Security for the Hyperconnected World

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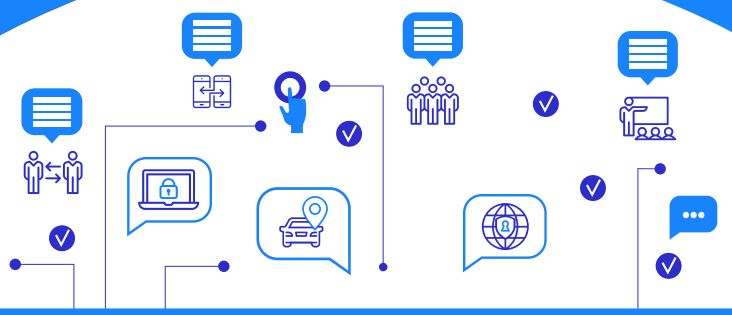

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Strategic Trends

IDC 2018 IoT GLOBAL SPENDING FORECAST

- Worldwide investment into Internet of Things will reach $772 billion by end of 2018
- IoT hardware will be the largest technology category in 2018 with $239 billion going largely toward modules and sensors along with some spending on infrastructure and security.
- Services spending will also grow at a faster rate than overall spending with a CAGR of 15.1% and will nearly equal hardware spending by the end of the forecast.
- Software will also be the fastest growing technology segment with a five-year CAGR of 16.1%.

IDG

Source: IDC Press Release, IDC Forecasts Worldwide Spending on the Internet of Things to Reach $772 Billion in 2018, 7 Dec 2017.

Adoption Across Sectors

INDUSTRIES THAT WILL SPEND THE MOST ON IOT SOLUTIONS IN 2018:

- Manufacturing ($189 billion) -- IoT spending largely focused on solutions that support manufacturing operations and production asset management
- Transportation ($85 billion) -- Two thirds of IoT spending will go toward freight monitoring, followed by fleet management.
- Utilities ($73 billion) -- IoT spending dominated by smart grids for electricity, gas, and water.
- Cross-Industry IoT ($92 billion) -- Represent use cases common to all industries - such as connected vehicles and smart buildings.

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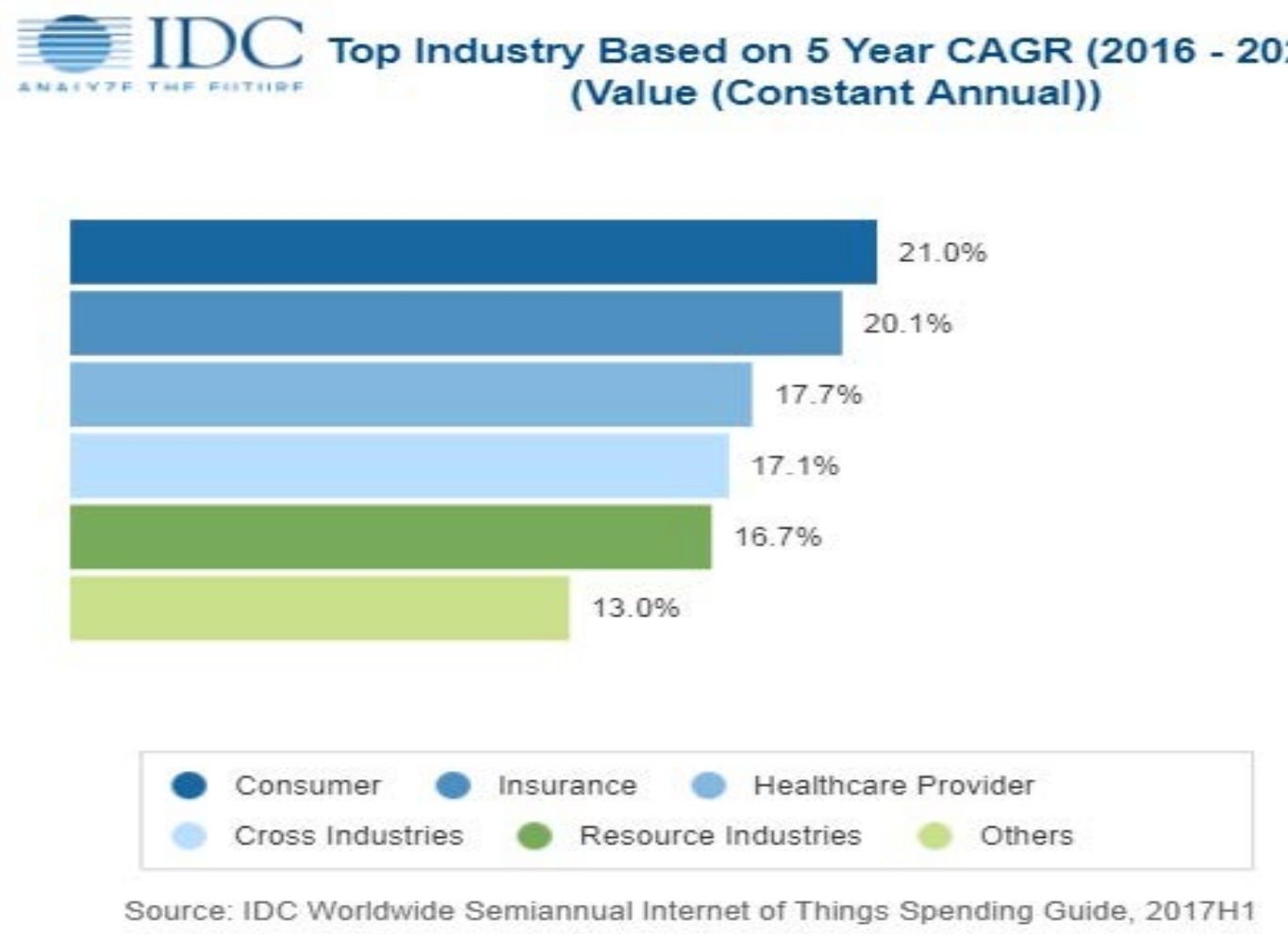
Source: IDC Press Release, IDC Forecasts Worldwide Spending on the Internet of Things to Reach $772 Billion in 2018, 7 Dec 2017.

Double Digit Growth Through 2021



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Source: IDC Press Release, IDC Forecasts Worldwide Spending on the Internet of Things to Reach $772 Billion in 2018, 7 Dec 2017.

An International Competitive Play

IoT IS A GLOBAL PHENOMENON

- Asia/Pacific (excluding Japan) (APeJ) will be the geographic region with the most IoT spending in 2018 – $312 billion
- North America (the United States and Canada) -- $203 billion
- Europe, the Middle East, and Africa (EMEA) -- $171 billion.
- Latin America will deliver the fastest overall growth in IoT spending with a five-year CAGR of 28.3%.

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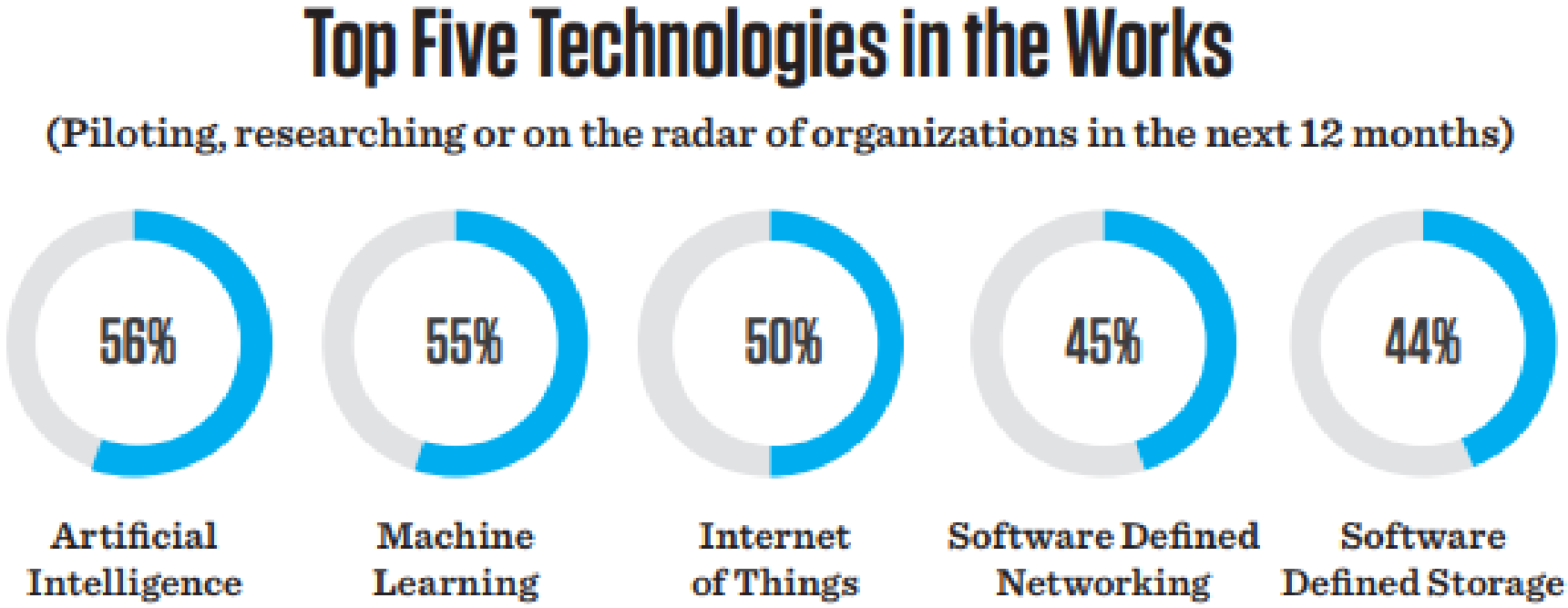
Source: IDC Press Release, IDC Forecasts Worldwide Spending on the Internet of Things to Reach $772 Billion in 2018, 7 Dec 2017.

IoT in Context of Other IT Priorities



Digital Transformation = Key IoT Driver

2018 IDG DIGITAL TRANSFORMATION RESEARCH

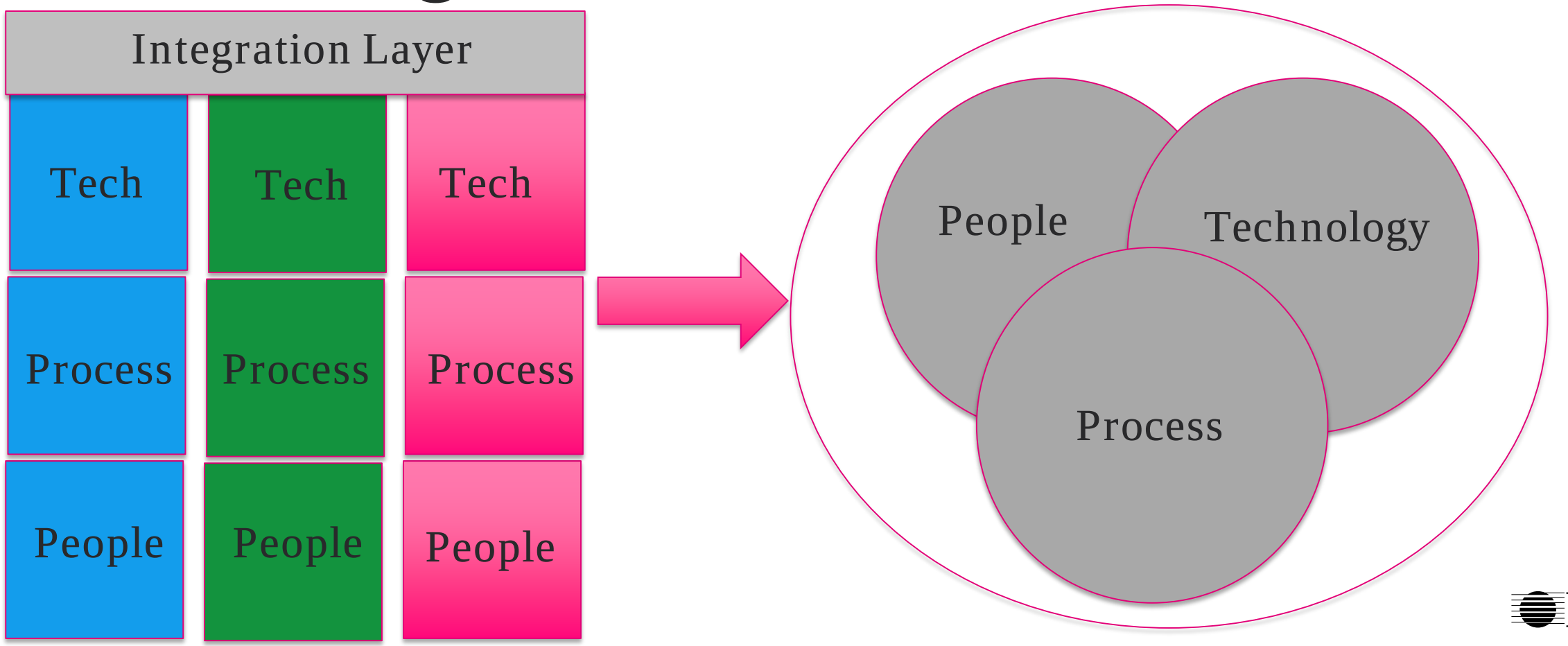
- Digital-first approach is top of mind for tech leaders, and the top objectives driving this strategy include improving process efficiency, creating a better customer experience and improving employee productivity.
- Digital business aims to improve efficiency via automation, create better customer experiences, and improve employee productivity – all of which are also the top metrics to determine digital business success.
- IoT is expected to play a role in organizations' digital business strategy, especially among enterprises(61%).
- Connected devices are flourishing as predicted, with the number of connected IoT endpoints set to top 30 billion in 2020 and reach 80 billion by 2025 according to IDC.

Comprehensive digital innovation requires security/privacy measures and considerations to be integrated into the planning and execution process. This is the one area in which "bolted on" security/privacy after-the-fact guarantees failure.

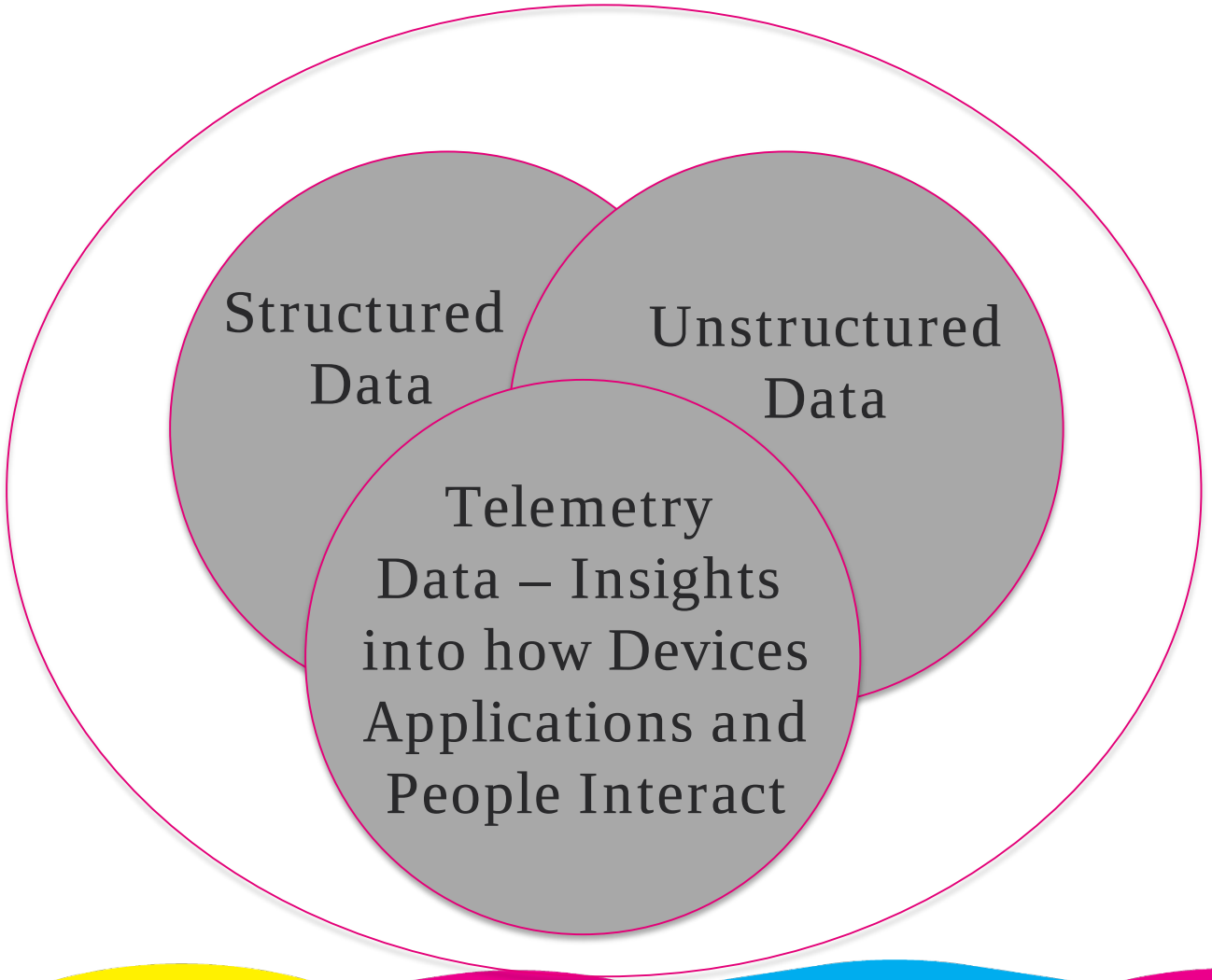
IDG

Source: IDC, Worldwide Internet of Things Installed Base by Connectivity Forecast, 2017–2021, IDC #US42331917, March 2017.

A New Take on Managing Critical Resources – From Integrating Silos to Building Common Platforms



A New Axis for Analysis and Insight



Platform Organizations Are Silo Killers

WeChat vs Chinese Banks

New Media vs Old Media

Legacy Manufacturing vs Automated Manufacturing

Common Denominator is that New Generation is Cloud Software-based and Hyper End-Point Focused

Operational Implications

SECURITY IS THE TOP OPERATIONAL CONSIDERATION FOR IoT AND DIGITAL TRANSFORMATION

- Securing and supporting IoT was a priority set forth in the Commission on Enhancing National Cybersecurity's report in December 2016,
- In 2017 the U.S. Senate introduced the Internet of Things Cybersecurity Improvement Act of 2017 to establish guidelines for securing devices procured by the U.S. government.
- Companies should adopt a set of guidelines to ensure the secure development and deployment of IoT devices.

At the heart of best practices: identity-focused security solutions that monitor and manage the relationships and interactions among devices, applications, the entities/people controlling them, and all data being sent and received.

Innovation vs Maturity

DIGITAL TRANSFORMATION IS A VOYAGE OF DISCOVERY – AN EXPLORATION OF THE UNKNOWN

- New "always-on" processes are being designed to pursue new opportunities with new technologies
- Ensuing explosion of data is valuable to exploiters because it is critical to the digitally transformed enterprise
- Hyper-connectivity -- Is both the byproduct and the key to success as new connections are established among customers, employees, partners, applications, and devices.

When OT and IT Collide

INTEGRATING OPERATIONAL AND INFORMATION TECHNOLOGIES

- A dynamic, real-time map of OT and IT assets on enterprise Networks is critical
- Many IoT devices are Un-patchable...They cannot be made conventionally secure. It is there for important to monitor, manage and mitigate the traffic to and from all devices.
- Secure endpoint hardening must be enhanced by putting in place layered obstacles to prevent unauthorized access and use of devices and applications.

Endpoints (IT) = Sensors (OT) with IP Address and Radios which Requires an *Enterprise of Things* Platform that Integrates IT and OT Asset for Management in a Common Environment.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