



# CYPRESS INDUSTRIAL SOLUTIONS

Driving Industrial Productivity With  
Integrated Intelligence™

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**CYPRESS**  
EMBEDDED IN TOMORROW™



# REIMAGINING BUSINESS AND INDUSTRY


Cypress is bringing industrial automation to life and redefining how work gets done. Across smart cities, factories, and hospitals, our trusted products and technologies provide the rock-solid reliability, connectivity, and security that keeps your operations running smoothly.


With our unique brand of integrated intelligence at your fingertips, you can make better decisions and transform your business. Even in the harshest environments, our solutions do much more than reliably capture data. They also securely share this valuable intelligence so it can be quickly acted upon, translating into never-before-seen levels of efficiency, productivity, and quality across the organization.


While many global brands choose Cypress for our proven reputation, it's our amazing portfolio of connectivity, microcontroller, and memory solutions that make them long-term customers. From driving record results to developing cutting-edge products that transform markets and change lives, we're with you every step of the way.


Below are some key industrial trends that our connect, compute, and mission-critical storage technologies will enable in the years ahead.


## INDUSTRIAL TRENDS


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**FUNCTIONAL SAFETY**  
Continued advances in data capture, recovery and response in systems, enabling new features and alerts
- 

**DIAGNOSIS AND PREVENTION**  
Continuous remote monitoring of industrial systems and FOTA updates
- 

**SECURITY**  
End-to-end security for improved safety and data security
- 

**SYSTEMS INTEGRATION**  
Reducing cost and complexity through increased system integration
- 

**CONNECTIVITY AND COEXISTENCE**  
Enabling multiple, connected wireless devices to work inside and outside the factory for flawless communications
- 

**LONG PRODUCT LIFECYCLES**  
Reducing End-of-Life (EOL) induced obsolescence risk





# DRIVING INDUSTRIAL SAFETY & CONNECTIVITY

Cypress' product portfolio is at the heart of Industrial IoT. Customers have access to a wide-range of high-performance, energy efficient microcontrollers, radios, and memories to power the industrial IoT.



## INDUSTRY 4.0

Smart-factory systems monitor and control physical processes and implement M2M connectivity to log factory data in on premises industrial data centers and/or cloud servers and leverage machine learning to increase productivity, quality and safety while reducing downtime. Cypress is a leading provider of wireless & wired connectivity and memory solutions for factory automation.



## SMART HEALTHCARE

Smart healthcare is built on intelligent, low-power, wirelessly connected medical devices. These devices continuously measure, process, capture and protect the biometric data collected by sensors including heart rate, respiratory rate, skin temperature and motion. The recorded information is then wirelessly transferred to the cloud for personal and professional analysis. Cypress is a leading supplier of wireless and wired connectivity, touch-sensing, and memory solutions for smart healthcare applications...



## SMART BUILDINGS

From smart thermostats and displays to rope-free elevators, Cypress' broad range of memory, compute, and connectivity solutions can help you transform ordinary buildings into assets that help your business run more efficiently.



## SMART GRID

IoT devices continuously monitor the conditions of the constantly changing "Grid" to efficiently and securely generate, store, and distribute energy. Nodes on the Grid must communicate in real-time over wired and wireless networks to cloud services that leverage machine learning to eliminate power disruptions. Cypress is the leading provider of wireless connectivity and memory solutions for the smart grid.



## 5G COMMUNICATION

5G is a next-generation wireless standard that will enable a host of new applications such as Industrial Internet of Things (IIoT), connected vehicles, and connected portable medical devices. 5G will offer more than 20X the bandwidth of current networks and improved latency—all requiring the highest reliability (99.9999%) to allow an "always connected" network. Cypress NOR Flash devices are ideal to configure the SoCs and FPGAs that power 5G small cells, radios and base stations.

## KEY APPLICATIONS

### Industry 4.0/Factory Automation:

- Programmable Logic Controllers (PLC)
- Human Machine Interface (HMI)
- Motor Control & Drives
- Machine Vision
- Predictive Maintenance

### Smart Buildings

- Elevators
- Human Machine Interface/Control Panels/Thermostats

### Smart Grid

- Smart Meters

### Smart Healthcare

- Neuromodulators
- Infusion Pumps
- Pacemakers
- Glucose Meters

### 5G

- Small Cells
- Base Station Digital Front End / Digital Unit/Access Units
- Cloud Unit



# BROAD PORTFOLIO: COMPUTE & CONNECT

Cypress’ broad portfolio of ISO 9001–qualified solutions includes flexible, Arm-based microcontrollers for power management, driving displays, interpreting sensor data, and enabling state-of-the-art human interfaces. Our storage solutions enable instant-on access and “black-box” protection of mission-critical data.

## COMPUTE



Microcontroller Solutions	
PSoC 6, PSoC 4	A family of Arm-based programmable, embedded SOCs, integrating configurable analog and digital peripheral functions, memory, and a microcontroller on a single chip.
Human-Machine Interface and Sensing	
CapSense	Brings an elegant, reliable, and easy-to-use capacitive touch sensing interface to a wide array of industrial applications, ranging from factory equipment to portable medical devices.
TrueTouch	Touchscreen controllers deliver best-in-class performance to factory equipment touchscreens, with full multi-touch, glove-touch, hover, and gesture capabilities.
Fingerprint Sensing	Superior imaging and pattern-matching performance offers everything needed to efficiently design and integrate user authentication into smart factories.
Liquid-Level Sensing	Uses CapSense technology to monitor liquid levels in factory equipment.

## STORAGE



Memory Solutions	
Semper Flash	Failsafe flash memory that exceeds automotive quality and functional safety requirements. Semper protects people by ensuring that critical systems always have access to complex system codes and algorithms.
Excelon F-RAM	Read/write endurance of 100 trillion cycles to log data continuously for 20 years at 85°C. Low power, small footprint, failsafe datalogger. Ideal for industrial, medical, and automotive applications.
RAM	Widest portfolio of low-power/high-speed and volatile/nonvolatile RAMs purpose-built for expansion and datalogging applications in harsh industrial operating environments.

## CONNECT



Wireless Connectivity	
Wi-Fi and Bluetooth Combo Solutions	Cypress’ industry-leading, industrial-qualified, WiFi and Bluetooth combo solutions power smart-factory systems. Cypress’ connectivity solutions allow manufacturers to easily sync and stream data from factory equipment to remote displays for monitoring. Our Wi-Fi Real Simultaneous Dual Band (RSDB) solutions provide simultaneous operation in both 2.4GHz and 5GHz bands delivering the bandwidth and architecture required without relying on cellular data service.
Bluetooth Solutions	Cypress’ Bluetooth solutions are ideal for a variety of industrial applications including keyless startup, manufacturing automation, pressure monitoring, and remote sensors control.
Wired Connectivity	
USB-C / Power Delivery	Cypress’ industry-leading USB-C provides power-delivery charging and connectivity for a variety of industrial systems.

## HIGHEST-QUALITY PRODUCTS



Cypress’ industrial-grade products adhere to the most-stringent standards in the industry:

- Manufacturing and support operations certified to the highest industrial standards for quality management: ISO 9001:2015
- Broad portfolio of industrial and industrial plus temperature-grade products: (-40°C to +85°C), and (-40°C to +105°C)
- Strict, zero-defect manufacturing and test processes
- Manufacturing sites carefully monitored and controlled
- Aggressive data-screening methodologies and 99.5% stuck-at fault test coverage
- True root-cause and corrective action methods with maximal read-across
- Production Part Approval Process (PPAP) capable
- Commitment to long product life-cycles and continuity of supply



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## ABOUT CYPRESS

Cypress is the leader in advanced embedded system solutions for the world's most-innovative automotive, industrial, home automation and appliances, consumer electronics and medical products. Cypress' programmable and general-purpose microcontrollers, analog ICs, wireless and USB-based connectivity solutions and reliable, high-performance memories help engineers design differentiated products and get them to market first. To learn more, go to [www.cypress.com](http://www.cypress.com).

