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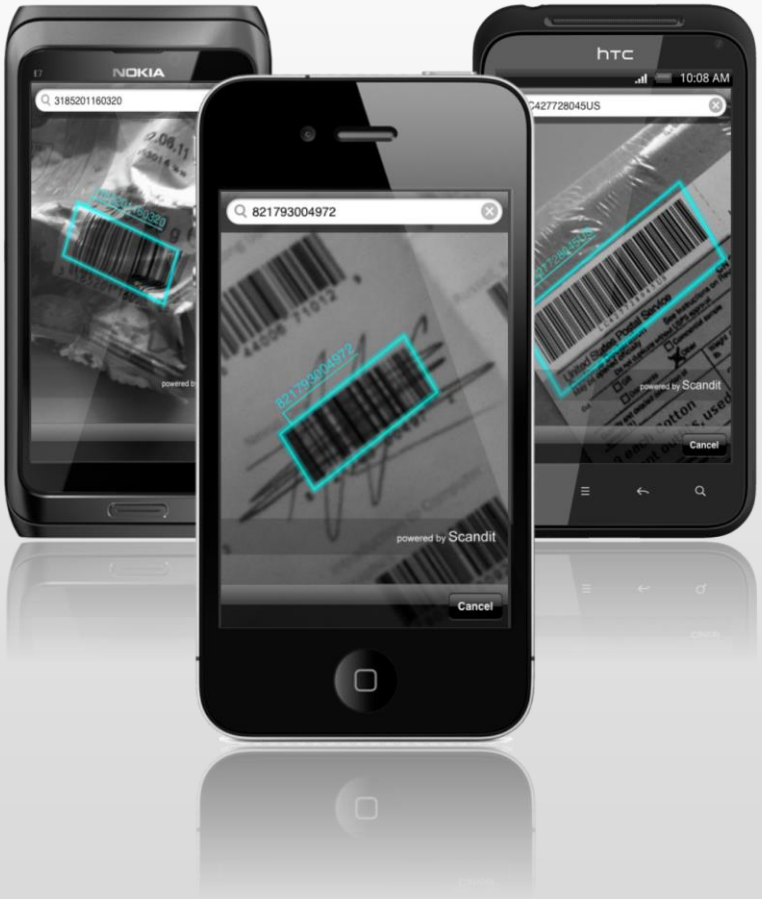
mobile product interaction

Logistics 2.0: How Mobile Barcode Scanning, Google Glass and the Internet of Things impact the Logistics Industry



Dr. Samuel Mueller
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@scandit
www.scandit.com

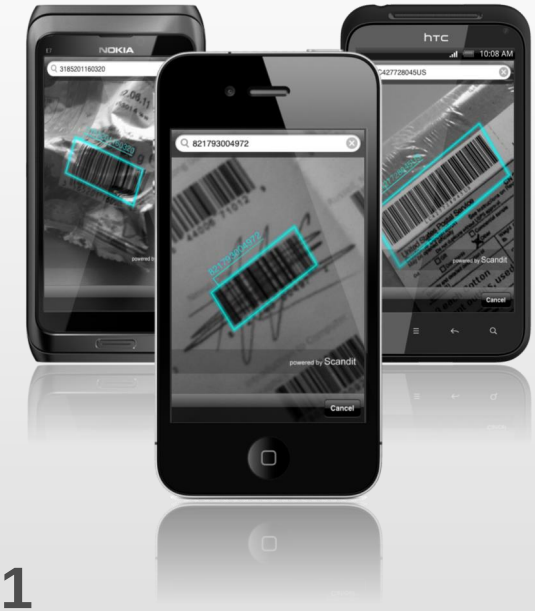
4. GS1 Forum Intralogistics, Berne, Sept 18/19, 2013

ABOUT

Scandit

ABOUT SCANDIT

- Company:
  - Founded by **entrepreneurs** and **MIT / ETH Zurich** graduates in 2009.
  - Headquartered in **Zurich**, Switzerland.



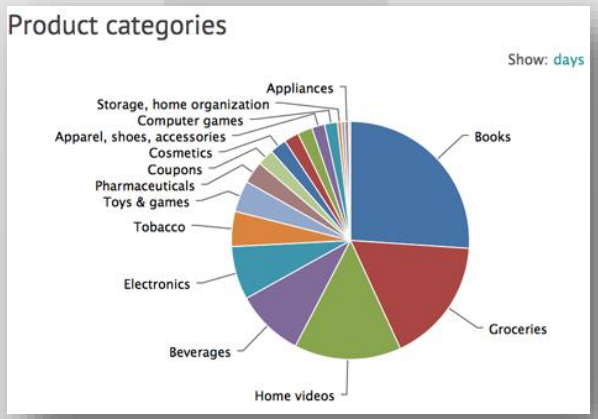
- Customers:
  - **8,000+ licensees** in **80+ countries**.
  - **Preferred technology provider** of **GS1 Switzerland**

BARCODE SCANNING PLATFORM

- **Barcode Scanner SDK**:
  - **Enterprise-grade mobile barcode scanning** technology for smartphones / tablets
  - Scans from **any angle** and **without autofocus**
  - Supports **Android, iOS**, WP8 (soon), **Phonegap**, **Titanium** and **Xamarin**

- **Cloud-based Barcode Scanning Platform**
  - **Scalable Scan Management and Analytics** (top products, categories, at-home vs. in-store, etc.)
  - **Product data** for **over 25M UPCs** across different **geographies** and **categories**.

- **Great support** and **simple pricing**



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ENTERPRISE IT TRENDS

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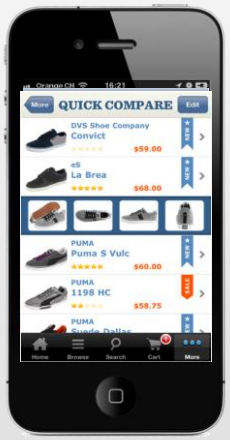
MOBILE BUSINESS

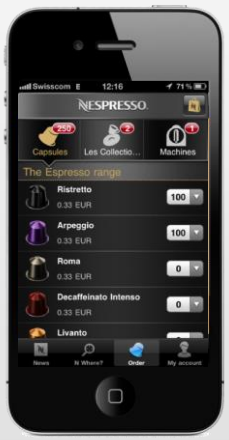
Mobile has dramatically changed the way of doing business:

Brick & Mortar Retailers

Grocery Stores

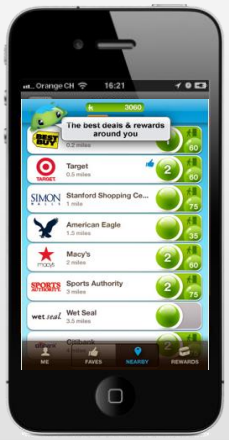


Online Retailers



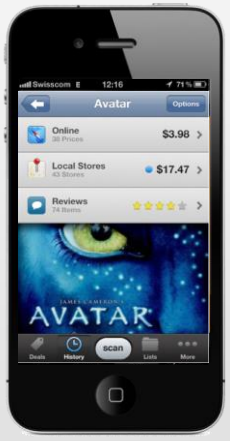
Brand Owners

Independent Product Portals



Coupon Sites

Mobile Payment Provider



Price Comparison Engines

… but mostly in consumer space so far.

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CONSUMERIZATION OF THE ENTERPRISE

NOT JUST SOFTWARE…

BYOD

MOBILE AIDC TECHNOLOGIES

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AIDC TECHNOLOGIES

- **Barcodes**
- RFID/NFC
- **OCR** and Image Recognition
- Biometrics
- Magnetic Stripes
- Smartcards
- Voice Recognition

PAST: DEDICATED HARDWARE

MOBILE BARCODE SCANNING

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SW-BASED EMULATION OF AIDC TECHNOLOGIES ON SMARTPHONES

** Not limited to ID but also supporting mobile OCR, image recognition, etc.

- Great scan performance
- Ruggedized
- Outdated HW and SW
- Clunky
- Only for heavy users
- High TCO

- Great scan** performance
- Ruggedizable*
- Modern HW and SW
- Excellent UX
- Heavy **and** BYOD users
- Low TCO
- Cloud Services

* 60% of current customers do not actually require ruggedness. Rugged accessories / cases can provide certified drop, dust, water and fire protection and improved ergonomics

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BARCODE SCANNER COMPARISON

Scanner Comparison	Motorola LS2208	Motorola Admiral with Scandit	Samsung Galaxy SIII with Scandit	Intermec CN4
				
Lifetime TCO	$600 USD	$3,182 USD	$2,056 USD	$7,681 USD
Device Cost*	$120 USD	$350 USD	$475 USD + $80 USD	$2,074 USD
Description	Low cost wired scanner	Durable enterprise-grade smartphone device	Popular Samsung SAFE smartphone plus a Seidio Obex Case	Popular mobile computer
Internet Connectivity	✖	✔	✔	✔
Battery Life (active)	✖	Up to 9h	Up to 21 h 40 min (2G) Up to 11 h 40 min (3G)	Up to 8.1h
Storage Capacity	✖	4 GB (up to 36 GB)	16 GB (up to 96 GB)	256 MB (up to 2.2 GB)
Durability*	Semi-Rugged	Durable MIL-STD 810G	Fully-Rugged (w. Obex Case) MIL-STD 810G and IP68	Fully-Rugged MIL-STD 810G and IP54
Scanner Versatility	LOW	HIGH	HIGH	HIGH

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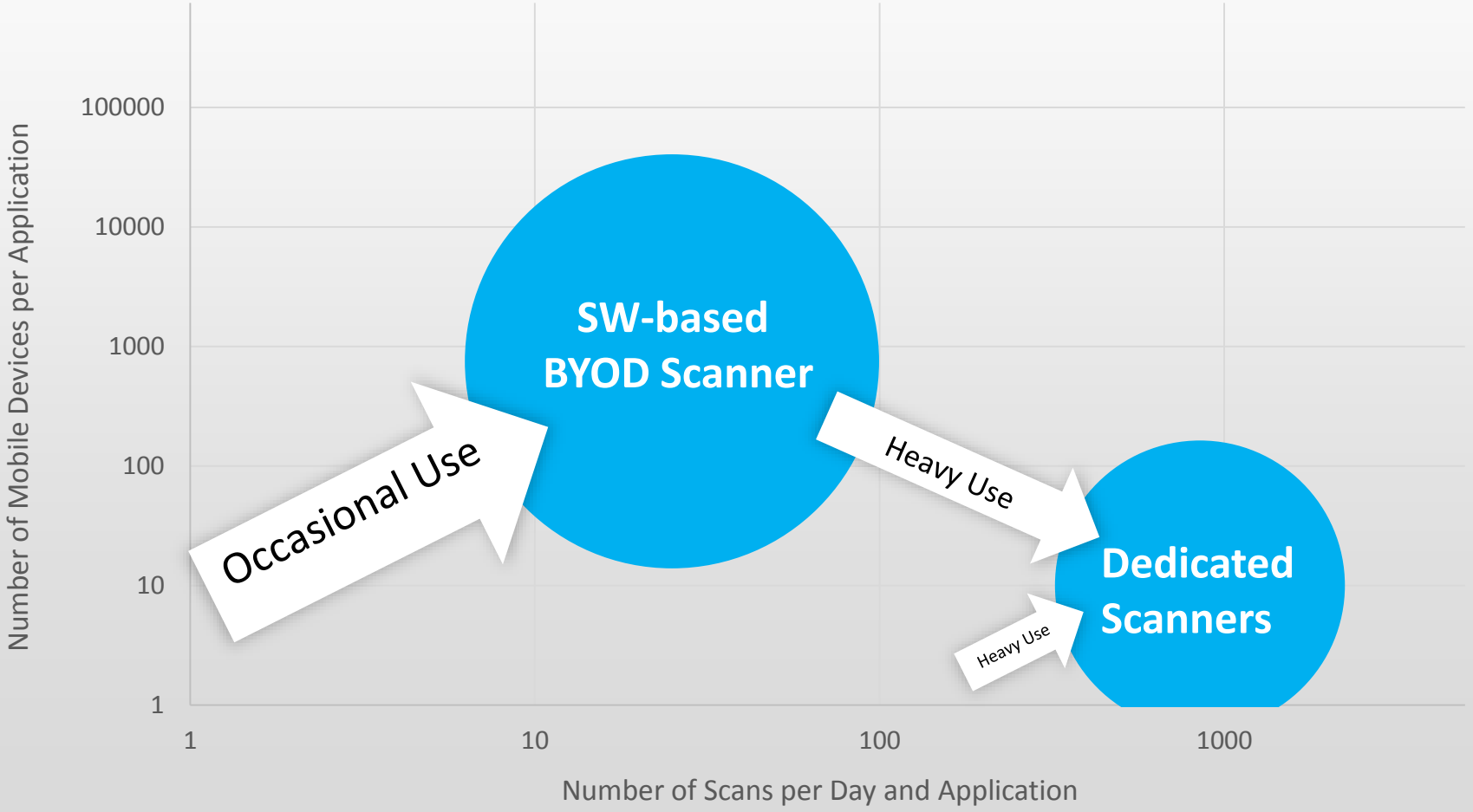
LEVERAGE BYOD FOR MOBILE AIDC



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http://www.scandit.com/video/

EXAMPLE: PARTS TRACKING

- **Goal:**
  - Gobal hardware manufacturer needs to **track hardware parts** across **entire organization**
  - Enable **10,000+ technical employees** to participate in QA process

- **Two traditional approaches:**
  1. Dedicated **handheld scanners**
  2. **Desktop / web-based solution**

MOBILE PARTS TRACKING

- Solution:
  - Print **tiny 4x4mm Datamatrix codes** and/or Code39 stickers on HW parts
  - **Track and trace app** with enterprise-grade scan performance for occasional use

- Benefits:
  - **Increased efficiency** by extending hardware tracking to **thousands of employees** via personal devices
  - **Seamless evolution** from occasional to heavy users
  - **Better governance** of hardware parts by management
  - **Significant cost savings** compared to solutions based on dedicated scanners

GOOGLE GLASS

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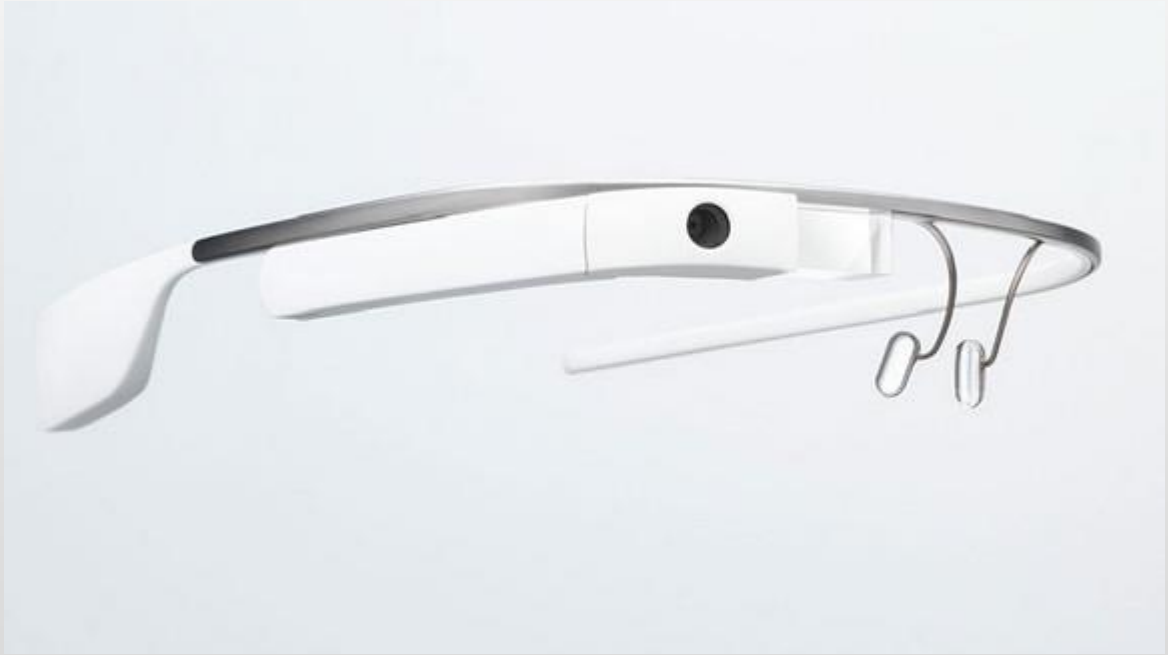
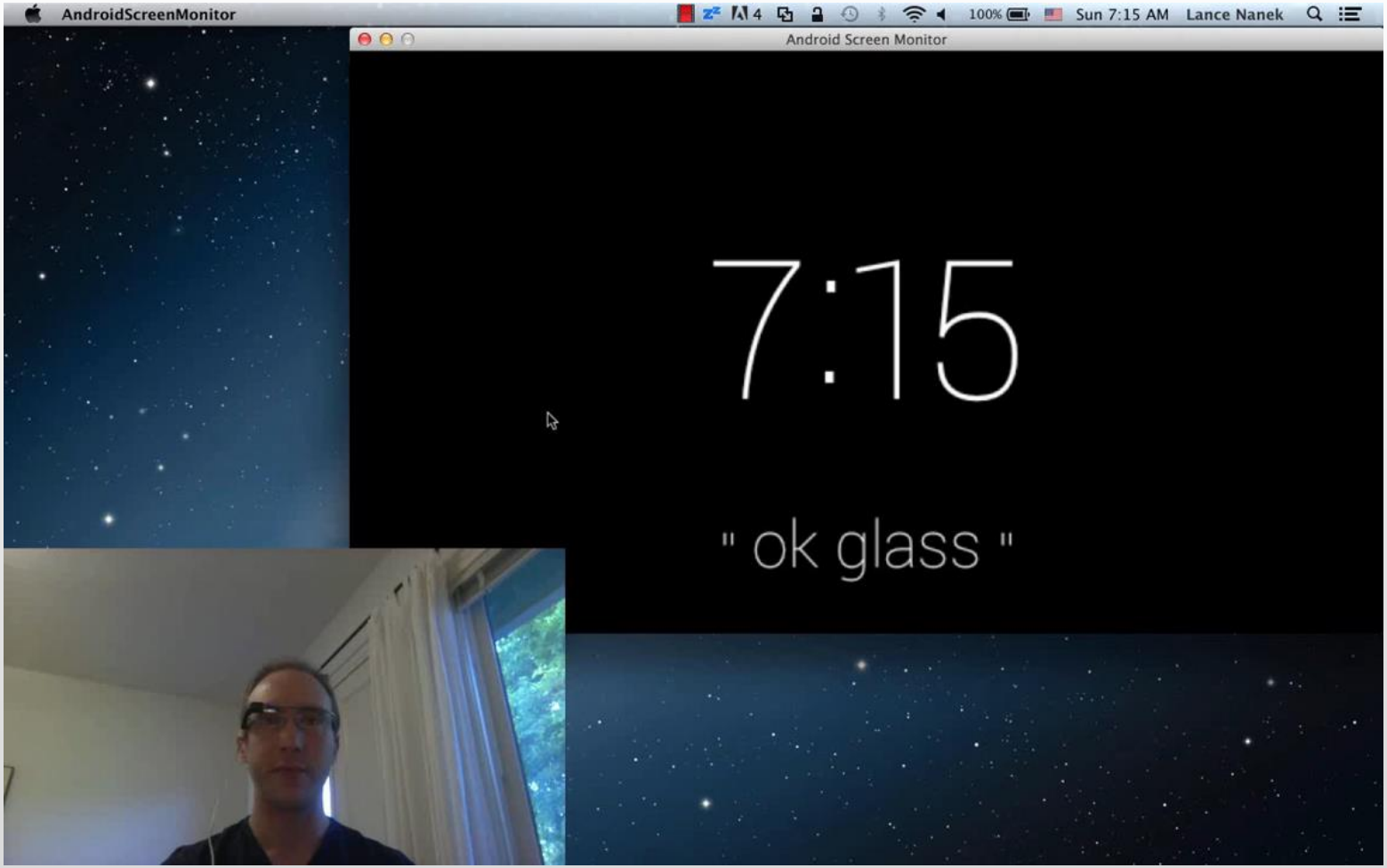
WEARABLE AIDC DEVICES

BYOG?



GLASS POWERED BY SCANDIT



http://www.youtube.com/watch?v=6f9fh6vq6zs

EXAMPLE: WAREHOUSE LOGISTICS

Typical Warehouse Logistics Process:

1. Get information about an item that should be picked
2. Find location of the item in the warehouse
3. Find out best and shortest path to reach the item
4. Reach the place
5. Scan the location of the item
6. Pick the item
7. Scan the item(s)
8. Scan the trolley carried by the picker
9. Move to the next item being that must be picked
10. Continue until all items in the pick cycle are picked
11. Hand items over for packaging and further processing

WEARABLE COMPUTING USE CASES FOR INTRALOGISTICS

http://www.youtube.com/watch?v=9Wv9k_ssLcI

INTERNET OF THINGS

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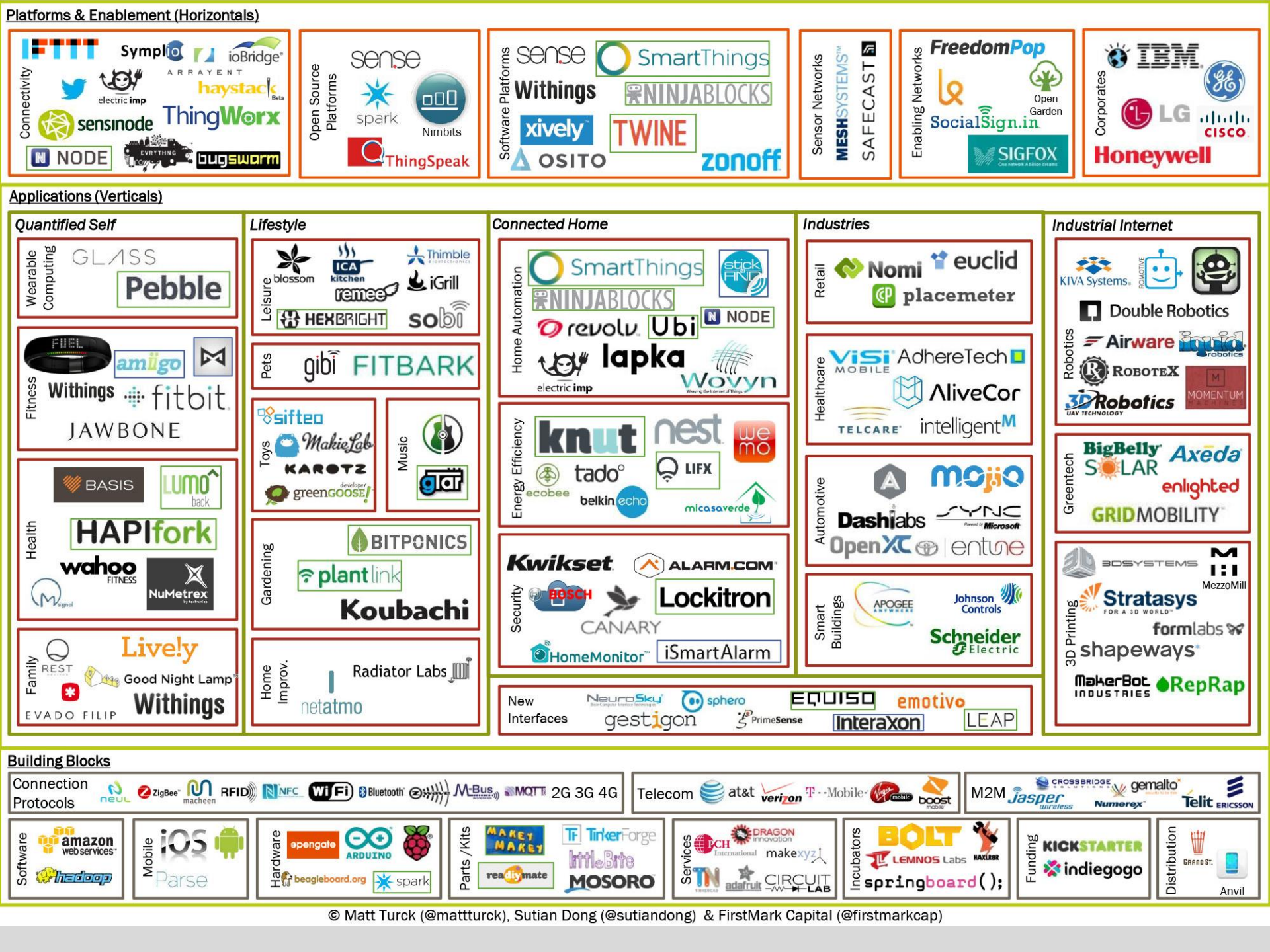


NEST – SMART THERMOSTAT

Source: abcnews.go.com

AUGUST – SMART LOCK

Source: www.august.com

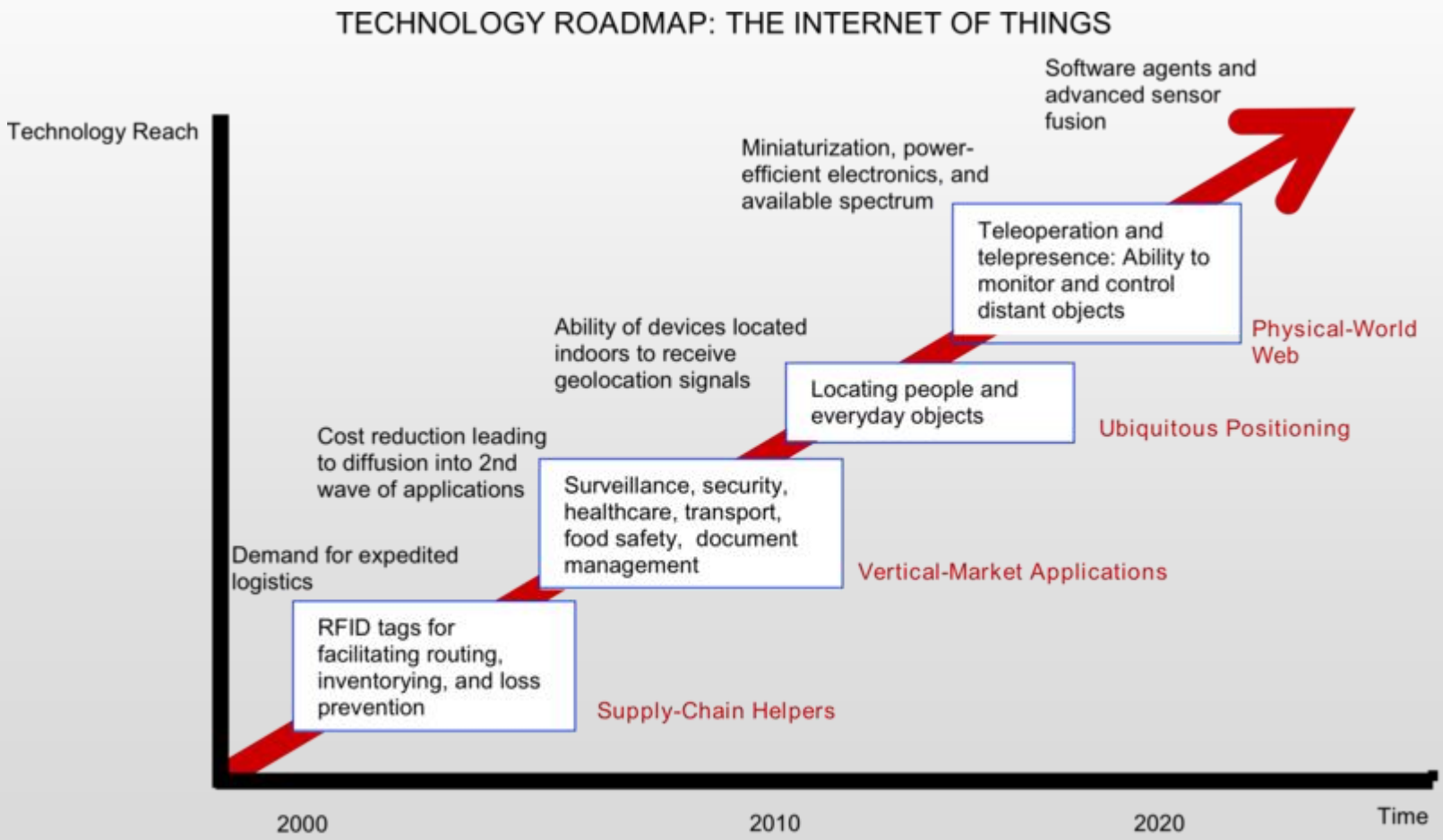
SMARTTHINGS – SMART HOME

Source: www.smartthings.com

SELF-DRIVING CARS

Source: en.wikipedia.org/wiki/Google_driverless_car

TECHNOLOGY OVERVIEW



Source: SRI Consulting Business Intelligence

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CONCLUSION

SUMMARY

- **Smartphones** and **wearable computing devices** are **disrupting data capture** in logistics processes by **emulating AIDC technologies.**
  - **Smartphones / wearable devices** are **more appealing, less expensive,** often **less complex** and more **readily available** than devices traditionally used.
  - Everyone, even **occasional users** with their **own devices**, can participate in a business process (BYOD).
- Mobile AIDC technologies form the basis for **sophisticated Internet of Things applications**
- **Rapid innovation in consumer space** will **directly impact logistics** and other industries such as healthcare or manufacturing.

THANK YOU

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MORE INFORMATION

Barcode Scanning SDKs: www.scandit.com/pricing

Barcode Scanner TCO Comparison: www.scandit.com/barcode-scanner-sdk/scanner-comparison

Mobile Device Ruggedization: www.scandit.com/2013/07/30/ruggedizing-and-ruggedized-smartphones-in-the-enterprise

Case Studies: www.scandit.com/apps/case-studies/

Use cases: www.scandit.com/apps/usage-scenarios/

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