The Internet of Things (IoT) – Reinventing Insurance

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Hartford Steam Boiler / Munich Re

CL COMMERCIAL LINES SEMINAR

NAMIC

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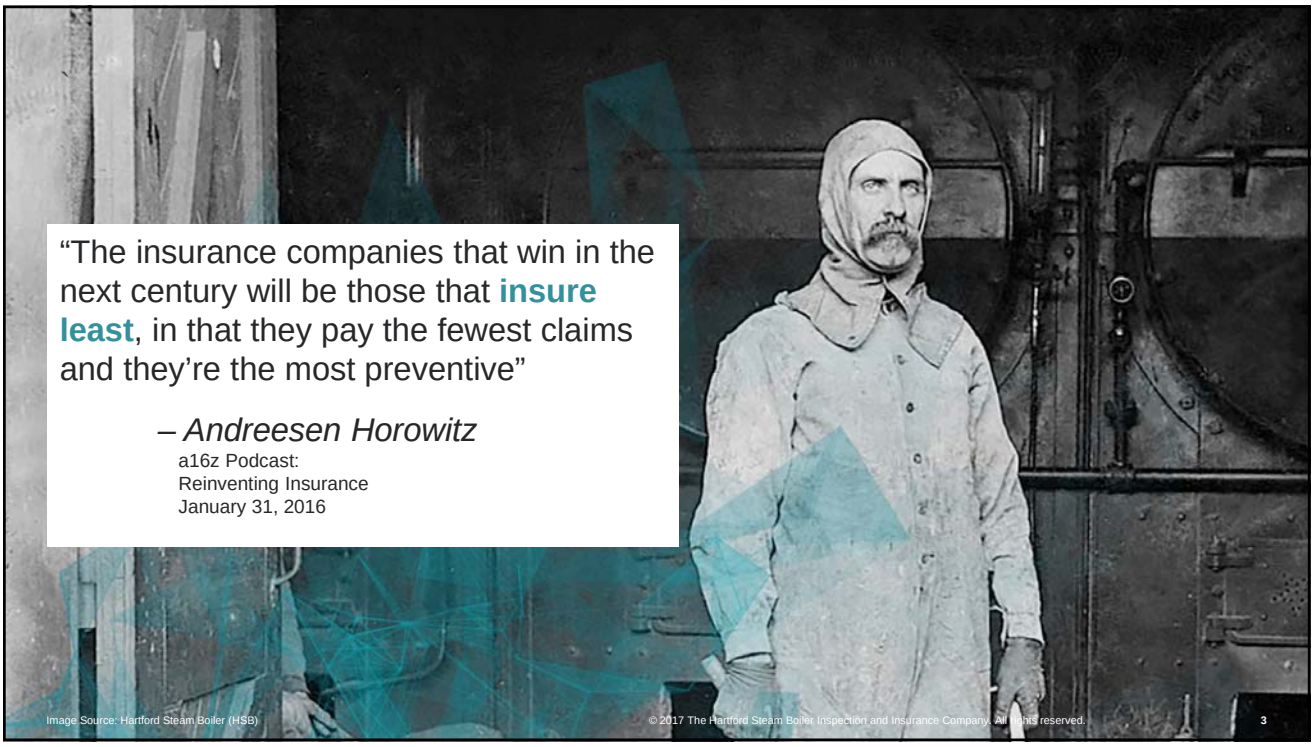
Reinventing Insurance

March 2, 2017

Risk Solutions

1866
Hartford Steam Boiler

Munich RE



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What is
IoT?

Cheap Hardware

Ubiquitous Connectivity

Cheap analytics in the cloud

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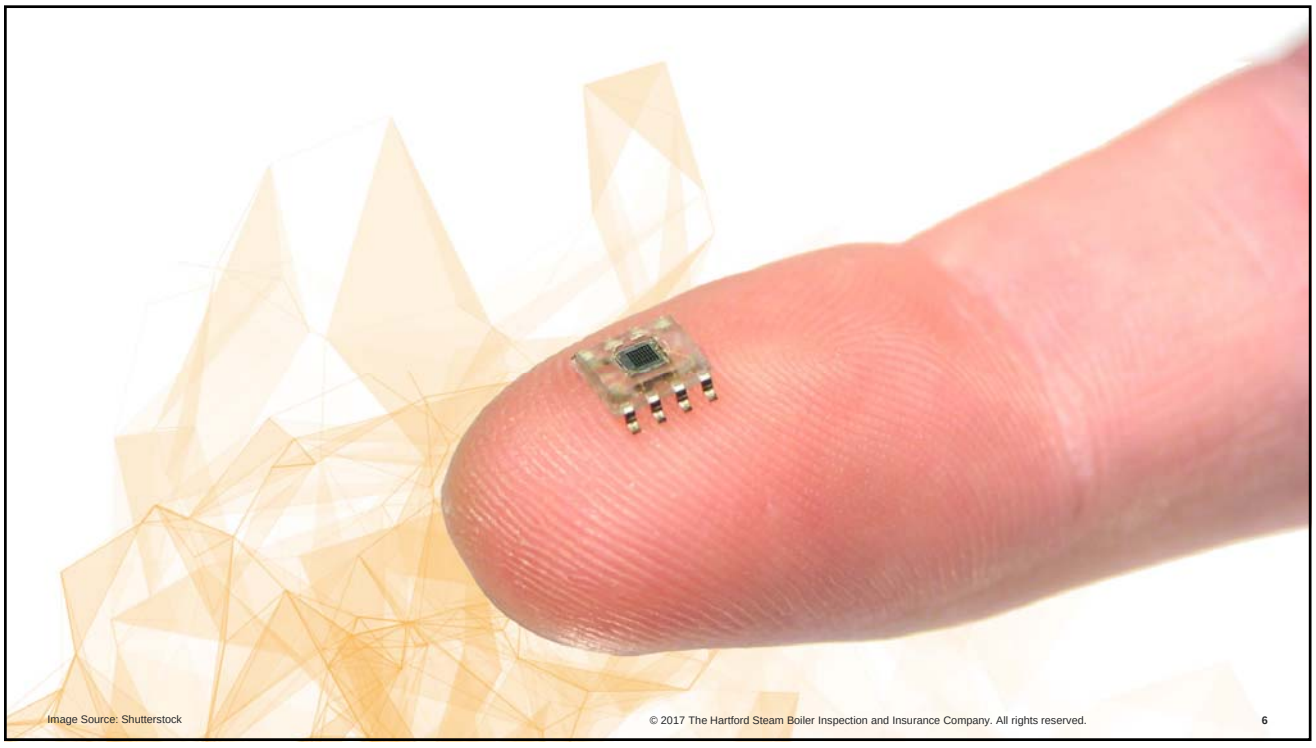

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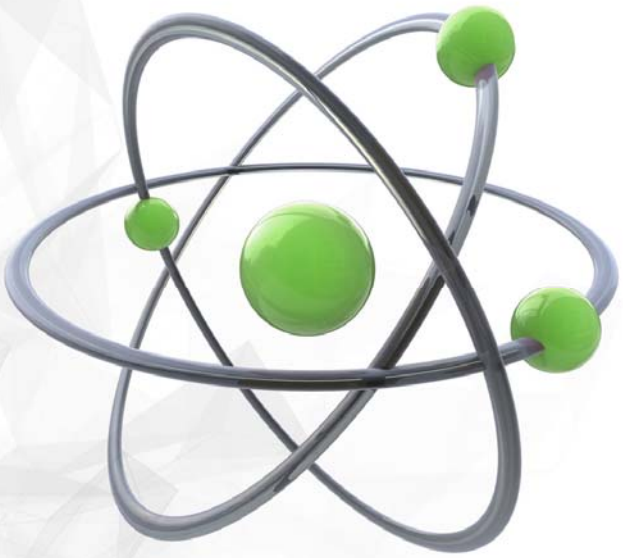
Technology is

getting smarter



"Memristors" could bring a new wave of micro technology and connected devices at the

atomic level

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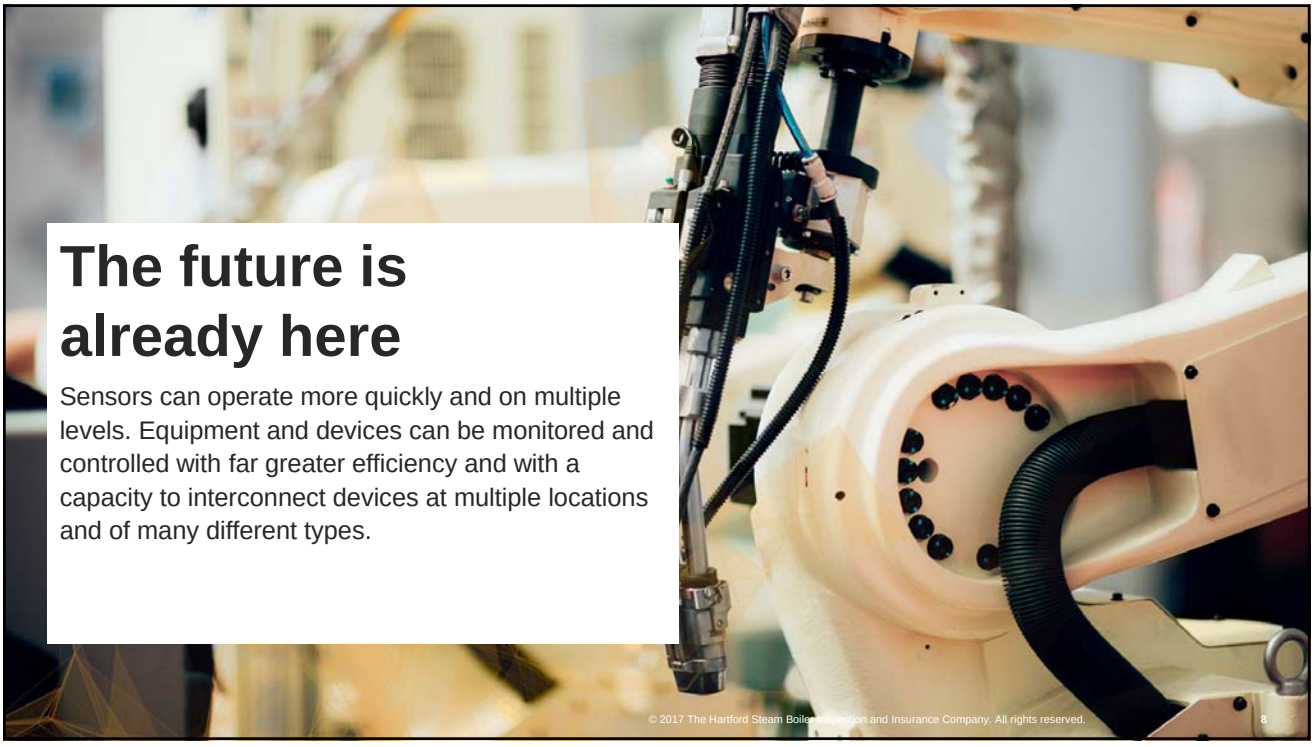

The future is already here

Sensors can operate more quickly and on multiple levels. Equipment and devices can be monitored and controlled with far greater efficiency and with a capacity to interconnect devices at multiple locations and of many different types.

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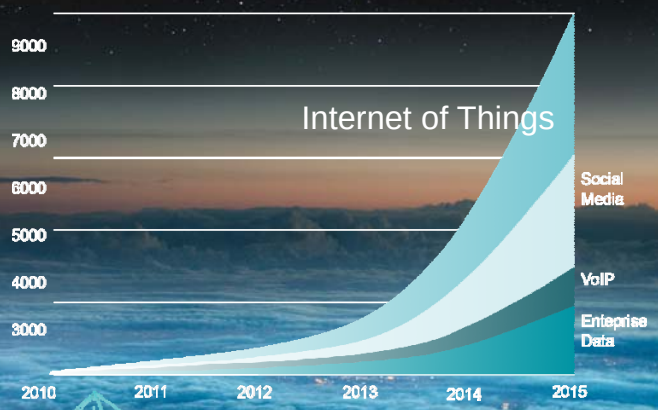
2016:

6.5 Billion devices

2020:

50 Billion devices



Source: "IDC's Worldwide Internet of Things Taxonomy, 2015," IDC, May 2015; "Worldwide Internet of Things Forecast, 2015 – 2020," IDC, May 2015.

9,000 exabytes

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A tsunami of data

Information being transmitted from sensors to devices at a ferocious pace

Inter-connected devices will increasingly be at the heart of equipment, systems and operations in business, industry and homes around the world.

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Financial impact of the

IoT technology revolution

$3.9–$11.1 Trillion annually

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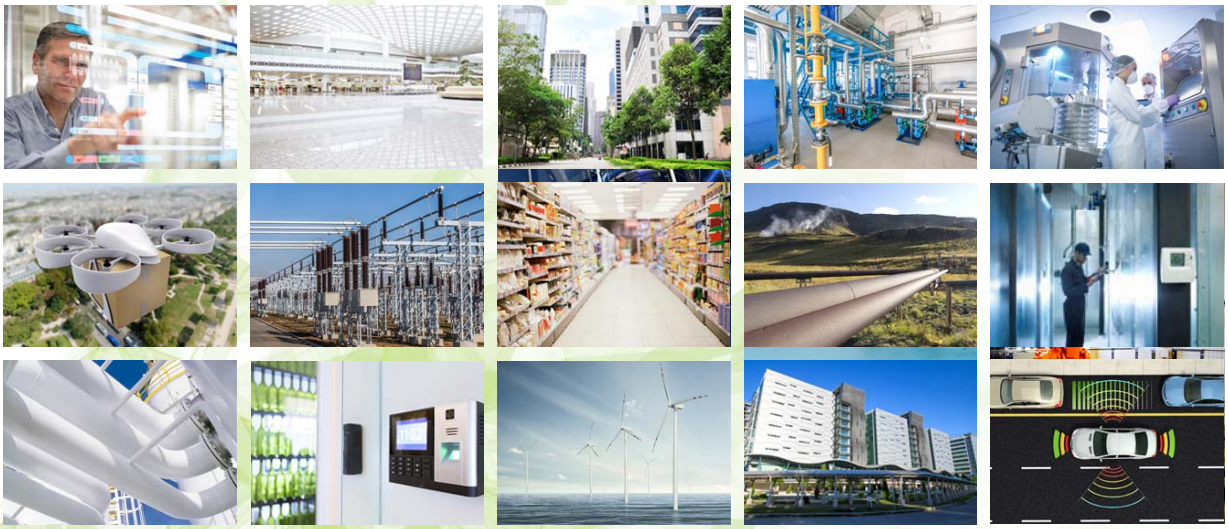
All Industries are affected



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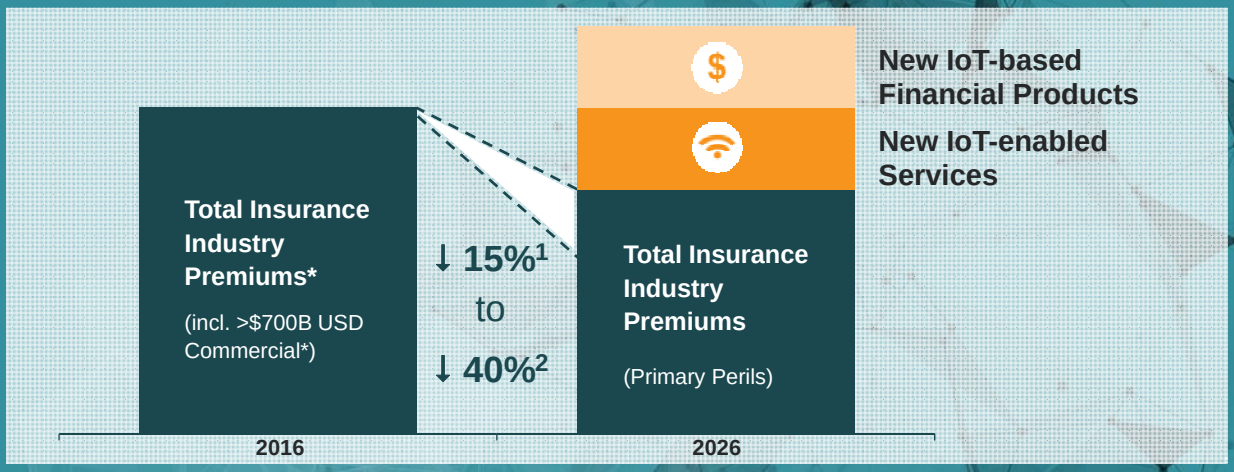
The IoT Opportunity for insurance



* Includes 2014 worldwide commercial premiums of US$728.6B [$210.3B (28.9%) commercial motor] – Finaccord, Dec 2015.
[1] Represents a drop in the premium basis, mostly across primary perils in the next ten year. "Can a Fixed Cost Property/Casualty Industry Survive the Internet of Things?", Celent, March 2016.
[2] As a comparison, the auto insurance market is projected to decline by as much as 40% due to the expected emergence of autonomous vehicles according to a KPMG study

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Well publicized IoT applications

60%

of insurance companies have **piloted or considered pilots** of IoT

15%

of insurance companies have **launched** IoT- based solutions

Auto

Home

Health/ Life

Workers' Comp

Source: UBI Global Study 2016, Ptolemus

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Powered by the Internet of Things, Insurance will evolve from product-centric to service-centric

New Technology Is Disrupting Insurance

Rapid advances in technology are disrupting the insurance industry with a shift towards near-perfect information that unpacks risk

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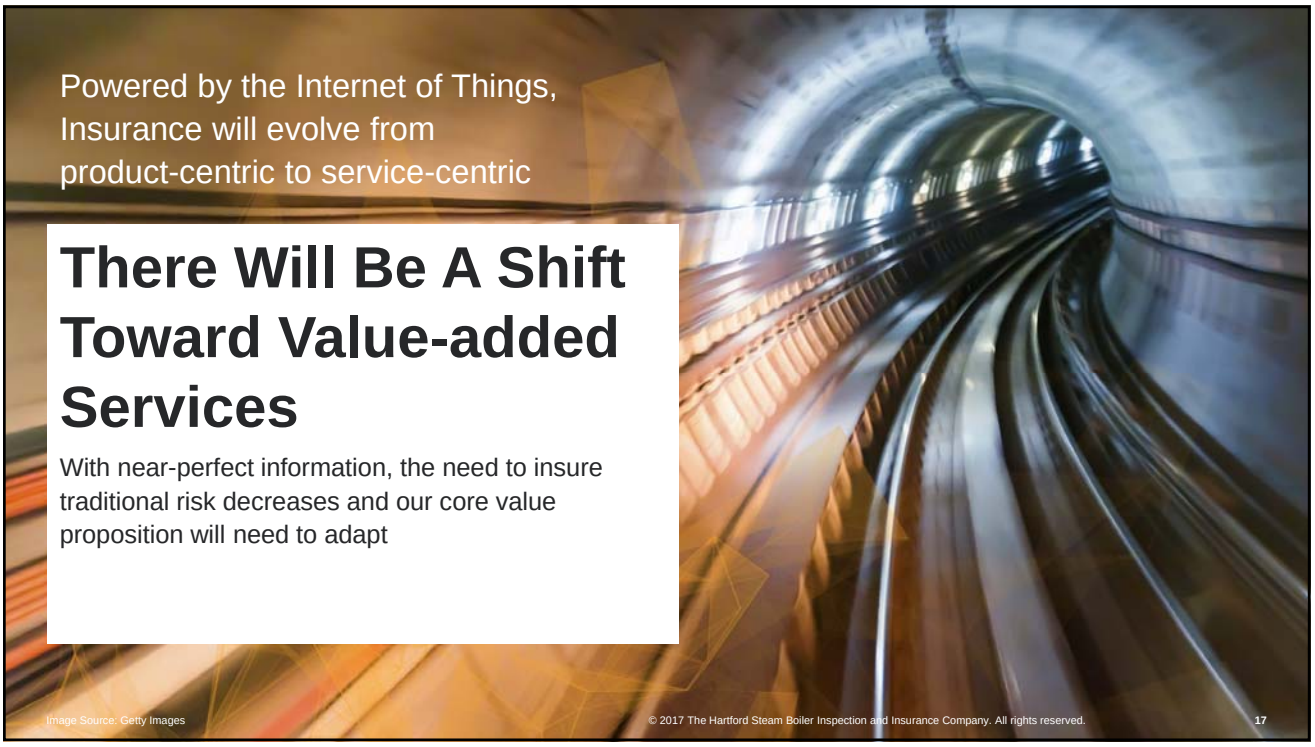
Powered by the Internet of Things, Insurance will evolve from product-centric to service-centric
There Will Be A Shift Toward Value-added Services
With near-perfect information, the need to insure traditional risk decreases and our core value proposition will need to adapt
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Powered by the Internet of Things, Insurance will evolve from product-centric to service-centric
Insurance Will Evolve Into a Service-first Solution
We will address the future “business moments”[1] of our partners, client companies, brokers, and facility owners with service-first offerings that define the nascent IoT landscape – coupled with insight, products, etc.
[1] Gartner
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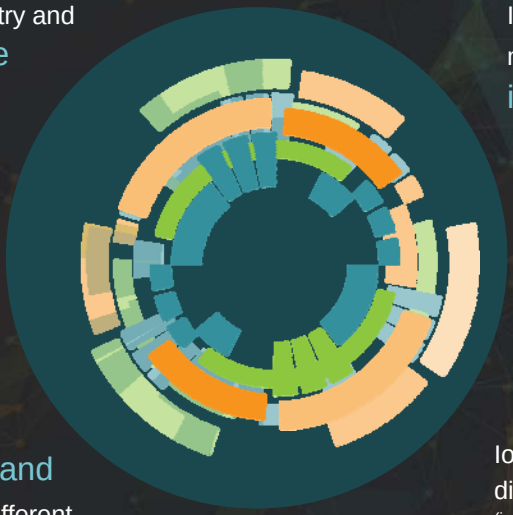
IoT will change industry and disrupt insurance

IoT extends business models beyond insurance



IoT creates new insurance / financial product opportunities

IoT is not primarily about risk reduction
(efficiency, security, marketing & risk)

IoT marketing and products are different

IoT customers are different
(insurers, end customers, equipment manufacturers, etc.)

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Glimpse of the IoT Landscape

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Orchestrating

an IoT ecosystem of partners and technology

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Meshify

Hardware (Gateways)
Software (Data, Interface)
Services (Integration)

"Meshify is a complete cloud-based Internet of Things (IoT) platform that develops electronic device management software; offers cross-platform measurement, monitoring, and control; and provides real-time monitoring and alerts of potential risks and information that improves business operations. Meshify offers software, hardware, and services that simplify the collection of data; manages complex monitoring; and displays sensor data in user-friendly web and mobile applications."

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20 software engineers and engineers dedicated to IoT research, experimentation and deployment

>9,000
sensors deployed

>2,700
locations

11
occupancies installed

- Convenience Store
- Grocery Store
- Schools
- Churches
- Dry Cleaners
- Apartment & Condos
- Medical Offices
- Restaurant
- Office Buildings
- Hotels
- Machine Shop

>220
technology companies evaluated

45
technology solutions tested

>45
alerting algorithms from developmental to production stage

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IoT is

HARD

Problems to **Solve**

- Alert and notification design?
- Data export and distribution?
- Real-time monitoring?
- Installation options?
- Real world physics problems of time, space, connectivity
- Communications technologies?
- Use case selection? Location selection?
- Front-end apps and UI?
- Service provider network?
- Sensor package selection?
- Hardware support and maintenance?
- Data analytics?
- Partners and technologies?
- Software and middleware?
- Customer enlistment?
- Financial guarantee?
- Machine learning? Predictive maintenance?
- Data encryption (in transit and at rest)?
- Core data storage and architecture?
- Program management (contact updates)?
- Inventory management?

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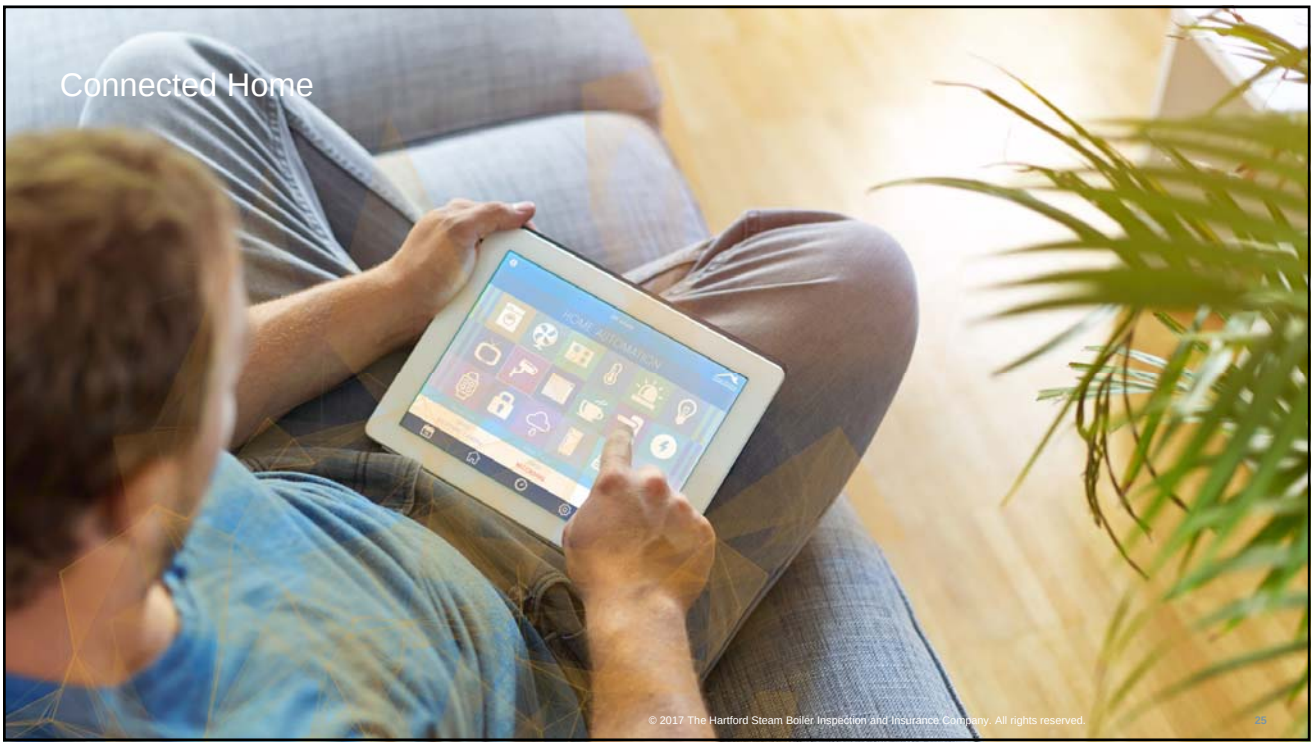

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Medical Office
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Schools
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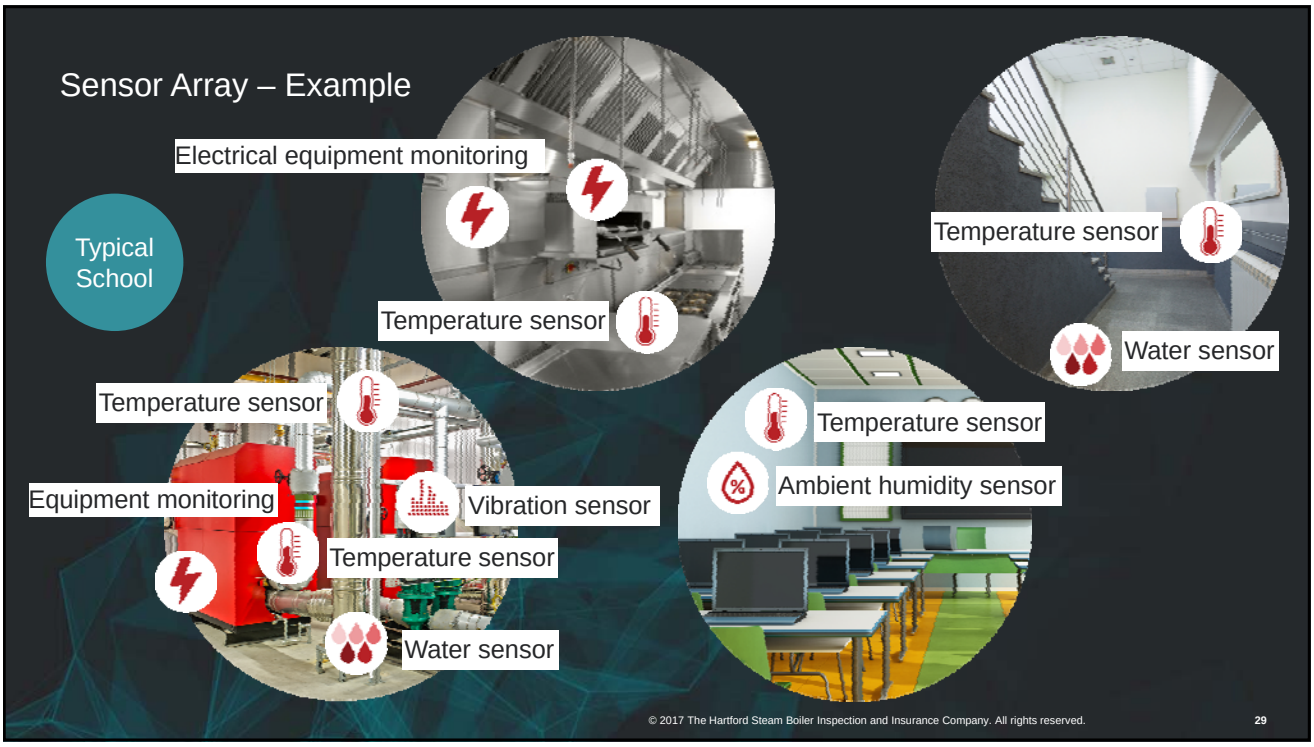
Sensor Array – Example



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With near-perfect information, the need to insure traditional risk decreases and our
core value proposition
will need to adapt
From insurance to ASSURANCE
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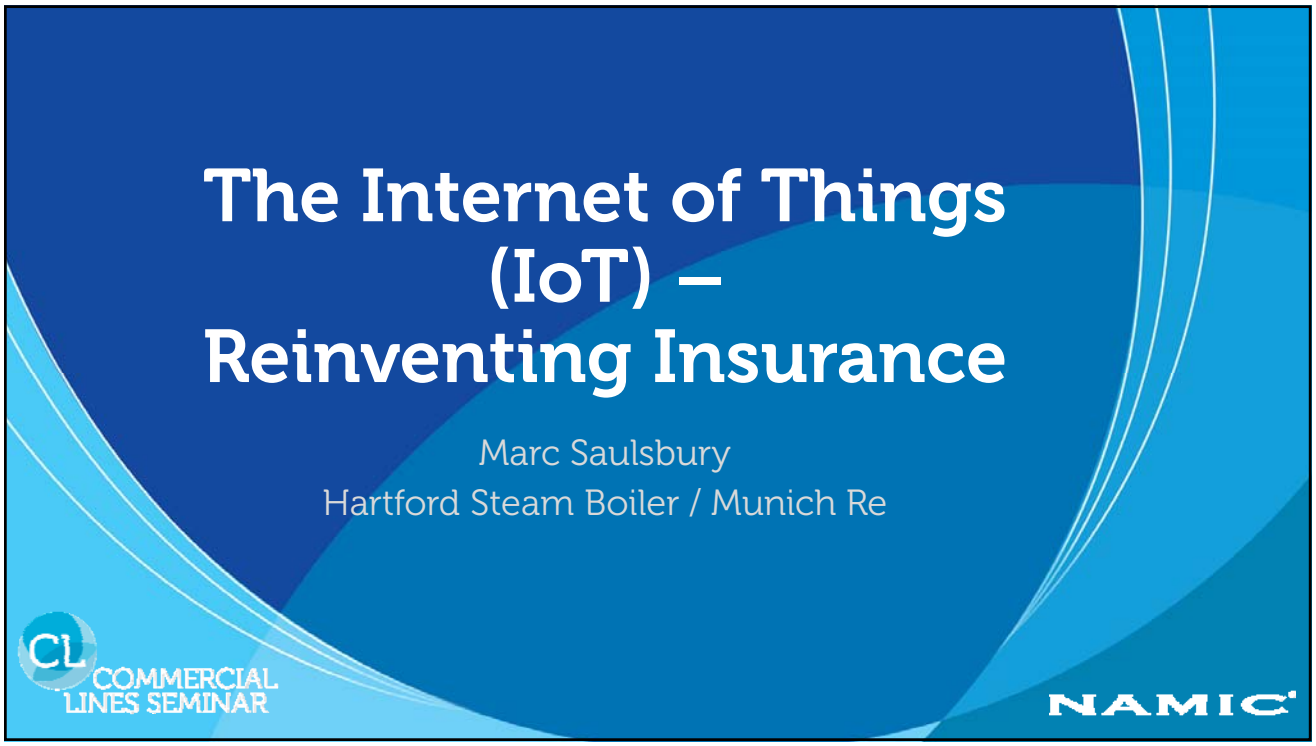
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