LoRa® Everywhere

The Ubiquitous IoT Network for Low Power “Things”

October 6, 2021
Today's Presenters

Mohan Maheswaran
President and Chief Executive Officer

Alistair Fulton
Vice President and General Manager,
Wireless and Sensing Products Group
This presentation will contain “forward-looking statements” within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995, as amended, based on the Company’s current expectations, estimates and projections about its operations, industry, financial condition, performance, results of operations, and liquidity. Forward-looking statements are statements other than historical information or statements of current condition and relate to matters such as future financial and operational performance, the anticipated impact of specific items on future earnings, and the Company’s plans, objectives and expectations. Forward-looking statements involve known and unknown risks and uncertainties that could cause actual results and events to differ materially from those projected. Potential factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, the following: the uncertainty surrounding the impact and duration of the COVID-19 pandemic on global economic conditions and on the Company’s business and results of operations; export restrictions and laws affecting the Company’s trade and investments; competitive changes in the marketplace including, but not limited to, the pace of growth or adoption rates of applicable products or technologies; the Company’s reliance on a limited number of suppliers and subcontractors for components and materials; the Company’s ability to forecast and achieve anticipated net sales and earnings estimates in light of periodic economic uncertainty, including impacts arising from Asian, European and global economic dynamics; and the additional factors identified in Semtech Corporation’s Form 10-K for the fiscal year ended January 31, 2021 under the heading “Risk Factors” and in the Company’s Quarterly Reports on Form 10-Q, in other filings with the Securities and Exchange Commission. Investors are cautioned not to place undue reliance on any forward-looking information contained herein, which reflect management’s analysis only as of the date hereof. Except as required by law, the Company assumes no obligation to publicly release the results of any update or revision to any forward-looking statement that may be made to reflect new information, events or circumstances after the date hereof or to reflect the occurrence of unanticipated or future events, or otherwise.
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What Is LoRa®?

A Long Range, Low Power, Bi-Directional, Secure, Wireless Communication Platform

**Very Long Range**
Typically 15-30 miles of range outdoors
Satellite connectivity demonstrated > 500 miles
Deep indoor coverage (non line of sight)

**Ultra-Low Power**
Up to 10+ year lifetime
10x lower power vs. cellular or Wi-Fi

**Multi-Network**
Public or private
Star, Mesh or Point-2-Point configuration
Tower-based macro gateways
Building-based pico gateways

**Low Cost**
Unlicensed spectrum
Low cost end-nodes
Low cost gateways
Open LoRaWAN® standard - LoRa Alliance®
LoRa® Everywhere
The Ubiquitous Network For Low Power ‘Things’

Smart Cities & Utilities
- Grid Management
- Meters
- Gas & Water Resource Management
- Public Safety

Industrial IoT & Logistics
- Cold Chain
- Asset Management
- Transport
- Manufacturing

Smart Agriculture
- Farming
- Irrigation
- Waste Management
- Pest Control

Smart Home, Neighborhood & Campus
- Lighting
- Security
- Safety
- Leak Detection
- Child/Pet Tracking

Application + Cloud Services
LoRa® Fills a Technology Gap in the IoT

Very Long Range & Ultra Low Power

Cellular/LTE Cat-M1/NB-IoT
Video/Voice High Power

LoRa
Long Range, Low Power Sensor Connectivity

Wi-Fi/BLE
Video/Voice

FSK/
ZigBee/
ZWave

RFID/
UWB/NFC
Very Short Range, Low Cost

Power Consumption
High

Range
Short
> 0.5 Miles
> 10 Miles
> 500 Miles
Long
LoRa® Growth Opportunity

LoRa SAM

CY20 CY25

$ millions

Smart Home, Neighborhood & Campus
Industrial IoT & Logistics
Smart Cities & Utilities
Smart Agriculture
Other

CAGR (CY20-25)

65% 44% 19% 35% 10%

40%

Source: Omdia
Agenda

**LoRa® OVERVIEW**

Mohan Maheswaran
- What Is LoRa?
- Vision
- Positioning
- Market Opportunity

**LoRa DEEP DIVE**

Alistair Fulton
- LoRa Ecosystem
- Key Use Cases
- Growth Drivers

Q&A
Connecting IoT Sensors to the Cloud
Flexible & Secure
Connecting IoT Sensors to the Cloud

Easy to Develop • Easy to Deploy

Software
Tools

Developer Resources

Cloud Services
Connecting IoT Sensors to the Cloud

Low Power • Long Range
Connecting IoT Sensors to the Cloud

Global Coverage

160+ LoRaWAN network operators globally
2.5 Million deployed gateways
~5 Billion Endpoints supported
Global LoRa satellite coverage
Connecting IoT Sensors to the Cloud
Public or Private Networks
LoRa Edge™ Geolocation Platform

Track Everything, Everywhere

GPS

Wi-Fi

LoRaWAN® network
IoT – A Combination of Two Worlds

Physical / Analog World

Cloud / Digital World

Aggregation & Analytics

Insights & Actions
Connecting IoT Sensors to the Cloud

Large and Growing LoRa® Ecosystem

- Simplicity
- Flexibility
- Choice
Connecting IoT Sensors to the Cloud

The Ubiquitous IoT Network for Low Power “Things”
LoRa® EVERYWHERE
Connecting IoT Sensors to the Cloud

The Internet of Things

Hardware Providers
Network Providers
Cloud Platforms
Solution Providers
End Customers
Large and Growing Ecosystem
Large and Growing Ecosystem

LoRa Alliance®
Large and Growing Ecosystem

LoRa Alliance®
Large and Growing Ecosystem

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Large and Growing Ecosystem
Large and Growing Ecosystem

LoRa Alliance®

SPONSORS

CONTRIBUTORS

ADOPTERS

INSTITUTIONAL

Hardware Providers
Network Providers
Cloud Platforms
Solution Providers
End Customer

Chevron
Costco Wholesale
Target

Sponsors
Contributors
Adopters
Institutional
An industry-wide ecosystem driving standardization, interoperability, adoption, and committed to the success of LoRaWAN®
LoRa® Delivers Real-World Impact

Smart Cities & Utilities

Industrial IoT & Logistics

Smart Home, Neighborhood & Campus
Smart Cities & Utilities

- Smart Energy Management
- Comprehensive Safety Systems
- Water Conservation
Smart Cities & Utilities

- 900 billion gallons of water wasted each year in household water leaks
- Potential to reduce worldwide CO₂ emissions by 5%

Smart Cities & Utilities

- Long range, ability to penetrate structures
- Low network infrastructure costs
- Multiple applications, single network infrastructure
Industrial IoT & Logistics

Smart Factory

Smart Logistics

Smart Cold Chain
Industrial IoT & Logistics

- 2 billion tons of waste globally each year
- 1.2 trillion gallons of industrial & waste water
- 1.3 billion tons of lost and spoiled food

Industrial IoT & Logistics

- Low cost of development, low cost of support
- Easy to deploy private networking solutions
- Track objects from the factory gate to the doorstep
Smart Home, Neighborhood & Campus

Home Safety & Security

Community Access

Smart Building
Smart Home, Neighborhood & Campus

- Optimizing home & building environments
- Workplace safety & access controls
- Conserving natural resources
Smart Home, Neighborhood & Campus

- Simple to deploy, simple to use
- Compatible with other technologies like Wi-Fi and Bluetooth
- There when you need it
LoRa Edge™
Industry-first, Low-power, Highly-integrated, Multi-technology Geolocation Platform

GPS
Wi-Fi
LoRa Cloud Geolocation Services
LoRaWAN® network
IoT – A Combination of Two Worlds

Physical / Analog World

Cloud / Digital World

The IoT Divide

Aggregation & Analytics

Insights & Actions
LoRa®

The Missing Link The IoT Has Been Waiting For
LoRa® IC Opportunity Funnel

FY22 Opportunity Funnel
By Segment

- $900M Total
- 16% Smart Agriculture & Other
- 25% Smart Home, Neighborhood & Campus
- 28% Industrial IoT & Logistics
- 31% Smart Cities & Utilities

FY22 Opportunity Funnel
By Region

- $900M Total
- 10% ROW
- 25% China
- 27% Americas
- 38% Europe

Source: Omdia
The Future
A Path to $500M by FY26

Continued Growth in LoRa® IC Adoption
Increased Reach through LoRa IP Licensing
Recurring LoRa Cloud™ Service Revenues

Goal: the de facto standard LPWAN for the IoT
Key Takeaways

- LoRa® is the wireless technology the IoT has been waiting for

- Some of the biggest names in IoT are driving the evolution, adoption and success of LoRa

- LoRa is key part of solving the social and environmental challenges caused by climate change

- On track to grow LoRa revenue at a 40% CAGR and expect to reach $500M annual run rate by FY26
“SAS' IoT solutions leverage the flexibility of LoRa® devices and the LoRaWAN® standard, along with our ecosystem of partners including Microsoft Azure, to drive real-time insights across multiple IoT use cases. Together we are solving an increasing number of environmental and climate related challenges by enabling predictive methods to safeguard communities, people and resources.”
SAS’ IoT solutions leverage the flexibility of LoRa devices and the LoRaWAN standard, along with our ecosystem of partners including Microsoft Azure, to drive real-time insights across multiple IoT use cases. Together we are solving an increasing number of environmental and climate related challenges by enabling predictive methods to safeguard communities, people and resources.

What Customers Say

MachineQ
part of Comcast
VP & GM
Steve Salata

“The simplicity and security of LoRa®, combined with the strength of MachineQ’s fully integrated platform-as-a-service, remove the complexity of IoT device connectivity, deployment and management and make it easy for IoT developers to focus on innovation.”
"Semtech’s LoRa® technology enabled the Helium blockchain and its ecosystem to build the world’s largest public IoT network powered by people and drive a paradigm shift for decentralized wireless infrastructure because of its superior range and lower power over other wireless protocols."
What Customers Say

**InVue**
VP Display Merchandise
Kyle Baker

“LoRaWAN® checked all the critical boxes for our InVue LIVE retail IoT platform in a way that other wireless technologies could not. With a broad community of adopters, a growing footprint of public network operators, and strong application support from Semtech, LoRaWAN emerged as an obvious choice for InVue.”
Digital Matter
CEO
Ken Everett

“Digital Matter’s latest Yabby Edge platform has leveraged LoRaWAN® and Semtech’s LoRa® device and Cloud-based platform to provide seamless indoor to outdoor tracking and logistics services at substantially lower power consumption and lower total bill-of-materials cost compared to other geolocation technologies. In addition, LoRa has enabled industry-leading battery life while providing some of the most accurate positioning data.”
What Customers Say

Microsoft
GM / Partner, Azure IoT Engineering
Tony Shakib

“More and more enterprise customers are looking to harness the power of the IoT with Azure to transform their businesses but find it challenging to connect wide area sensor networks in a cost effective and secure way. LoRaWAN® is one of the key technologies that address this gap, providing a flexible toolkit to connect and locate millions of low power IoT devices regardless of where they are.”
Thank You

Contact us if there are any questions

semtech.com/LoRa
NASDAQ: SMTC
linkedin.com/company/smtch
@SemtechCorp