



**Unite the  
Internet of Things**



**MeshWorks**<sup>TM</sup>

ARMED WITH THE



**SCRIPT**<sup>TM</sup>  
**NINJA**



Get Unwired. Wireless Development Just Got **Faster & Easier.**



- Built-In Sensor Capabilities**
- Temperature Sensor
  - Humidity Sensor
  - Light Sensor
  - Asset Movement
  - Reed/Switch Open/Close
  - Rotation Detection
  - Drop/Shock Detection
  - Compass Orientation
  - Proximity Sensor
  - I/O Sensor Expansion Port

Get Started Today. Nearly **2 Billion** Connected Devices Have Been Deployed.

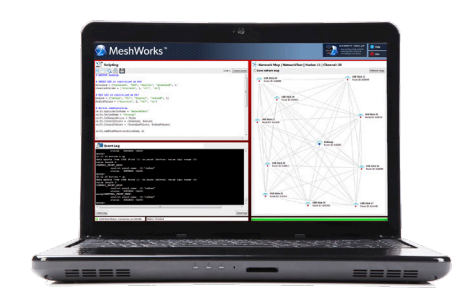
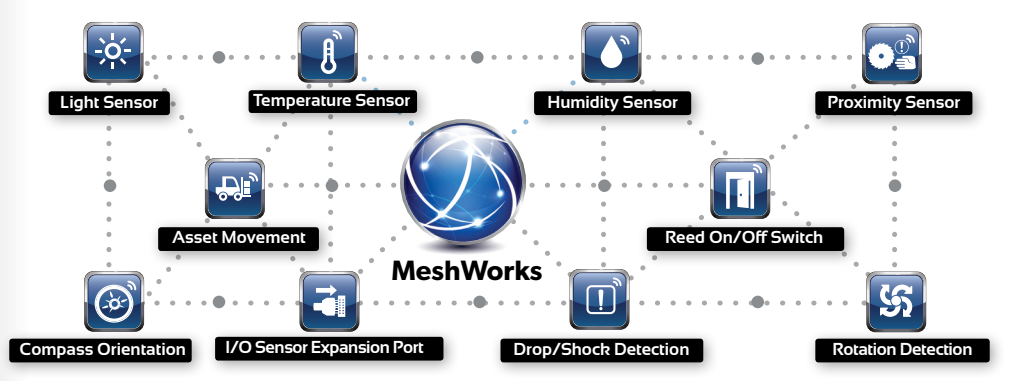


**8 Billion** Devices Will be Connected to the Internet of Things By the Year 2020.  
*Are you ready?*

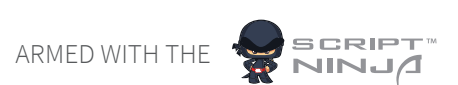
## What is MeshWorks?

MeshWorks™ is a turnkey wireless solution for fast development and implementation of a wireless sensor or control network. With MeshWorks, you can easily customize your network and get it up and running to the cloud in mere hours.

### NETWORK VIRTUALLY ANY SENSOR TYPE OR CONTROL NODE



### COMBINE THEM INTO A ROBUST SELF-HEALING MESH NETWORK USING THE MESHWORKS SUITE



### CONNECT THE ENTIRE NETWORK TO THE CLOUD

- Sensor Monitoring
- Remote Node Control
- Data Visualization & Analytics
- Real-Time Locating Services (RTLS)



## MeshBenefits

- Powerful & Robust Self-Healing Mesh Networks**
- Exceptionally Easy to Implement Software**
- Get Up & Running with Prototypes in Mere Hours vs. Months**
- Get to Production Quickly Using CEL's Wireless Solutions**
- Easily Connect to the Cloud**
- Implement State-of-the-Art Monitoring & Control**

## MeshFeatures

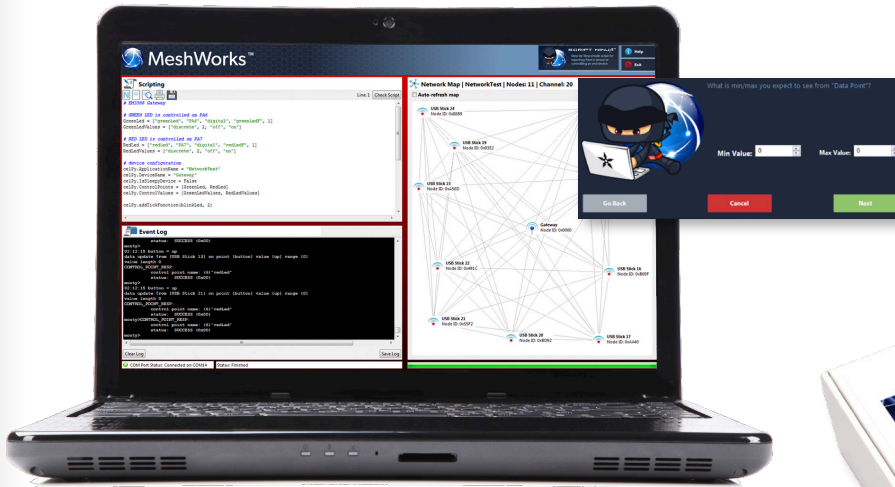
- A mesh network automatically implements redundancy to ensure connectivity despite challenging RF propagation environments.
- Uses proven, industry-leading 802.15.4 EmberZNet PRO™ Stack from Silicon Labs (deployed in millions of residential and commercial installations).
- Supports state-of-the-art secure encryption.
- No experience writing in C or using a compiler required.
- No need to be fluent in complex mesh networking protocols like ZigBee or Z-Wave.
- Utilizes simple Python-based coding, augmented by the MeshWorks ScriptNinja™ tool for step-by-step script generation.
- Use the 10 built-in sensor capabilities of the MeshWorks OpenTether Sensor Node to quickly test concepts.
- The Sensor Node also contains a built-in I/O expansion port to connect to any external sensor or control node using I2C, analog or digital I/O.
- Utilize CEL's reference designs to add wireless connectivity to your custom solution. Simply combine your sensor or control circuitry with CEL's EM35x wireless family.
- Modules are 100% RF tested and pre-certified for FCC, IC and CE Compliance.
- Future-proof firmware with Over-the-Air (OTA) capabilities.
- Access the cloud via off-the-shelf Cellular, WiFi and Ethernet gateway offerings.
- Exosite cloud service included in the Development Kit as a reference design.
- Utilize customized skins and widgets from Exosite to quickly visualize your data and set up automatic notifications.
- RTLS Technology from Buzby Works runs as a supplement on top of the MeshWorks code to enable location tracking.
- Easily compile sensor & control data for powerful analytics.

## Markets Served

- TANK MONITORING
- BUILDING AUTOMATION / HVAC
- LIGHTING CONTROLS
- ENVIRONMENTAL SENSING
- INDUSTRIAL CONTROL
- ASSET TRACKING / RTLS
- AGRICULTURE
- INTELLIGENT WATER MANAGEMENT SYSTEMS
- SOLAR / SMART ENERGY
- HOME AUTOMATION
- HEALTHCARE
- RAILWAY MONITORING
- HEAVY MACHINERY
- FOOD & BEVERAGE PROCESSING

### HOW TO GET STARTED

### OBTAIN A MESHWORKS DEVELOPMENT KIT



ScriptNinja™ is the Simple Built-in Step-By-Step Script Generator Tool



**x1 MeshWorks Software Suite**

(Laptop not included in kit)



**x2 OpenTether Sensor Nodes**



**x1 Ethernet Gateway**

Or



**x1 Cellular Gateway**

Development Kit	Part Number
Cellular Gateway	ZMW-KIT-CELL-1
Ethernet Gateway	ZMW-KIT-ETH-1



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**VISIT TECH SUPPORT  
 FOR MORE INFORMATION**  
[www.cel.com/MeshWorks](http://www.cel.com/MeshWorks)

