M2M/IOT & ITS ROLE IN SMART CITIES AND CYBER SECURITY

Presented by Dr Rishi Bhatnagar, Chairman - IET IoT India Panel, India

WHO WE ARE

The Institution of Engineering and Technology (IET) is a 148 years old, global professional body, based in the UK

WHAT WE DO

We bring together engineers, across sectors and from around the globe, to share knowledge and insights and ultimately to solve problems impacting society

IET VISION

Working to engineer a better world

IET MISSION

To inspire, inform and influence the global engineering community, supporting technology innovation to meet the needs of society.

IET IoT INDIA PANEL

THE GLOBAL ADVISORY BODY

Sir Robin Saxby

Founder and Ex-CEO, ARM Holdings

Fellow of the Royal Academy of Engineering (FREng). In 1991 he joined Cambridge-based ARM as the first CEO. He has also worked at Rank Bush Murphy, Pye, Motorola and Henderson Security. He was knighted in the 2002 New Year's Honors List.

T V Ramachandran

Hon' FIET, President, Broadband India Forum

1st CEO of one of the earliest cellular ventures in India - Sterling Cellular Ltd (Essar Cellphone), 1st Director General of the Cellular Operators' Association of India (COAI). Has been conferred the Voice & Data Lifetime Contribution Award.

Dr. Richard Soley

Chairman & Chief Executive Officer, OMG | Executive Director, Industrial Internet Consortium

As Chairman and CEO of OMG, Dr. Soley is responsible for the vision and direction of the world's largest consortium of its type. In 2014, Dr. Soley helped found the Industrial Internet Consortium and (IIC) serves as Executive Director of the organization.

Jim Morrish

Head of Strategy and Partnerships, Nokia's WING Group | Founder & the Chief Research Officer of Machina Research

He is Chairman of the Industrial Internet Consortium's Business Strategy Task Group & led the development of the IIC's Business Strategy & Innovation Framework publication. He is also Co-Chair of the IIC's Business Strategy and Solution Lifecycle Working Group, and is responsible for the addition of the term Low Power Wide Area (LPWA) networking to the lexicon of the IoT.

Prof Jeremy Watson

MD, Capital, Science and Policy at Willis | Prof of Engineering Systems at University College London

Fellow of the Royal Academy of Engineering and a Chartered Engineer. member of EPSRC Council, a past board member of the Technology Strategy Board and a trustee of the Institute for Sustainability. Was awarded a CBE in the 2013 Birthday Honours for services to engineering.
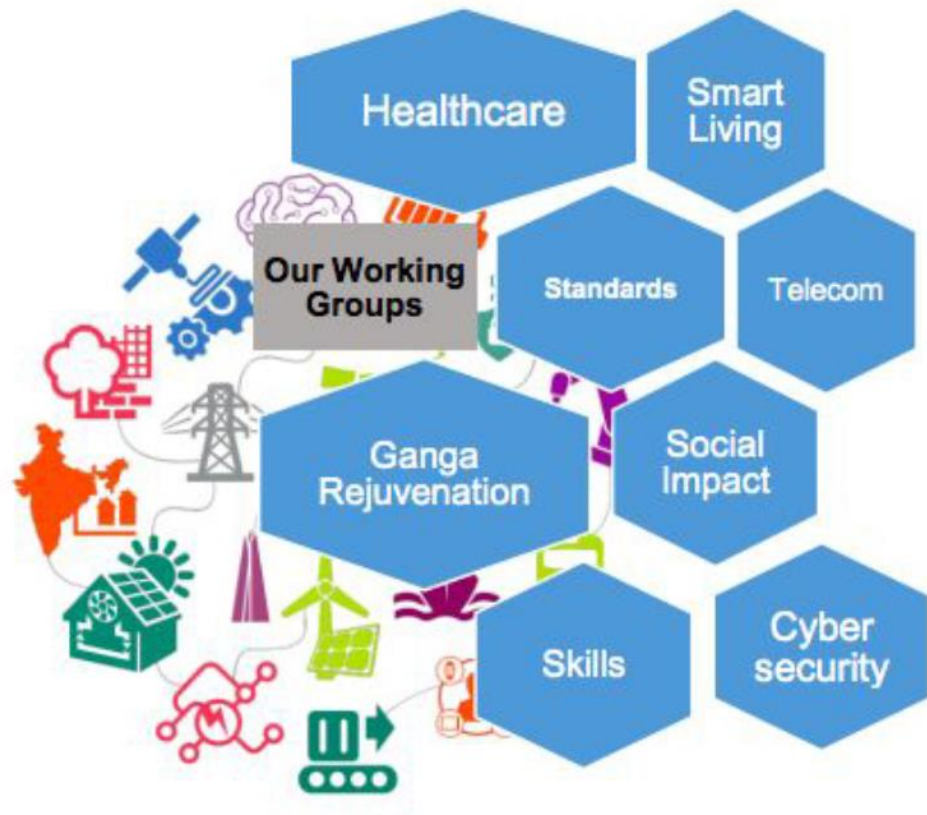
IET-IoT Panel Working Groups

Chairperson

Dr. Rishi Bhatnagar
President,
Aeris
Communications

Working Groups

Our Working Groups

Healthcare · Smart Living · Standards · Telecom · Ganga Rejuvenation · Social Impact · Skills · Cyber security

IET-IoT Panel Activities

Smart Living Working Group

Standards, Regulatory and Legal Working Group

- 3 industry event representation and 1 academic event
- Led Standards track. 4 panel speakers at IoT India Congress
- 1 whitepaper 1 case study of IoT implementations
- 2 Recommendations report to Government of India

- 1 recommendations report submitted to the government of India
- Led Smart Living Track at IoT India Congress. 1 speaker from the panel
- 7 meetings in 2017 organised

Ganga Rejuvenation

- Led Ganga Rejuvenation track at IoT India Congress. 3 speaker from the panel
- 1 recommendations report submitted to the government of India
- 1 meeting with the government bodies done

Telecom Working Group

- 8+ Meetings of which 2 were Face to Face
- Led Telecom track. 3 panel speakers at IoT India Congress
- 1 whitepaper 1 case study of IoT implementations
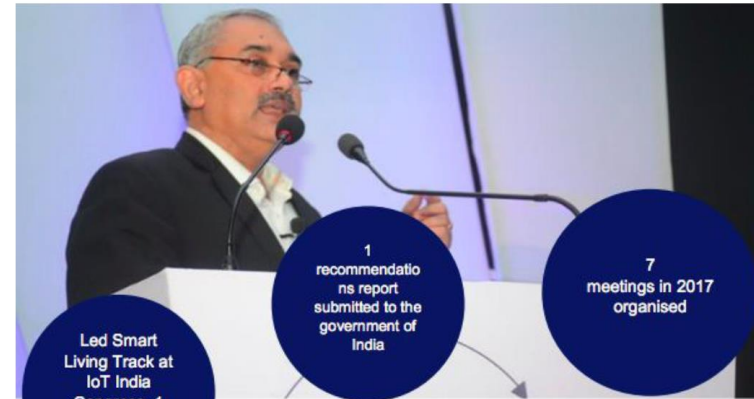- 2 Recommendations report to Government of India

Skill Development Working Group

Key Highlights 2017

- 1 course ratification for basic IoT done
- 10 Academia engagements with Amity University, Sharada University, IISc, BIT College, Oxford college, RIT College, Christ College, ACS college and Mount Carmel College
- 4 industry events (YourStory IoT meet-up, ESSCI event, JCI and Bangalore Tech Summit)

Healthcare Working Group

Key Activities - 2017

- 8+ Face to face meetings organised
- Led Healthcare track and Live Zone. 3 panel speakers at IoT India Congress
- 1 Industry event participation at NASSCOM Product Conclave
- 1 Recommendations report to Government of India

Key Highlights

CEO Meets	Products and Solutions Discovery	Funding & Mentorships for Start-ups	Country Pavilions

Start-up and Thought Leadership Awards	Live and immersive experience zones

Conference Tracks 2018

Smart Cities	Healthcare	Media	Telecom

Artificial Intelligence, Blockchain, Cyber Security, Rural / Underserved Markets, Skills

Cybersecurity
Skills Crisis

Too Many Threats

62% INCREASE IN BREACHES IN 2013[1]

1 IN 5 ORGANIZATIONS HAVE **EXPERIENCED AN APT ATTACK**[4]

US $3 TRILLION TOTAL GLOBAL IMPACT OF **CYBERCRIME**[3]

7½ MONTHS IS THE AVERAGE TIME **AN ADVANCED THREAT GOES UNNOTICED** ON VICTIM'S NETWORK[2]

2.5 BILLION EXPOSED RECORDS AS A RESULT OF A DATA BREACH IN THE PAST 5 YEARS[5]

Too Few Professionals

62% OF ORGANIZATIONS **HAVE NOT INCREASED SECURITY TRAINING** IN 2014[6]

1 OUT OF 3 SECURITY PROS ARE **NOT FAMILIAR WITH ADVANCED PERSISTENT THREATS**[7]

<2.4% **GRADUATING STUDENTS HOLD COMPUTER SCIENCE DEGREES**[8]

1 MILLION UNFILLED SECURITY JOBS WORLDWIDE[9]

83% **OF ENTERPRISES** CURRENTLY LACK THE RIGHT SKILLS AND HUMAN RESOURCES TO PROTECT THEIR IT ASSETS[10]

Enterprises are under siege from **a rising volume of cyberattacks.**

At the same time, the global demand for skilled professionals sharply outpaces supply. Unless this gap is closed, organizations will continue to face major risk. Comprehensive educational and networking resources are required to meet the needs of everyone from entry-level practitioners to seasoned professionals.

SOURCES: 1. *2014 Internet Security Threat Report, Volume 19*, Symantec, April 2014; 2. *M-Trends 2014: Attack the Security Gap*, Mandiant, April 2014; 3. *Increased Cyber Security Can Save Global Economy Trillions*, McKinsey/World Economic Forum, January 2014; 4. *ISACA's 2014 APT Study*, ISACA, April 2014; 5. *An Executive's Guide to 2013 Data Breach Trends*, Risk Based Security/Open Security Foundation, February 2014; 6. *ISACA's 2014 APT Study*, ISACA, April 2014; 7. *ISACA's 2014 APT Study*, ISACA, April 2014; 8. *Code.org*, February 2014; 9. *2014 Cisco Annual Security Report*, Cisco, January 2014; 10. *Cybersecurity Skills Haves and Have Nots*, ESG, March 2014

CSX CYBERSECURITY NEXUS

ISACA Trust in, and value from, information systems

CYBER SECURITY

The IET has added a new working group Cyber security. Below are the activities at a high level to be done in the Working Group

- Education on IoT Security for Enterprise users

    Workshops **|** Discussion **|** Use cases and RoI and Biz case building

- Recommended "Checklists' Best Practices

    Generic **|** By industry | India Centric

- Public Policy
    - A Different experimental self-help group approach to IoT Security with shared resources **|** Offensive defense **|** Inputs to GoI

- Security
    - Capability to asses vulnerability for Non internet Industrial IoT protocols
    - Best practices to manage deployed devices and network infrastructure outside IT data centre and in public places
    - Techno legal approach to enabling self- help groups and safe network managed services for IoT devices