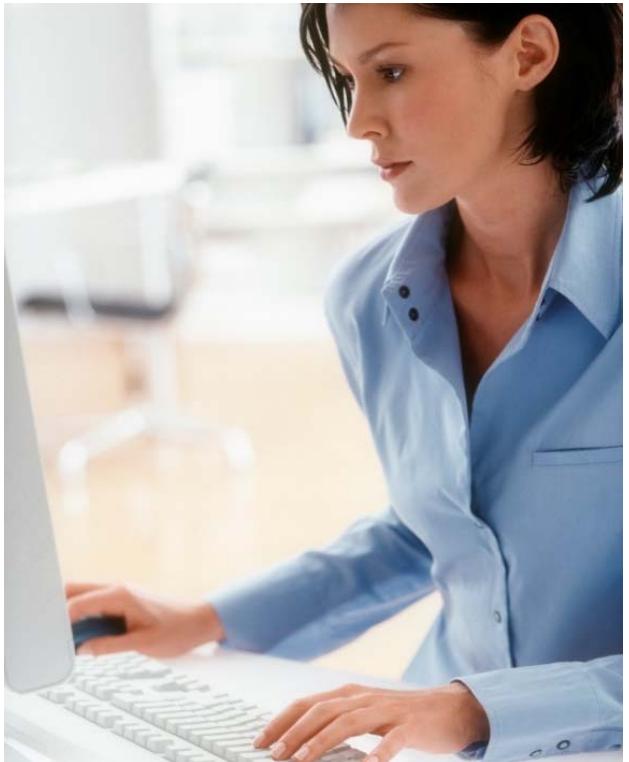


# CAPITAL MARKETS DAY

NEW YORK, SEPTEMBER 15, 2014





# Wonderful Wireless World

- The next Big Thing is a trillion Small Things

# Agenda

- Introduction
  - Svenn-Tore Larsen (CEO)
- How will Nordic expand on our leading market position
  - Geir Langeland (Sales and Marketing Director)
- Nordics Competitive Position
  - Thomas Bonnerud (Director of Product Management)

# Exploding interest in the «Internet of Things»

Wall Street Journal, 8-Jan-2014

**“** “The Internet of Things attracted more excited pronouncements than almost any other topic at this week's Consumer Electronics Show.”

TIME, 13-Jan-2014

**“** “The Next Big Thing for Tech: The Internet of Everything”

CNBC, 7-Jan-2014

**“** *CES 2014: Wearable tech dominates*

“Wearable technologies are this year's hottest tech niche, and gadget makers are scrambling to develop their own.”

CBS, 7-Jan-2014

**“** “Internet of things” all the rage at Consumer Electronics Show

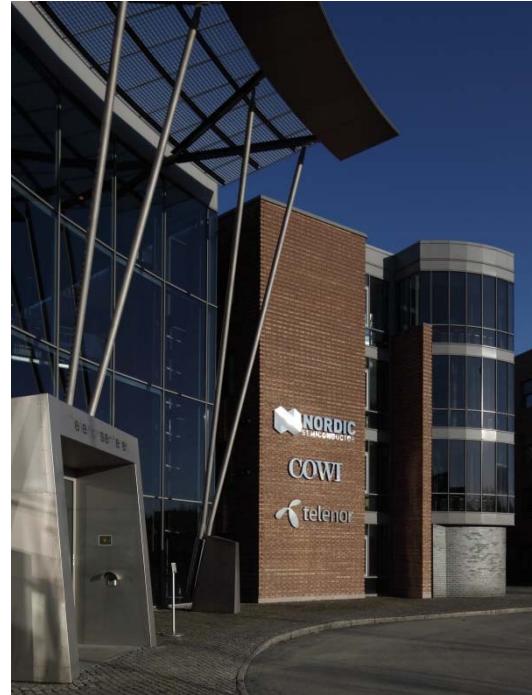
Financial Times, 13-Jan-2014

**“** “Google has made a bold bet on the emerging 'internet of things' with the \$3.2bn acquisition of Nest Labs”

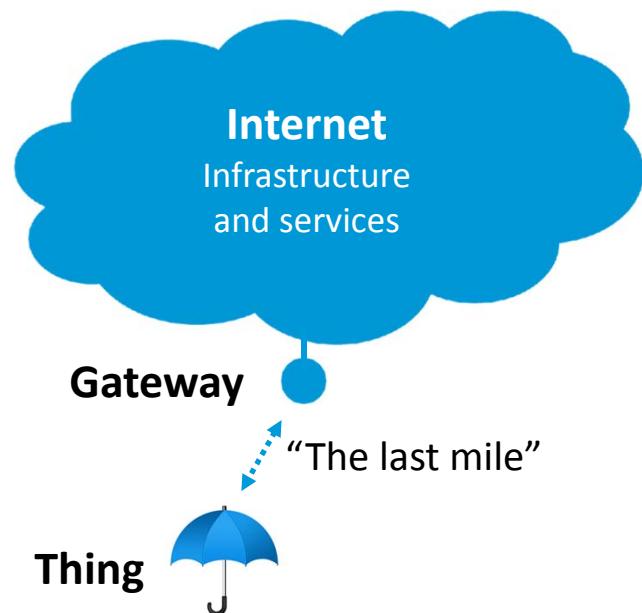
# This is Nordic Semiconductor

*The market leader in ultra-low power wireless solutions*

- Nordic Semiconductor is a leading developer of semiconductors for short-range wireless applications.
  - Founded in 1983, listed on OSE during 1996
  - Specializes in 2.4 GHz RF technology for ultra-low power wireless applications
  - Sold 200M semiconductor units during 2013
  - MUSD 124 revenue (2013)
  - Chairman of Bluetooth SIG /  
Key contributor to *Bluetooth®* Smart standard
- Organization of 250 people, of which 179 work in R&D
  - Headquarters in Norway, with offices in US, Europe, Asia
  - Fabless business model: TSMC manufactures wafers, Amkor / ASE are partners for assembly and test
  - Physical distribution handled via a global network of electronics distributors



# Connecting things to the internet



2013 –

- Internet is the biggest growth driver
- Connecting things to services
- “The last mile” connection to the gateway
- Things we wear, we carry, things around us
- Wireless is a key enabler
- Ultra low power is important
- Improving things and services
- Enabling new things and services
- The Internet of Things era for Nordic

# Smarter Things, Smarter Services

– Fundamental volume drivers in “Internet of Things”



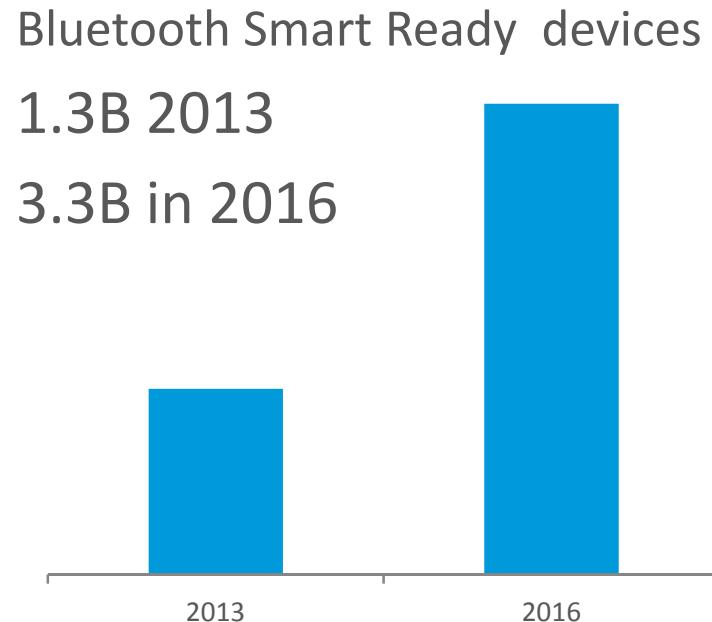
## Smarter Things with cloud services

- Improving existing things – enabling new
- Value add, differentiation and or cost savings
- Expanding the customer base
- Innovation shortening the replacement cycle

## Smarter Services with Things

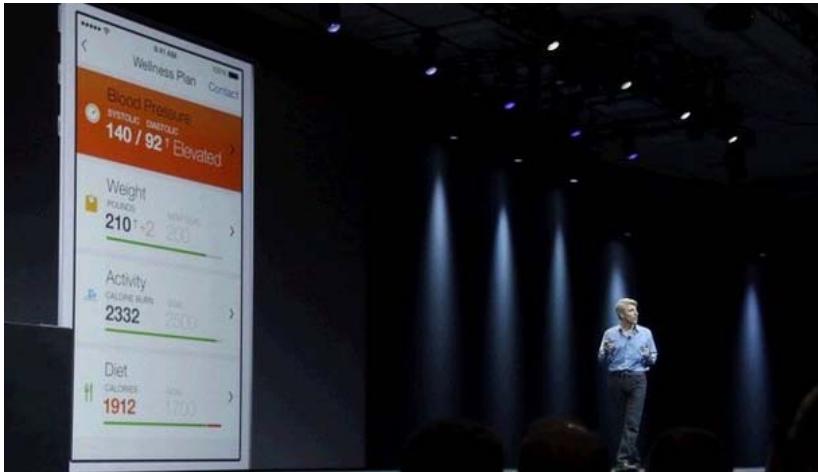
- Improving existing services – enabling new
- Value add, differentiation and/or cost savings
- Services driving volume of things

# Bluetooth Smart – Our entry point into the “Internet of Things”



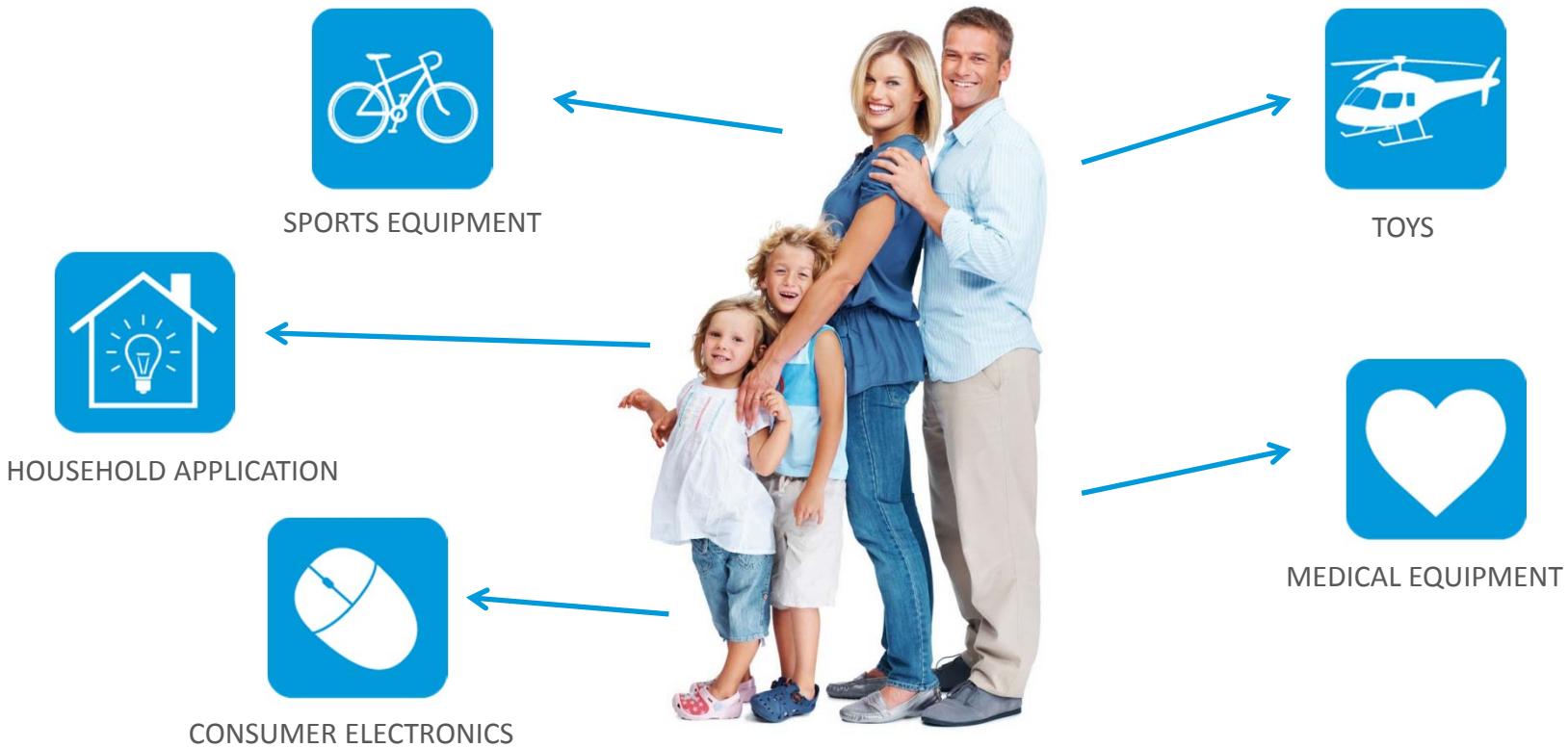
- Things depends on gateways to the internet
- Gateway installed base is crucial
- Massive installed base of Bluetooth Smart
- Phone, tablets and PC can acts as gateways
- Apps acts as the bridge to the cloud service
- Same league as Wi-Fi and Cellular
- Dwarfing ZigBee and other technologies
- Lowest power, cost and smallest size
- Extremely attractive “last mile” option

# Internet connectivity - Driving growth in our core markets



- Sports and fitness
- Consumer health
- Connected toys
- Location beacons
- Smart watches

# You will be surrounded by Bluetooth Smart



# Internet connectivity - Creating a pull from new markets



- Home and building automation
- Industrial automation
- Automotive
- Smart Appliances
- Asset tracking and management
- Retail and POS systems

# Industrial market expected outgrow personal area sensors

- Several technologies will co-exist in industrial internet, such as Bluetooth Smart, Wifi, Zigbee and Radio Frequency Identification
- We believe Bluetooth Smart is the wireless standard of choice for the Internet of Things, especially for personal applications (Morgan Stanley Research September 2013)
- Industrial internet will contribute USD 70 trillion to world GDP (General Electric)
- Smart factories, smart buildings and smart grid will be the most prominent (Cisco, 2013)



Logistics



Production and manufacturing



Indoor location



Payment systems



Agriculture

# Nordic Semiconductor - Cutting the wire



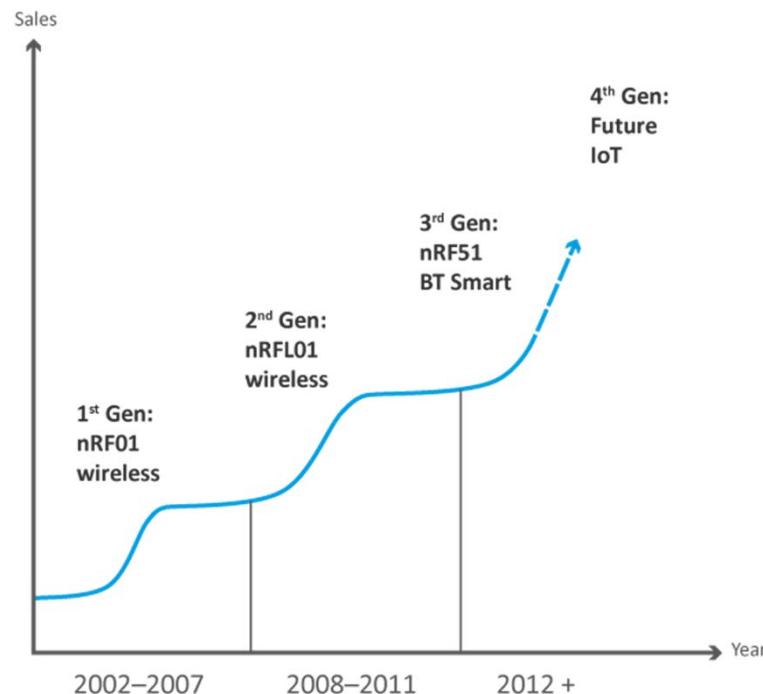
**The first  
1 Billion nRF ICs**

## 2003 to 2013

- Connecting things to PCs
- Connecting things to things
- All about things, not PCs or phones
- Cutting the wire
- Replacing legacy technologies
- Improving existing things
- 2.4GHz proprietary technology
- Ultra low power for prime cells

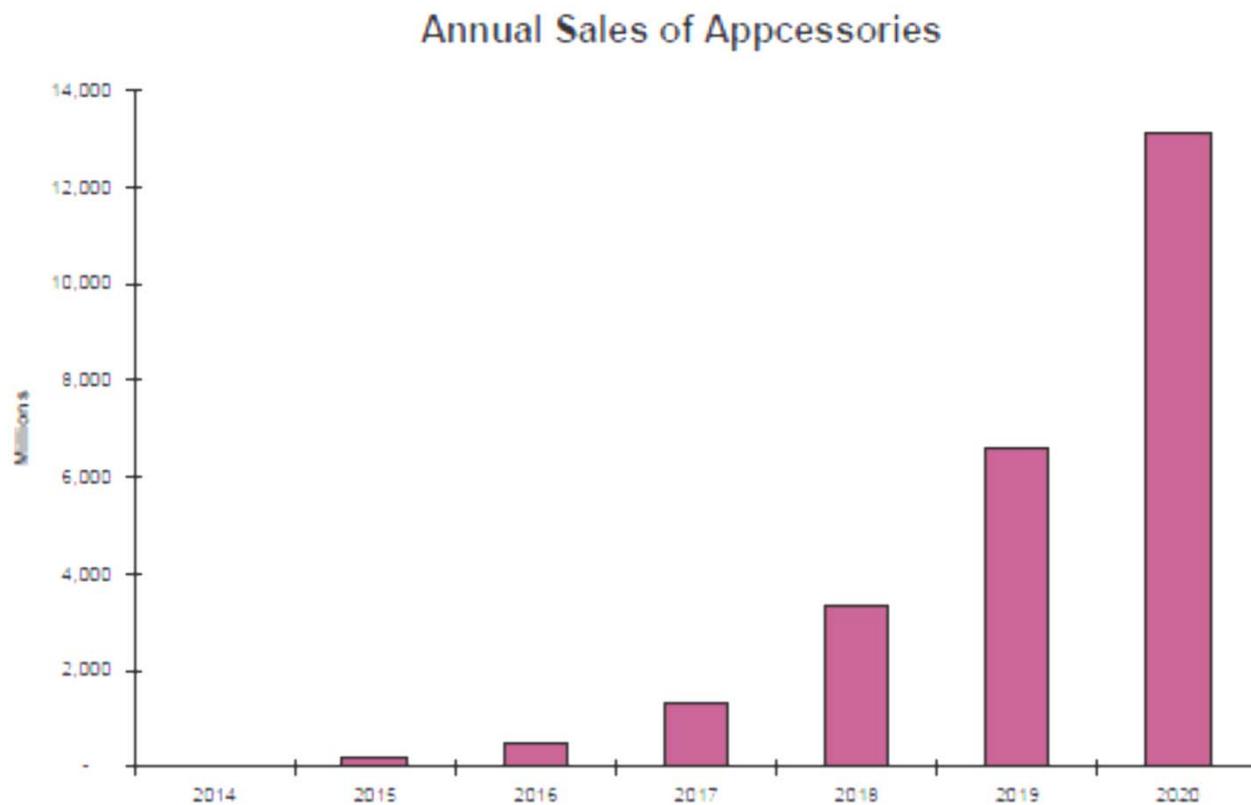
# Preparing for the next billion(s) of units

*The «Internet of Things» presents a vast long-term growth opportunity*



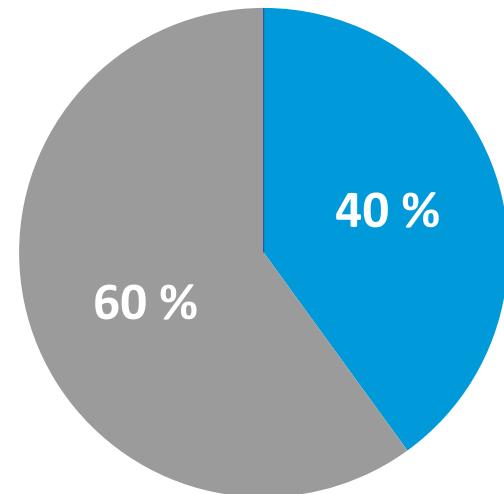
- Current growth wave will be driven by *Bluetooth Smart* technology, where Nordic has been investing since 2006
- Future growth wave will be driven by *Bluetooth Smart* and complementary technologies within the «Internet of Things»
- Nordic creating new programs for the next generation of opportunities
  - Technology portfolio
  - Strategic partnerships / acquisitions
  - Intellectual property
  - Staffing
  - Incentive programs

# Our market is growing fast



## Nordic's Target

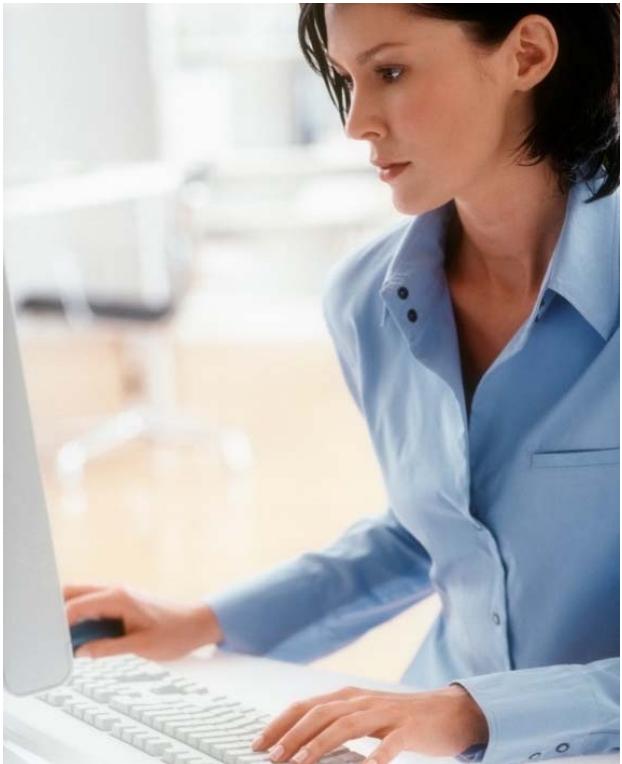
- Nordic targeted to become the dominant semiconductor vendor in this marketplace:
  - More than 40% market share thru:
    - Technology Leadership
    - Customer Support
    - Application Knowhow
  - Nordic is setting the standard for the competition
  - Maintain margins



# Nordic has a unique and established position



- Sole focus on ultra low power wireless
- Pioneer and leader with 2.4GHz since 2002
- Founding member of Wibree initiative
- First Bluetooth Smart solution in 2010
- Broad and leading customer base
- Visibility on customer needs
- Technology Leadership



# How we will expand on our leading market position



Geir Langeland, Director of Sales and Marketing

# Agenda

- Overview
- Market catalysts
- Segments
  - Current
  - Emerging

## Small company – wide footprint

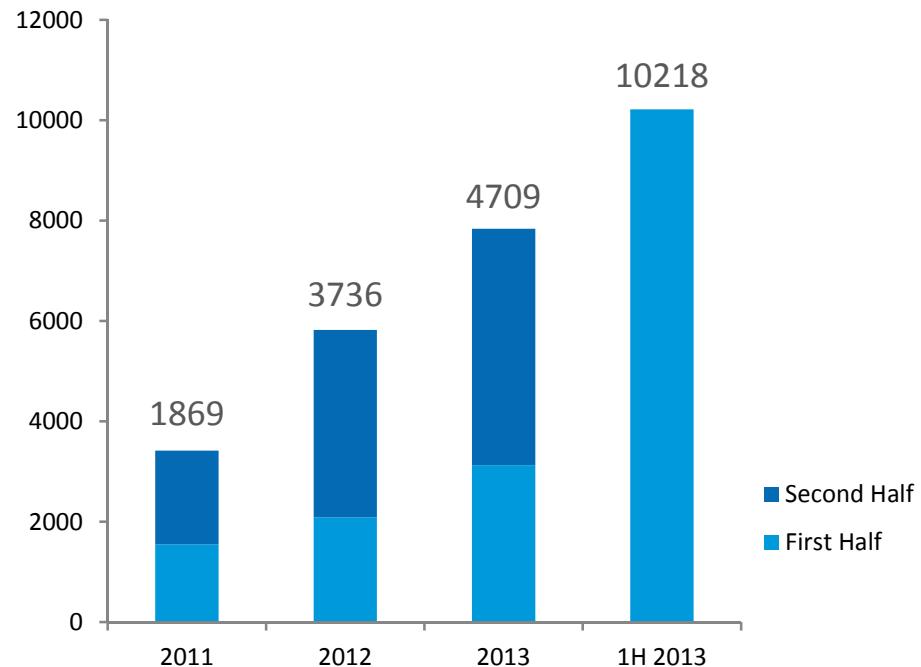
- Nordic uses standard semiconductor sales/distribution models
  - Scalability to track 1000's of customers
  - Extensive sales of small and affordable development kits through traditional distributors and online retailers
- Engage actively in hackathons, meetups, conferences, and exhibitions
- Cooperation with ARM® through mbed and academic programmes
- Dedicated geographical FAE teams



# Internet of Things is driving record sales of Nordic's development kits

*Sales of development kits (units)*

- Record high 10218 development kits sold in 1H 2014, with strong acceleration in Q2 2014
- Significantly more than all of the development kits sold last year
- Huge growth in demand for Bluetooth Smart development kits



## Market catalysts for new segments

- Samsung
  - S Health – health app that collects data from 3rd party devices
  - Simband – platform for cloud-sourced health tracking
  - Smart Home service – control home appliances, TV's, lights etc.
- Apple
  - HealthKit – health and fitness apps work together and share data
  - HomeKit – smart home control
  - WatchKit – smart watch app API
  - iBeacon – location services
- Google
  - Google Fit SDK – easier to build fitness apps and devices
  - Android Wear – smart watch development platform
  - Google owned Nest Labs one of founders of Thread Group
- Microsoft
  - HealthVault – cloud service for health data
  - Bing health and fitness app – app for health data



# HID

*Mouse, keyboard, stylus, remote and gaming*

## MARKET

- Nordic dominant in proprietary
- Bluetooth Smart readiness in PCs, tablets, smart phones
- Expect TVs, set top boxes and game consoles to follow

## NORDIC STRENGTHS

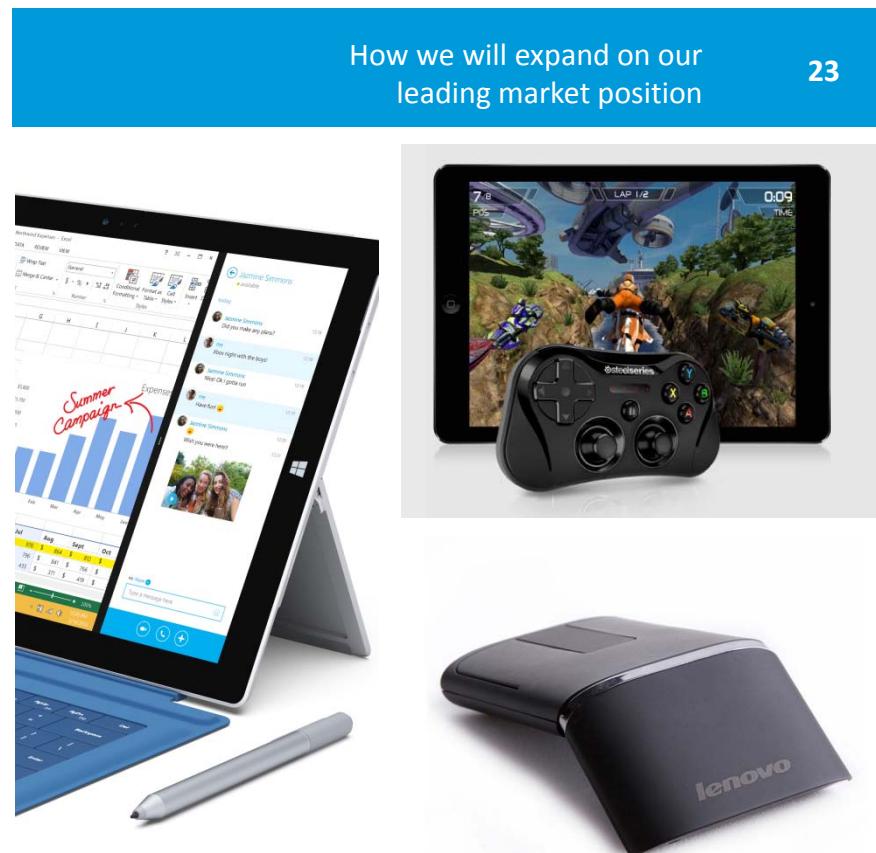
- Concurrent proprietary and Bluetooth Smart solution
- Cost effective single chip solution
- Ultra low power
- On chip flash for DFU – Device Firmware Update
- Mouse, keyboard & remote reference design

## EARLY ADOPTERS IN SEGMENT

- Logitech
- Microsoft
- Philips
- SteelSeries

How we will expand on our leading market position

23



# SPORTS

*Running, biking, gym, team sports*

## MARKET

- Nordic dominant in proprietary and ANT+
- Natural migration to smart phone connectivity
- ANT+ and Bluetooth Smart major drivers
- Traditional and new customers emerge

## NORDIC STRENGTHS

- Concurrent ANT+ and Bluetooth Smart
- Cost effective single chip solution for sensors
- Ultra low power
- On chip flash for DFU – Device Firmware Update

## EARLY ADOPTERS IN SEGMENT

- Suunto
- Wahoo
- Adidas
- Garmin

How we will expand on our leading market position

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## Adidas – Fit Smart

- Measures heart rate, calories, speed, pace, distance, and stride and sync with Bluetooth Smart Ready smartphones
- Eliminates the need for separate monitoring devices (heart rate-straps and pedometers)
- Nordic's multiple award-winning nRF51822 SoC enables the FIT SMART to run for up to five days on a single charge
- FIT SMART, SPEED\_CELL, XCELL and SMART BALL – All products from Adidas myCoach with Nordic inside

FOR IMMEDIATE RELEASE

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Phone: +47 22 51 10 62  
E-mail: Anne.Strand@nordicsemi.no  
Website: www.nordicsemi.com

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APPLICATION: SPORTS & FITNESS

adidas Fit Smart all-in-one wristband tracker measures heart rate, calories, speed, pace, distance, and stride in sync with Bluetooth Smart Ready smartphones

Employing Nordic Semiconductor nRF51822 Systems-on-Chips (SoCs) to provide real-time Bluetooth Smart wireless comms to the adidas miCoach app running on compatible iOS or Android Bluetooth Smart Ready smartphones, the adidas FIT SMART targets runners and fitness enthusiasts and eliminates the need for separate monitoring devices such as heart rate-straps and pedometers

Oslo, Norway – SEPTEMBER 12, 2014 – Ultra low power (ULP) RF specialist Nordic Semiconductor ASA (OSE: NQD) today announces that adidas has specified Nordic's multiple award-winning nRF51822 System-on-Chip (SoC) to provide the *Bluetooth<sup>®</sup> Smart* (formerly known as *Bluetooth low energy*) wireless synchronization to the adidas miCoach app running on any Bluetooth Smart Ready iOS or Android smartphone in the latest addition to the adidas miCoach digital fitness ecosystem: the adidas FIT SMART wristband tracker.

The adidas FIT SMART is a wrist-worn, real-time, wearable fitness tracker housed in a soft-touch silicon strap with a 17 x 11 LED matrix display, integrated accelerometer, and optical heart-rate sensor (mounted on the reverse of the display) that is designed to be an 'all-in-one' solution for runners, fitness enthusiasts, and athletes.



**fit smart**

# Fitness trackers

*Belt clip, wristbands, shoe pods*

## MARKET

- First major mobile accessory to adopt Bluetooth Smart
- Evolved from sports-related products for athletes to the broad consumer market for monitoring healthy lifestyle
- Data sharing across social networks
- Corporate, Insurance and government initiatives

## NORDIC STRENGTHS

- Early solution for connectivity - nRF8001
- Small footprint - 3.6x3.8mm solution and minimum of external components with nRF51 Series
- On chip flash for DFU – Device Firmware Update
- Power consumption

## EARLY ADOPTERS IN SEGMENT

- Fitbit
- Jawbone
- Nike
- Fitlinxx
- Garmin

How we will expand on our leading market position

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# Beacons

*Proximity, advertising, location*

## MARKET

- 1st wave of proximity tags in 2013/14
- 2nd wave based on beacons for retail/info
- 3rd wave expected around positioning & payment

## NORDIC STRENGTHS

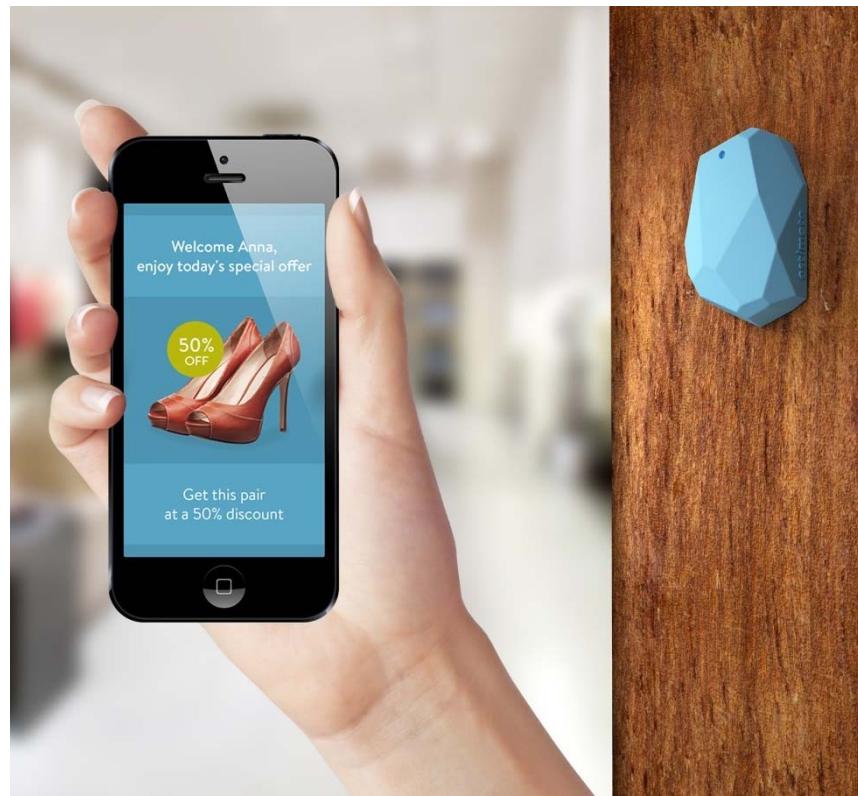
- Single chip solution – nRF51822
- Power consumption
- Partner network for HW& SW solutions (ODM's)
- Nordic beacon reference design

## EARLY ADOPTERS

- Sticknfind
- Tile
- Estimote
- Kontakt

How we will expand on our leading market position

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## Beacons -Estimote

- One of the most recognized beacon brands
- Low price points
- Wants to pioneer “Nearables” with new sticker beacon hardware
  - Tag objects
  - Location
  - Temperature
  - Motion

FOR IMMEDIATE RELEASE

Marketing contact: Anne Strand  
Phone: +47 22 51 10 62  
E-mail: Anne.Strand@nordicsemi.no  
Website: www.nordicsemi.com

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**APPLICATION: BEACONS**

Latest Estimote beacons called 'Stickers' create brand new 'nearables' tech category using Nordic Semiconductor Bluetooth Smart wireless technology

Estimote Stickers are small, low cost (sub-\$10) beacons with built-in accelerometers and temperature sensors that are designed to be stuck on everyday objects nearby (that Estimote calls "nearables") to provide contextual and microlocation data to apps running on any Bluetooth Smart Ready device and thus drive growth in what's been dubbed the 'Internet of Things'

Oslo, Norway – SEPTEMBER 12, 2014 – Ultra low power (ULP) RF specialist Nordic Semiconductor ASA (OSE: NOD) today announces that beacon specialist, Estimote, has specified Nordic's multiple award-winning nRF51822 SoCs to provide the *Bluetooth*<sup>®</sup> Smart (formerly known as *Bluetooth* low energy) wireless connectivity in its newly launched Estimote Stickers that are said to herald the arrival of a brand new



## Beacons - Kontakt.io

- Wide deployment
- OEM strategy - branding
- Cloud based platform
- Corporate customer focus eg:
  - Parking
  - Shop installations
  - Airports
  - Gas stations
  - Coffe shops

FOR IMMEDIATE RELEASE

Marketing contact: Anne Strand  
Phone: +47 22 51 10 62  
E-mail: Anne.Strand@nordicsemi.no  
Website: www.nordicsemi.com

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APPLICATION BEACONS

**Cloud beacon platform eliminates need for hardware design and employs Nordic Semiconductor Bluetooth Smart wireless technology**

The Cloud Beacon platform from Polish startup, Kontakt.io, is delivered pre-integrated to customers and is said to require only a simple hardware set-up procedure with each beacon then monitored via the cloud

Oslo, Norway – SEPTEMBER 12, 2014 – Ultra low power (ULP) RF specialist Nordic Semiconductor ASA (OSE: NOD) today announces that Polish startup, Kontakt.io, has specified the multiple award-winning Nordic nRF51822 Systems-on-Chips (SoCs) to provide the *Bluetooth Smart*® (formerly known as Bluetooth low energy) wireless connectivity in Kontakt.io's Cloud Beacon pre-integrated beacon hardware platform.

Kontakt.io says its Cloud Beacon platform will eventually include a wearable rubber wristband option (that will also incorporate Nordic wireless technology) for tracking people such as children in schools or while out on a school day trip, healthcare patients, and workers in manufacturing facilities for health and safety purposes.

In operation, Kontakt.io works with its customers to custom-build the beacon hardware infrastructure required for their particular application (right down to the beacon casing design, color, and logo branding). Kontakt.io says these beacons are then delivered as ready-to-go devices that are as easy to configure as sending an email from a web browser.



# Healthcare/Medical Monitors

*Blood glucose & pressure, SPO2, weight, vitals*

## MARKET

- Long development cycles and FDA approvals
- Large potential due to diabetes epidemic and outpatient/elderly care
- Predominantly Bluetooth Smart technology for phone connectivity

## NORDIC STRENGTHS

- Robust and reliable SW framework
- 3.6x3.8mm solution with minimum of external components – nRF51822
- On chip flash for DFU – Device Firmware Update

## EARLY ADOPTERS IN SEGMENT

- Lifescan
- iHealth Labs
- Nonin
- A&D Medical

How we will expand on our leading market position

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# Toys and games

*Remote control, gameplay with connectivity*

## MARKET

- Proprietary in traditional RC toys
- Bluetooth Smart technology used for connectivity
- Leading toy companies can generate revenue through new smart phone platform and still sell hardware as before

## NORDIC STRENGTHS

- Proprietary and Bluetooth Smart roadmap
- Cost effective single chip solution for system
- On chip flash for DFU – Device Firmware Update
- Low power consumption

## EARLY ADOPTERS IN SEGMENT

- ANKI
- Scalectrix
- Parrot
- Sphero

How we will expand on our leading market position

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# SMART HOME AND INDUSTRIAL AUTOMATION

## *Sensors, security, light control, locks*

### MARKET

- Early adopters betting on Zigbee, WiFi, Zwave or proprietary
- New implementations trending towards Bluetooth Smart due to phone connectivity as well as low power and cost effectiveness
- Large players starting to engage – creates momentum

### NORDIC STRENGTHS

- Cost effective single chip solution for system
- Low power
- On chip flash for DFU – Device Firmware Update future proofs solutions
- Flexible architecture allows for advanced network topologies

### EARLY ADOPTERS IN SEGMENT

- Nest
- Philips
- Belkin
- Honeywell

How we will expand on our leading market position

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# WIRELESS CHARGING

## *Chargers for phones & wearables*

### MARKET

- Rezence™ (A4WP) standard uses Bluetooth Smart technology to control charge session
  - Spatial freedom and multiple devices
- First deployment expected in 2015

### NORDIC STRENGTHS

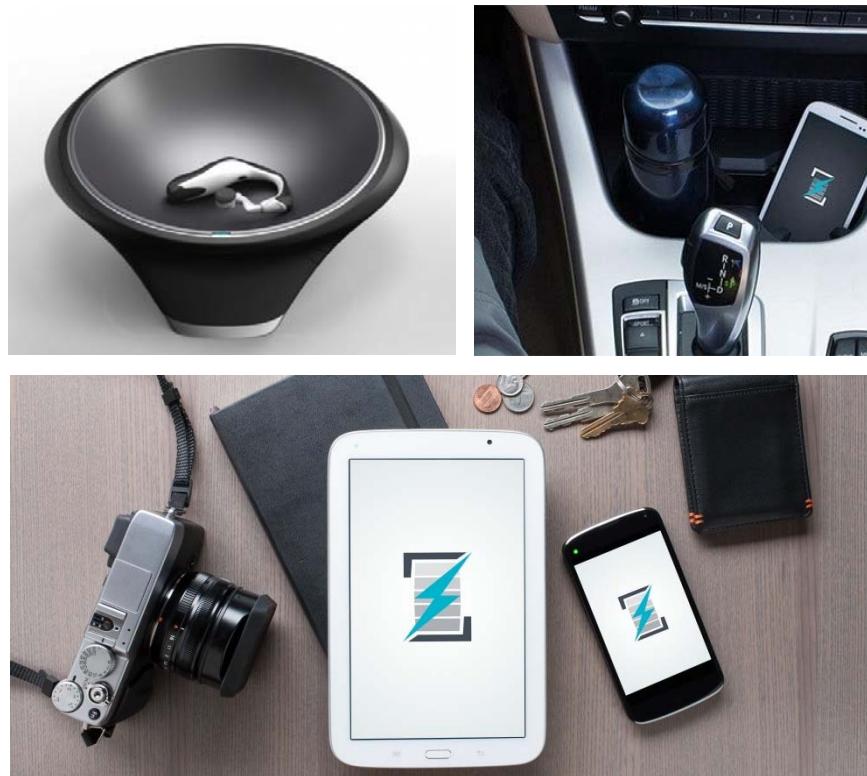
- Cost effective single chip solution for system
- On chip flash for DFU – Device Firmware Update future proofs solutions
- Supports 8 devices charging at the same time

### EARLY ADOPTERS IN SEGMENT

- Rezence™ (A4WP) backed by leading players
  - Samsung
  - HTC
  - Intel
  - LG

How we will expand on our leading market position

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# MONITORS

*Pet trackers, kids & babies*

## MARKET

- In its infancy now – spending on pets escalating
- Bluetooth Smart connectivity and low cost gps important for several of these applications
- New generation of baby monitors

## NORDIC STRENGTHS

- Leading system architecture
- Power consumption
- On chip flash for DFU – Device Firmware Update future proofs solutions

## EARLY ADOPTERS IN SEGMENT

- Tractive
- Whistle
- Mimo
- BeLuvv

How we will expand on our leading market position

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# CONNECTED APPLIANCES

*Refrigerators, coffee makers, dishwashers*

## MARKET

- Technology around for long time - expensive
- Early implementations predominantly WiFi
- Bluetooth Smart connectivity enables lower cost implementations

## NORDIC STRENGTHS

- Cost effective
- Single chip solution for simple non display systems
- On chip flash for DFU – Device Firmware Update future proofs solutions

## EARLY ADOPTERS IN SEGMENT

- Samsung
- Nespresso
- Whirlpool
- LG

How we will expand on our leading market position

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# WEARABLES

*Hearing aids, watches, clothing, jewelery*

## MARKET

- Emerging market enabled by new technology
- Bluetooth Smart enabling unlimited opportunities
- Discrete convenience
- Fashionable technology

## NORDIC STRENGTHS

- Small footprint - 3.6x3.8mm solution and minimum of external components with nRF51 Series
- On chip flash for DFU – Device Firmware Update
- Power consumption
- Low cost

## EARLY ADOPTERS IN SEGMENT

- GN Resound
- Pebble
- Samsung
- Netatmo

How we will expand on our leading market position

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# Connected Watch Connectedevice

- Classic analog watch with connectivity features
- Long battery life
- Leading developer of wearables and award-winning Bluetooth Smart watches.
- Mobile payment (mPayment) solutions for wearable devices
- Winning value proposition through enhanced convenience, durability and security
- Will decrease cost, complexity and risk of implementing wearable mPayment




**Nordic Semiconductor and CONNECTEDEVICE Join Forces On Ultra-Low Power Wearable mPayment Solutions**

*The partners aim to deliver convenient and secure mobile payment solutions to consumers with Bluetooth® Smart enabled wearables*

**Oslo and Hong Kong, 11 September 2014** — Ultra-low power (ULP) RF specialist Nordic Semiconductor and wearables pioneer CONNECTEDEVICE jointly announce an extended cooperation on the development of mobile payment solutions for wearable devices. The two companies will work closely together to integrate Nordic's Bluetooth® Smart technology into CONNECTEDEVICE's mPayment-enabled wearable product range.

For other technology manufacturers and industry players, this collaboration between Nordic and CONNECTEDEVICE will decrease the cost, complexity and risk of implementing wearable mPayment solutions through the combined strength of the two companies. Both flexible and robust, this complete solution promises to be a winning value proposition for wearables.



# AUTOMOTIVE

*Keyless entry, remote start, infotainment, diagnostics*

## MARKET

- Currently dominated by proprietary low freq. keyless
- Bluetooth Smart creating new opportunities for integration with smart phone
- Use phone as remote, or remote to control phone e.g. GPS

## NORDIC STRENGTHS

- Low power
- Single chip

## EARLY ADOPTERS IN SEGMENT

- BlueID
- Bluetooth Keyless
- Cobra
- Automatic

How we will expand on our leading market position

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# RF ID AND TRACKING

## *Fleet management, parcels, containers, access & presence*

## MARKET

- Today served by multiple wireless standards
  - Cellular
  - NFC
  - Sub 1 GHz
- Bluetooth Smart offers alternative with longer range and tablet/smart phone connectivity

## NORDIC STRENGTHS

- Wide selection of IC's
- Low power
- Single chip

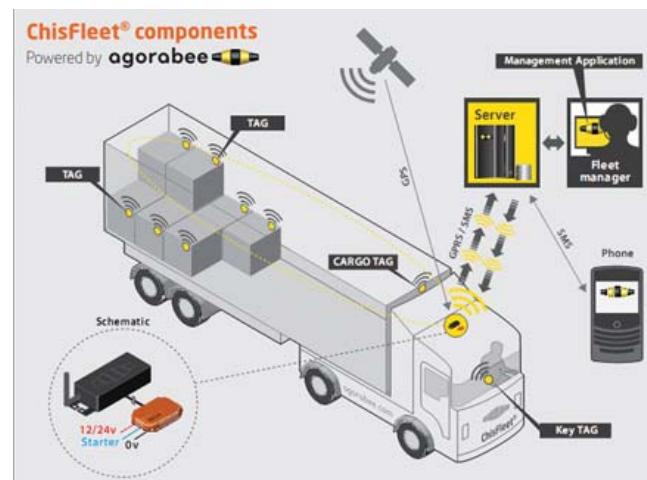
## EARLY ADOPTERS IN SEGMENT

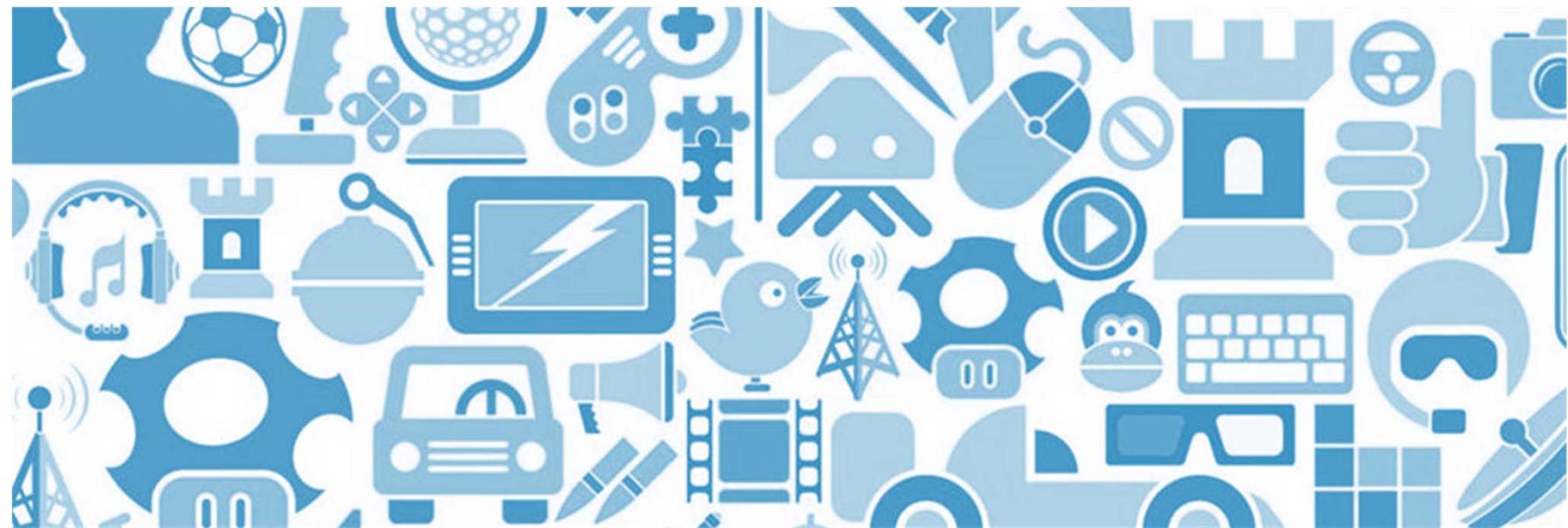
- AgoraBee
- mesh

## How we will expand on our leading market position



# //mesh





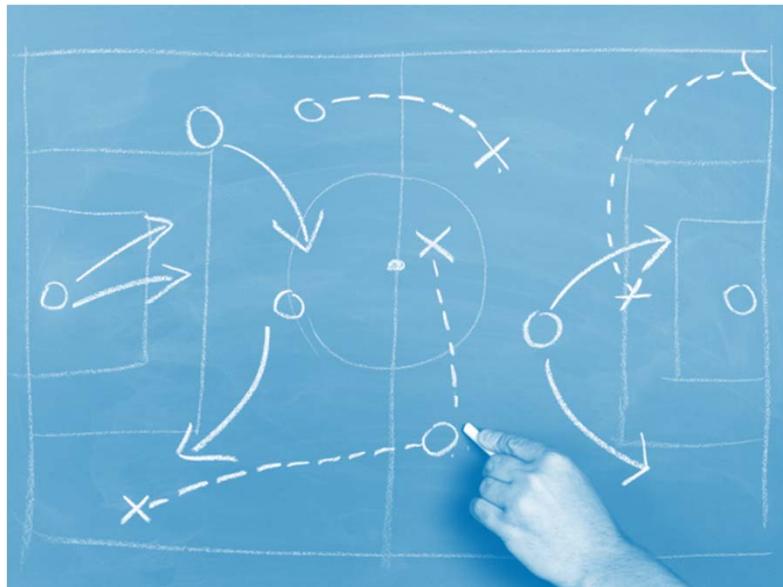
# Competitive Edge

# Capital Market Day, New York City, September 15 2014

Thomas Embla Bonnerud, Director of Product Management



# Introduction



Competitive landscape

Our history and current position

Customer selection criteria's

Competitive differentiation

Products, services and company

How can we compete moving forward



Competitive landscape

Selection criteria's

Maturity and ease of adoption

Features, power and performance

Cost structure

Maintaining and strengthening our edge



## Competitive landscape

Selection criteria's

Maturity and ease of adoption

Features, power and performance

Cost structure

Maintaining and strengthening our edge

## Very competitive landscape for Bluetooth Smart



Nordic first to market in 2010

All recognizing the opportunity

Big and established companies

Small and emerging companies

Connectivity and microcontroller

A handful left in 3-5 years

Nordic to remain the leading vendor

## nRF51 Series was disruptive in 2012



- *Bluetooth® Smart SoC*
- Cortex-M Processor
- Embedded flash
- Protocol and application separation
- Over-the-air firmware updates
- Ultra low power and high performance

The new benchmark

.. on IC and software architecture

Ease of use

Level of integration – single chip

Developers love it

Our 2'nd generation Bluetooth Smart

Competitors still trying to catch up



Competitive landscape

## Selection criteria's

Maturity and ease of adoption

Features, power and performance

Cost structure

Maintaining and strengthening our edge

## Customer selection criteria's



Beyond the elevator pitch

Customer engineers are key

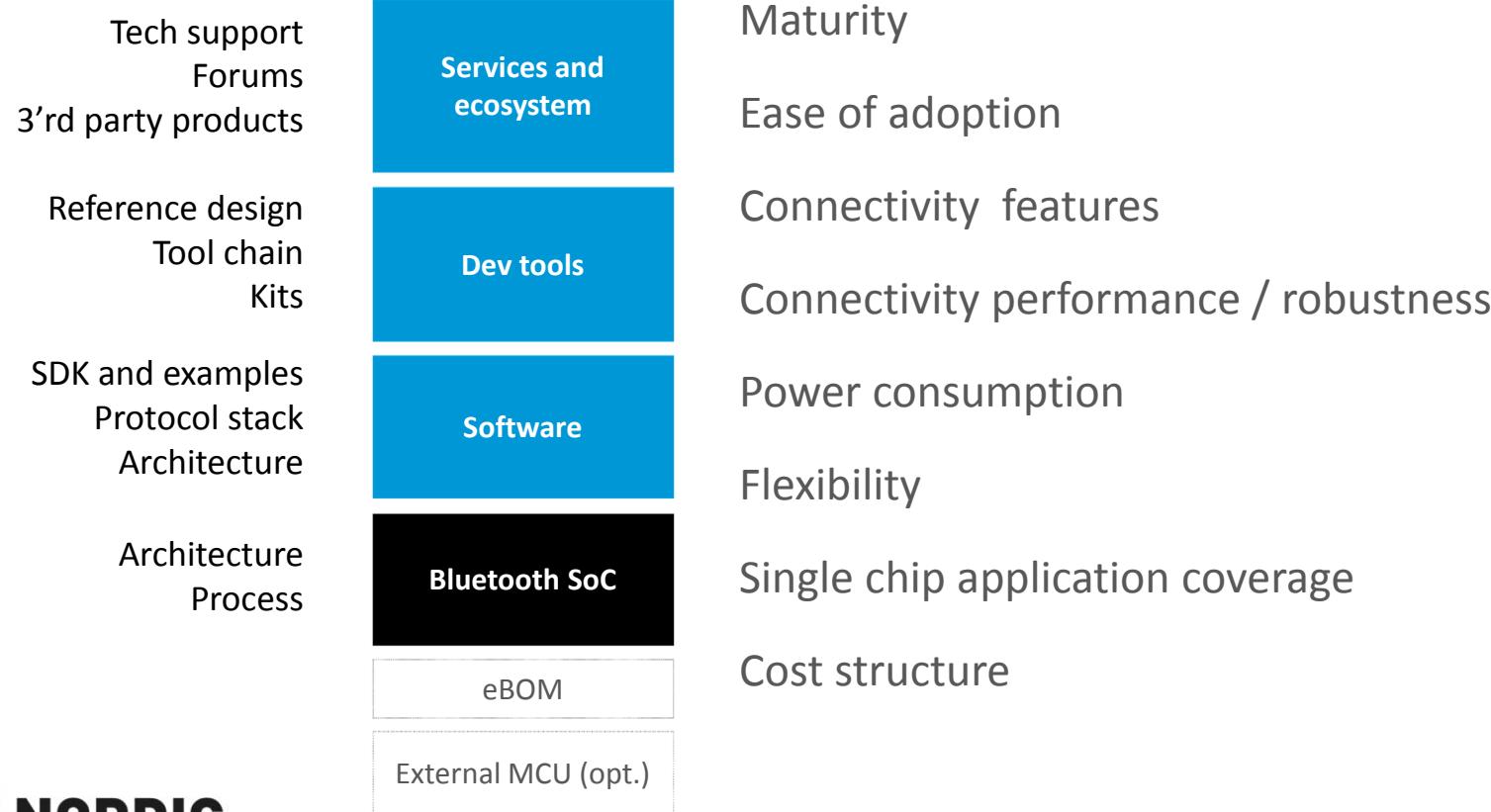
8 key selection criteria's

Compare Nordic vs. competition

Diversified set applications and customers

Variation in priorities

## 8 key criteria's and solution overview





Competitive landscape

Selection criteria's

**Maturity and ease of adoption**

Features, power and performance

Cost structure

Maintaining and strengthening our edge

# Maturity is #1 selection criteria



Immature solution = risk for customer

Known and unknown technical issues

Functional, performance and reliability

Development schedule and resourcing

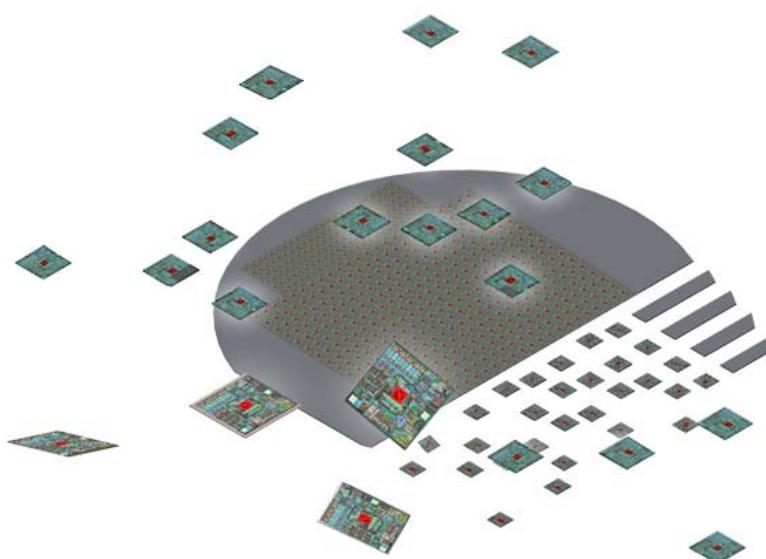
End product features, performance

End product quality

Products are not mature at launch

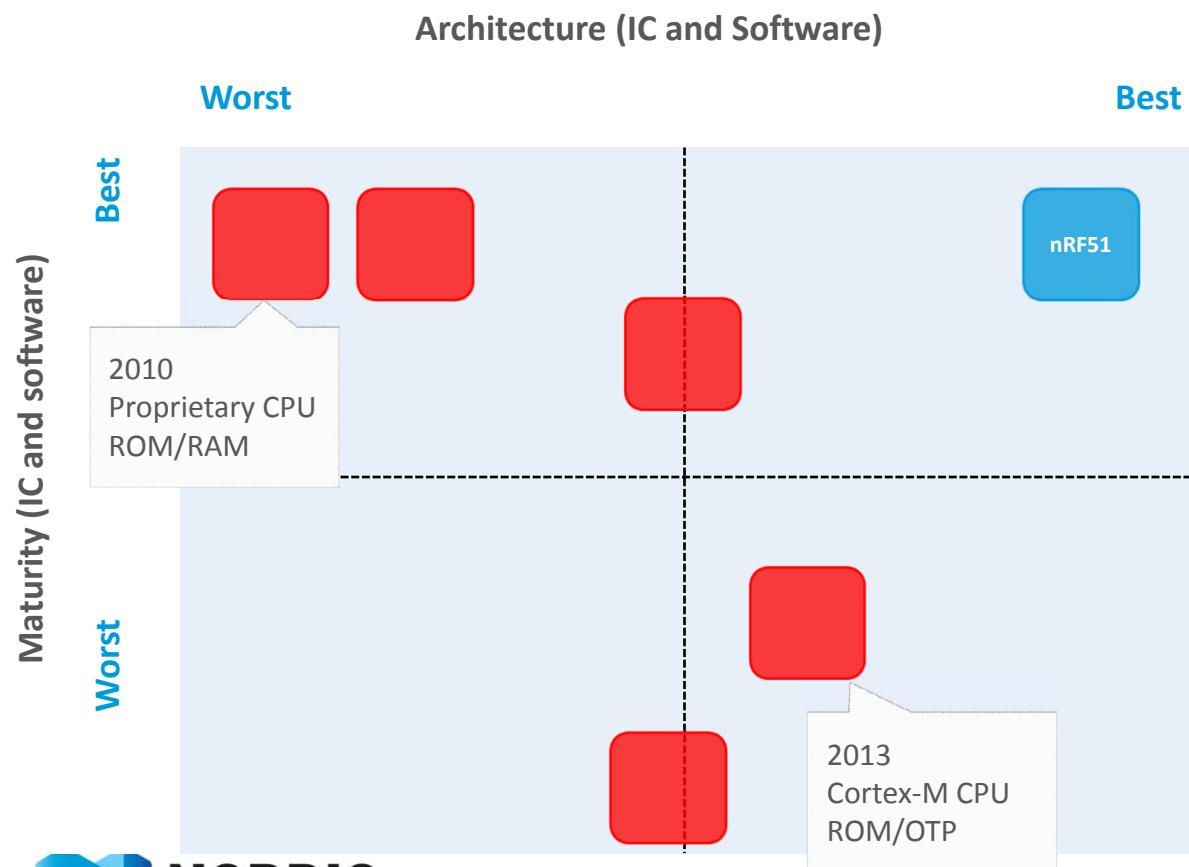
IC revisions and firmware updates

## Maturity and Intel's 'Tick-Tock' model



- IC architecture and process is fundamental
- Defines features, performance and power
- Major advancement require change
- Change impacts maturity
- 'Tick-tock' - change one at the time
- IC architecture often affect software

# Maturity vs. architecture



- Known and unknown technical issues
- Functional, performance, reliability

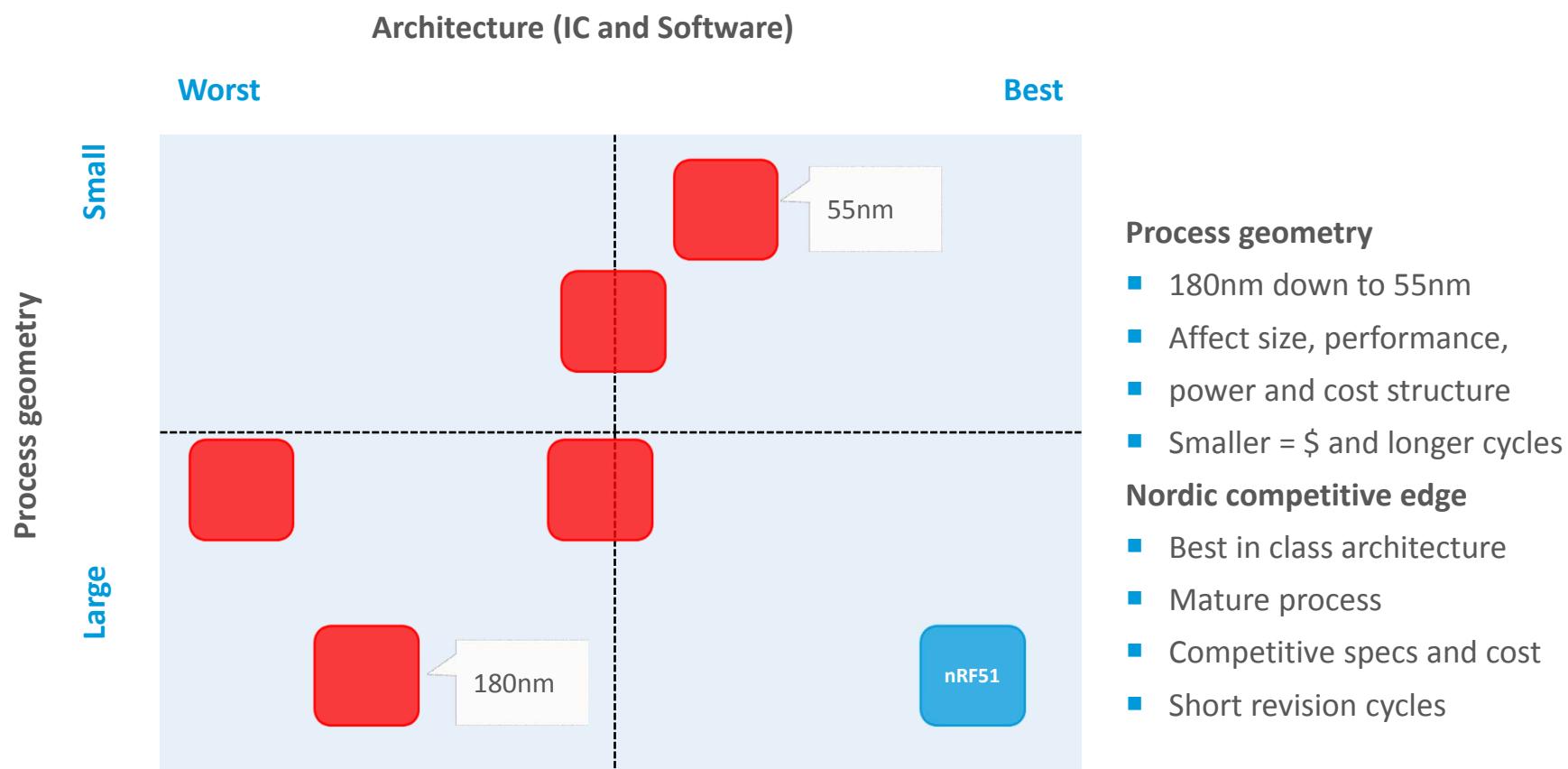
## IC and Software Architecture

- Processor, peripherals and memory
- Modular, stack/app separation
- Programming model
- Flexibility and application coverage

## Nordic competitive edge

- Mature solution (2 years)
- Cortex-M Embedded flash
- Continuous improvement of software

# Process vs. architecture

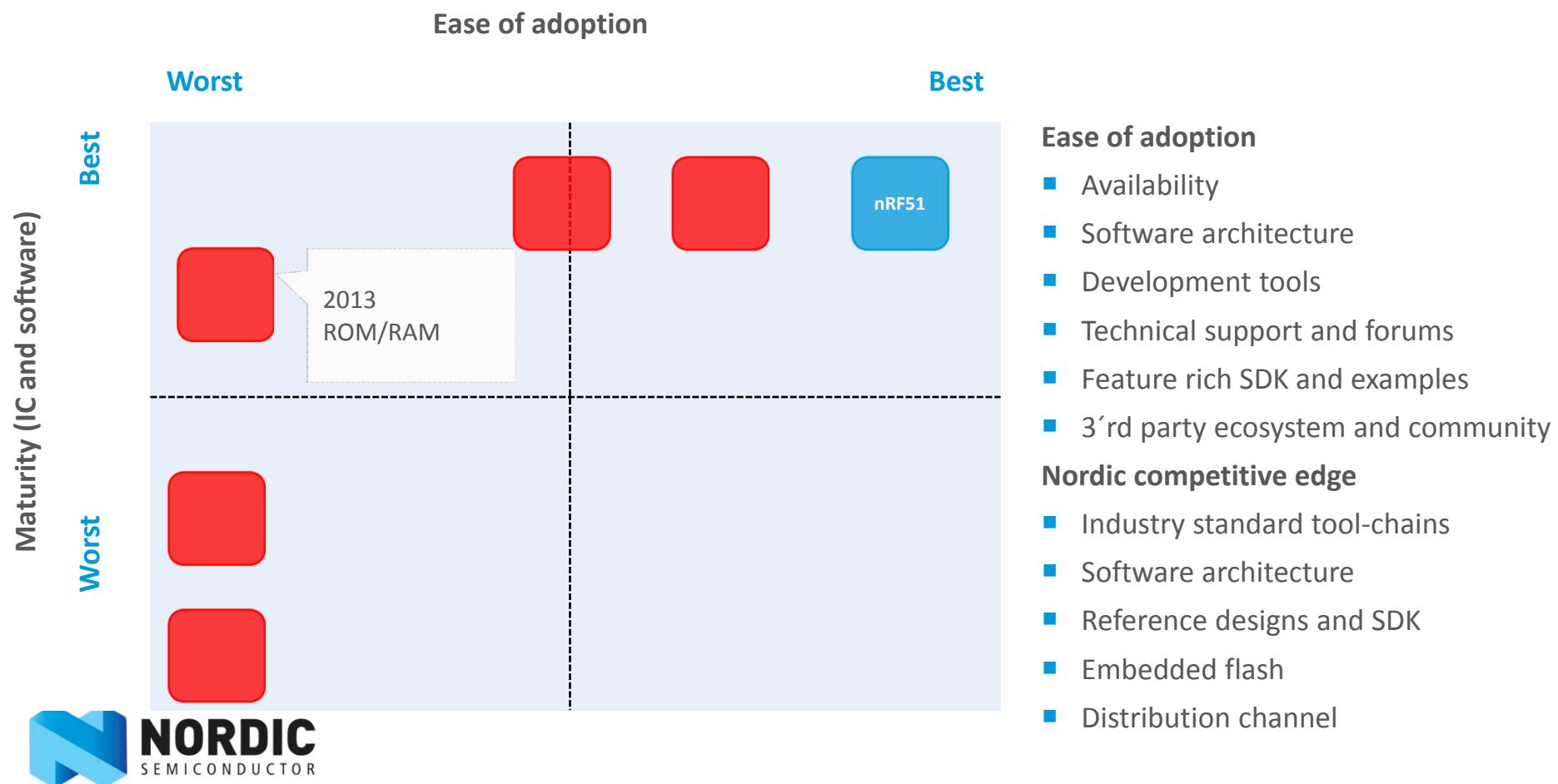


## Ease of adoption is more important than ever



End product complexity increasing  
Especially software  
Design cycle shortening  
Minimize development schedule  
Minimize development resourcing  
Best possible end product

## Maturity vs. ease of adoption





Competitive landscape

Selection criteria's

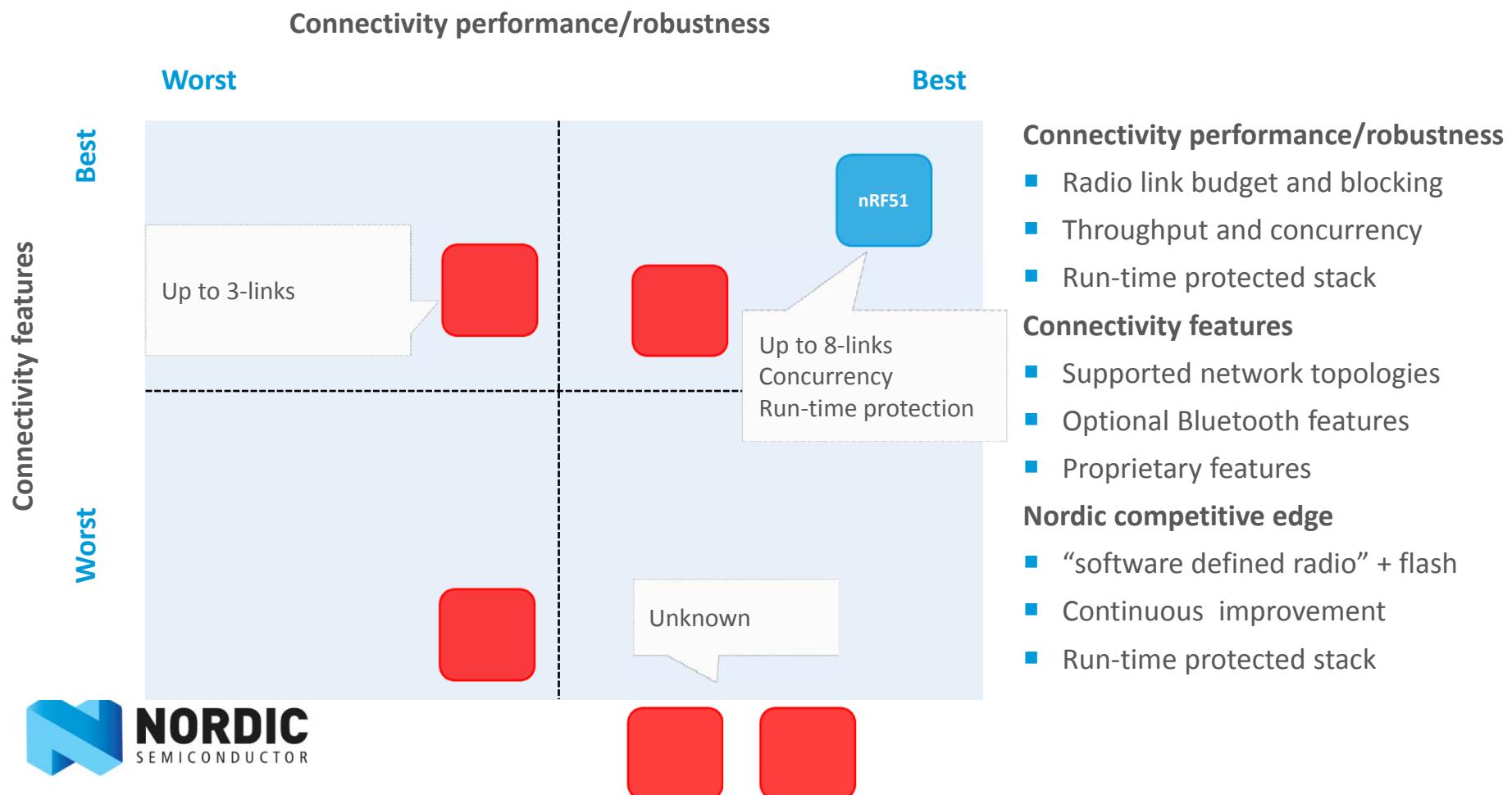
Maturity and ease of adoption

**Features, power and performance**

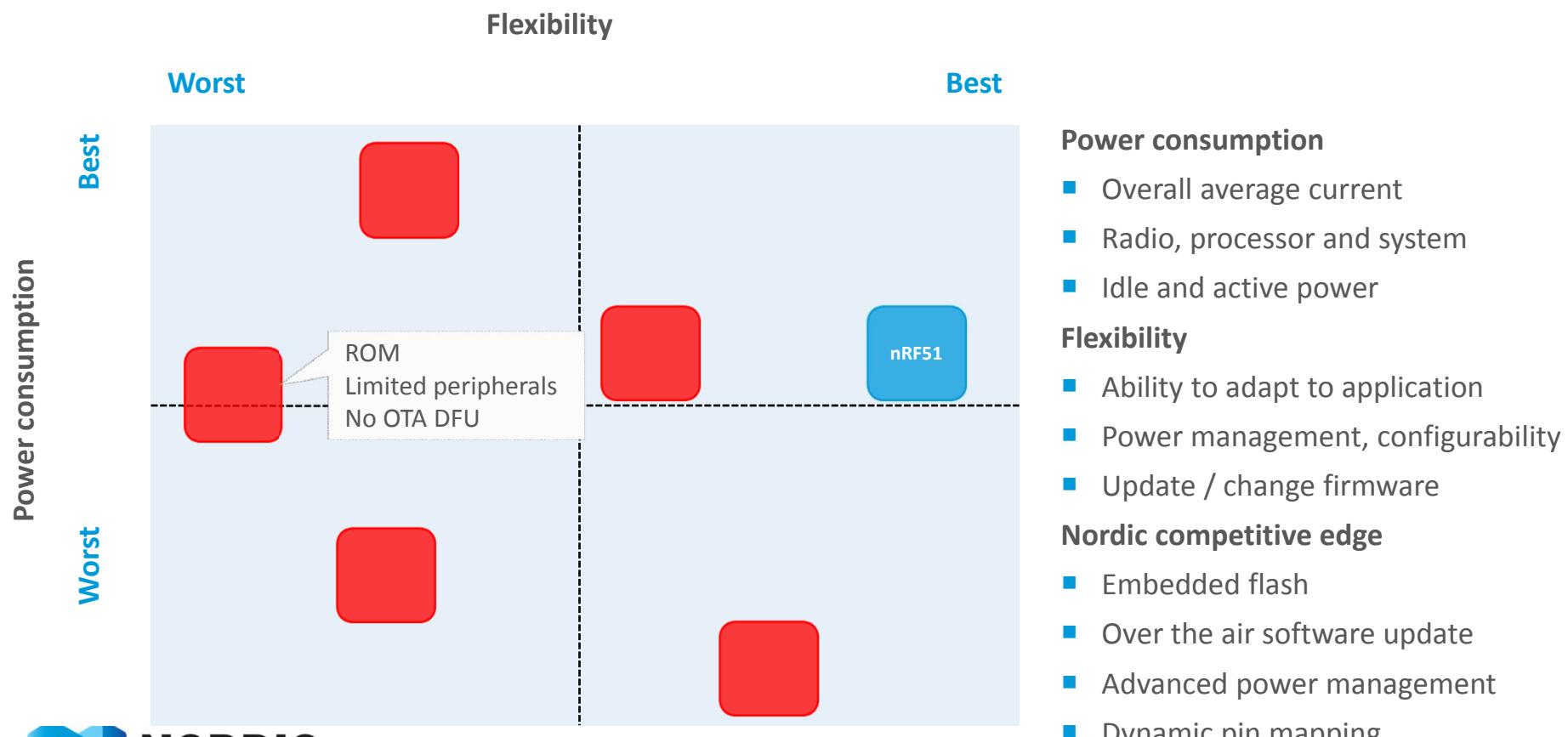
Cost structure

Maintaining and strengthening our edge

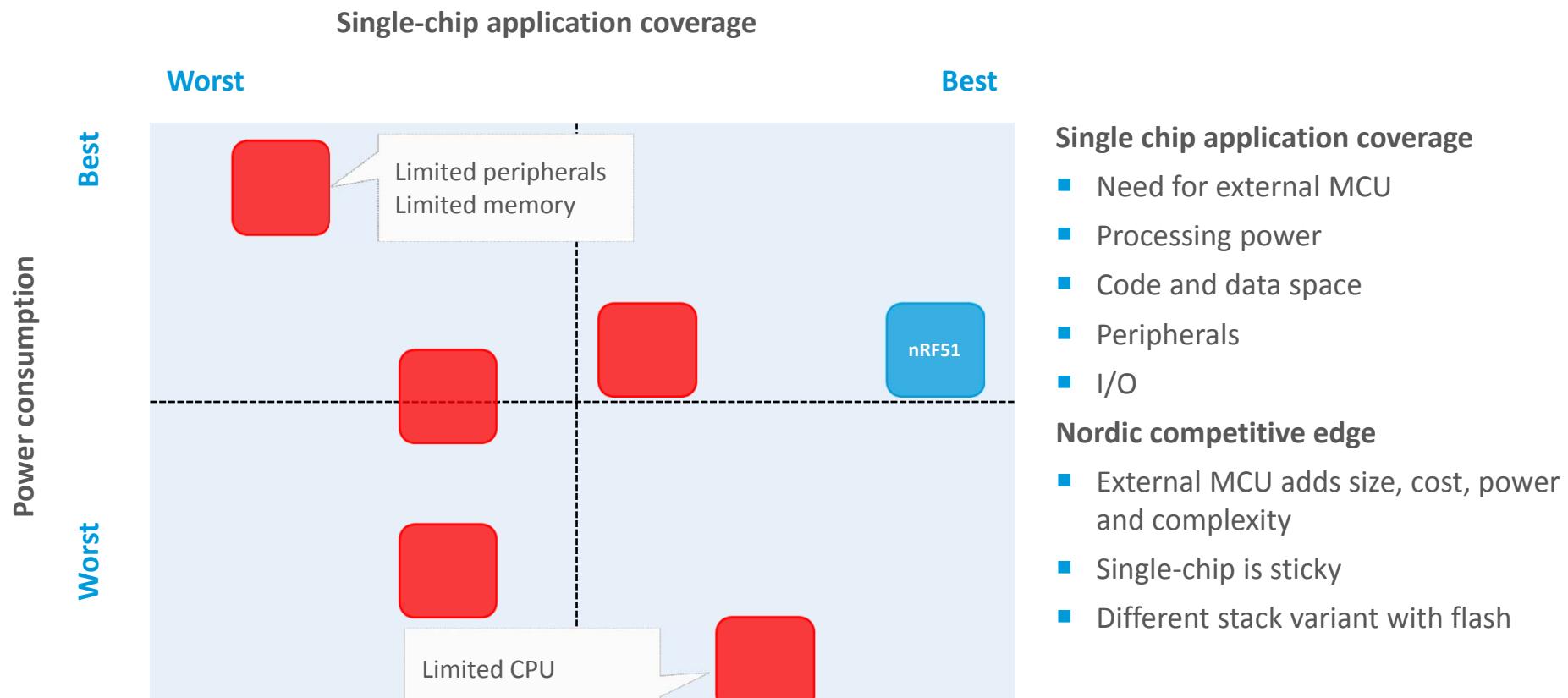
# Connectivity features vs. performance/robustness



# Power consumption vs. flexibility



# Power consumption vs. single chip application coverage





Competitive landscape

Selection criteria's

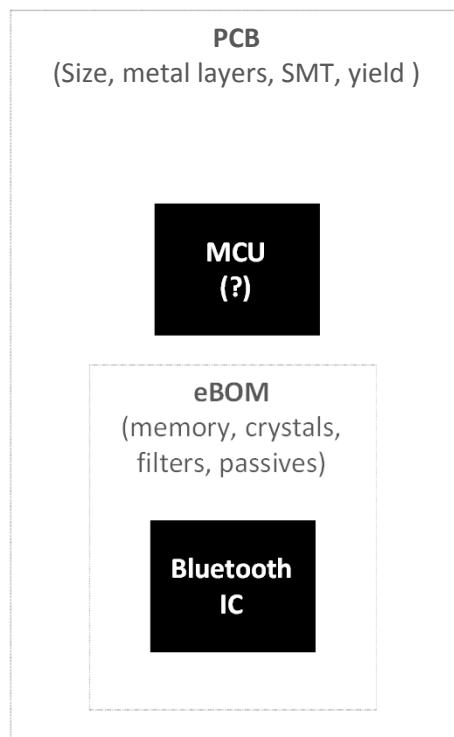
Maturity and ease of adoption

Features, power and performance

**Cost structure**

Maintaining and strengthening our edge

# Lots of apple and oranges



Total bill-of-materials is key

More than the IC cost

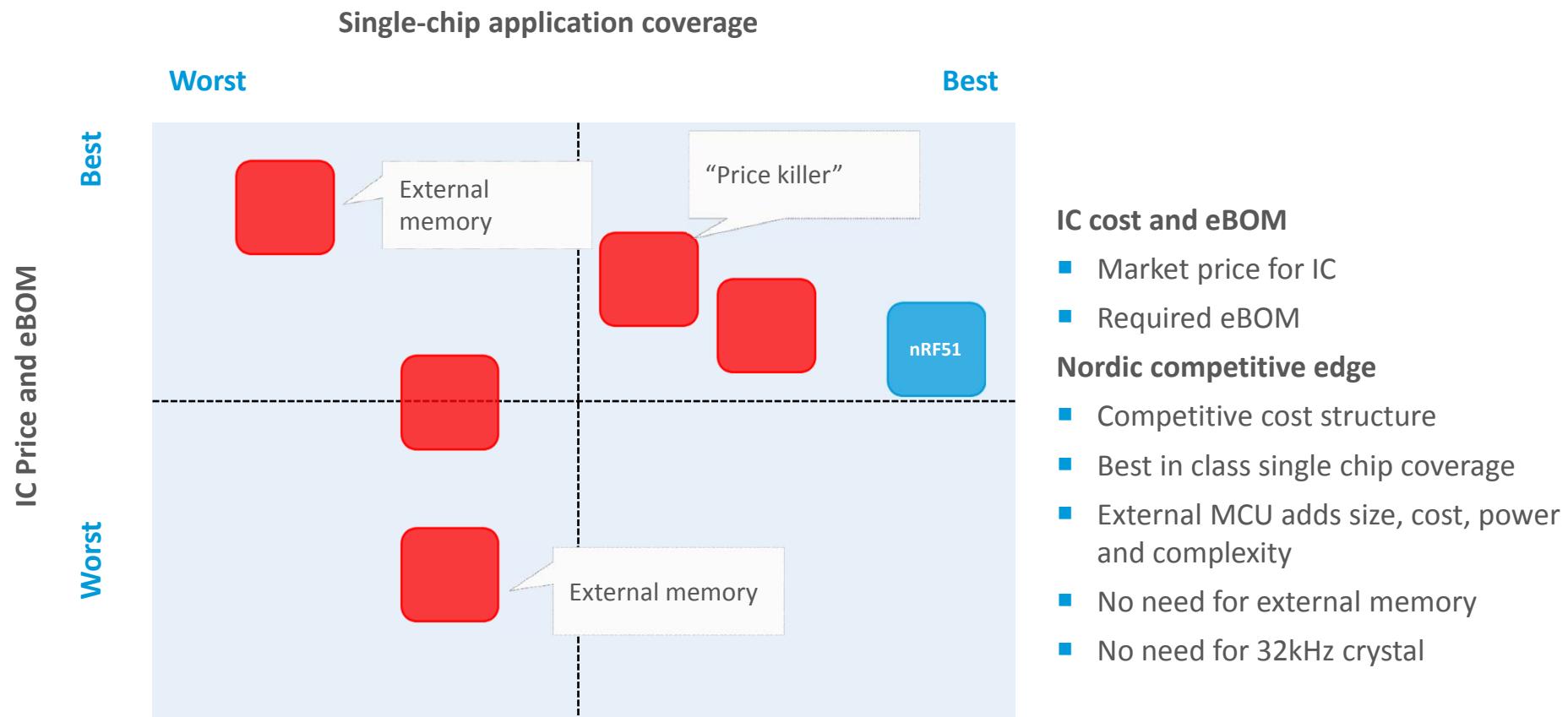
Sometimes application dependent

Sometimes feature dependent

Cost of ownership

Software changes

# IC cost and eBOM vs single chip application coverage





Competitive landscape  
Selection criteria's  
Maturity and ease of adoption  
Features, power and performance  
Cost structure  
**Maintaining and strengthening our edge**

## Strengthening our leadership moving forward



- Established and leading position
- Market and technology
- Powerful and fine-tuned organization
- Unique market insight
- Rapid advancements on software
- ‘Tick’ next generation IC

# Powerful and fine-tuned organization



One of the biggest teams on Bluetooth Smart  
Experienced, focused and dedicated  
R&D, Tech support, FAEs and sales  
Proven track-record > 15 years with RF  
In-house software and IC design  
Scalable - engineering talent in Scandinavia  
Off the shelf business model

## Unique insight into customer/market needs



Broad and leading customer base

Long term relationships

Deep engagements

Connectivity and application

Short term and long term view

> 10 years market experience

Build the 'right' products

# Continuous and rapid advancements on software for nRF51

ANT™ Single chip ANT™ ICs/solutions		
2.4GHz RF Ultra low power 2.4GHz RF ICs/solutions		
Sub 1-GHz RF Low power sub 1-GHz RF ICs/solutions		
		
		
PRODUCT SPECIFICATION		
Code	Name	Version
nRF51822-PAN	nRF51822 Product Anomaly Notification (PAN)	1
nRF51822-PS	nRF51822 Product Specification	1
PCH-082	This PCN describes the changes in build codes QFAAGO, QFA880, and CEAADO.	1
PCH-083	Calibration of Radio Deviation	1.1
PCH-085	nRF51822 alternate assembly site notice	1.0
PCH-086	Change in Seven Inch Plastic Reel	1.0
PCH-088	Second source assembly process for QFN variants	1.0
PCH-089	Second source wafer fabrication	1.0
PCH-091	Second source wafer burn process for CSP variants	1.0
S110-SDS	nRF51822 S110 SoftDevice Specification	1
S120-SDS	nRF51822 S120 SoftDevice Specification	1
S130-SDS	S130 nRF51822 SoftDevice Specification	1
REFERENCE MANUAL		
Code	Name	Version
nRF51-RM	nRF51 Series Reference Manual	1
SOFTDEVICES		
Code	Name	Version
S110-SD-v5	S110 nRF51822 SoftDevice (Production ready)	1
S110-SD-v6	S110 nRF51822 SoftDevice (Production ready)	1
S110-SD-v7	S110 nRF51822 SoftDevice (Production ready)	1
S120-SD	S120 nRF51822 SoftDevice (Production ready)	1
S130-SD	S130 nRF51822 SoftDevice (alpha)	1
SOFTWARE		
Code	Name	Version
nRF-MCP-x64	Master Control Panel with Master Emulator API (64-bit)	1
nRF-MCP-x86	Master Control Panel with Master Emulator API (32-bit)	1
nRF-Sniffer	nRF Sniffer (First Production release) - PC Software and Device Firmware that allow you to see all Bluetooth low energy packets on the air between two devices.	1
nRF51-BLE-Driver	nRF51 Bluetooth Smart GATT/GAP driver for Windows. Used to set up and interact with BLE on an nRF51 device with connectivity firmware and S110 SoftDevice.	1
nRF51-SDK-zip	nRF51 SDK Zip File	1
nRF51-Tools	nRF51 toolset installer (JLinkARM, JLink CDC, nRFjprog, and mergehex)	1

Speed, speed, speed!

Features, performance and power

Single-chip application coverage

Flexibility and ease of adoption

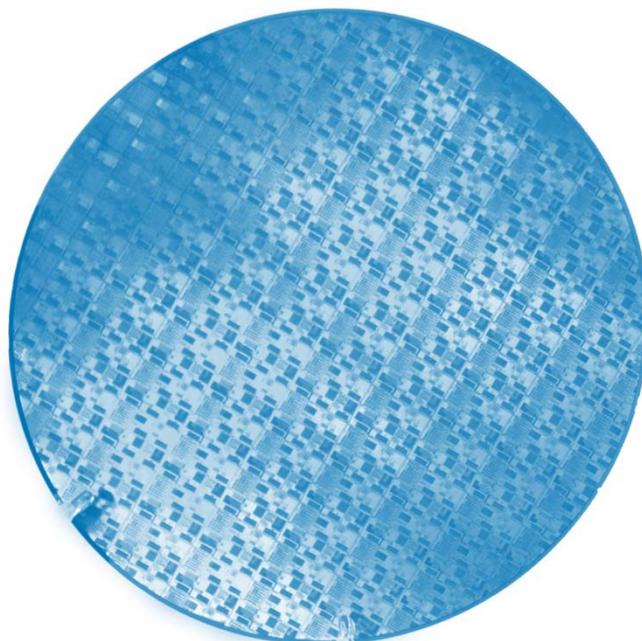
Maturity

Enabled by flash and IC architecture

Competitors need to spin ROM

Competitors have IC constrains

## Unique position to 'Tick' next generation IC



- 3-4 years IC series to series cycle time
- nRF52 - upcoming 3'rd generation series
- Aggressive process scaling
- Leverage current IC architecture
- Power, performance, level of integration
- Leverage and build on existing software
- Minimize impact on maturity
- Smooth migration for customer



Competitive landscape  
Selection criteria's  
Maturity and ease of adoption  
Features, power and performance  
Cost structure  
Maintaining and strengthening our edge

## Summary



Market leadership, experience and insight

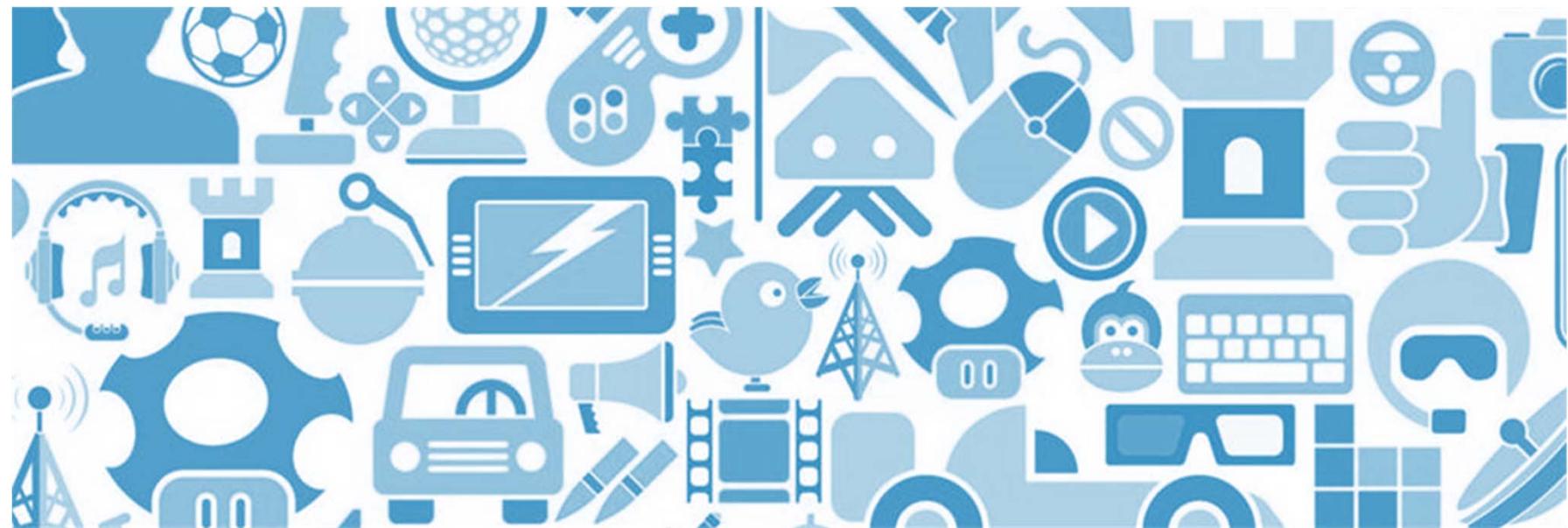
Deeply engaged with segment leaders

Leading technology platform

Powerful and fine-tuned organization

Strong and aggressive roadmap

Leverage current architecture and software



# Competitive Edge

# Capital Market Day, New York City, September 15 2014

Thomas Embla Bonnerud, Director of Product Management



[www.nordicsemi.com](http://www.nordicsemi.com)

