Transformative IoT WebTalk: Agenda

- **Aruna Srinivasan**
  - Executive Director, IoT, GSMA
  - Introduction to Beyond Connectivity
  - 5 min

- **Jan Rijk Vonk**
  - Innovation Strategy Director, KPN
  - Keynote: Smart Farming, Weed Elimination with 5G Autonomous Robots
  - 15 min

- **Brendan Ives**
  - VP and Head of Division X, Telia Company
  - Moderator Interview/Discussion with Telia
  - 15 min

- **Yifei Wang**
  - Edge Computing Project Manager, China Mobile
  - Joint Keynote: Optimising manufacturing performance through 5G, Edge Computing and Machine Vision
  - 15 min

- **Jennifer Huang**
  - Senior Director of 5G Industry Development, Huawei
  - 15 min

- **Aruna Srinivasan**
  - 5G IoT Manufacturing Overview
  - ALL - Q&A
  - 10 min
About the GSMA

The GSMA was founded in 1987

12 offices worldwide

UNITING 750+ MOBILE OPERATORS

WITH 350+ MOBILE COMPANIES in the broader mobile ecosystem

The GSMA represents the interests of mobile operators worldwide

The world’s leading mobile industry events, Mobile World Congress, Mobile World Congress Shanghai, and Mobile World Congress Americas, together attract 192,000+ people from across the globe each year

8.8+ billion mobile connections worldwide

Internet of Things

2018 9.1bn Total Connections 25.2bn 2025

SIM CONNECTIONS Excluding cellular IoT

2018 7.9bn 2025 9.2bn

103% PENETRATION RATE (1% of population)

112% 2.2% CAGR 2018-25

Connecting Everyone and Everything to a Better Future

GSMA INTERNET OF THINGS PROGRAMME
The IoT Opportunity

UNLOCKING THE POTENTIAL OF THE INTERNET OF THINGS
THE MARKET OPPORTUNITY FOR ‘BEYOND CONNECTIVITY’

Opportunities in the IoT: Evolving roles for mobile operators

IoT connections will reach almost 25 billion by 2025

Total IoT connections, 2010–2025

Source: GSMA Intelligence

GSMA Intelligence report

IDC report for GSMA

THE PATHWAY FOR OPERATORS IN THE IOT

Transform
Empower
Connect

Transform	
Ecosystem Orchestration
IoT Infrastructure
IoT Security
Vertical Specialisation

Big Data, Analytics & AI

Operator Roles

GSMA INTERNET OF THINGS PROGRAMME
Transformative IoT Beyond Connectivity

**Smart Agriculture**: Driving value in Smart Agriculture with IoT Big Data technology solutions
- Increased production by 100%+
- Reduced labour cost by 50% per kg
- Increased profit by 75% over non-IoT greenhouses
- Realised ROI in the first year

**Smart Traffic**: Traffic lights programmed to respond to real-time data collected by cameras and sensors
- Reduced Traffic congestion
- Reduced CO₂ emission
- Reduced operational costs
- Reduced traffic waiting time by 65%+ in one area

**Fleet Management**: Connectivity management and vertical integration of telematics solution provider
- Increased fuel efficiency
- Real-time operations visibility
- Precision up to 97% on sand/salt usage
- Better route planning (reduced carbon emission) and response to adverse weather conditions

**Smart Cities**: UAV’s being used to inspect a 500km natural gas and petroleum pipeline
- Reduced inspection time by 40%
- Reduced human costs by 57%
- Expected generation of RMB30 million income per year for the operator

[https://www.gsma.com/iot/beyond-connectivity/](https://www.gsma.com/iot/beyond-connectivity/)
Developing insight and pilots with Big Data and Emerging Technologies

Big Data, Machine Learning and Artificial Intelligence

- Report: Improving the Yield and Quality of Grape Production in China with IoT
- The IoT Big Data Revenue Opportunity for Mobile Operators

IoT Edge Computing

- Haier: Optimising Manufacturing performance through 5G, Edge Computing and Machine vision
- Report: IoT Edge Computing Requirements
- Smart Farming: Weed Elimination with 5G Autonomous Robots, by KPN

Distributed Ledgers, Blockchain for the IoT

- Distributed Ledger Technologies for IoT: Learnings & Operator Role
- Opportunities and Use Cases for Distributed Ledger Technologies in IoT
- Report: DLT Application for Renewable Battery Value Evaluation in IoT

https://www.gsma.com/iot/beyond-connectivity-iot-market-opportunities/
5G IoT for Manufacturing

ADVANCING GLOBAL ADOPTION OF 5G IoT IN SMART MANUFACTURING
Transforming Manufacturing with 5G IoT

Benefits of 5G:

Critical Applications | High Bandwidth Applications | Device Density

Manufacturing Value Chain

Raw Materials | Supply Chain | Component Production | Assembly | Warehouse | Distribution | Customer

Upstream

Manufacturing (Mid-stream)

Downstream

Important Factors for Manufacturers

• Obtaining cost reductions
• Lead times
• Near-shore / off-shore supply
• Demand planning
• Supplier co-ordination
• Quality

• Reducing costs
• Increasing flexibility to meet dynamic upstream and downstream demands
• Leaner inventory
• Increase automation
• Reduce capital requirements

Opportunities created by 5G

• Contractual Management
• Quality Control
• Logistics

• Factory floor flexibility
• Private network management
• Asset tracking

• Reducing cost to serve
• Logistics management
• Reducing environmental impact
• Matching supply and demand
• Sales channel
• Reducing returns / customer service

• Customer service
• Contractual management
• Fleet Management
5G IoT for Manufacturing Forum

MEMBERS
Manufacturing Enterprises, Operators, Vendors, and Industry Associations with a focus on 5G IoT in the manufacturing vertical.

• **Bring together** enterprises, operators and ecosystem players to explore how Industrial 5G IoT will benefit the manufacturing vertical globally

• **Identify value drivers in the manufacturing vertical** that can be shown to benefit from the use of Industrial 5G IoT

• **Identify the manufacturing vertical’s issues and challenges** and encourage the sharing of best practices in the Forum that show how Industrial 5G IoT can be utilised to benefit the manufacturing industry

• **Encourage implementation of Industrial 5G** in the manufacturing vertical by documenting Use Cases and the real benefits and ROI of the use of Industrial 5G, IoT and AI solutions

• **Create an environment that facilitates collaboration and participation** in highlighting best practice, case studies and applications to identify lessons learned in order to expedite faster adoption

https://www.gsma.com/iot/manufacturing/
Join this interactive online session and hear from industry experts about:
- How manufacturing companies are partnering with mobile operators to deploy 5G IoT solutions
- The impact of 5G IoT on new manufacturing use cases
- How 5G IoT can link together the entire manufacturing value chain

Register: https://www.gsma.com/iot/events/webtalk2020-5g-iot-manufacturing/
Transformative IoT WebTalk: Question & Answer

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