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BEST PRACTICES

AWARDS

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2020 BEST PRACTICES AWARD

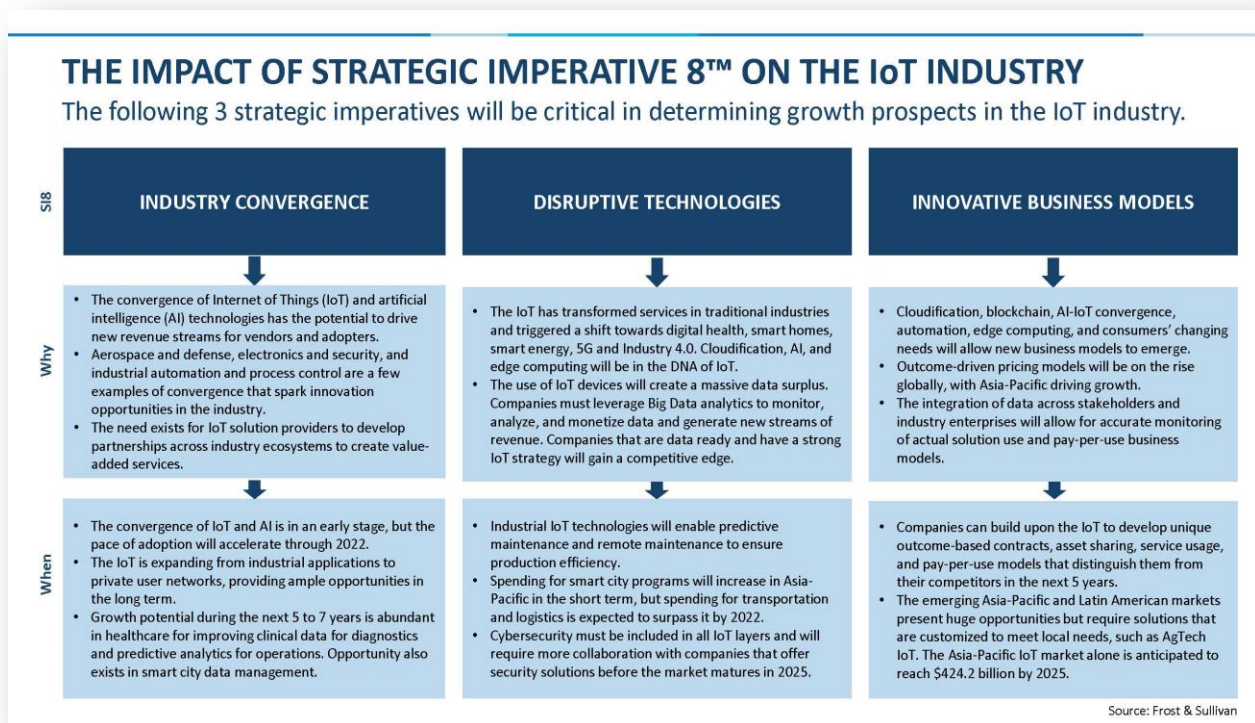
CISCO

2020 GLOBAL

INDUSTRIAL INTERNET OF THINGS (IIOT) ENABLING TECHNOLOGY LEADERSHIP AWARD

Strategic Imperatives

Frost & Sullivan identifies three key strategic imperatives that impact the internet of things industry: industry convergence, disruptive technologies, and innovative business models. Every company that is competing in the internet of things space is obligated to address these imperatives proactively; failing to do so will almost certainly lead to stagnation or decline. Successful companies overcome the challenges posed by these imperatives and leverage them to drive innovation and growth. Frost & Sullivan's recognition of Cisco is a reflection of how well it is performing against the backdrop of these imperatives.

THE IMPACT OF STRATEGIC IMPERATIVE 8™ ON THE IoT INDUSTRY

The following 3 strategic imperatives will be critical in determining growth prospects in the IoT industry.

SI8

INDUSTRY CONVERGENCE	DISRUPTIVE TECHNOLOGIES	INNOVATIVE BUSINESS MODELS
Why • The convergence of Internet of Things (IoT) and artificial intelligence (AI) technologies has the potential to drive new revenue streams for vendors and adopters. • Aerospace and defense, electronics and security, and industrial automation and process control are a few examples of convergence that spark innovation opportunities in the industry. • The need exists for IoT solution providers to develop partnerships across industry ecosystems to create value-added services.	• The IoT has transformed services in traditional industries and triggered a shift towards digital health, smart homes, smart energy, 5G and Industry 4.0. Cloudification, AI, and edge computing will be in the DNA of IoT. • The use of IoT devices will create a massive data surplus. Companies must leverage Big Data analytics to monitor, analyze, and monetize data and generate new streams of revenue. Companies that are data ready and have a strong IoT strategy will gain a competitive edge.	• Cloudification, blockchain, AI-IoT convergence, automation, edge computing, and consumers' changing needs will allow new business models to emerge. • Outcome-driven pricing models will be on the rise globally, with Asia-Pacific driving growth. • The integration of data across stakeholders and industry enterprises will allow for accurate monitoring of actual solution use and pay-per-use business models.
When • The convergence of IoT and AI is in an early stage, but the pace of adoption will accelerate through 2022. • The IoT is expanding from industrial applications to private user networks, providing ample opportunities in the long term. • Growth potential during the next 5 to 7 years is abundant in healthcare for improving clinical data for diagnostics and predictive analytics for operations. Opportunity also exists in smart city data management.	• Industrial IoT technologies will enable predictive maintenance and remote maintenance to ensure production efficiency. • Spending for smart city programs will increase in Asia-Pacific in the short term, but spending for transportation and logistics is expected to surpass it by 2022. • Cybersecurity must be included in all IoT layers and will require more collaboration with companies that offer security solutions before the market matures in 2025.	• Companies can build upon the IoT to develop unique outcome-based contracts, asset sharing, service usage, and pay-per-use models that distinguish them from their competitors in the next 5 years. • The emerging Asia-Pacific and Latin American markets present huge opportunities but require solutions that are customized to meet local needs, such as AgTech IoT. The Asia-Pacific IoT market alone is anticipated to reach $424.2 billion by 2025.

Source: Frost & Sullivan

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated companies. Cisco excels in many of the criteria in the IIoT space.

AWARD CRITERIA

Technology Leverage	Customer Impact
Commitment to Innovation	Price/Performance Value
Commitment to Creativity	Customer Purchase Experience
Stage Gate Efficiency	Customer Ownership Experience
Commercialization Success	Customer Service Experience
Application Diversity	Brand Equity

Innovative Solutions to Seamlessly Deliver IoT to Customers

Cisco has long been one of the market leaders in enabling the Internet of Things (IoT). No matter the application or industrial environment, Cisco has established itself as a leading company to connect and manage devices across various networks, providing customers with scale and security in a hyper-connected world. However, enabling IoT is not an easy task. Cisco has supported customers by developing and deploying highly complex industrial networks and developing relationships with both IT and OT stakeholders that typically operate in different worlds and speak completely different languages. By increasing collaboration between these groups, Cisco has enabled the development and successful deployment of IoT solutions in complex industrial environments.

> *"Cisco is an established leader in developing innovative solutions that address real world business challenges in the industrial world. This focus on innovation keeps Cisco at the forefront of all IoT deployments and positions the company well to maintain its market leadership position."*
>
> *- Dilip Sarangan, Sr. Director of Research, IoT & Digital Transformation*

One of the challenges in the industry is the muddled definition of Digital Transformation (DT) due to the ever-expanding definition of IoT. In most cases, vendors and service providers are using both terms interchangeably. At Frost & Sullivan, we believe that the Internet of Things (IoT) is the catalyst that is driving that transformation. However, IoT is not the only technology that enables organizations to transform digitally; ubiquitous connectivity, cloud computing, IoT, big data and analytics, blockchain, and artificial intelligence (AI) are among the core technology groups driving vertical market evolution. Digital technologies have the potential to transform every vertical market and industry—understanding the ICT perspective and the industry views that are driving change is vital. Every industry is seeking to evolve in line with changing customer requirements, enable the delivery of innovative new services, and improve internal working processes.

Cisco Lends its Expertise to the Customer Purchase Experience

IT and OT decision-makers typically have vastly different requirements and expectations with IoT deployments. IT departments typically focus on the technology side of the deployment and the associated impact on an organization's network. In particular, the task of securing the network against cyberthreats has emerged as a priority. OT departments are focused on the business impact of deploying technology and looking at ways to either save money, make money, or improve operational efficiency. These departments do not typically work together when deploying IoT solutions. As one of the leading providers for both IT and OT departments, Cisco has the expertise to bring both these departments to the table and create solutions that provide benefits to both. This expertise allows these departments to outline their needs and pool resources to make any IoT deployment successful.

The Cisco Brand Accelerates Solution Development and Deployment

> *"Cisco has long worked with IT and OT departments to integrate its solutions in the industrial segments. Its market leadership is critical for end users looking to deploy IoT solutions and enhances its ability to advance the industry."*
>
> *- Dilip Sarangan, Sr. Director of Research, IoT & Digital Transformation*

Cisco has long established itself as the leader in the enterprise networking market, and also in industrial networking solutions – from industrial routers and switches to embedded hardware for machine builders, industrial wireless and industrial security solutions. In addition, the company has its own line of edge computing software and Industrial Asset Vision sensor solutions that enables the successful deployment of an IoT solution. The Cisco brand enables its partners to get quicker buy in from IT and OT customers due to the relationships and Cisco's position as the market leader in enabling IIoT solutions.

Many competitors boast about their ability to work closely with both OT and IT departments of their customers. However, Cisco has the depth in relationships and proven track record to guide their customers through the digital transformation journey. Thanks to its strategic partnerships with industrial control system vendors such as Rockwell Automation or Schneider Electric, Cisco IoT products embed an impressive set of features for many industry verticals, such as manufacturing, power or water utilities, oil and gas, mining, roadways, public transportation, and more. Its team of solution architects are testing and documenting reference architectures called Cisco Validated Designs (or CVDs) helping industrial organizations to build and deploy state-of-the-art industrial networks with confidence. To its customers, Cisco is the leading provider of IT and OT solutions that enable the IoT and digital transformation journey.

Cisco Enables IIoT with Best-in-Class Security

One of the biggest challenges identified by industrial organizations in deploying IoT is network security. Most machines have typically operated in air gapped environments to avoid malware or malicious traffic coming from the IT domain to spread to the OT network and disrupt industrial processes. With the increased need for remote accesses into machines and the tighter integration of industrial control systems with IT and cloud applications, the air gap erodes and OT networks are exposed to more threats.

Being the world leader in both cybersecurity and industrial network solutions, Cisco is uniquely positioned to bridge the two and enable secure IIoT deployments. Cisco network equipment have the ability to gain visibility on what industrial devices are connected and what they are doing. This embedded visibility makes it possible to detect threats at scale. It also feeds Cisco security solutions with the smallest details on the industrial operations that are needed to build a unified IT/OT threat management strategy.

Cisco's comprehensive IT/OT security portfolio is enhanced with threat intelligence from Cisco Talos, one of the World's largest security research team, so that Cisco products are always up to date on emerging threats and new vulnerabilities. Talos also offers an Incident Response service to help organizations strengthen their security posture, enhance their plans, and test their capabilities. The team can also be engaged within hours to help respond and recover from a breach.

Cisco has unparalleled expertise in preventing threats and making compliance to regulations easy for their customers. With a comprehensive line of products available to meet the requirements of every IT and OT customer, Cisco uniquely provides end-to-end security for IIoT deployments.

Conclusion

Cisco is the leader in enabling the Industrial Internet of Things (IIoT). With solutions ranging from routers, switches, security and wireless solutions, Cisco products are the backbone of any IIoT deployment. The company leverages its deep relationships with IT and OT departments to help customers deploy the right solution that will help them derive the optimal total cost of ownership.

For its leadership in enabling IIoT solutions, Cisco is recognized with Frost & Sullivan's 2020 Enabling Technology Leadership Award.

What You Need to Know about the Enabling Technology Leadership Recognition

Frost & Sullivan's Enabling Technology Leadership Award recognizes the company that applies its technology in new ways to improve existing products and services and elevate the customer experience.

Best Practices Award Analysis

For the Enabling Technology Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create on-going growth opportunities and strategies for our clients is fuelled by the Innovation Generator™. Learn more.

Key Impacts:

■ **Growth Pipeline:** *Continuous flow of Growth opportunities*

■ **Growth Strategies:** *Proven Best Practices*

■ **Innovation Culture:** *Optimized Customer Experience*

■ **ROI & Margin:** *Implementation Excellence*

■ **Transformational Growth:** *Industry Leadership*

The Innovation Generator™

Our six analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

■ **Mega Trend (MT)**

■ **Business Model (BM)**

■ **Technology (TE)**

■ **Industries (IN)**

■ **Customer (CU)**

■ **Geographies (GE)**