Business Models for Internet of Things (IoT) and Wearables

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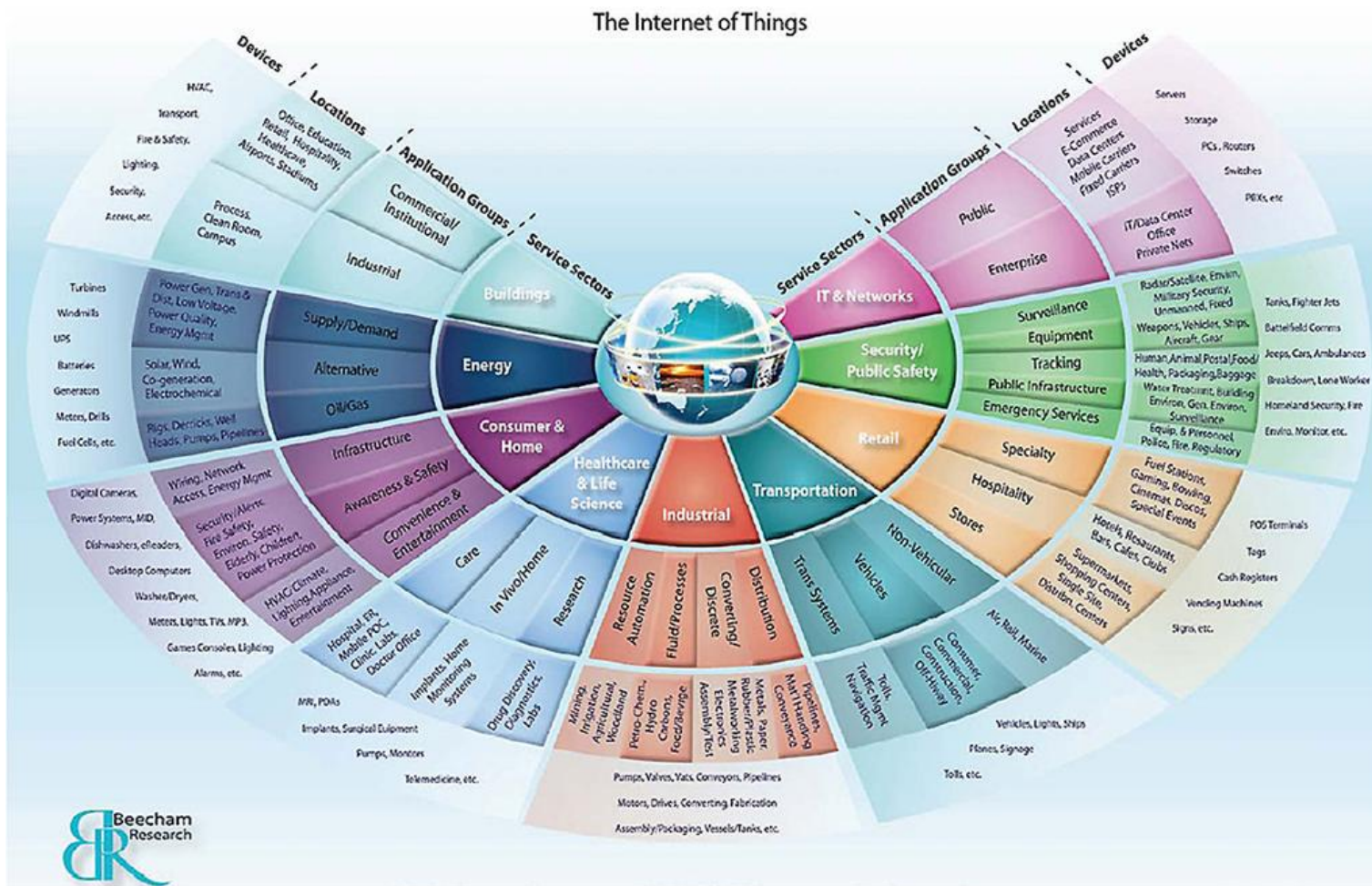**Managing Director, Lab360 HW Incubator**
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Life in a Connected World

The Connected Devices Laboratory by Brigham Young University
https://www.youtube.com/watch?v=NjYTzvAVozo

IoT Markets and Applications
Everything Internet Will Be $14.4 Trillion Market By 2020*
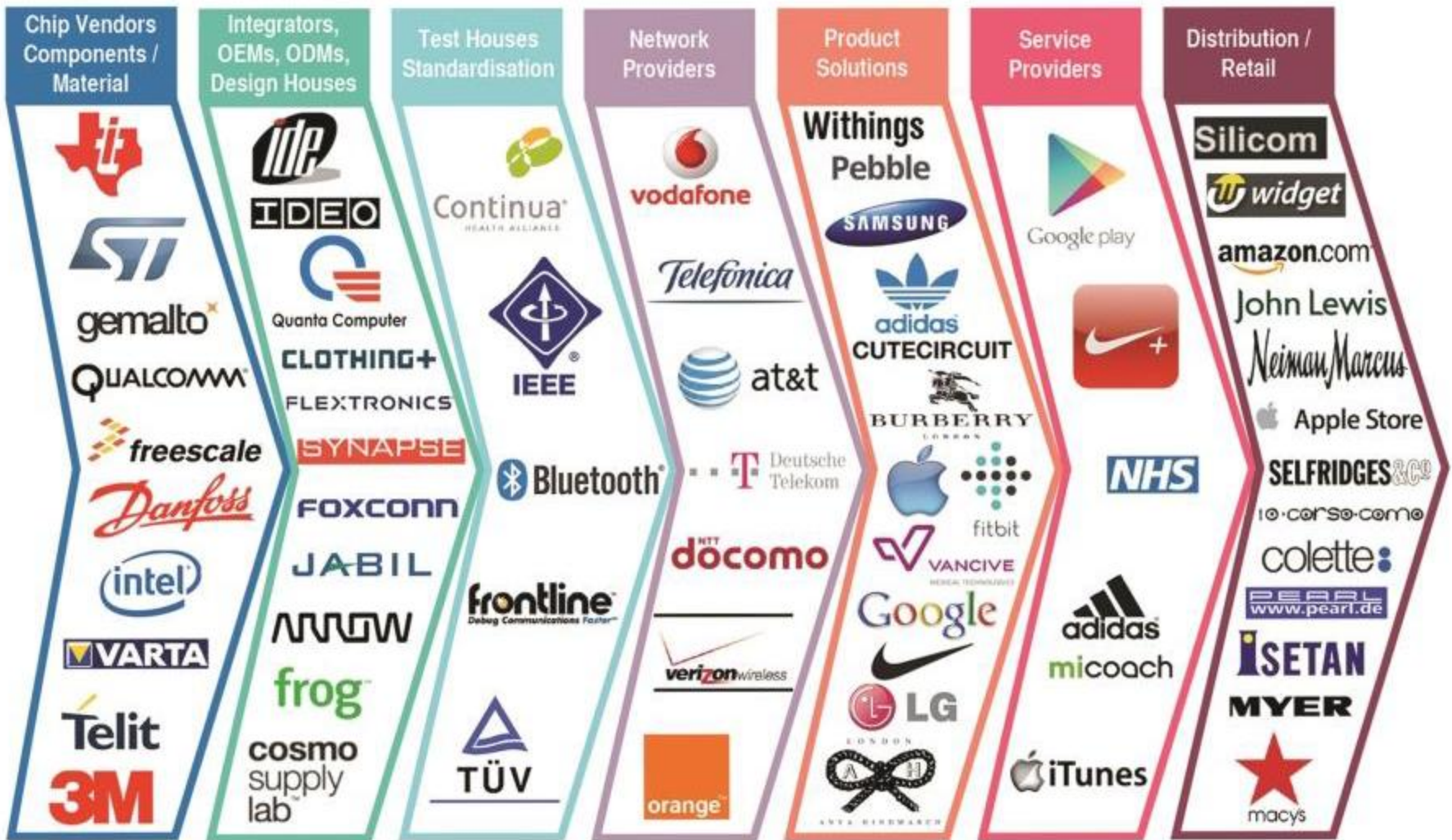

The Internet of Things

*David Russell Schilling from Industry Tap, Aug. 2013

Wearable Markets and Applications

World of Wearable Technology Applications:
Towards Function With Style

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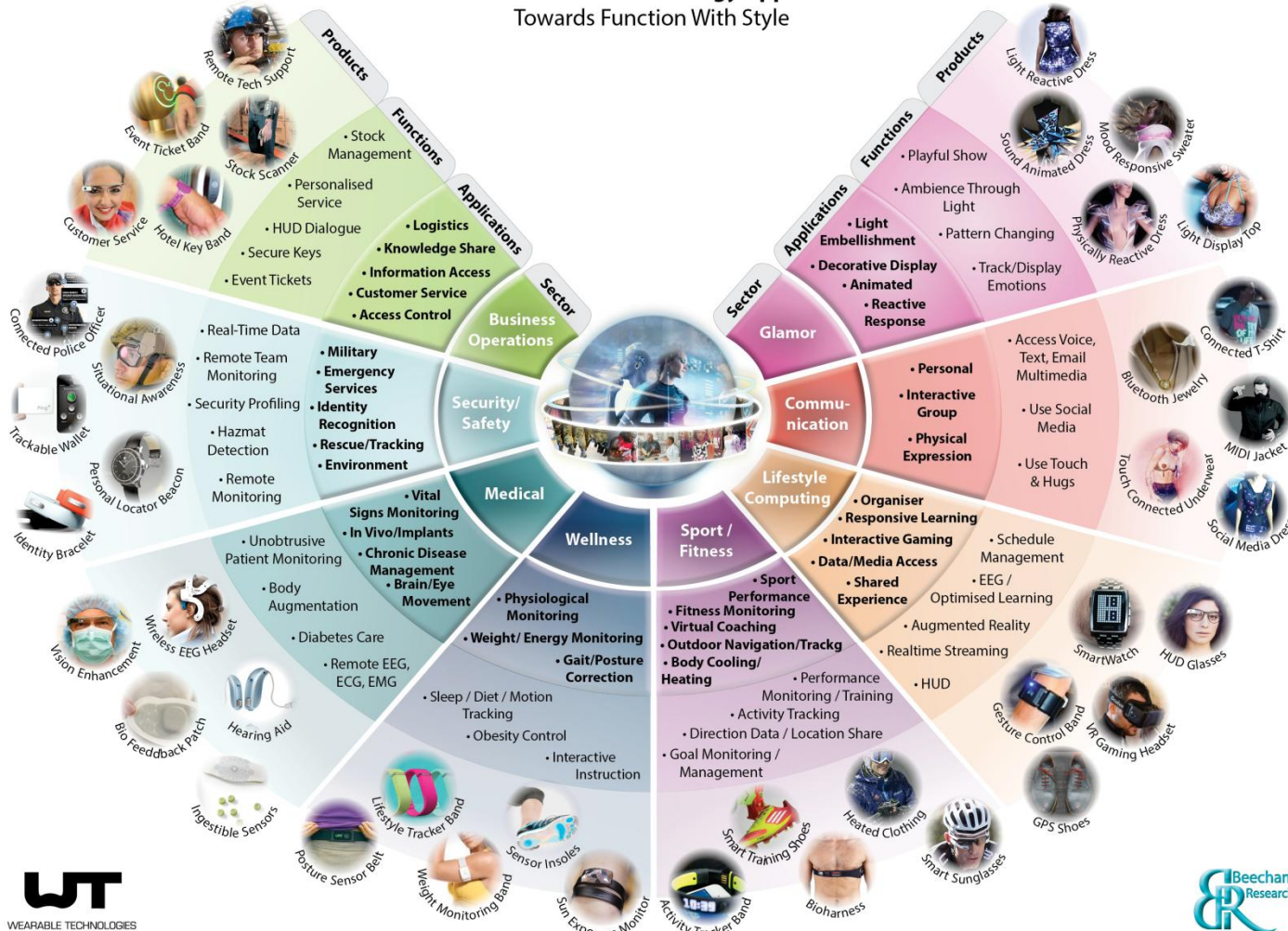
Ecosystem for Wearables

Business models
for IoT and Wearables

New Value Creation

	Traditional Product Mindset	Internet of Things Mindset
Customer Needs	Solve for existing needs and lifestyle in a reactive manner	Address real-time and emerging needs in a predictive manner
Offerings	Stand alone product that becomes obsolete over time	Product refreshes through over-the-air updates and has synergy value
Role of Data	Single point data is used for future product requirements	Information convergence creates the experience for current products and services

New Value Capture

	Traditional Product Mindset	Internet of Things Mindset
Path to Profit	**Sale of the next product**	**Enable recurring revenue (e.g. mobile apps with in-app purchases)**
Control points	**Potentially includes commodity advantages, IP ownership & branding**	**Adds personalization and context; network effects between products (e.g. Nest and Mercedes Benz)**
Capability development	**Leverage core competencies, existing resources**	**Understand how other ecosystem partners make money (e.g. Apple Appstore)**

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Case Study #1
Google - Nest Labs

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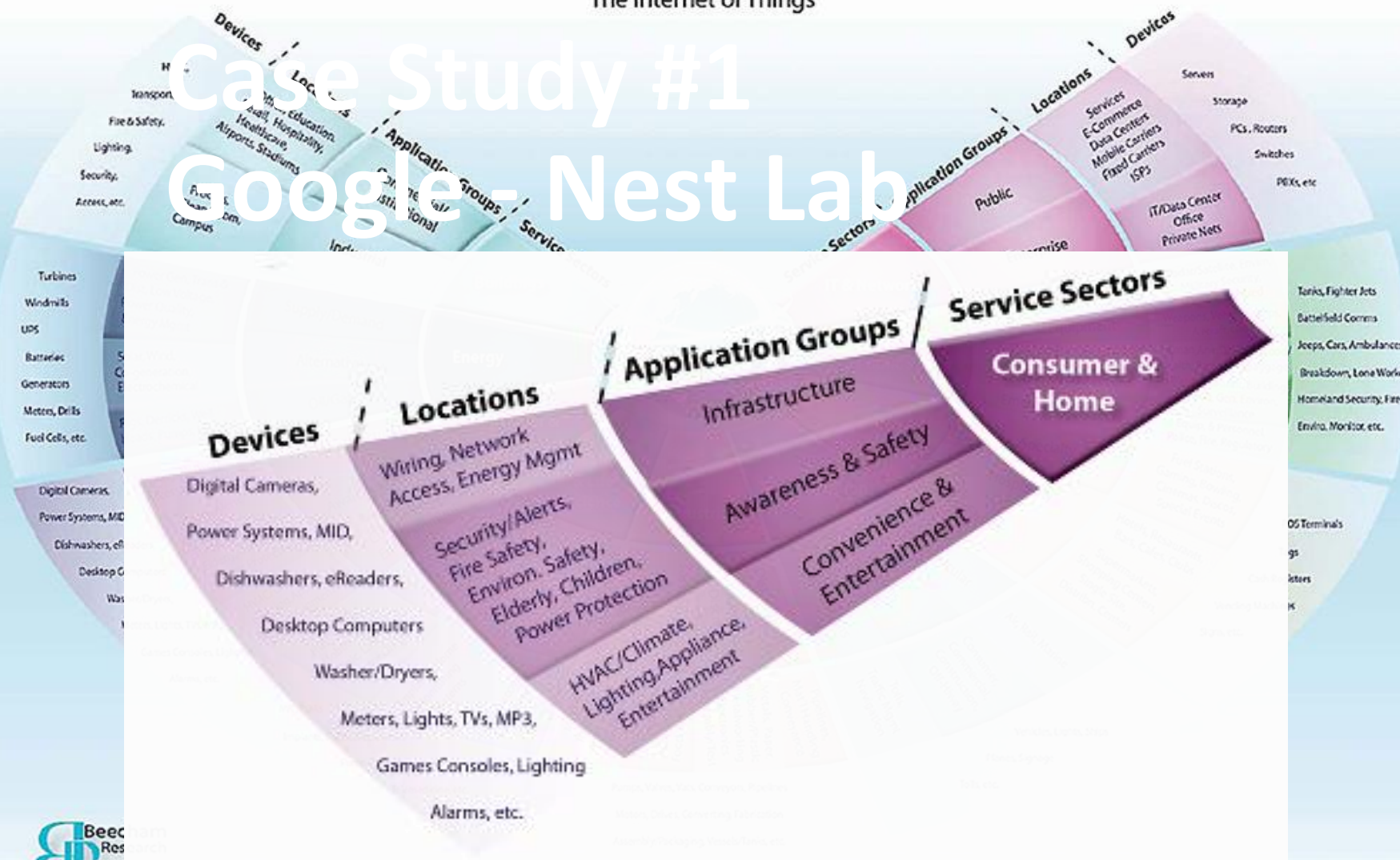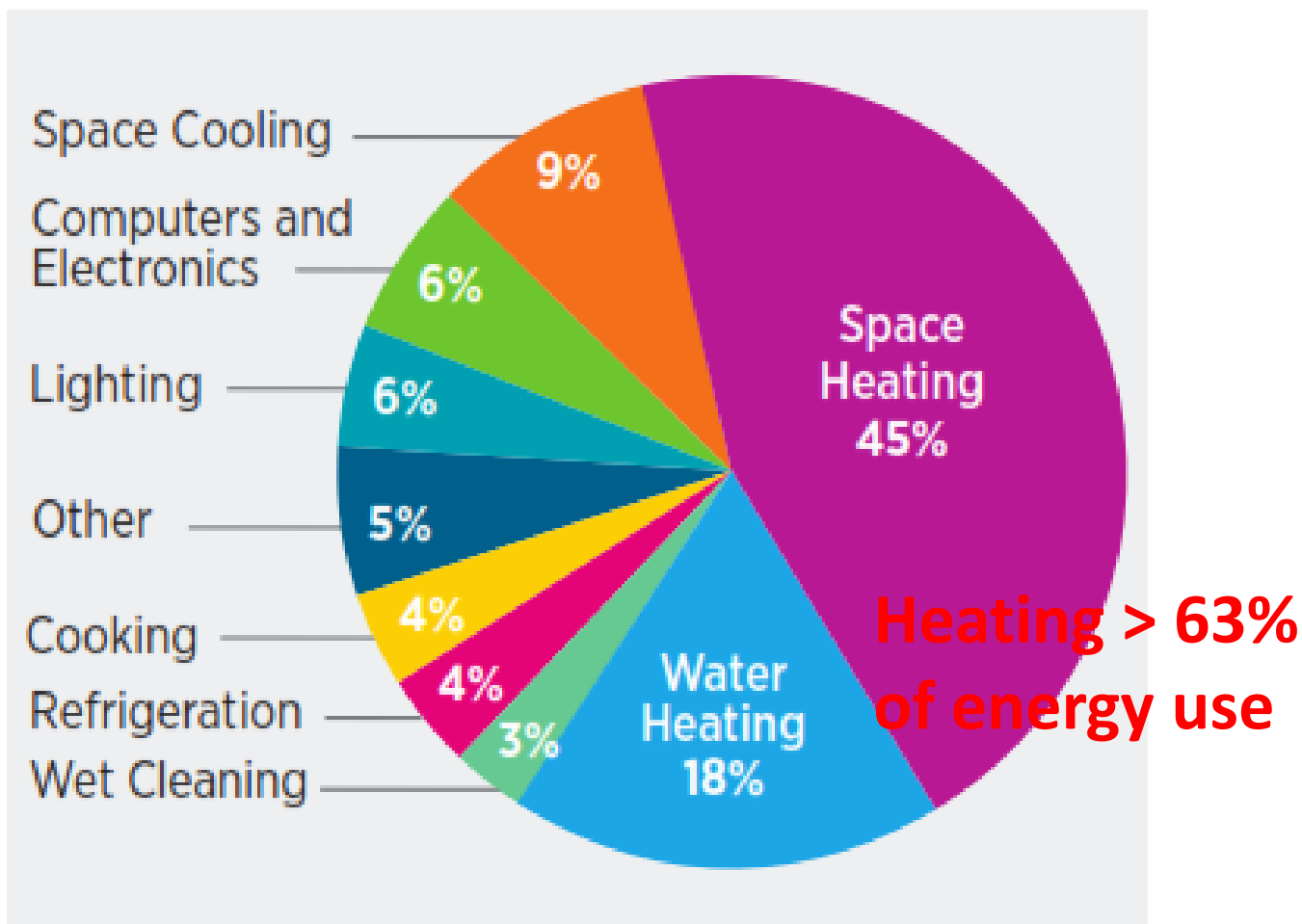
Nest Labs Timeline and Key Events

- Company formed in 2010

- Shipped first product (thermostat) in 18 months

- Raised three rounds of funding by Jan. 2013

- Sued by Honeywell for patents in Feb. 2012, Allure Energy in May 2013, BRK (First Alert) in Nov. 2013

- Shipped 40k+/month in late 2013

- Shipped second product (smoke/CO detector) in Oct. 2013

- Acquired by Google for $3.3B in cash in Jan. 2014

- Developer Program started in early 2014

- Acquired Dropcam for $555 million in June 2014

- Started shipping in Belgium, France, Ireland and Netherlands in Sep. 2014

Case Study #1
Google - Nest Lab

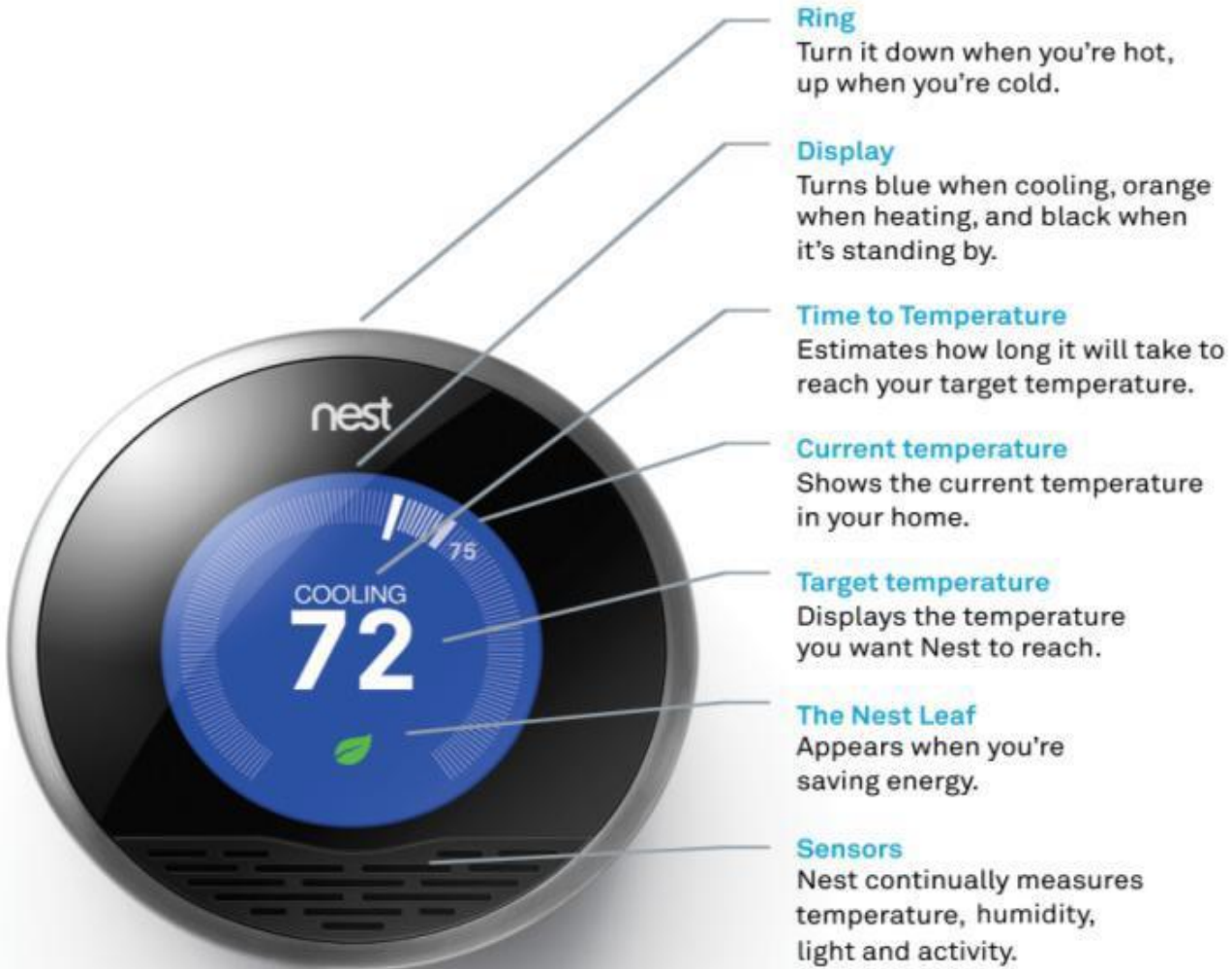# Market Opportunities for Energy related IoT

Space Cooling

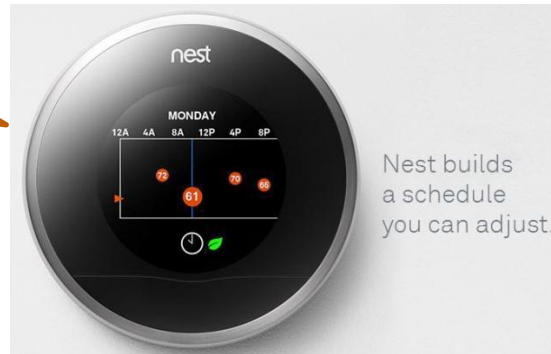Computers and Electronics

Lighting

Other

Cooking

Refrigeration

Wet Cleaning

9%

6%

6%

5%

4%

4%

3%

Space Heating 45%

Water Heating 18%

Heating > 63% of energy use

Energy consumption by category (Credit: US Department of Energy).

Product Features

Ring
Turn it down when you're hot, up when you're cold.

Display
Turns blue when cooling, orange when heating, and black when it's standing by.

Time to Temperature
Estimates how long it will take to reach your target temperature.

Current temperature
Shows the current temperature in your home.

Target temperature
Displays the temperature you want Nest to reach.

The Nest Leaf
Appears when you're saving energy.

Sensors
Nest continually measures temperature, humidity, light and activity.

Value Creation for Nest

- Programs itself
- Learns user behavior

Motion sensors for energy conservation

Controls from anywhere via smartphones, tablets and PCs

Hub for other connected devices

- Easy to install
- Consumers can Do-It-Yourself
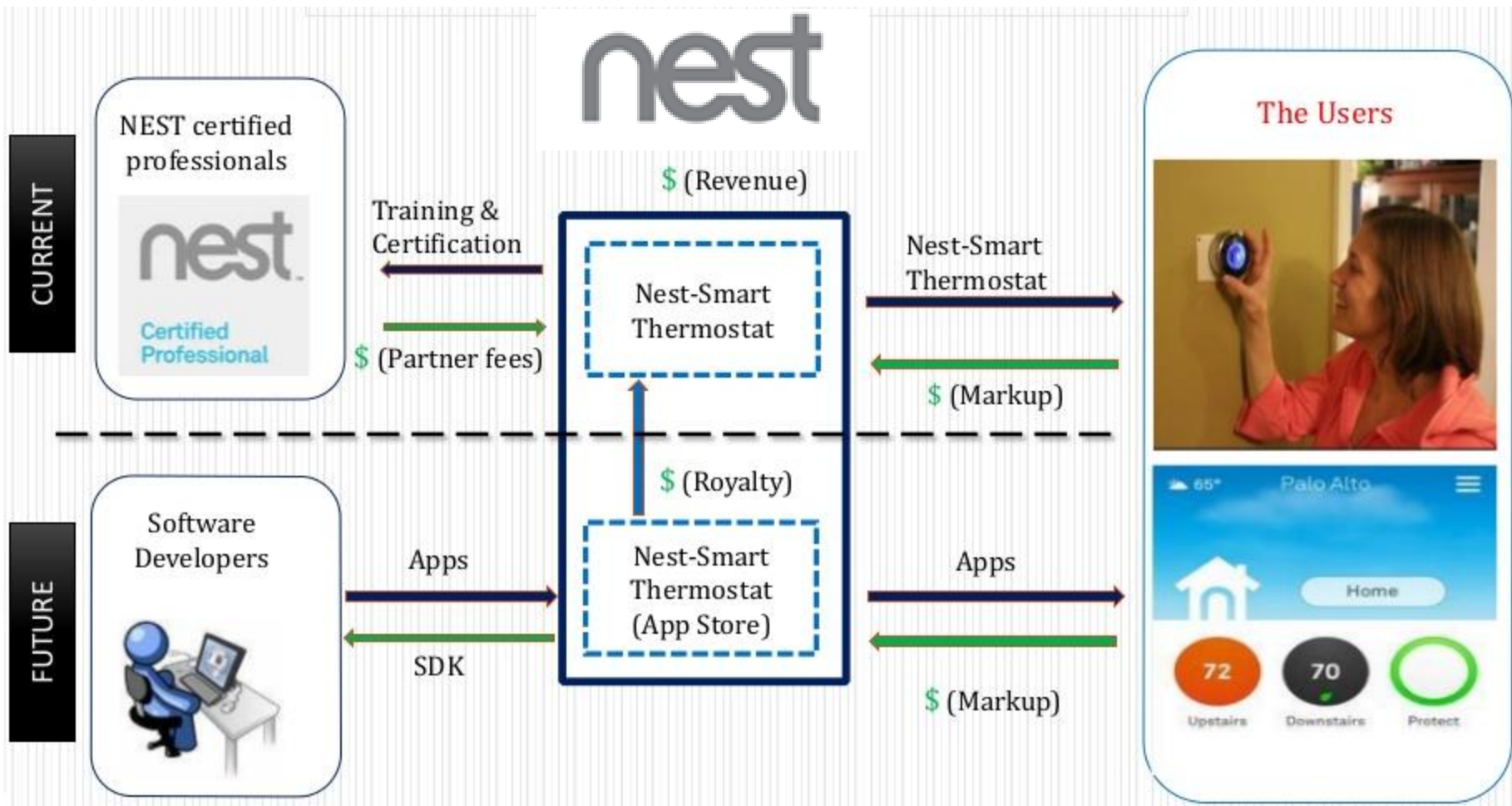
Work with Nest Partners

https://youtu.be/bPdltu-93pM

Business Model / Value Capture

Case Study #2
Disney MagicBand

Disney MagicBand Product Features

Disney's MagicBand is a battery assisted **RFID** tag allows you to:

- Unlock the door of your Disney Resort Hotel room

- Enter theme and water parks (with valid admission)

- Check in at FastPass+ entrances

- Connect Disney PhotoPass images to your account

- Charge food and merchandise purchases to your Disney Resort hotel room (only available during your hotel stay)

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Value Creation/Capture

For Consumers

- Convenience & Safety
  - No need to carry wallet, ID cards, tickets, credit cards, room keys, etc.
  - Remote top-up for kids' spending for food, and other purchases
- Customized experience for each visitor
- Improve visit experience with more real-time interactions

For Disney

- Valuable data on consumer behavior
- Reduce transaction charges paid to credit card companies
- Optimize employees and improve efficiency to reduce waste and costs
- Improve customer experience to drive repeat visitors

Case Study #3
Appirio/Anthem/Fitbit

Fitbit Product Features

Calories Burned

Progress & Analysis

Activity Tracking

Sleep Tracking

Share & Compete

Splash-proof

12680

Food Logging

Battery Life

Syncs Wirelessly

Value Creation

- **Anthem** offered $20k to **Appirio** to start a fitness program. **Appirio** decided to purchase **Fitbit** trackers and pay **Spire Wellness** to manage the program

- Teams and competitions via Salesforce Chatter are set up between work groups or between offices in different regions of the world to keep members engaged

- Aggregate user data as well as corporate information are integrated into the CloudFit program

- Appirio saved $280k in renewal fees with Anthem

- Appirio convinced Anthem the fitness program cut claim costs via aggregated data from Salesforce Chatter

Value Capture

For Appirio

- Reduced company healthcare costs
- Improved employees' health (reduce sick leave)
- Leveraging existing Salesforce infrastructure for team engagement and aggregated data collection

For Anthem

- Reduced claim costs
- Leverage this success story to market to other clients

For Fitbit

- New sales channel - corporate

For Spire Wellness

- New revenue from managing the Appirio program and to offer similar program to other clients

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Final Thoughts on Business Models

THE INTERNET OF THINGS REQUIRES A MINDSET SHIFT
Because you'll create and capture value differently.

		TRADITIONAL PRODUCT MINDSET	INTERNET OF THINGS MINDSET
VALUE CREATION	Customer needs	Solve for existing needs and lifestyle in a reactive manner	Address real-time and emergent needs in a predictive manner
	Offering	Stand alone product that becomes obsolete over time	Product refreshes through over-the-air updates and has synergy value
	Role of data	Single point data is used for future product requirements	Information convergence creates the experience for current products and enables services
VALUE CAPTURE	Path to profit	Sell the next product or device	Enable recurring revenue
	Control points	Potentially includes commodity advantages, IP ownership, & brand	Adds personalization and context; network effects between products
	Capability development	Leverage core competencies, existing resources & processes	Understand how other ecosystem partners make money

SOURCE SMART DESIGN

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