



## **Summary & PowerPoint**

### **How IoT is Changing Bakery Maintenance**

The Internet of Things (IoT) is a network of intelligent computers, devices and objects that collect and share huge amounts of data. The collected data is sent to a central cloud-based service where it is aggregated with other data and then shared with end users in a helpful way.

As Bakery manufacturing equipment becomes smarter and machine condition data becomes more readily available through IoT, we examine how to better utilize this information and effectively manage plant operations and maintenance.

The trend in bakery maintenance is to start moving away from costly preventive maintenance and making the leap to predictive and prescriptive maintenance using the IoT data.

Join us as we take a deeper dive into the current state of IoT technology and condition monitoring. We'll demystify common challenges, solutions and cost savings realized when implementing IoT technology.

### **Learning Objectives**

- What is IoT and why is it important to Bakeries?
- What impact will IoT have on my Bakery?
- What are the challenges to getting started and what is the ROI?

### **Presenter**

Jay Wright, SOMAX, Inc.

### **Presentation Time**

Monday, February 25, 2019  
2:50 pm - 3:25 pm

### **Session**

Breakout 1



## How IoT is Changing Bakery Maintenance



## How IoT is Changing Bakery Maintenance



### **Brian Mitchell** Senior Project Manager

- CRMP certified with more than 10 years guiding maintenance and production departments in best practices.
- Over 30 years of experience enabling digital solutions for maintenance and production departments implementing Computerized Maintenance Management Systems

## How IoT is Changing Bakery Maintenance



## How IoT is Changing Bakery Maintenance

### Biggest Challenge in Bakery Maintenance??

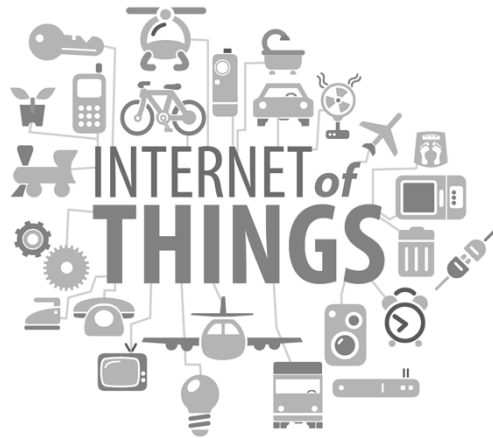
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- Estimated over 20 billion devices connected by the IoT by 2020
- Just scratching the surface of application for businesses
- Data collected can be used to create insightful applications
- Software applications are the true power of the IoT

## How IoT is Changing Bakery Maintenance

### SMART FACTORY



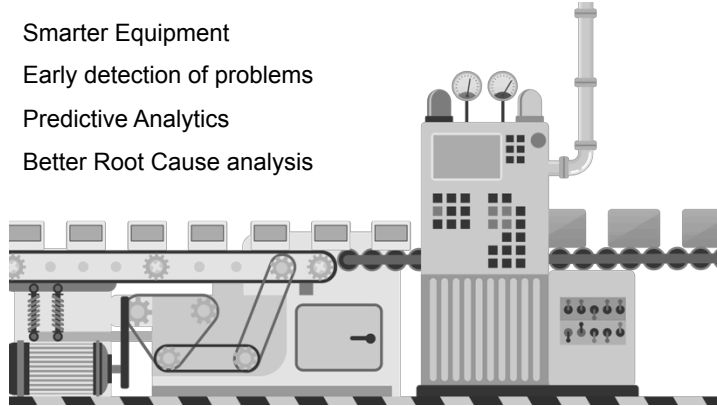
## How IoT is Changing Bakery Maintenance



## How IoT is Changing Bakery Maintenance

What does IoT mean for Maintenance and Sanitation?

- Smarter Equipment
- Early detection of problems
- Predictive Analytics
- Better Root Cause analysis



## How IoT is Changing Bakery Maintenance

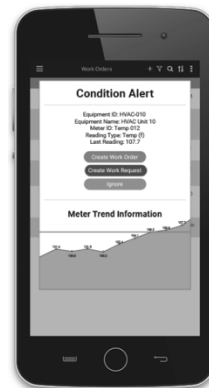
Getting Connected



Wireless Sensors



Gateways



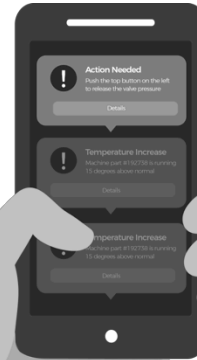
Mobile Devices

## How IoT is Changing Bakery Maintenance

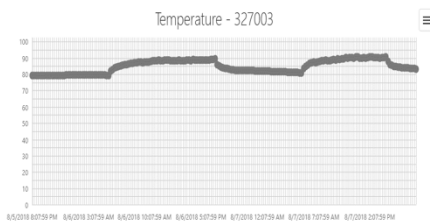
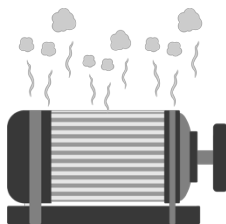
### Getting Connected



### Mobile Devices



## How IoT is Changing Bakery Maintenance



### Monitor Motor and Gearbox Temperature

Any of the following problems will cause an increase in operation temperature:

- Low oil in a gearbox
- Alignment issues
- Binding issues
- Loose or faulty wiring
- Motor winding starting to fail
- Bad or worn brushes in a motor
- Low voltage issues
- Bearing issues

**Catch problems before damage occurs**

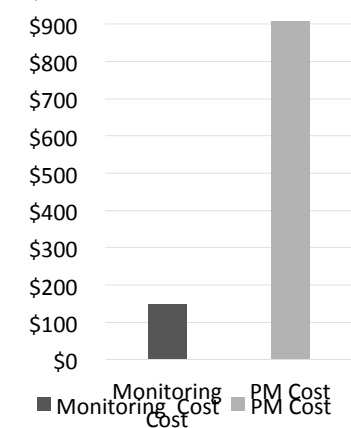
## How IoT is Changing Bakery Maintenance

### How to get started:

- Start by putting a wireless temperature sensor on critical motors and gearboxes.
- Run motors for a brief period to get a good baseline for standard operating temperatures and ranges.
- Then set notification thresholds at 1.1 x that temperature.
- After the sensors are set up, alerts will instantly notify users when a problem starts to develop, empowering them to take action before a failure occurs.
- This process will eliminate costly preventive maintenance inspections and give more accurate and instant information.

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**Sensor vs PM Costs**



#### Monitoring Costs

Sensors check it once a **minute**

Sensor = \$100, Monitoring = \$48 per year = **\$148 per year**

#### Preventive Maintenance Costs

Technician check it once a **week**

.5-hour x \$35 per hour burdened rate x 52 Weeks = **\$910 per year**



## How IoT is Changing Bakery Maintenance

- Smart Phones and Tablets are the new Clip Boards.
- Maintenance and Sanitation personnel should not have to sit at a PC to get information.

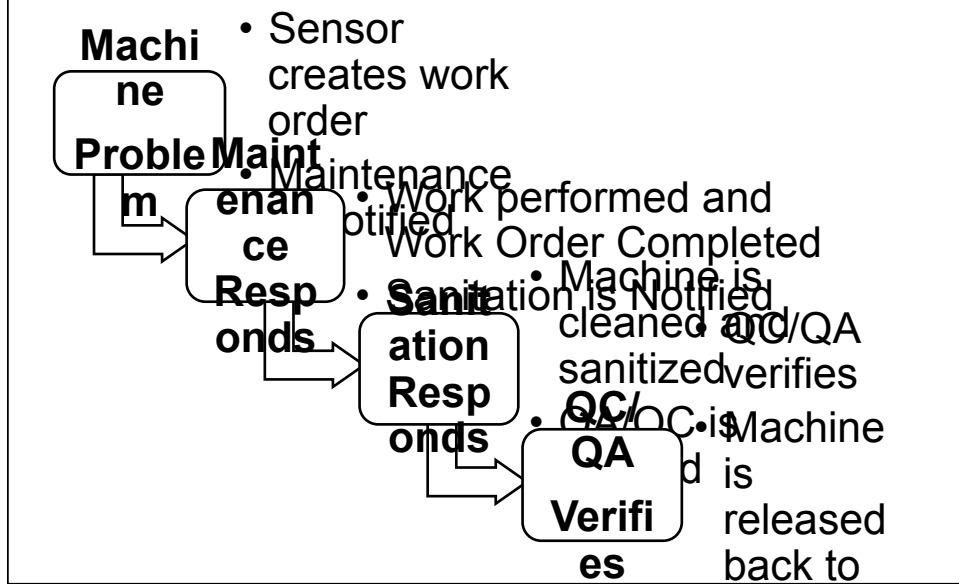


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Improve Communication Between Departments



## How IoT is Changing Bakery Maintenance



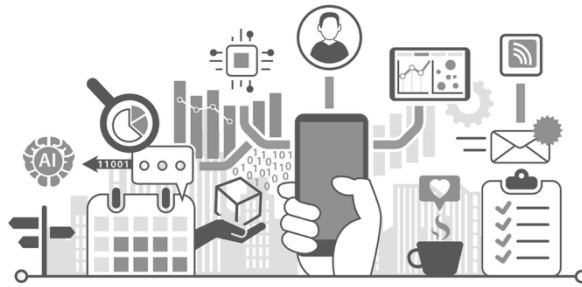
## How IoT is Changing Bakery Maintenance

### Other practical applications for IoT Sensors:

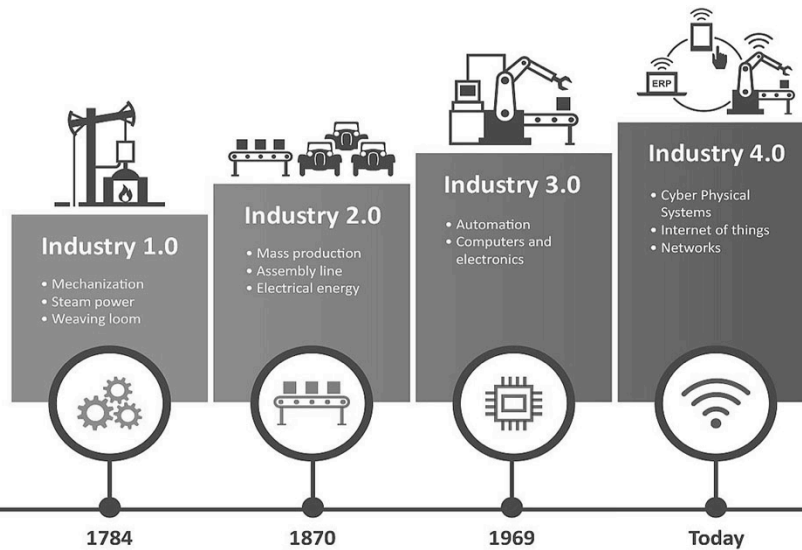
- Moisture and Humidity Sensors
- Vibration Sensors
- Pressure Sensors
- Cooler and Freezer Temperatures
- Rodent Traps

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### BIG DATA



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**ANY  
QUESTIONS?**