

# Movea

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**Leader in data fusion firmware, middleware and software**

**60 people**

**Grenoble (FR), San Francisco (US), Seoul (KR)**

**Three Market Segments**

- **Movea Mobile**
- **Movea TV**
- **Movea Fit**

**Strong market traction and position**

- **Engaged with market leaders today and increasing momentum**
- **Clear market differentiation in power, accuracy, flexibility, integration and context-aware features**

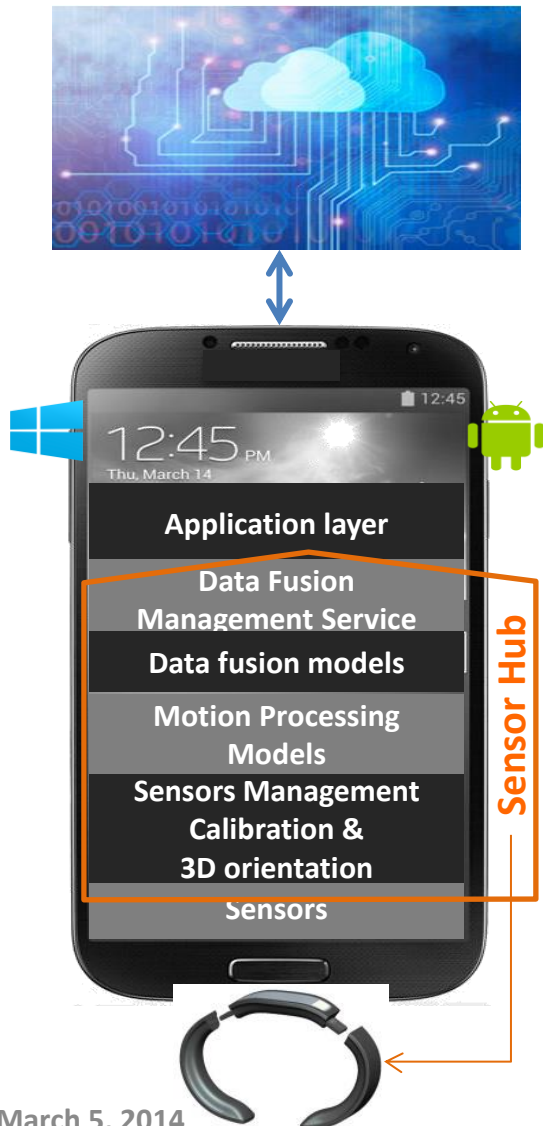
**One of the industry's broadest patent portfolios**

- **100+ patent family**
- **550+ publications**



# What Movea does

*We turn sensor signals to meaningful personal information*

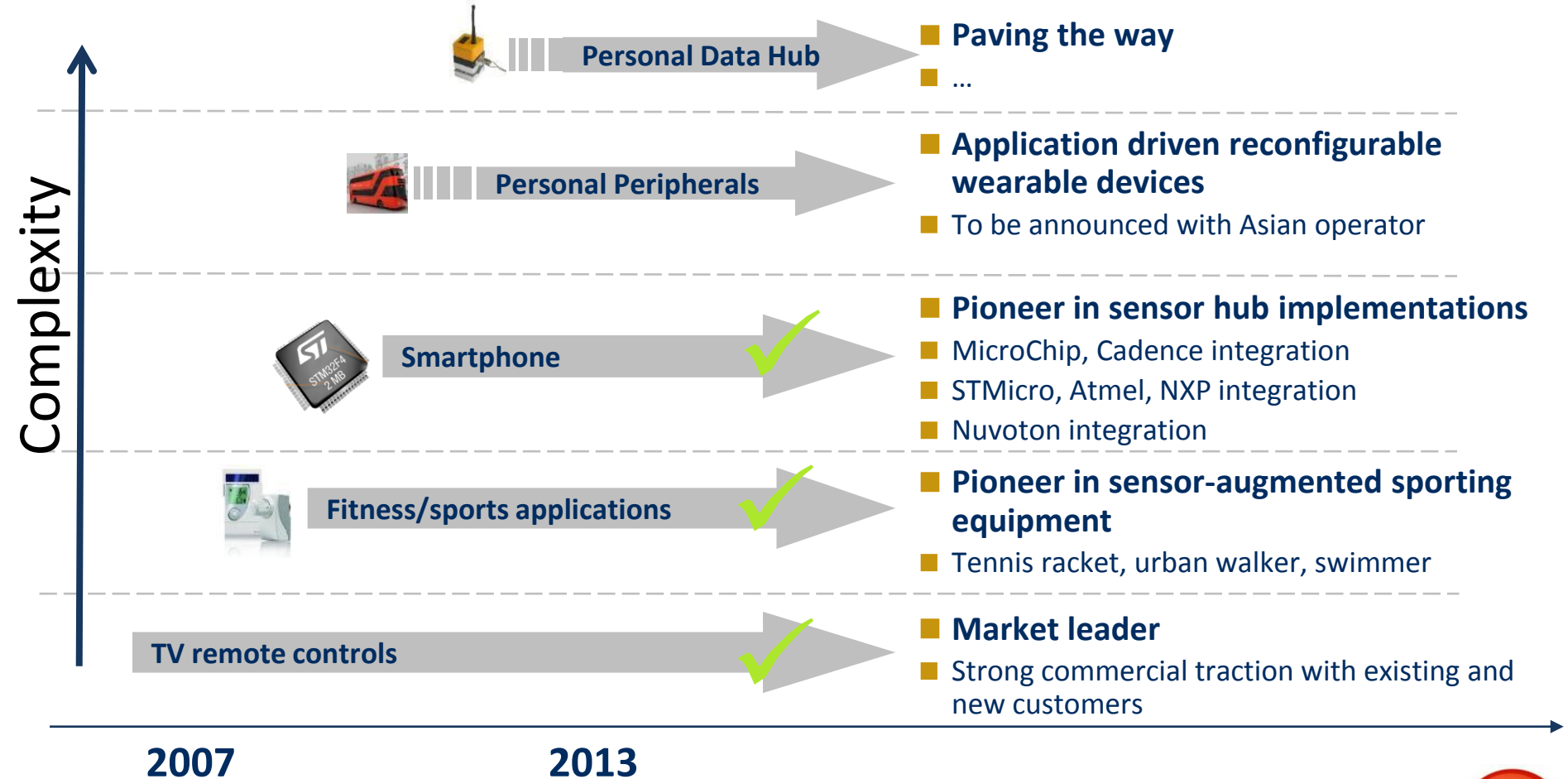


- Decode and analyze sensor signals with ultra-low power, on-device sensor and data hub technology
- Compare results to usage patterns of thousands of people
- Derive personal information: user location, activity, etc., at highest accuracy
- Service APIs to application layer

# An industry trailblazer

## Movea Target Markets

## Current Status



*Sub 3mW sensor hub already in production with a roadmap to sub 1mW*

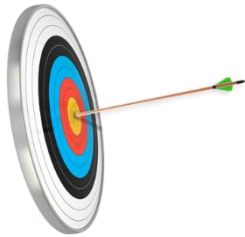


# Uniquely able to deliver true context-aware capabilities in connected devices

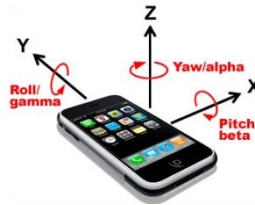
Movea addresses the challenges of Context Awareness:



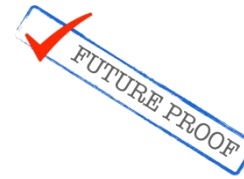
**Power Efficiency**  
Optimized  
algorithms for  
always-on <2mW



**Accuracy**  
over 95%



**Sensor  
Agnosticism**  
support  
leading  
sensors  
providers



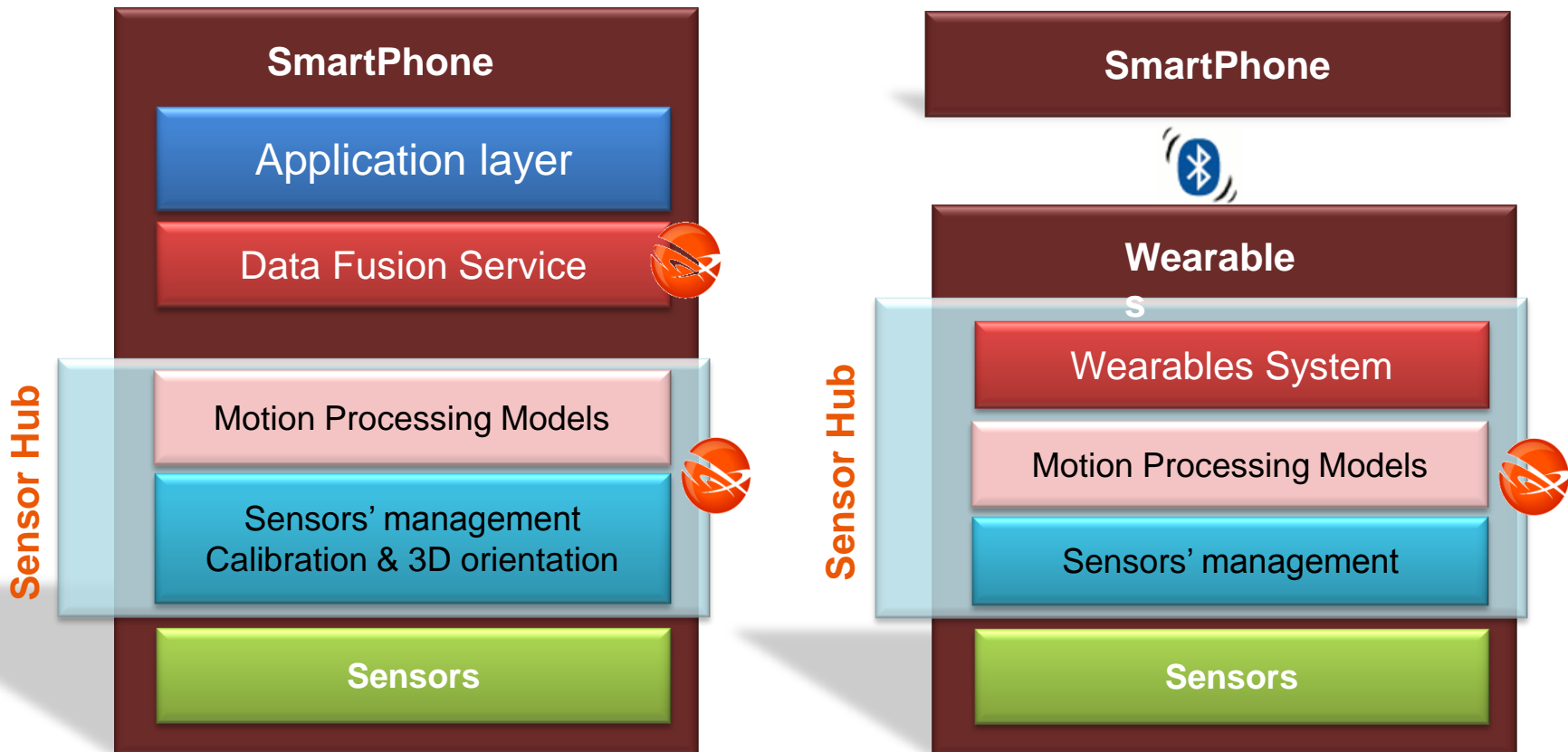
**Flexibility**  
- Any HLOS  
- Any Mobile  
- Distributed  
Architectures



**Ease of  
Integration**  
plug&play  
library for fast  
time-to-  
market

# Movea's Sensor Hub

- Movea's Sensor Hub initiative becomes a must-have for **Always-On** and advanced motion activities
- Motion **high accuracy** at **ultra-low power** are the major care-about for SmartPhones and Wearables.



# Sensor Hub for Mobile

# Movea Sensor Hub milestones

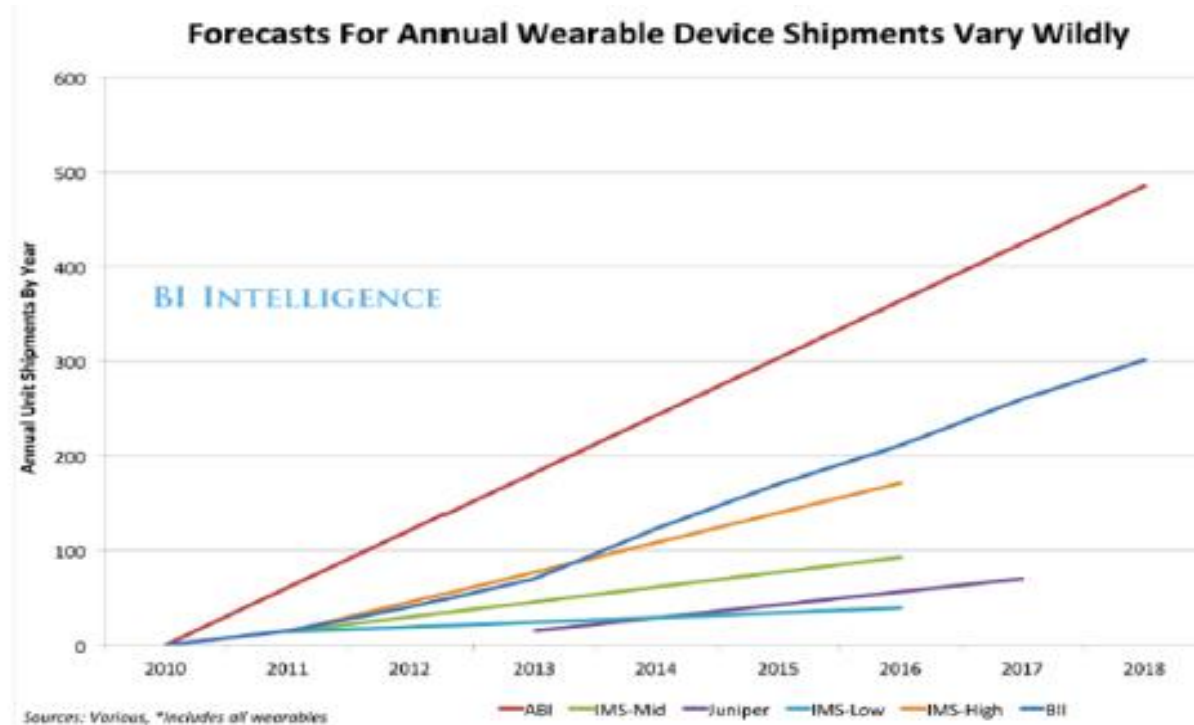
- Movea **Sensor Hub Evaluation Kit** available now
  - Movea SW and Firmware
  - STMicroelectronics HW: STM32F401 – Cortex M4, with 137uA/MHz
  - Android 4.4 compliant
- Android HLOS: Movea partners today with ST, Atmel, and Cadence; delivers demonstrators on request for Android HLOS
- Win HLOS: Movea partners with Nuvoton and Microchip and delivers demonstrators on request for Win HLOS





# Sensor Hub for Wearables

# Wearables market growth expected to be big



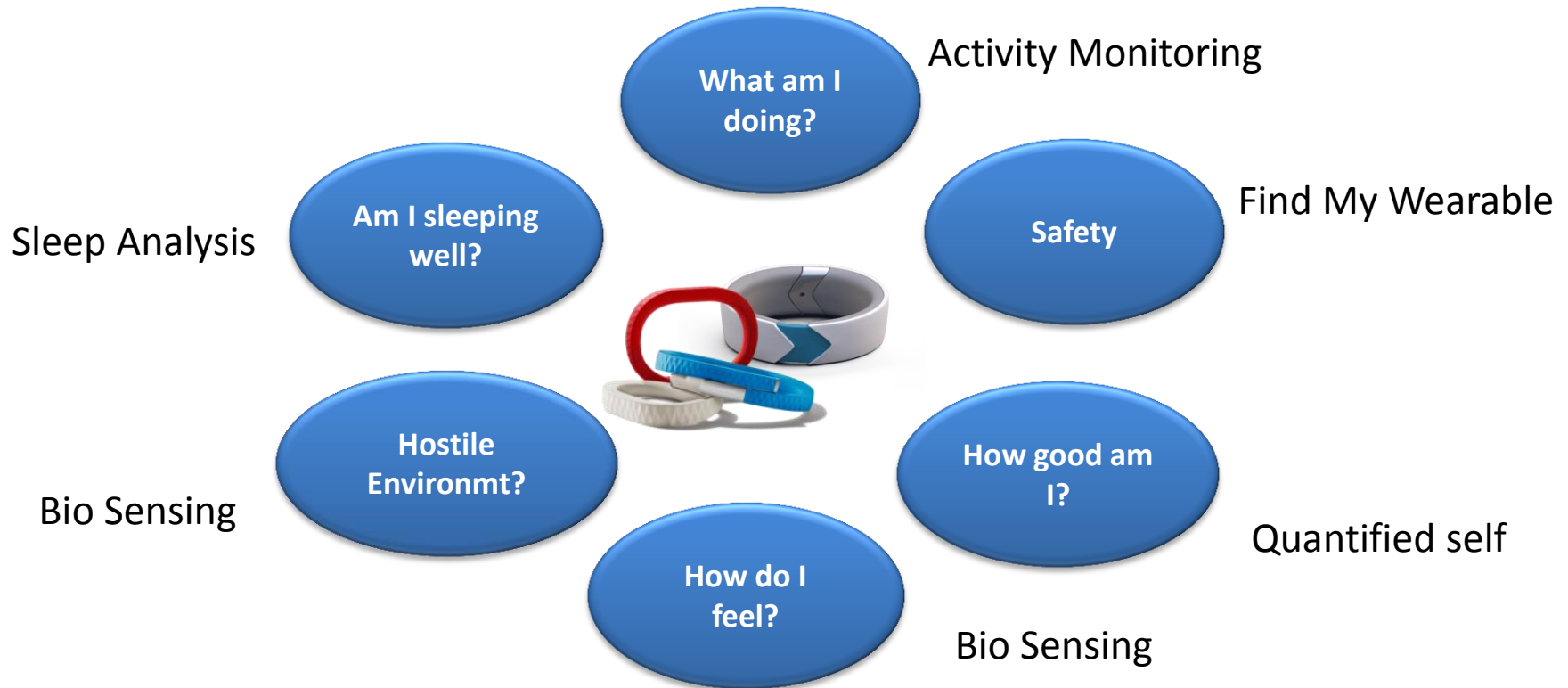
## Wearables volume forecast

- Growth from 14 Mu in 2011 to 485 Mu by 2018 (ABI Research).
- Growth from 14 Mu in 2011 to 100 Mu by 2014 to 300Mu by 2018 (IMS Research)

**Bracelets:** According to IMS Research, Fitness and Medical Wearables, taken together, will account for roughly 60% of the Wearables market in 2014, and even a larger share in the future compared to smart-watches and eye-wear



# Movea plays key role in wearable advancement



Movea brings

- Unparalleled features and accuracy
- Scalability (over the air feature upgrades)
- True data fusion between Wearables, Smartphones and Cloud
- Power efficiency (>10 days battery life)



# Movea Wearables/Multi-sport offering today

- **Partner support**

- On demand compiled library
- Integration support
- Documentation
- Benchmark reports



- **Evaluation kit**

- Design to test/benchmark the system performance
- Benchmark support

- **Reference design kit**

- Electronic board for bracelet
- Wearable/MultiSport library & firmware
- Android API to abstract BLE communication
- Android Sample Application
- Bracelet & manufacturing services through partnerships



# Highest accuracy solution available

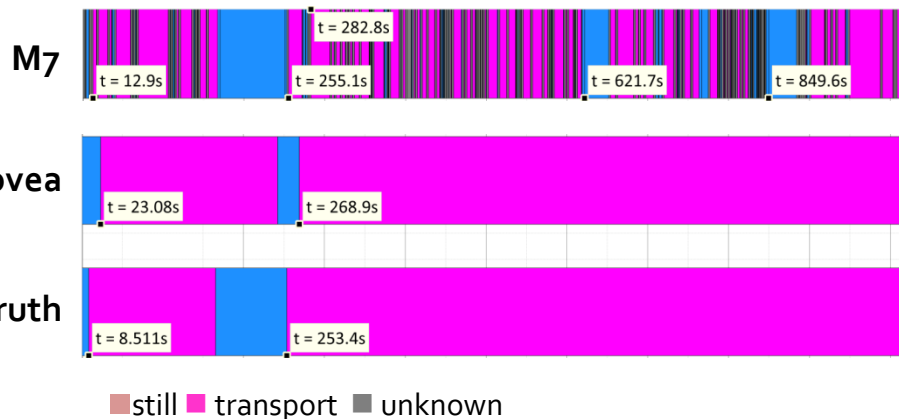
## Activity Monitoring Benchmark

Nominal Case	Step Error Rate (The Lower, The Better)		
	Comp1	Comp2	Movea
Scenario			
Walking Free Hand	1.8%	6.3%	0.5%
Walking Fixed Hand	3.2%	2.2%	0.8%
Running Distance	-	-	-
Running Step	25.1%	10.4%	4.0%
Stairs Down	8.1%	-	2.3%
Stairs Up	7.1%	-	2.9%
<b>Weighted Average</b>	<b>7.5%</b>	<b>6.3%</b>	<b>1.7%</b>

- Movea's sensor hub solution has achieved record-breaking accuracy levels:
  - Activity Classification** – 95%+ accuracy on activity monitoring recognition (still, walking, running, in-transportation)
  - Step Count** – lowest error score compared to other commercial solutions
  - Sleep Analysis** – solution closely mirrors results from high-precision polysomnogram sleep study tests employed by hospitals

## Movea vs. iPhone 5s (M7)

Transportation Benchmark



\*Test data from Movea 2013

\*T = Time

- When compared to Apple's M7 motion processor, Movea's state output data is far more accurate
- Movea's indoor pedestrian navigation processing is best-in-class
  - Distance estimation within 5%
  - Orientation tracking of +/- 2 degrees
  - Floor change detection accuracy of 99.7%



# Movea delivers best what matters most

## Low Power

Game changers:

- Pedometer 80uW
- Navigation < 2.0mW

Engaging on < 1mW total

## Low Footprint

Complete Sensor Fusion solution

- 120KB Flash
- 60KB SRAM

## High Accuracy

Much-favorable benchmark for Movea versus major competitors (report Included)

## Scalable SW

Sensors agnostic and Sensor Hub homes agnostic  
Solution in production on Cortex MX's, DSP, MPU

## Context Aware

Broadest and most advanced feature set available  
Support set of CA models  
Extension to include always-listening and Always-seeing

## Strong IP Portfolio

Top 5 IP Patent Pool WW

# Thank you

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

