

Internet of Things

World Forum

Hosted by  CISCO

December 6-8

2015 Dubai

United Arab Emirates



Executive Summary

The Internet of Things World Forum (IoTWF) is the premier thought leadership forum for the IoT industry. Hosted annually by Cisco, it is a must-attend event for IoT leaders and innovators from business, government, and academia.

The mission of the IoT World Forum is to accelerate the market adoption of the Internet of Things by:

- Delivering thought leadership and vision for the IoT industry
- Sharing real IoT implementations and best practices
- Enabling partner collaboration and IoT ecosystem development

A steering committee comprised of industry visionaries, technologists, executives, and educators drives the strategic direction for the IoT World Forum. The steering committee covers 17 industry verticals and horizontals, including smart cities, manufacturing, energy, security and privacy, standards and interoperability, and more.

In 2015, the third annual IoT World Forum showcased dramatic transformations that have gained momentum across every global sector. IoTWF 2015 brought together 2,295 thought leaders, executives, senior government officials, entrepreneurs, and academic researchers from sixty-five countries over three days for more than one hundred sessions in Dubai. The theme of the event, “A New World,” highlighted the value and momentum of the IoT through global deployments, business outcomes, and innovations.



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Thank You to the IoTWF 2015 Steering Committee

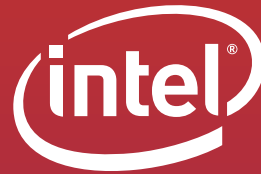


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Thank you to the 2015 IoT Start Up Showcase Exhibitors



Three Years in Review

Barcelona



- Theme: Awakening
- Customer Satisfaction Score: 4.68
- Attendees: 800+ by invitation
- Activities: 48 breakouts, 12 city tours, 12 keynotes
- Discussions:
 - 30, 50 Billion connected things by 2020
 - Killer app
 - IT/OT convergence is a must
 - Big Data becoming open, smart data
 - Wearables opportunity
 - Security and privacy – top IoT challenges

Chicago



- Theme: Here. Now
- Customer Satisfaction Score: 4.61
- Attendees: 1601+ by invitation
- Activities: 36 breakouts, 10 City tours, 8 keynotes, 2 customer keynotes
- Discussions:
 - Less focus on things, more on business outcomes
 - Need to educate market on IoT value
 - Converting data to intelligence – killer app
 - 27% of IT budget is in LOB, 50% by 2025
 - Security and privacy are still top challenges

Dubai



- Theme: A New World
- Customer Satisfaction Score: 4.47
- Attendees: 2295 + by invitation
- Activities: 31 breakouts, 15 smart city tours, 10 bus city tours, 13 keynotes, 4 customer keynotes
- Discussions:
 - Interoperability
 - Moving from CapEx to OpEx to outcome-based value
 - Data is the new currency
 - Security and privacy are still top challenges

IoTWF 2015 by the Numbers

4.47
Score

from our attendees

2,295
Attendees

(Goal: 2100)

100+
Sessions

including technical and
business breakouts
and 17 main stage
presentations

706
Participants

signed up for smart city
experience tours, covering
20+ use cases for connected
parking, education, aviation,
security and more

35
Sponsors

including Intel,
Etisalat, GE, Rockwell
Automation, Schneider
Electric, Siemens, 3M

1.43
Hours a Day

The average time
attendees spent at
The Hub

Attendee Survey Results

In 2015, the IoT World Forum continued earning high marks and favorable feedback from attendees, particularly in areas related to industry acceleration.



Overall Attendee Satisfaction Score



The event was a valuable use of time



The event will help evolve IoT strategy

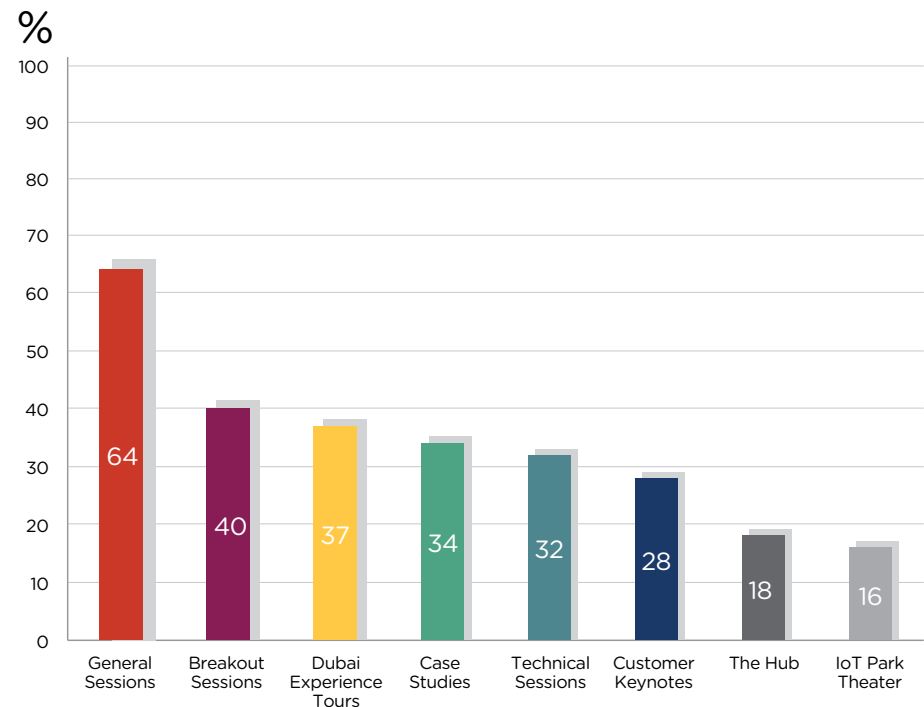
What will you do to kick-start an IoT-related project following the IoT World Forum?

(Sample responses)

- “Share info, plan acceleration, think about organization and cultural change”
- “Engage with partner eco-system to collaborate on solutions and services”
- “Form an IoT Innovation Center”
- “Prepare a short PPT to get our CEO approval and vision to move on IoT and apply it in our daily operations in order to reduce costs, increase productivity and enhance quality”

Which sessions were most valuable to you?

The top three most valuable sessions for 2015 were the general sessions, breakouts, and smart city experience tours.



“Overall nice arrangement, mobile app for event info, booth for technology display, presentations for content and to top it off five star food!!! Can’t ask for more. This is the second event I’ve attended that is top notch in my 26 year career, and I’ve been to hundreds!!”

Media Coverage and Social Buzz

With thirty-eight press and analysts in attendance, IoTWF 2015 received significant global media coverage. In addition, Cisco leaders were active on blogs, sharing important announcements and insights via social media.

Australia

- ▶ [IoT Hub](#) Cisco seeks larger share of smart city initiatives
- ▶ [IoT Australia](#) IoT World Forum, Dubai, and the making of a smart city

Indonesia

- ▶ [Detik.com](#) The 'Star Wars' power of the Internet of Things
- ▶ [JagatReview.com](#) IoT World Forum 2015: Adopt IoT not just technology

Kingdom of Saudi Arabia (KSA)

- ▶ [Saudi Gazette](#) Dramatic disruption ahead in digital age
- ▶ [Saudi Gazette](#) How connected is KSA?

South Africa

- ▶ [ITNews Africa](#) Top 14 stats revealed at IoTWF 2015
- ▶ [ITNews Africa](#) IoTWF 2015 highlights three major themes for IoT

Turkey

- ▶ [CNNturk.com](#) Smart City Solutions make their debut in Dubai

UAE

- ▶ [City 7 TV \(UAE Channel\)](#): 6 December news bulletin (VIDEO)
Note: IoTWF report starts at time stamp 1:50 and ends at 6:40
- ▶ [Intelligent CIO \(UAE Edition\)](#): IoT World Forum showcases smart city technologies
- ▶ [Khaleej Times \(UAE Edition\)](#): Internet of Things forum in Dubai a huge success
- ▶ [Kuwait Times \(UAE Edition\)](#) IoT creates a new world of opportunities: Cisco official – 'It's about better education, healthcare and job opportunities'
- ▶ [Wamda \(UAE Edition\)](#): Cisco Dubai successfully hosts IoT World Forum Hackathon

USA

- ▶ [No Jitter](#) IoT Heats up Smart Dubai
- ▶ [Network World](#) Emirates Airline Outlines its Strategy for Innovation at Cisco's IoT World Forum
- ▶ [eWeek](#) Cisco Systems Reveals Innovation Grand Challenge Winners
- ▶ [Forbes](#) Why Dubai Might be the Smartest City by 2017

Blogs



John Chambers

A Defining Moment for IoT and Digitization, covers the industry transition from the information age to the digital age.



Inbar Lasser-Raab

Announcing Cisco IoT Pathfinder: New Initiative for Diversifying the IoT Workforce, addresses the need for more women in IoT and launches a new webinar series designed to expand skills.



Maciej Kranz

Our Innovation Ecosystem Shines Brilliantly at IoTWF in Dubai, describes robust accelerators, incubators, startups, entrepreneurs and app developers that are coming together to drive innovation in IoT.

Keynotes

Industry leaders, sponsors, and Cisco executives presented seventeen keynotes. Each day revealed a new theme, advancing attendees along the journey of “A New World,” the overarching theme for IoTWF 2015.

Day 1: Awaken

Highlighted opportunities and potential across all industry verticals, presenting IoT case studies of deployments underway



A New World: Awaken
Inbar Lasser-Raab, VP
Infrastructure and Digital
Solutions Marketing, Cisco



**The Internet of Things: The
Vision and New Directions
Ahead**
John Deferios, Emerging
Market Editor, CNN
Anil Menon, President, Smart
and Connected Communities,
Cisco



**The Connected World: A
Future of Possibilities**
Ahmad Julfar, Global Chief
Executive Officer, Etisalat Group



**The Internet of Things and the
Next Fifty Years of Moore's
Law**
Doug Davis, Senior Vice
President and General Manager
of IoT Group, Intel



Leading in the Connected Era
Neetan Chopra, SVP - IT
Strategic Services, Emirates
Group



**How Digital Disruption and
IoT are Redefining Financial
Services**
Martin Enriquez, Innovation &
Strategic Partnerships, Visa

Keynotes

Industry leaders, sponsors, and Cisco executives presented seventeen keynotes. Each day revealed a new theme, advancing attendees along the journey of “A New World,” the overarching theme for IoTWF 2015.

Day 2: Activate

Offered best practices for overcoming obstacles, IoT deployment roadmaps, and actionable go-to-market models



A New World: Activate
Inbar Lasser-Raab, VP
Infrastructure and Digital
Solutions Marketing, Cisco



Digital Manufacturing
Edward J Rodden Jr, CIO, Sugar
Creek
Tony Shakib, VP IoT Vertical
Solutions, Cisco



**Scalable Industrial IoT
Technologies Enhance the
Connected Enterprise**
Keith Nosbusch, Chairman and
CEO, Rockwell Automation



**A Web of Systems for a Digital
World**
Siegfried Russwurm, Chief
Technology Officer, Siemens AG



**Powering a New Era of
Operational Intelligence with
the Internet of Things**
Prith Banerjee, EVP and Chief
Technology Officer, Schneider
Electric



**The Industrial Internet
and the Power of Service
Transformation**
Bill Ruh, CEO, GE Digital & Chief
Digital Officer, GE

Keynotes

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A New World: Accelerate
Inbar Lasser-Raab, VP
Infrastructure and Digital
Solutions Marketing, Cisco



**Smart Cities: 3M Innovation
Improving Lives**
Ashish Khandpur, Senior
Vice President, Research
and Development, and Chief
Technology Officer,



IoT in Oil & Gas
Tommy McKenzie, General
Manager, Field Development,
Tatweer Petroleum

Day 3: Accelerate

Showcased where IoT is
going and introduced new
IoT product ideas, business
models, and innovation
paradigms



IoT Innovations
Chris White, SVP, IoE/IoT, Cisco



Vision for IoT
John Chambers, Executive
Chairman, Cisco

Breakout Sessions

31

Breakout Sessions



Speakers

8

Vertical Industry
Tracks

The breakout sessions at the IoT World Forum provide attendees an opportunity to delve deeper into case studies and best practices for driving IoT adoption. The Steering Committee, divided into seventeen working groups, proposes and selects the most relevant topics each year. At IoTWF 2015, there were thirty-one breakout sessions in total, twenty-five discussing business outcomes and six sessions focusing on technical topics. There were also eight vertical industries highlighted throughout the breakout sessions. The format of the sessions ranged from interactive panel discussions to lively talks given by over one hundred industry experts and practitioners.



Business Breakout Sessions

Select a breakout to learn more

Sunday, December 6

- ▶ Connecting Outdoor Devices: An Industry Approach for Extracting Business Value from Unconnected Outdoor Devices
- ▶ Retail (R)evolutions: IoT Changes Everything, but Starting with What?
- ▶ Making Zero Downtime a Reality with Scalable Computing
- ▶ IoT and the Power of the Partner Ecosystem in a Digital World
- ▶ Managing the Urban Boom
- ▶ How Healthcare Can Harness IoT to Improve Patient Experience
- ▶ Internet of Things Go-to-Market Value Chain in an Outcome-Based World
- ▶ Smart Cities Enabling Intelligent Infrastructure: Building Digital and Physical Infrastructure that can Scale to Meet the Future Challenges of Cities
- ▶ How Service Providers Can Help Businesses Realize the Promise of the IoT Revolution

Monday, December 7

- ▶ The IoT and Transportation: Taking the Express Lane to a New Digital Future
- ▶ Web of Systems – from research to real world
- ▶ Industrial IoT: Creating Value with the Connected Enterprise
- ▶ Security and Privacy in IoT: Practical Approaches and the Path Forward
- ▶ IoT Services – How IoT Solutions Should be Delivered
- ▶ Evolution to a Next-Generation IoT Service Provider
- ▶ Transforming the Workforce to Unleash the Value of IoT: Added Value of Education and Reskilling
- ▶ Creative Solutions to Finance IoT Technology for Urban Infrastructure
- ▶ Leveraging IoT to Solve Age-Old Problems in New Innovative Ways
- ▶ The Digital Transformation of Energy

Tuesday, December 8

- ▶ Transforming the Workforce to Unleash the Value of IoT: Added Value Through Focus on Gender and Diversity
- ▶ Reducing Costs and Increasing Efficiency with IoT in the Era of Low-Cost Oil
- ▶ Trends, Opportunities, and Challenges of Demonstration Projects for Smart Cities
- ▶ Transforming Dubai into a Smart City with IoT
- ▶ Enabling Analytics in a Hyper Distributed Data Environment
- ▶ Collaborative Innovation Communities of Universities, Research and Education Networks, and Industry Leaders Enable IoT

Technical Breakout Sessions

Select a breakout to learn more

Sunday, December 6

- ▶ Developing a Common Language for Communication between Disparate IoT Devices and Applications across Various Wireless Technologies
- ▶ Business Survival in the New World of IoT: Partner Interoperability and Collaboration
- ▶ Securing IoT While Building on Industry Organizations and Standards Bodies

Monday, December 7

- ▶ Sensors: Where Are They Going, and How Will They Connect?
- ▶ Reference Architectures for Outdoor Devices: Standardizing How We Extract Business Value
- ▶ Deterministic Networks and Convergence of the Plant Floor

Smart City Experience Tours

4.49

Overall Experience
Score



Bus and Guided
Walking Tours



Participants

The smart city experience tours, a clear favorite among IoT World Forum attendees, included nearly twenty proof-of-concept (PoC) deployments in Dubai showcasing digital city and cross-vertical industry solutions. The tours brought together disruptive technologies, best-in-class experiences from a large ecosystem of global partners, and the most innovative solutions designed and incubated in Dubai.

Walking Tours

1. Connected Law Enforcement
2. Connected Lighting and Parking
3. Operations Center: Connected Law Enforcement
4. Operations Center: Connected Lighting and Parking
5. Operations Center: Connected Bus and Bus Shelter
6. Remote Expert for Government Services
7. Connected Aviation
8. Financial Services
9. Smart City Dashboard
10. IoT Knowledge Hub
11. Connected Classroom
12. Mohammed Bin Rashid Smart Learning Program
13. Connected Bus and Bus Shelter



d3 Bus Tours (Dubai Design District)

1. Connected Bus
2. Command and Control Center
3. Smart+Connected Communities
4. Financial Services
5. Environment Monitoring
6. Connected Waste Management
7. Connected Parking
8. Connected Bus Shelter



Research and Innovation Symposium

2
Days



Distinguished
Speakers



Daily Attendees

The research and innovation symposium is designed to engage academic researchers, R&D directors, and technology professionals driving IoT innovation. The symposium provided two days of insight into emerging technologies and cutting-edge research that is shaping the future of IoT.

Sunday, December 6 - Emerging Technologies in IoT Technologies

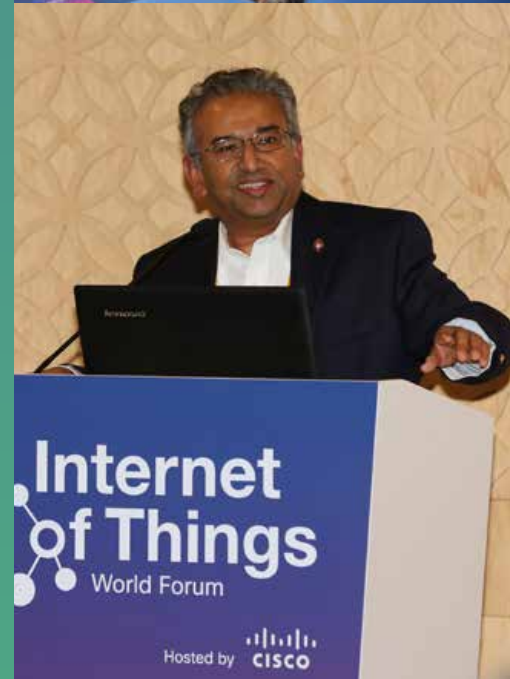
Topic: Breakthrough advances in IoT research related to networking, architecture, security, and data management

Monday, December 7 - Research Advances in IoT Analytics and Business Intelligence

Topic: Complexities and challenges associated with IoT analytics, including data fusion, high-dimensional predictive analytics, user-experience design, and context

Featured Renowned Speakers from Academia

- Dr. Raj Veeramani, Executive Director, University of Wisconsin-Madison, Internet of Things Lab
- Sangtae Ha, Assistant Professor, Department of Computer Science, University of Colorado at Boulder
- Dr. Bassem Younes, Director of Strategic Alliances, Mohammed Bin Rashid School of Government
- Florence Hudson, SVP and Chief Innovation Officer, Internet2
- Vernon Turner, Senior Vice President, Enterprise Systems and IDC Fellow for Internet of Things
- Dr. Hideyuki Tokuda, Dean and Professor, Faculty of Environment and Information Studies, Keio University
- Dr. Daniel Lopresti, Professor and Chair, Department of Computer Science and Engineering, Lehigh University



Hackathon



Prize Pool



Participants



Ideas Developed

On December 4 and 5, 2015, Cisco DevNet hosted a second annual hackathon at the IoT World Forum in Dubai aimed at accelerating IoT innovation within the local developer community.

Ninety innovators were challenged to develop smart city applications that would improve the lives of Dubai citizens. Eighteen IoT demos based on five Cisco technologies were developed. A panel of distinguished judges selected three prize winners.

Prize Winners

First Place – SmartX

Application: An airport application that improves the travel experience using CMX. From the seat to the gate to a connecting flight, a passenger can stay better informed in real-time using their physical location in coordination with other sources of relevant information, such as their passenger name record (PNR), duty-free offers, or loyalty program

Second Place – Saedni

Application: An IoT wearable device that diagnoses an individual's health by visualizing the patterns of ECG signals and temperature details of the wearer

Third Place – Shelfmetrics

Application: Using CMX technology, generates business intelligence that measures and monitors shelf or stock information of products. For example, when a retail item such as milk is stocked or sold to a customer it can be tracked all the way back to the supplier



Cisco Technologies

- IoT DevKit (EIoT) for connecting sensors to the network
- Cisco Mobility Experiences (CMX) for location information
- Cisco Instant Connect (CIC) for push-to-talk communications
- IOx/Data in Motion (DMo) IoT analysis at the network edge

Judges

- Fadi Atallah Fatallah, Director, Cisco Consulting Services
- Sathish Jeyakumar, Innovation Lab Manager, Emirates Group IT
- Aman Merchant, CEO and Co-Founder, Impact Hub Dubai
- Husain Misherghi, VP and Growth Hacking, Truecaller

Innovation Grand Challenge

11.5M

People Reached
by the Challenge

3000

Participants from
101 Countries

150

Top Accelerators,
Incubators and
Thought Leaders
Engaged

The goal of the innovation grand challenge is to promote and accelerate the development of disruptive IoT technologies and products. It is open to startups, entrepreneurs, and developers around the world.

The second annual innovation grand challenge, launched in June 2015, received over 3,000 entries from more than one hundred countries. After successive elimination rounds, six finalists were invited to give live pitches at the IoT World Forum in Dubai before a panel of eminent judges. Three overall winners were announced at IoTWF 2015 and awarded cash prizes. Beyond the cash prizes, the three winners also receive VIP access to industry, investment and business experts.

Winner's Circle

- **Grand Prize Winner (\$150,000) – CyberFlow Analytics, San Diego, California, USA**

CyberFlow Analytics integrates advanced analytics, intelligence and visualization (anomalytics) to monitor the security of networks at low-infrastructure costs in smart cities and enterprises.

- **Second Place (\$75,000) – Green City Solutions, Dresden, Germany**

Green City Solutions serves as an IoT-linked sustainable billboard that both generates revenue and cleans the air in smart cities through a unique filtering system that does not produce costly waste.

- **Third Place (\$25,000) – Eigen Innovations, Fredericton, Canada**

Eigen Innovations' platform uses cloud-based "deep learning," connected vision analytics and applications to solve complex problems on the plant floor of high-speed manufacturing operations.



Judges

- Mohammad Albataineh, Worldwide Sales, Internet of Things, IBM Dubai
- Sujeet Chand, SVP and CTO, Rockwell Automation
- Georg Kopetz, Executive Board Member, TTTech Comptertechnik AG
- Maciej Kranz, VP, Corporate Strategic Innovation Group, Cisco
- Abhi Kunte', Director, Product Management, Predix/GE Digital
- Whitney Rockley, Co-founder and Managing Partner, McRock Capital
- Bola Rotibi, Creative Intellect Consulting
- Faiyaz Shahpurwala, SVP Cloud Services/Industry Solutions, Cisco
- Torsten Wolf, EMEA Service Head, IoT/UX/Mobile, SAP