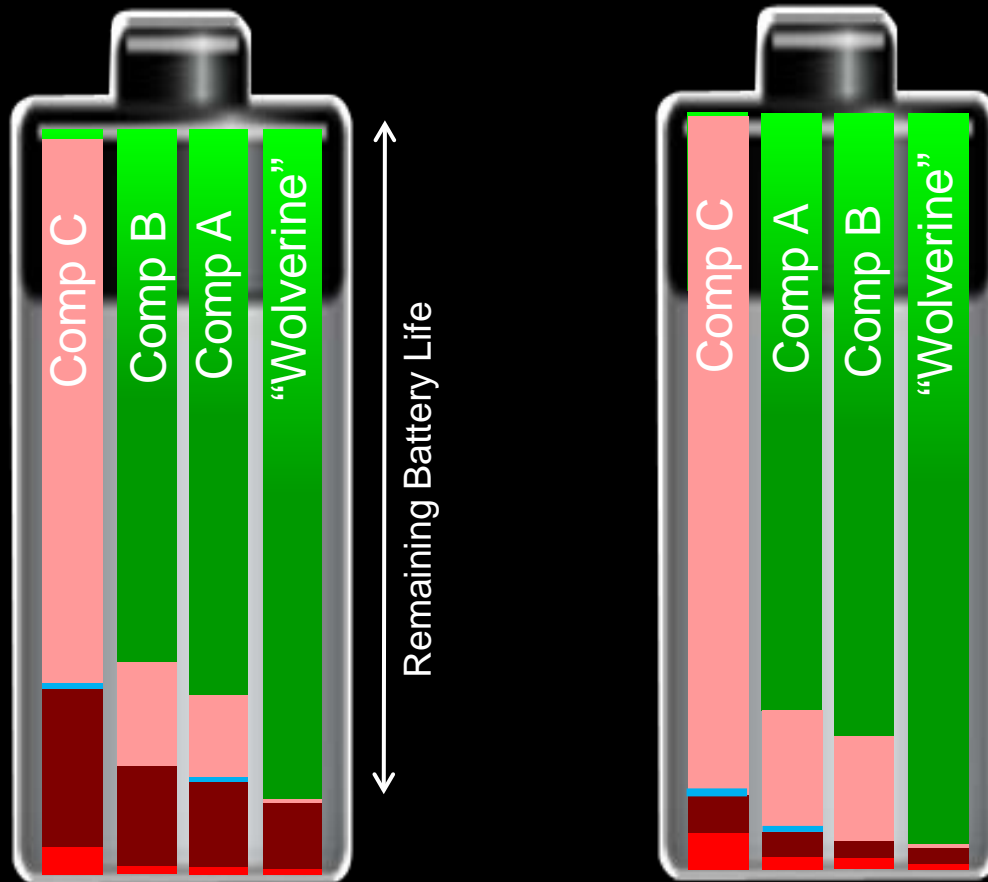


Fast wakeup @ 6.5 μs



Source: TI data and respective company web sites

“Wolverine” provides industry’s longest battery life



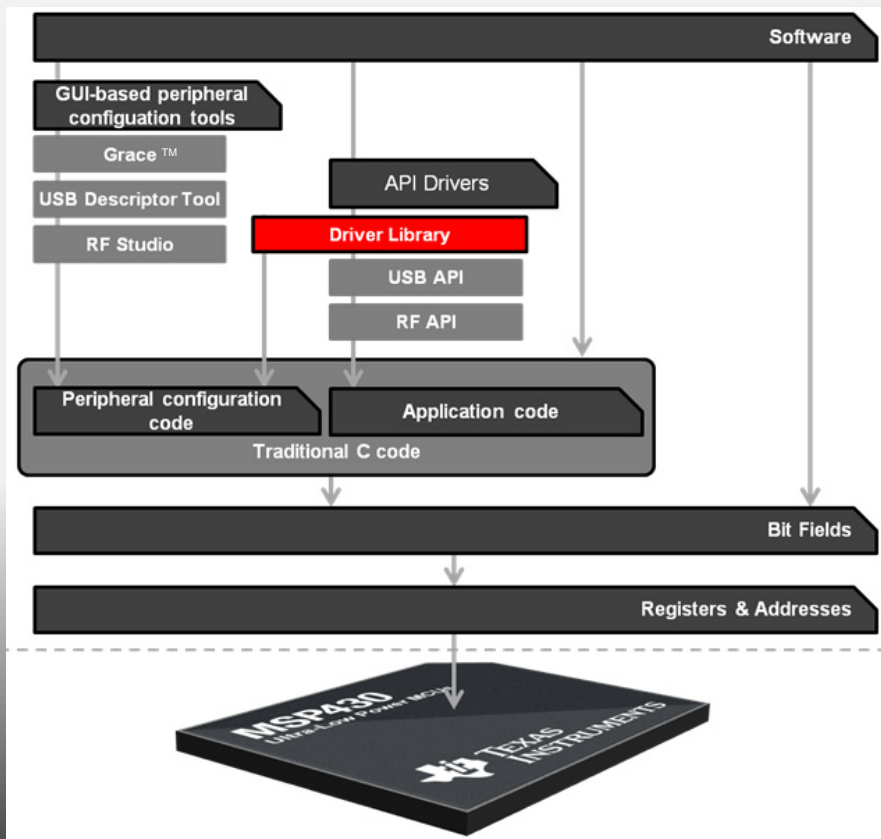
Typical Flow
Sports Fitness Application

Typical Flow
Meter Application

- Remaining battery life
- Write component
- ADC12 power
- Active power
- Standby power

Source: TI data and
respective company web
sites

Simplify development with MSP430™ MCU software ecosystem



MSP430Ware™

GUIs & high-level driver libraries make it easier to talk to hardware

Ultra-low power code optimization tool

Automatic low power optimization

Real-time energy tracking hardware

Learn more @ www.ti.com/msp430ware

MSP430™
Ultra-Low Power MCUs



“Wolverine:” Industry’s lowest power MCU platform



Ultra-low leakage process technology

Unparalleled performance with unified FRAM

MSP430™ DNA Evolved

MSP430FR58xx coming in June 2012

Lowest Memory Power

Lowest Standby Power

Lowest Active Power

Lowest Peripheral Power

