



**NORDIC**  
SEMICONDUCTOR

Smarter Things



*OUTSTANDING EMEA  
SEMICONDUCTOR  
COMPANY*

# Capital Markets Day

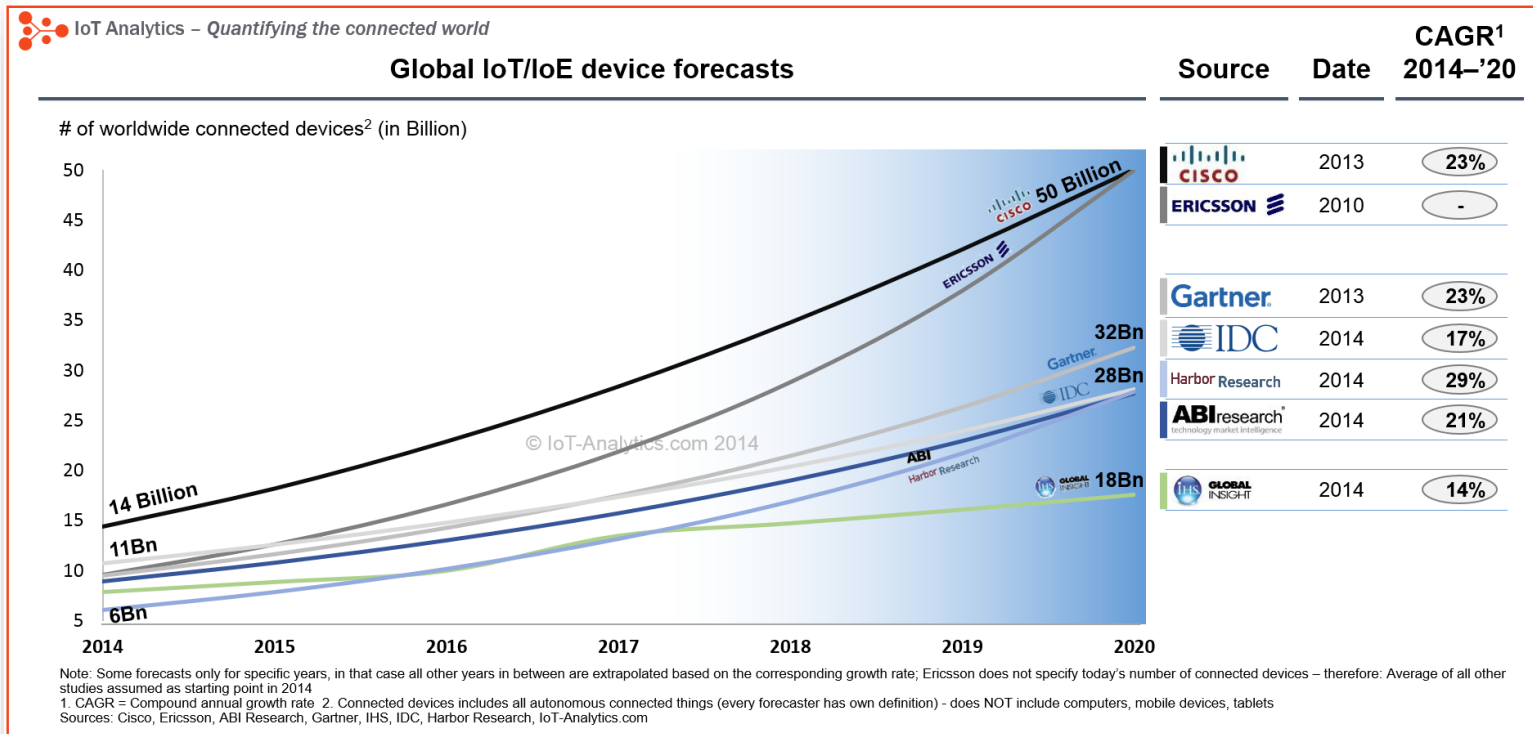
Frankfurt, 20<sup>th</sup> February 2015

Svenn-Tore Larsen, CEO

# Agenda

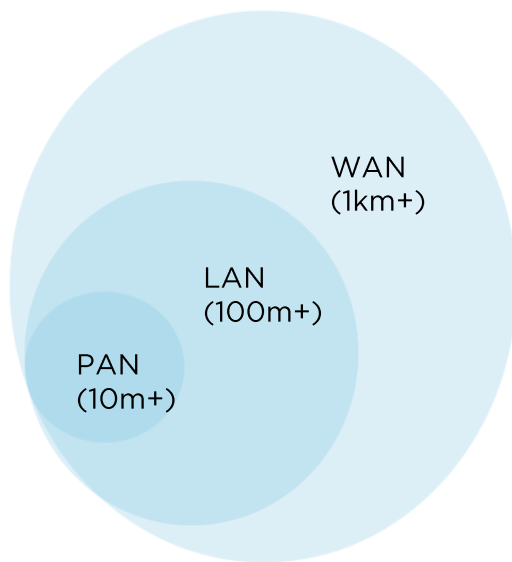
1. Introduction (13.00-13.30)
  - Nordics Strategic Direction: Svenn-Tore Larsen (CEO)
2. Bluetooth Smart's Position in the Fast Growing IoT (13.30-14.45)
  - External Perspective: Lee Ratliff (IHS)
3. Nordic's Market Opportunities and Competitive Edge (15.00-16.15)
  - Thomas Bonnerud and Kjetil Holstad (Product Management)
  - Sales Strategy (Svenn-Tore Larsen)
4. Financial Ambitions and Wrap up (16.15-17.00)
  - Financial Update: Pål Elstad (CFO)
  - Key Takeaways: Svenn-Tore Larsen (CEO)

# The IOT opportunity is large



# Nordic Semiconductor Vision

A leading vendor of wireless connectivity and embedded processing solutions  
for internet connected things



## Things we wear

- ... we **carry around**
- ... around us at **home**
- ... around us at **work**
- ... around us in the **city**
- ... around us in the **country side**

**Things** - not infrastructure, ... not PCs,  
... not phones ... not tablets

# Today the Leader In PANs with Bluetooth Smart, Investing in Long Range wireless solutions for tomorrow



# Finland is about Long-Range Low Power



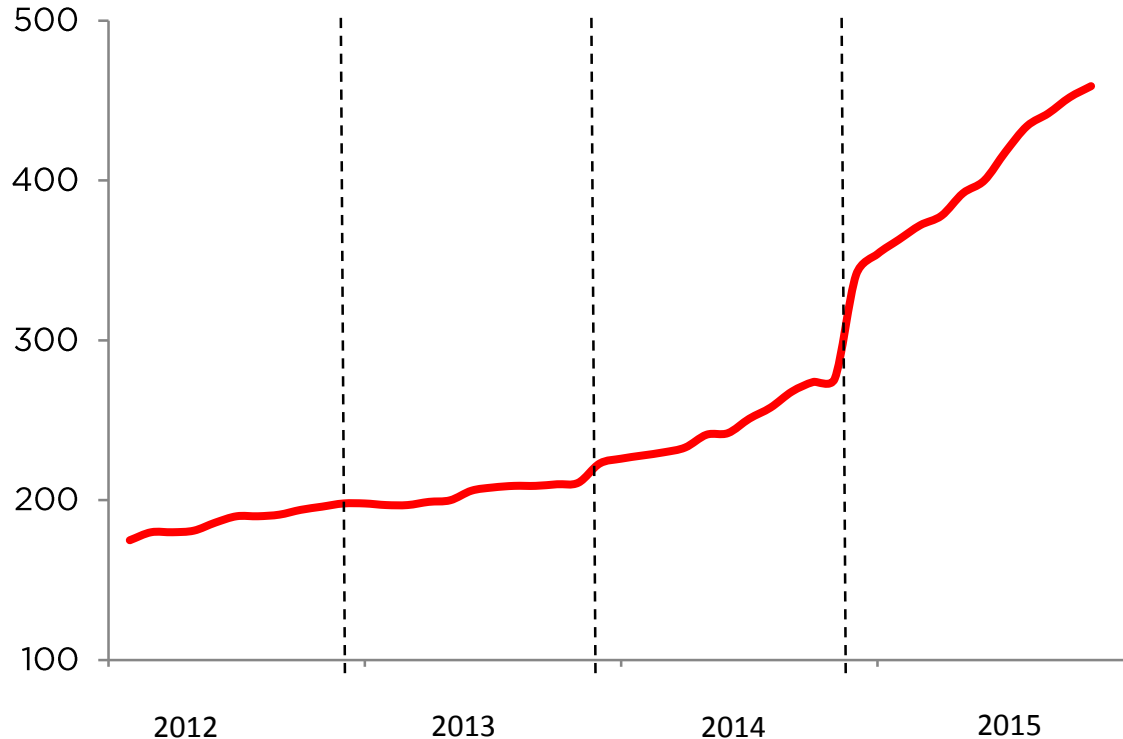
Unique experience and track in record in 2G, 3G, and 4G cellular connectivity

Powerful synergy with Nordic's ultra low power DNA

Foundation for our expansion into the Low Power Wide Area Networks (LPWAN) market

# Investing to Ensure leadership with today's and tomorrow's products

# Employees



Grew organization with 70% in 2015

Grew R&D organization in Finland by leveraged restructuring by Broadcom, Ericsson and Nokia to recruit top talent

■ Mobile chip set experience

Continued growth in Sales and R&D throughout

Superior positioned

# Split on competency

R&D Team

11%

Phd

73%

Master degree

16%

Bachelor degree



Norway



Finland

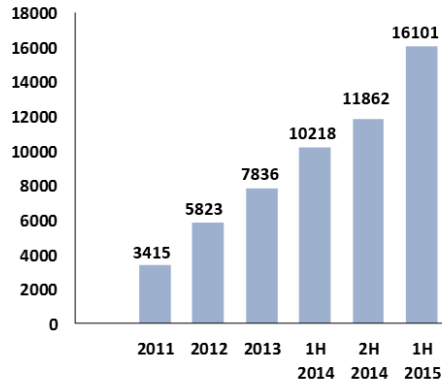


Poland

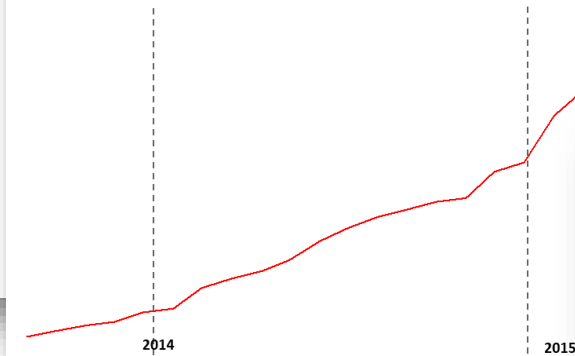


# Bluetooth Smart design wins accelerating growth

Sales of development kits (units)



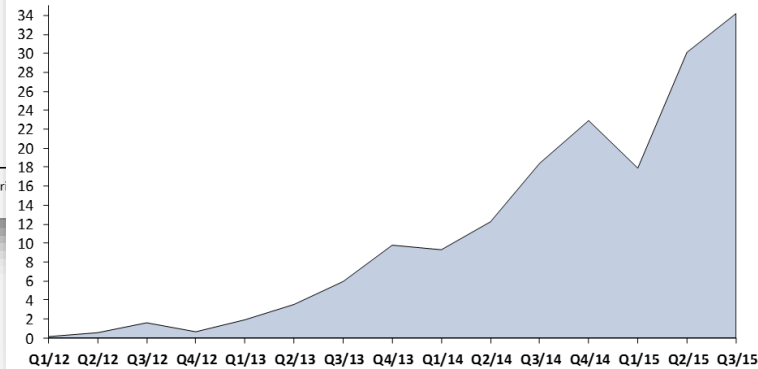
Number of "Active" Bluetooth Smart customers\*, 2013 – 2015



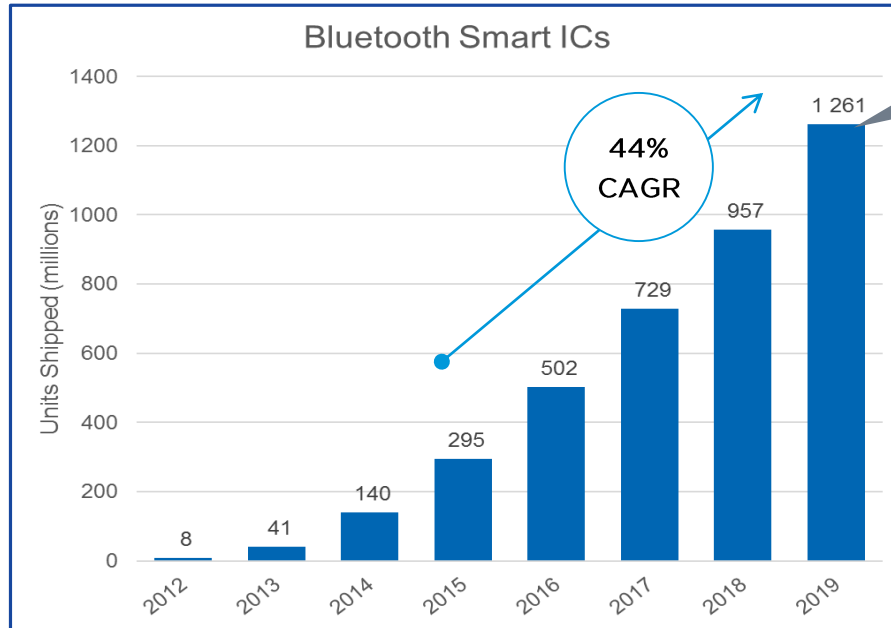
\* Definition of "Active" Customer: An end customer which has purchased a larger volume during the period (i.e., a customer actively selling product to end customers or preparing a high volume prototype)

12,747 customer  
registered in our  
systems

Total Nordic revenue from Bluetooth Smart, 2012 – Q3 2015 (MUSD)



# Massive opportunity in Bluetooth Smart



IC shipments forecast to exceed 1.2 billion units in 2019

Source: IHS January 2016

# ... driven by an incredible breadth and many diverse customers



Wearables



Beacons



Wireless Charging



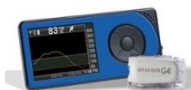
Smart Home



Industrial



HID



Medical



Automotive



Toys



Remotes



Consumer



Enterprise

Established  
Segments

Emerging  
Segments

Massive  
Long Tail

# Great design wins with great companies

fitbit



GARMIN™



Microsoft



SONY



dexcom



intel

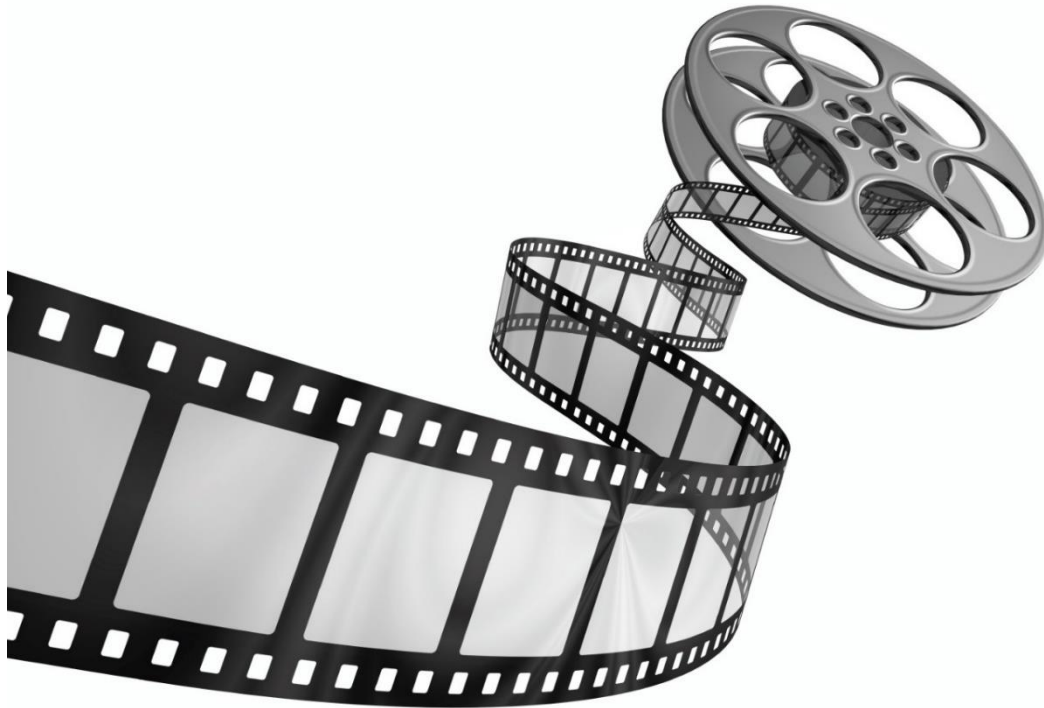
# Never been in a better position for growth

## Recap of 2015

- ▶ Large pipeline of design wins across segments that is still to turn to revenue
- ▶ Several top tier customer design wins in place
- ▶ Solid product pipeline in 55nm
- ▶ Great launch and customer reception of the latest device nRF52 family
  - ▶ The best Bluetooth Smart device in the market
- ▶ Build incredibly strong teams across the organization
  - ▶ New Finland organization with an extremely experience base of engineers from mobile chipset development
  - ▶ Established an IoT Lab on the West Coast

**Nordic established as undisputed leader in low power wireless with a dominant position in Bluetooth Smart**

# CES 2016 was a great show for Nordic





# Market and Product Update

Opportunities and Solutions for *Bluetooth®*  
Smart and Beyond

Capital Markets Day  
February 2016  
Thomas Embla Bonnerud  
Kjetil Holstad

# Introduction

Thomas Embla Bonnerud, Director of Product Management



# Incredible Breadth Fueling Growth

Wearables



Beacons



Remotes



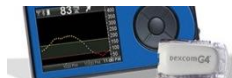
HID



Wireless Charging    Medical



Smart Home



Automotive



Industrial



Consumer



Established  
Verticals

Established product categories  
Significant volume

Emerging  
Verticals

Significant design-in activity  
First wave of products

Long Tail

Fast paced innovation  
Massive amount of designs

# Fundamental Enabler and Drivers

Mobile and PCs



TV/STB



Home Hubs and Routers



Adoptions  
in Hubs

IoT

Ease and cost of  
Adoption

Enabling new verticals  
Driving innovation

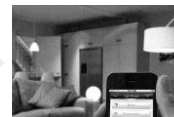
Internet Connectivity  
Smarter Things, Smarter Services

Fuels innovation  
Drives breadth

# Evolving Technology Driving Growth

Longer Range  
and Smart Mesh

Home Automation, Smart Lighting,  
Automotive, Industrial, Enterprise



Higher  
Throughput

Audio, Improved User Experience,  
Firmware Updates, Lower Power



Enhanced  
Security and IPv6

Access Control, Medical, Payments  
Routers and Gateways



# Accelerating Ecosystem Adoption



Apple Home Kit,  
Health Kit, and iBeacon



AirFuel™ Alliance  
Wireless Charging



Google Weave, Physical  
Web, Edystone, Fit



Samsung S-Health  
SmartThings, Artik

# Nordic with the Leading Solution

## Breadth of Offering

Broad range  
of ICs



# Advanced Software Stacks

```
e() {
    settings[i].compare(
        if (name.compareTo("") != 0) {
            name += " ";
        }
        name += str.getString(settings[i]);
        else if (settings[i].compareTo("") != 0) {
            if (name.compareTo("") != 0) {
                name += " ";
            }
            is.format(str.getDate(settings[i].compareTo("") != 0) {
                0) {
```

Easy to use  
Development tools

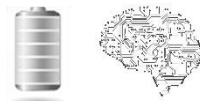


## Reference Designs

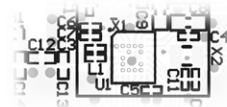


# Cutting Edge Technology

## Power and Performance



## Size and eBOM



Level of Integration  
and solution cost



## Advanced IC and Software Features



# nRF52 Series – the new Benchmark



Sampling Since Mid 2015

Industry Leading  
Power Efficiency

Up to  
3X

Lowest Average Current

Most Advanced Power  
Management

Record Breaking  
Performance

Up to  
10X

ARM Cortex-M4F  
DSP and Floating Point

Radio Link Budget

Smallest Size  
Most Integrated

Up to  
3X

On-chip Flash and Balun  
Interfaces and NFC

3x3.2mm CSP

# nRF52 Ramping Volume Now!



Incredible and record fast design-in momentum across the Market Segments

Burning hot supply chain to meet customer demand for H1 2016

Meanwhile... some of our competitors are still not sampling what they announced 9 months ago

# Uniquely Positioned for the Future

Biggest and Most  
Dedicated Team



Live and breathe Bluetooth  
In house software development  
Relentless focus on Quality

Market  
Leadership



Leading Customers and Partners  
Biggest Developer Community  
Broadest Market Reach

Leading Solutions and  
Technology Platforms



Breadth and Cutting Edge  
Foundation for new products  
High Barrier of Entry for competition



# Established Markets

Kjetil Holstad, Product Manager Ultra Low Power Wireless

# Continued Strong Growth in Wearables



## Through New Categories

Connected Watches

Smart Clothes

Jewelry and Fashion



## Through Product Innovation

Advanced Sensors and Capabilities

Wearable for Payments

Health Monitoring

# Nordic is the Market Leader

Since early 2000s



Nordic #1 Since Day One  
From Proprietary and ANT  
Captured BT Smart Explosion

Solutions



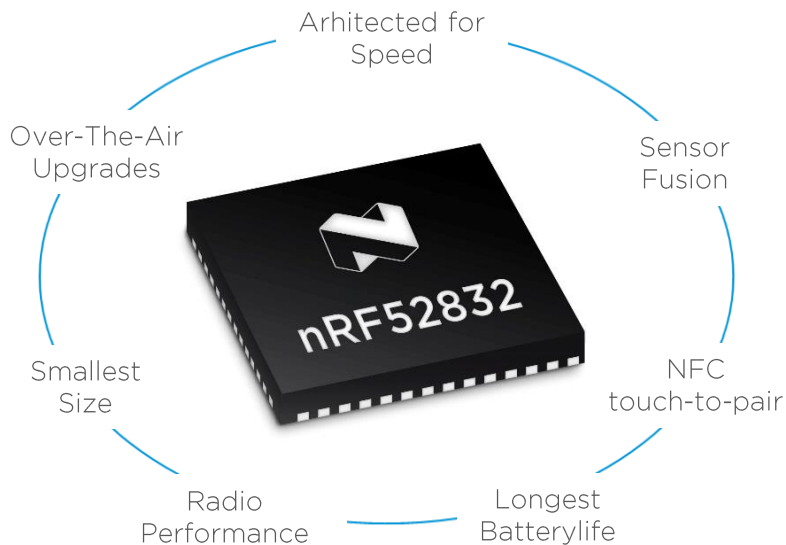
From the Very Basic  
To the Most Advanced  
Leading in SoftWare

Huge Customer Base



Massive Success with nRF51  
Upping the Game with nRF52  
Working with all Major Players

# nRF52 – Pushing the Envelope



## Ultimate Single Chip Solution for Wearables

- Massive Leap Forward in Performance
- Barrier Breaking Power Efficiency
- Smallest Size, Lowest Power and Cost

# Beacons Transform the Retail Experience

Push and Pull



In-Store Experience



**Beacons will drive  
\$44 billion in retail sales in 2016\***

Behavioral Patterns

Geo-Fencing & Positioning

Personal Recommendation

Targeted Advertisements

Payment Systems

# Explosive Growth Beyond Retail

Airports, Hotels and Hospitals



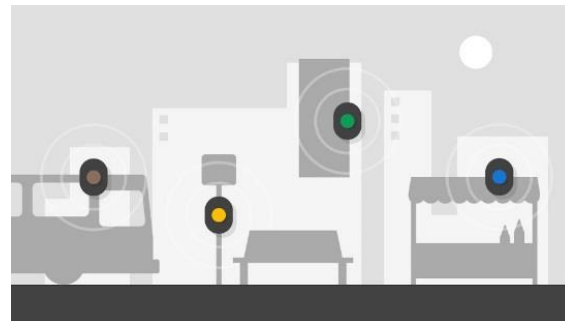
Asset Tracking  
Maps and Location Services  
Access Control

Theme-parks & Stadiums



Promotional Campaigns  
Maps and Navigation  
Enhanced Multimedia Experience

Transport



Customer Information  
Behavioral Patterns  
Public Services

# Major Players Lay the Foundation



Tight iOS Integration  
Proximity



**Eddystone**

Physical Web Initiative  
Cross-Platform  
Open Source



# Nordic is Number One in Beacons



## Leading Position

Strategic Partnerships

Number of Customer Engagements



## Leading Solutions

nRF5 SDK Supporting All Beacon Formats

Reference Designs For Basic and Advanced Beacons

Over-The-Air Device Firmware Upgrade



# Smarter Remotes with BT Smart

HUB devices already enabled with  
Bluetooth® Smart



Voice

Motion

Touch

Keyboard

Search

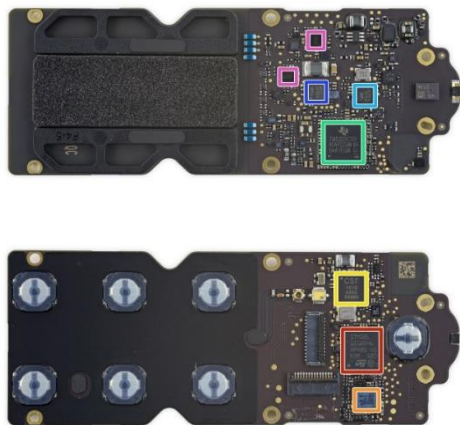
Advanced Menus

Gaming

SmartTV

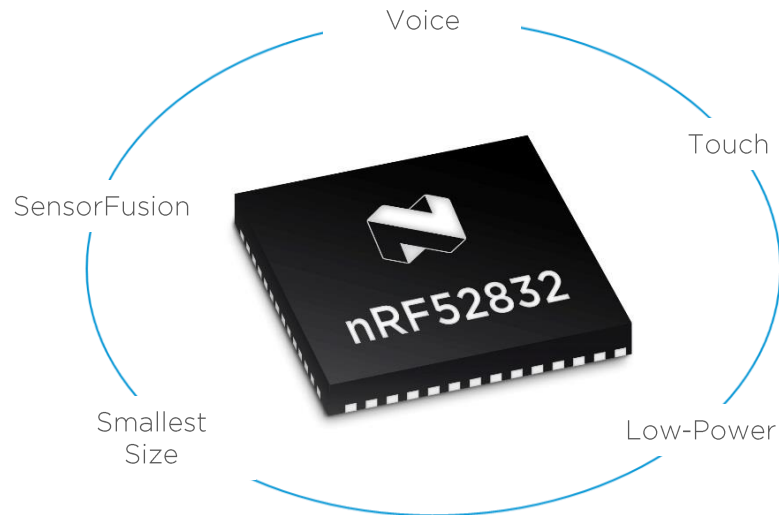


# nRF52 - Most Advanced Single Chip



Apple TV Pushes the Technology

- Siri Integration
- Advanced Sensor Motion



Features Aligns with nRF52

- Lower Bill-of-Material
- Lower Power-Consumption

# Nordic Offers Complete RC Solution

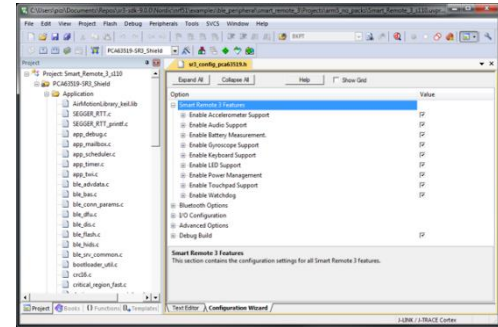
Strong Momentum in Market



nRF51 in Volume Production

Working with Large RC Manufacturers  
on nRF52

Complete Reference Platform



Voice Input

Motion Sensing / SensorFusion

Multi-Touch / Gesture

# New Categories Driving Growth in HID



Gaming

BT Smart Enabled in  
Consoles and PCs



Tablet Keyboards

Accessories for Tablet / Phablet



New Types of HID  
Devices

Pens Goes Mainstream

# Strengthening Our Position in PC HID

Traditional PC Peripherals



Nordic is the Market Leader

- >10 Years of Experience

Transition to BT Smart

- Getting Rid of the Dongle

Working Close with all Major Players

Multi-protocol 2.4GHz & BT Smart

# Nordic Dominating the HID Market



Strong IC Portfolio and Roadmap

Turn-key Reference Designs

Long Relationships with all Key ODMs

# BT Smart Fuels More Intelligent Toys

Remote Controlled



Interactive



Play



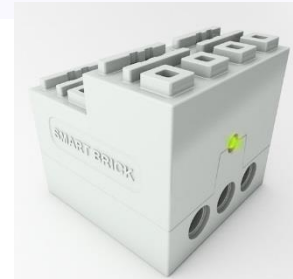
Control

Drones



Robots

RC Cars



# Nordic Uniquely Positioned for Toys

## nRF51 Widely Deployed in Toys



DWIN at Major Toy Companies  
More Optimized Solutions in the Pipeline

## Highly Versatile Portfolio



Basic Connectivity  
Advanced Real-Time Processing  
Attractive Solutions Cost

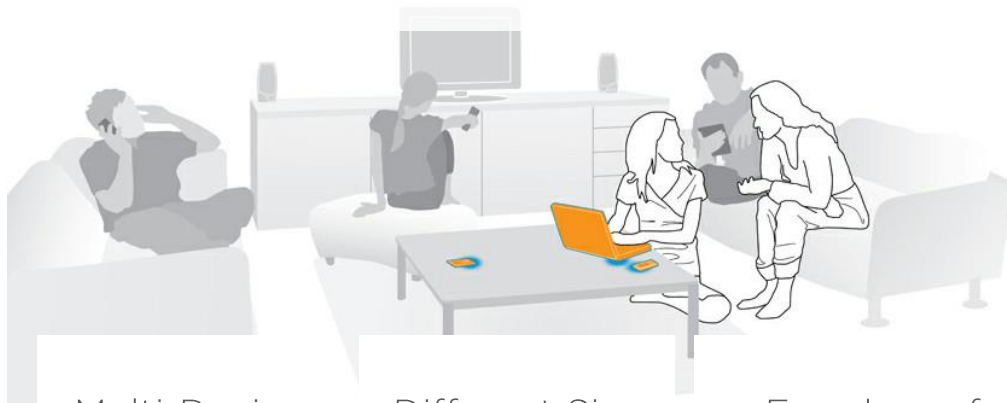


# Emerging Markets

Thomas Embla Bonnerud, Director of Product Management

# Cutting the Last Wire...

## Resonant Wireless Charging



Multi-Device  
Charging

Different Size  
Devices

Freedom of  
Placement



Bluetooth® Smart for  
Device – Charger  
Communication

# Wireless Charging goes Mainstream



## Built-in

At home, in the office, in cars, in public places, in public transport....

## Stand-alone

Pads, Bowls, Mats...

Convenience...

Sealed Devices...

Mechanics...

# Massive Opportunity for Nordic

←----- AirFuel™ Resonant and/or Multi-Standard ----->



Chargers

Stand-alone  
and built-in



Covers and  
Battery Packs

Retro-fit solutions



Mobile Devices

Laptops, tablets, phones,  
E-readers etc...

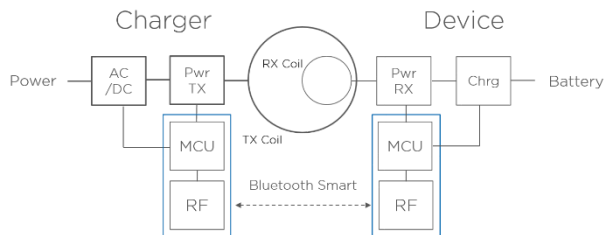


Rechargeable  
Devices

Wearables, Remotes, HID,  
Cameras, Toys, etc...

# Leading Solution and Position

Unique, Complete and Proven  
Solution for nRF5 Series SoCs



nRF5 SDK for AirFuel™ Resonant  
for Device and Chargers  
First released in 2013  
> 1 year ahead of competition

Massive Design Win  
Momentum



Design wins with Leading Players  
End Products and Reference Designs  
Strategic Partnerships  
First Products on the Market

# Finally a Smarter Home....

Enabled by Mobile Devices  
and Bluetooth® Smart

Cloud Connectivity

Local Connectivity

User Interface

Larger System



Door Locks



Lighting



Appliances



HVAC



# Fast Growing Larger Ecosystem

Emerging Hubs with Bluetooth® Smart Support



Apple TV with  
Home Kit



Google OnHub  
with Weave



Samsung  
Smart Things



Larger Heterogeneous  
Networks



Always Connected



# Nordic Enabling a Smarter Home

Cutting Edge Solutions  
for the Leading SoCs



nRF5 SDK for Apple Home Kit  
nRF51 SDK for IPv6 over Bluetooth Smart  
Broadcast Mesh for nRF5  
Support for advanced Security

Major Design Wins  
Across the Vertical



Leading Players  
Heavily Engaged in all Ecosystems  
First Wave of Products



# Bluetooth® Smart Changing Healthcare

Continuous Monitoring  
Always Connected



Disease Management  
Assisted Living



Glucose

Blood Pressure

Pulse Oximetry

Vital Signs

Activity

# Massive Momentum for Bluetooth Smart

## Leading Players



## Ecosystems



Continua Health Alliance



Apple Health Kit



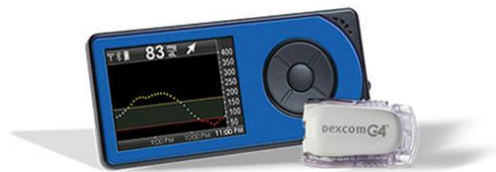
Google Fit



Microsoft Healthvault

# Nordic in Pole Position for Medical

Powering the First Wave of  
FDA Approved Products



Strong Design-win Pipeline  
Wide range of Products  
Closely Engaged with all Leading Players

Cutting Edge Solutions  
Meeting Stringent Quality Requirements



Power, Size and Features  
Relentless IC and Software Testing  
Passed Multiple External Quality Audits

# Automotive Adopting Bluetooth Smart

2014 - Tier 2 Aftermarket



2015 - Tier 1 Suppliers



2016 - First OEM Cars



Keyless Entry

Cabin Comfort

Monitoring and Diagnostics

Infotainment

Wireless Charging

# Nordic Building Traction in Automotive



Already in Tier 2 After Market Products

Close and strategic engagements with key Tier 1 suppliers and CAR OEMs

Making strategic investments leveraging existing and proven technology platforms

# Long Tail

Kjetil Holstad, Product Manager Ultra Low Power Wireless

# A Massive Long Tail



Consumer



Industrial



Commercial

Incredible Variety of Applications

Small to Medium Sized Customers

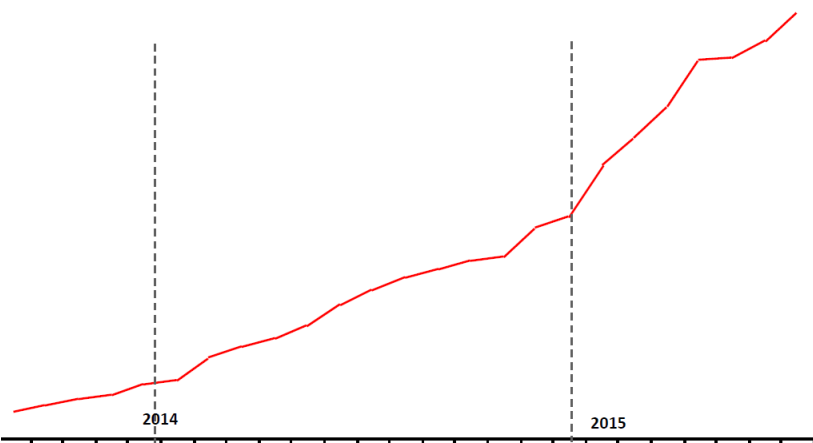
Lower Volume / Higher ASP

Triple Digit YoY Growth # Customers



# A Different Ballgame

Number of "Active" Bluetooth Smart customers\*, 2013 – 2015



10.000s vs. 100s Fundamentally Different

Key to Reaching Broad:

- Right Products, Reference Designs and Kits
- Module Offering and Other Partnerships
- Internet Presence
- Easy, Open and Accesible

\* Definition of "Active" Customer: An end customer which has purchased a larger volume during prior six months (i.e., a customer actively selling product to end customers or preparing a high volume prototype)



# More Than Just Consumer Electronics

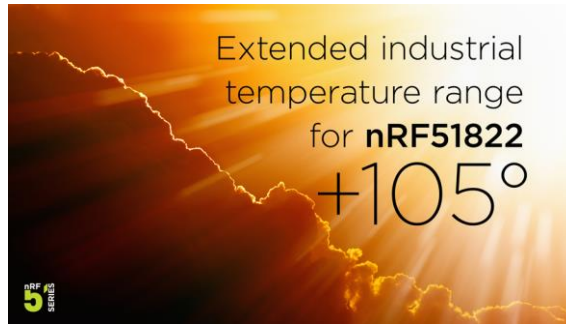
Ideal for Sensor Devices



OS Penetration & Mobile Solutions



Beacon Technology



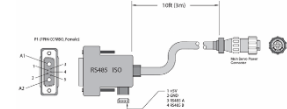
Mature Bluetooth Stack

Long Term Availability

In-House Stack Development

Portfolio of Reference Designs

Cable Replacement



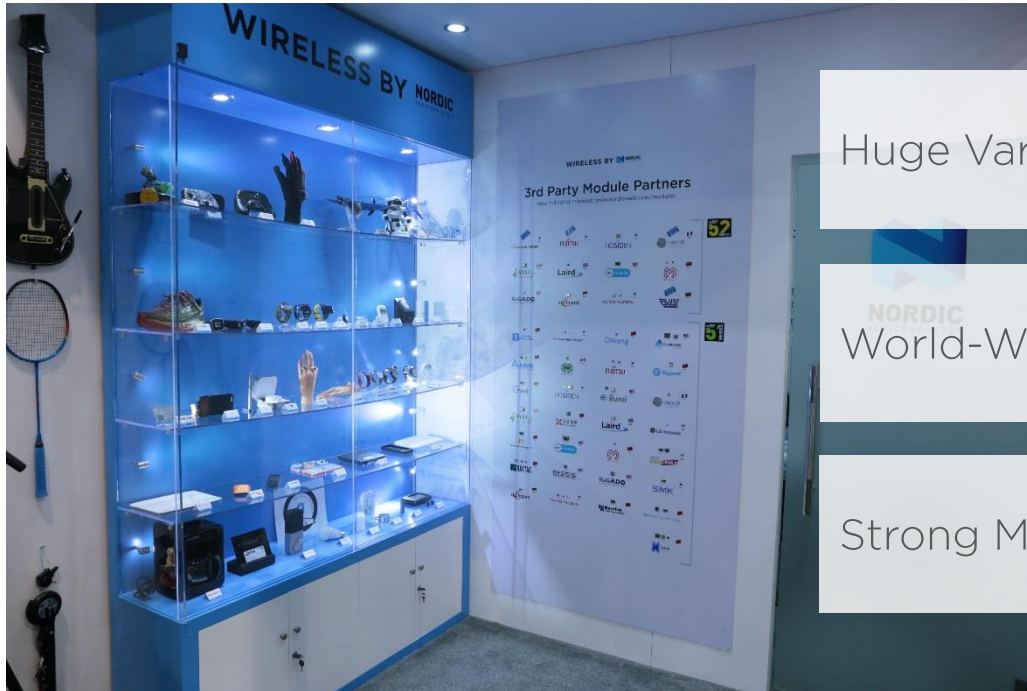
Human Machine Interface



Asset Tracking



# Unmatched Module Offering



Huge Variety in Form, Fit and Function

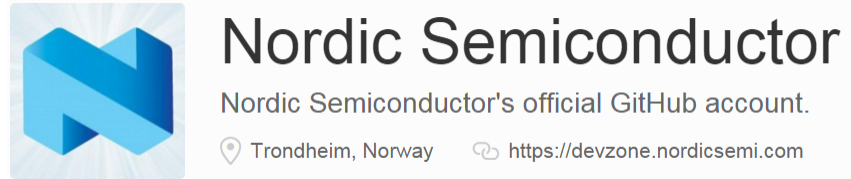
World-Wide Coverage, Extra Sales Force

Strong Momentum with nRF52 Module Offering

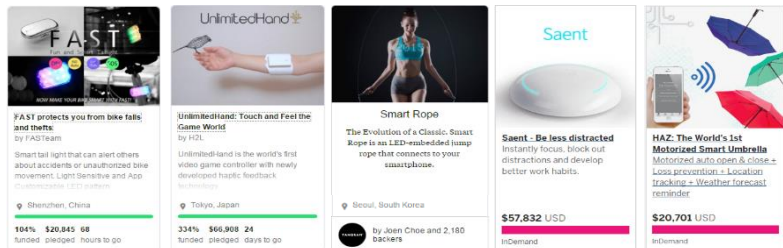
# Taking Developers Seriously



More than 8.000 Users & 11.000 Questions  
>150 Blog Posts and Tutorials



Open Code Repository with >67 Projects

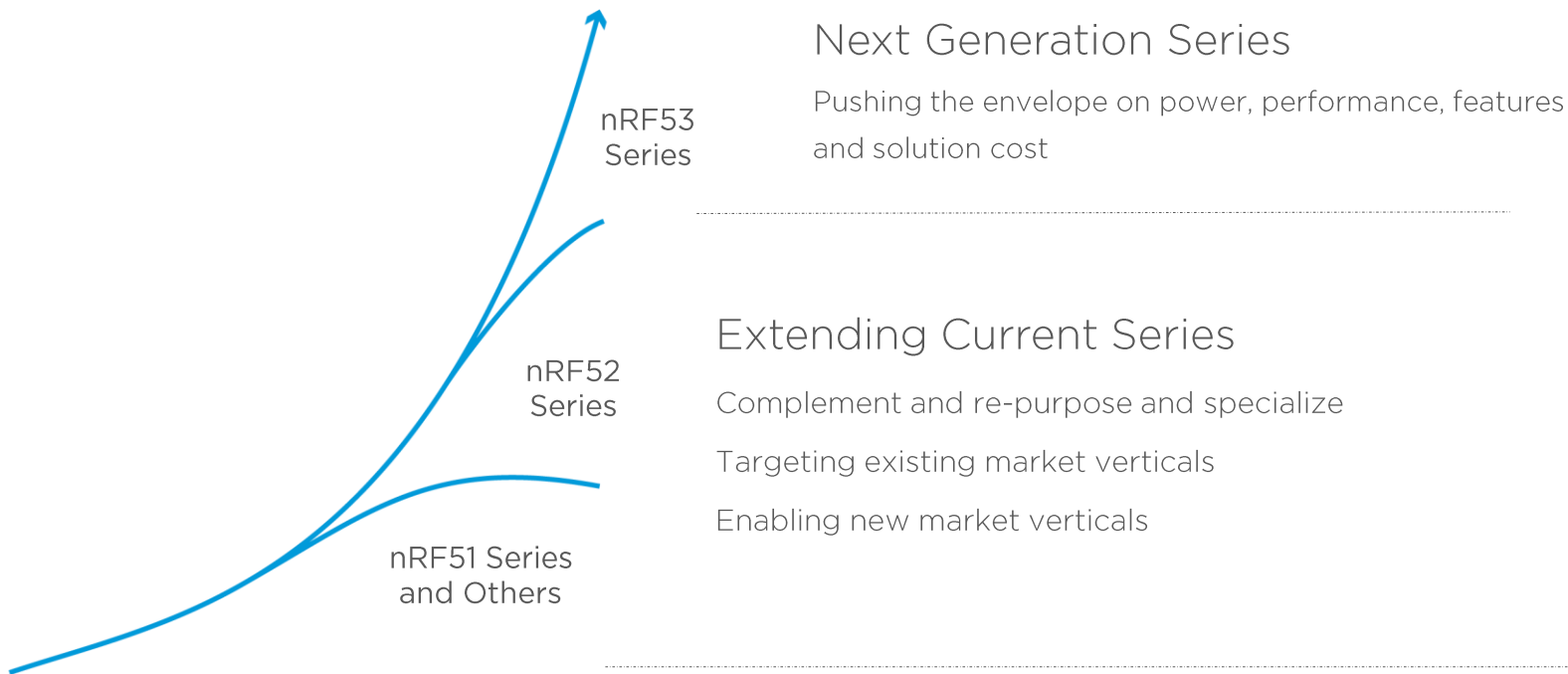


Huge Presence among Kickstarter / IndieGoGo

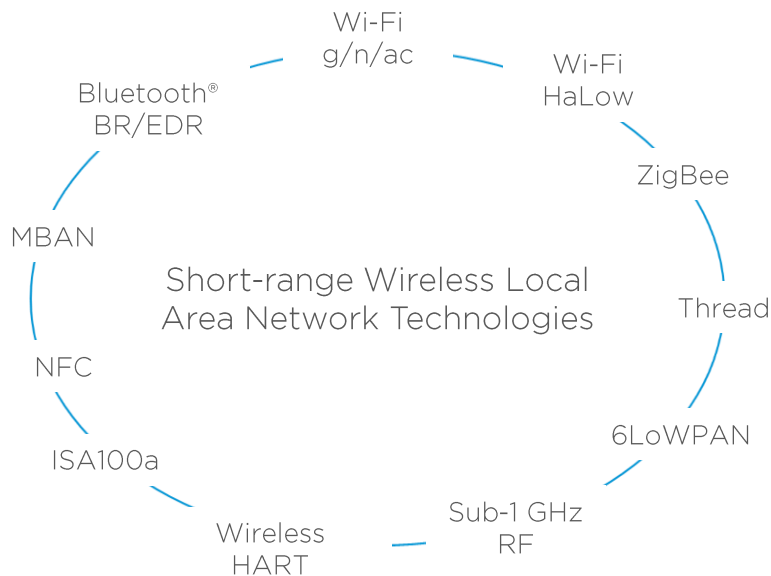
# Product Roadmap

Thomas Embla Bonnerud, Director of Product Management

# Aggressive Bluetooth® Smart Roadmap



# Expanding our Connectivity Offering

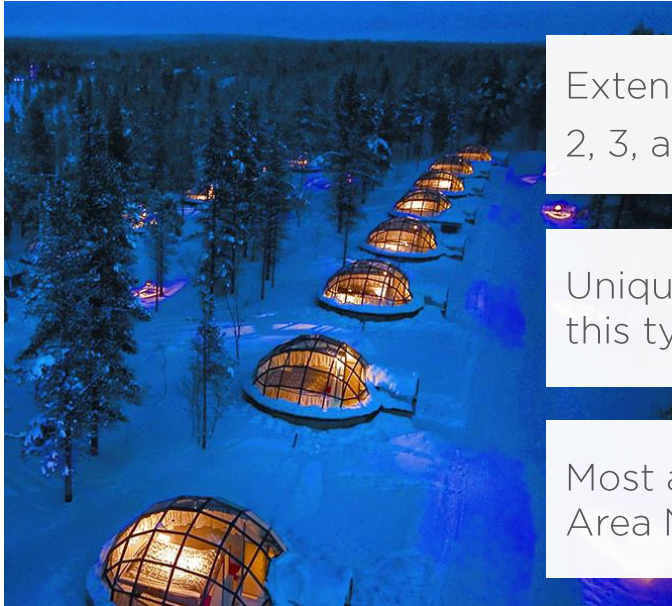


Continued effort on complementary short range wireless technologies

Carefully selected subset – targeting existing and new high growth market verticals

Leveraging existing market position, technology platforms, ecosystem and solutions

# Unique Capability in Finland



Extensive experience and track record with 2, 3, and 4G cellular connectivity

Unique - one of a handful teams in the world with this type of expertise

Most advanced and complex Long-range / Wide Area Network technologies

# Taking Nordic to the Next Level



SigFox

LoRa

Weightless

EC-GSM

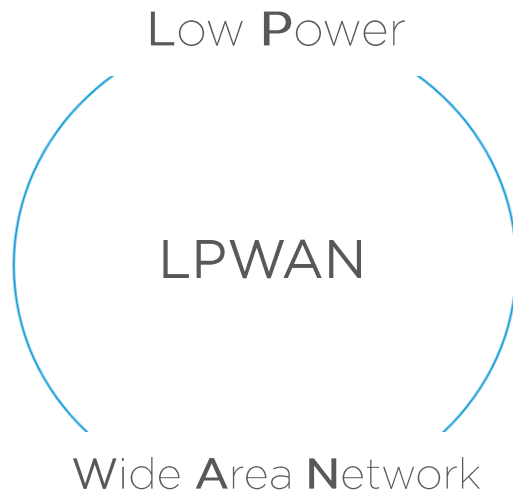
LTE Cat 0

NB-IOT

LTE Cat M

LTE Cat 1

.. and more



Focusing on a selected combination of LPWAN technologies for IoT

Emerging and fast growing market  
> 3 billion connections in 2023\*

Complementing our short range product offering and market position



# Nordic is Geared For Growth

Continued Leadership  
in Bluetooth Smart



Fast Growing Market  
Leading Customers Base  
Aggressive Roadmap

Continued Expansion in  
Short-range Wireless



Wider offering for existing verticals  
Expansion into new Verticals  
Leveraging existing platforms

Expansion into Low Power  
Wide Area Network



Unique synergy with Finland team  
Fast Growing market for IoT  
Complementing Short-range



# Market and Product Update

Opportunities and Solutions for *Bluetooth®*  
Smart and Beyond

Capital Markets Day  
February 2016  
Thomas Embla Bonnerud  
Kjetil Holstad



# Why Nordic win

Capital Markets Day

January 20th, 2016

Svenn-Tore Larsen

# Solid foundation

Nordic's customer engagement is built around a solid software and hardware platform developed in-house



*Clear escalation path and responsibility*

- ▶ Stack and SDK development, maintenance and support
- ▶ Affordable development boards using leading third parties

# Nordic Semiconductor focused on distributor training and sales

## Frequent training

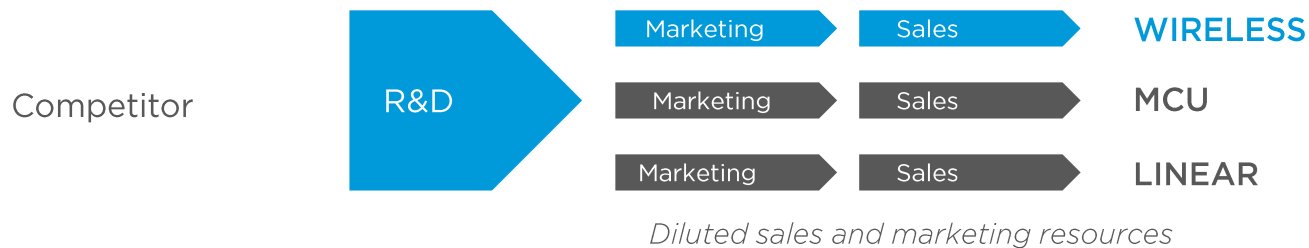
- ▶ Products
- ▶ Strategies
- ▶ Business development

Online prioritized tech support for distributors

Frequent customer meetings with distributors on tier 2 and tier 3 customers

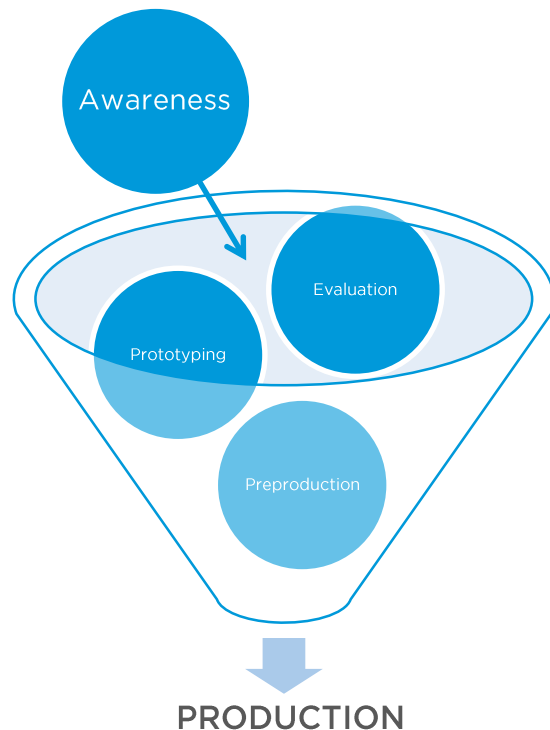


# Focus on a single product segment



# Nordic scaleability through recognition

Awareness and acceptance  
by customers is needed  
to fill pipeline





# Awareness through wide engagement

Global Tech Tour 2015 was successful

- ▶ More than 4000 engineers participated
- ▶ High quality technical sessions
- ▶ 30 global locations
- ▶ 10 weeks
- ▶ nRF52 Development Kit





## ...Extensive user base and kit shipments

>15K

Development Kits  
shipped in 1H 2015

1000s

of customers in active  
production and design

>8000

Users in an active  
tech user forum

# ...Leading partner network

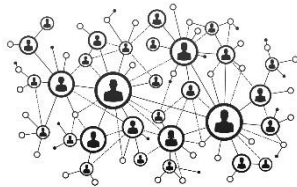
**ARM<sup>®</sup>University**

Worldwide Education Program

targets world's top  
ranking tech universities

Extensive

network of design  
consultants and ODMs



eases prototyping  
and development

# Nordic ready for take off

“Fantastic mix  
of Tier1 and tail end  
customers on the runway”





# Financial Ambitions

Capital Markets Days 2016

January 20, 2016

Pål Elstad

CFO

# Q4 2015 and 2015 Year Preliminary

## Revenue

Q4 MUSD 46-47

2015: MUSD 192.5-193.5

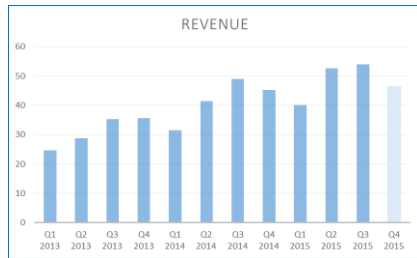
BT Smart MUSD 28-29

BT Smart MUSD 110-111

## Backlog

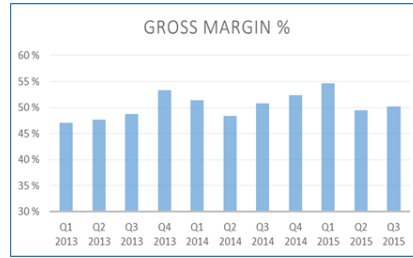
MUSD 22 (MUSD 20 in Q4 2014)

# Summary Financial Metrics



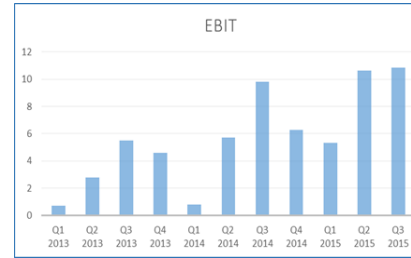
Revenue

13.5% CAGR (2012-2015)  
 Shift from proprietary to BT  
 Smart  
 Large increase in customer  
 Market diversification



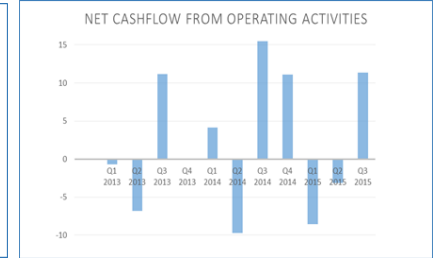
Gross Margins

Gross Margins historically stable  
 at around 50%  
 Any reduction of ASP offset by  
 improved manufacturing  
 Shift in product mix/customer  
 mix



Ebit

Highly operational leverage  
 Heavy R&D investments offsets  
 effects of operational leverage

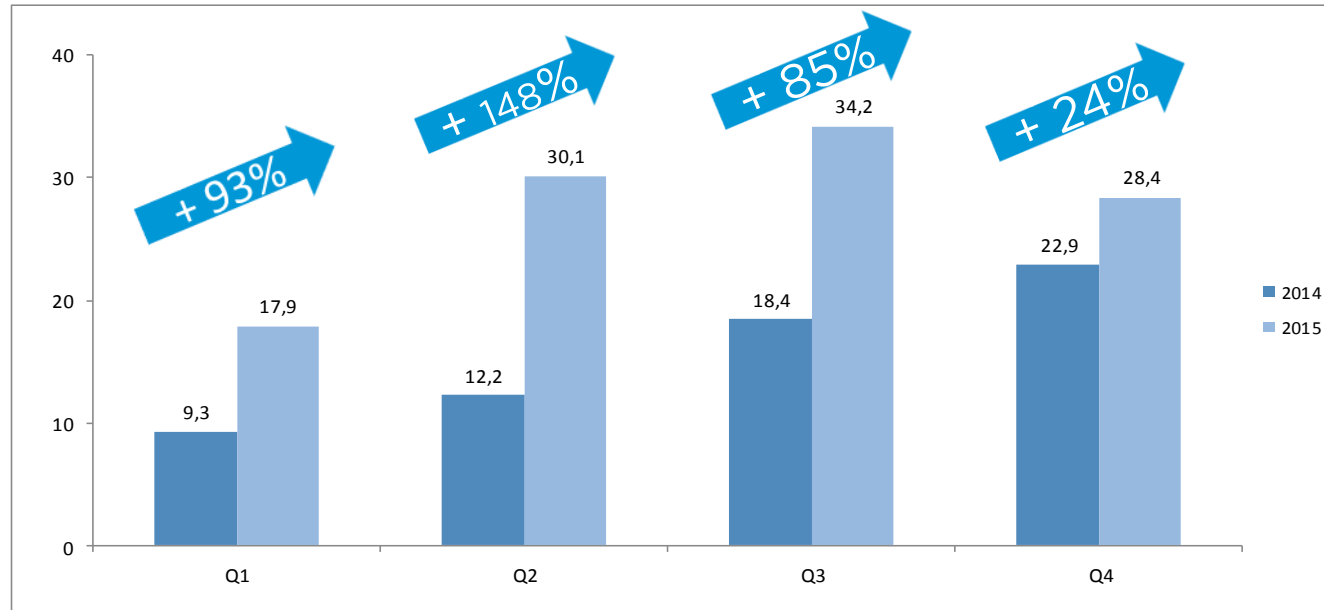


Operating Cash Flow

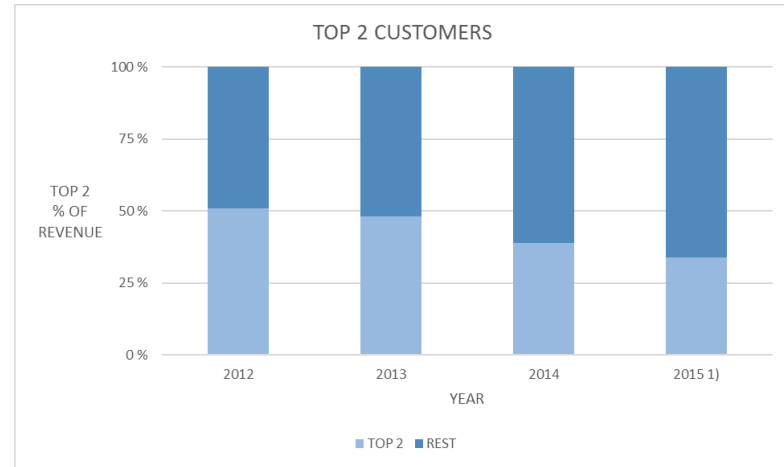
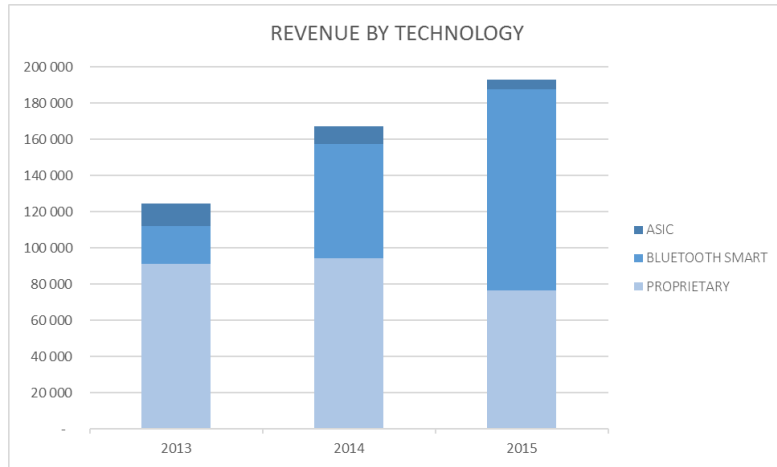
Operational Cash Flow sufficient  
 to fund revenue growth and  
 investments in R&D  
 However seasonal  
 variations/product updates in  
 cash flow requires short term  
 funding

# Bluetooth Smart Revenues – Drives Growth

## 2014-2015 - 75% Year over Year



# Strong growth in BT Smart reduces dependency on a few customers



1) In 2015, the 2nd largest customer is within BT Smart

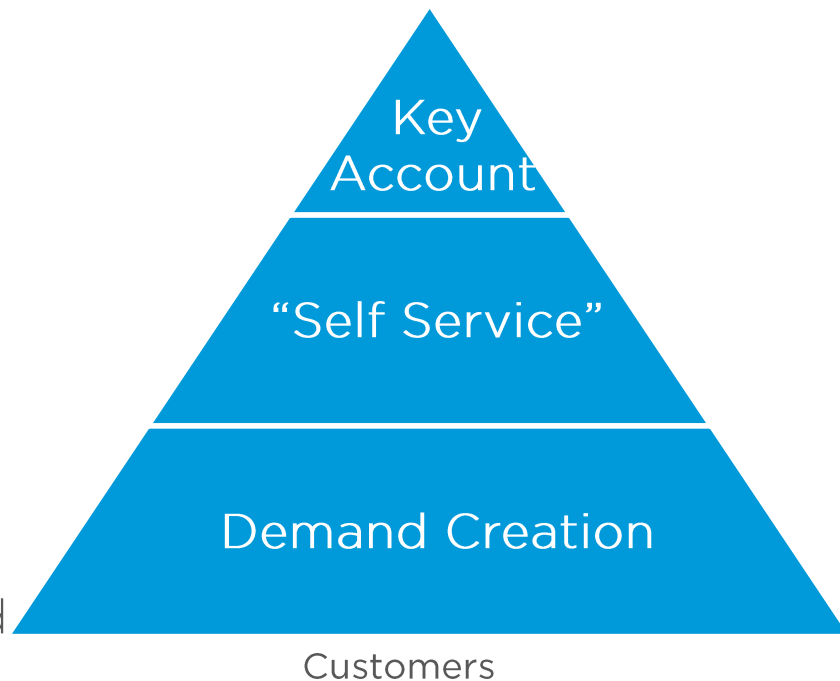


# Nordic reaches the entire value chain through three unique sales channels

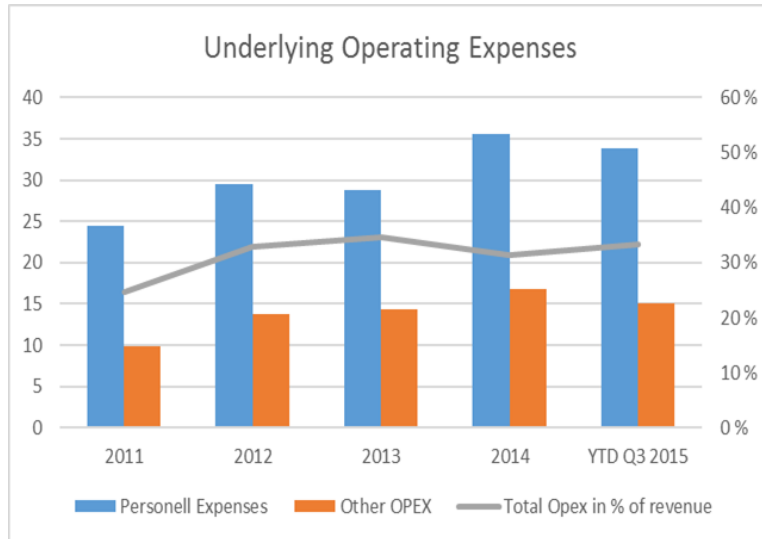
Attributes varies in the different channels

- ▶ Customer Relationship
- ▶ Nordic's Technical Involvement
- ▶ Distribution/Supply Chain
- ▶ Average Sales Prices
- ▶ Distributor Margins
- ▶ Nordic Margins

➡ The further down the more leveraged



# Operating Expenses



As innovation continues, underlying operating expenses will increase in 2016 in order to capture all possibilities

Finland investment results in a total R&D spend in 2015 of 21% of revenue

Investments in OPEX expected to continue to grow 20% in 2016 based on full effect of Finland

Total employees expected to grow from 454 in 2015 to 550 in 2016.

Strong positive tailwind from weakening of NOK

# CAPEX

|                                      | 2013       | 2014       | 2015 est.  | 2016est.   |
|--------------------------------------|------------|------------|------------|------------|
| Fixed Assets                         | <b>6.2</b> | <b>4.6</b> | <b>8.4</b> | <b>8</b>   |
| IP                                   | <b>2.3</b> | <b>1.8</b> | <b>5.3</b> | <b>3</b>   |
| Depreciation<br>and<br>Amortization* | <b>3.4</b> | <b>4.6</b> | <b>6.4</b> | <b>7.5</b> |

\* Depreciation and amortization ex. depre. and amort. On capitalized r&d.

Stable and relatively low capex numbers as Nordic has a fabless operations

Assets mainly related to Lab Equipment and Enterprise Systems

IP normally licensed through Royalty, but some investments required

# Finland Operations

Team focuses on Long Range Low Power Wireless, however top wireless talent also considered for other technologies

In Q4 2015, Finland had employed 111 employees, of which approximately 10 work on BT Smart. Expected to increase to max 150 by the end of the year.

Total cost in Q3 2015 of MUSD 3.4. MUSD 4-5 per quarter in 2016

Capex depending on opportunities



# Key Financial Highlights

Nordic sales model in Bluetooth Smart drives strong growth and less dependency on a few customers

Continuous strong growth with quarterly variances

High operational leverage however short term masked by high investments in R&D to capture opportunities