



APPLAUSE®
WINNING APPS GET IT

SO YOU THINK YOU'RE READY FOR THE INTERNET OF THINGS?

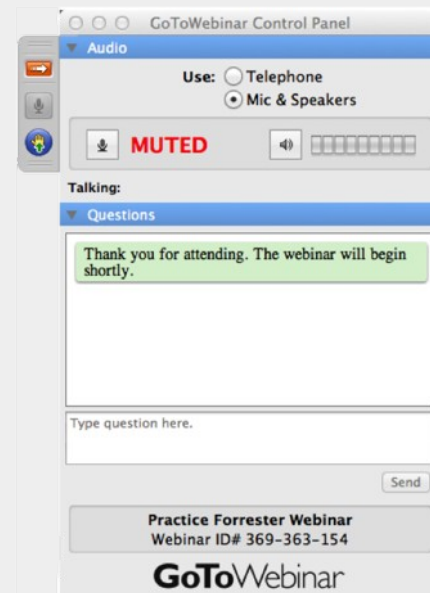
A Webinar Featuring Forrester Research

October 21st, 2015



WEBINAR LOGISTICS

- **Today's webinar is being recorded**
 - You will be emailed a link to catch up or share with colleagues
- **We welcome you're feedback**
 - These webinars get better with your input
- **Ask questions!**
 - If you're thinking it, someone else may be too
- **If you're having technical difficulties, jiggle the gas cap**
 - Just kidding, try logging in with a different browser



ABOUT THE PRESENTERS



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AGENDA

- **How does IoT fit into the Age of The Customer?** ☐
- **How do IoT Connected Products change Customer engagement?** ☒
- **What does it take to create an IoT app experience?** ☐
- **Challenges Of A Quality IoT experience** ☐
- **Testing in the IoT** ☐
- **Case studies of testing the IoT in the wild** ☐
- **Questions, comments, commendations** ☐

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CHALLENGE THINKING. LEAD CHANGE.

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The Internet of Things Transforms Customer Engagement

Frank E. Gillett

@FrankGillett

October 21, 2015

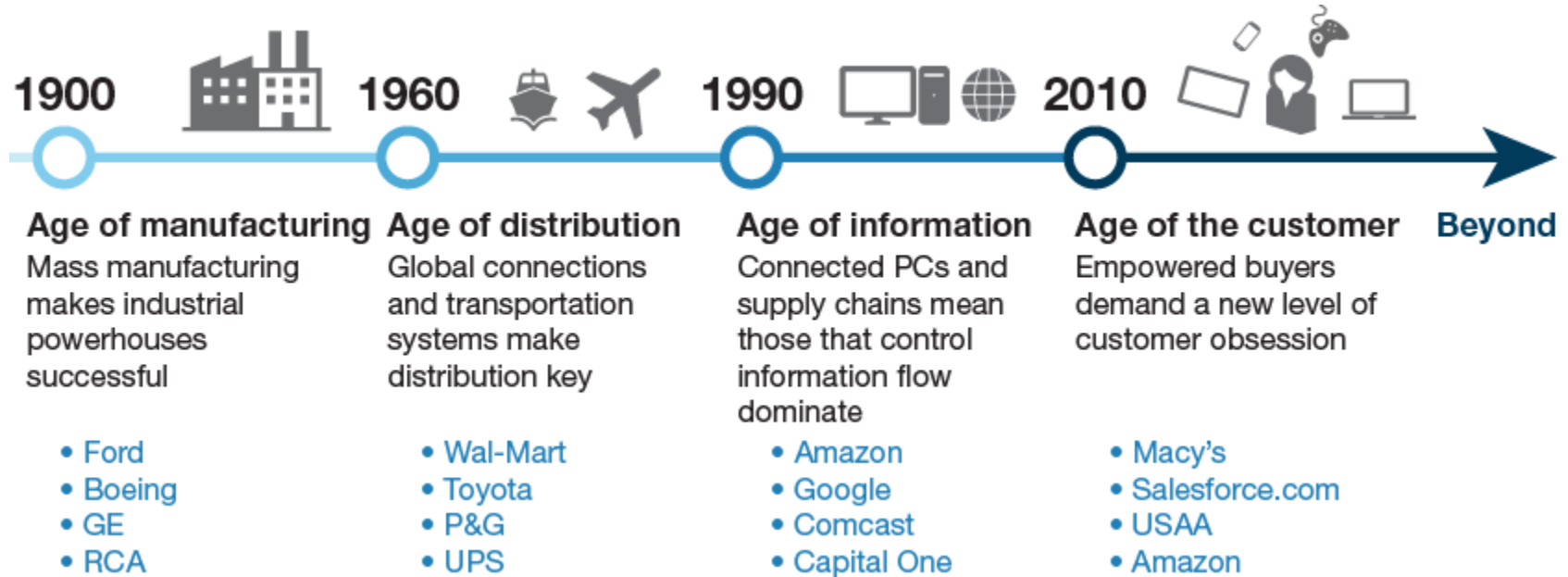




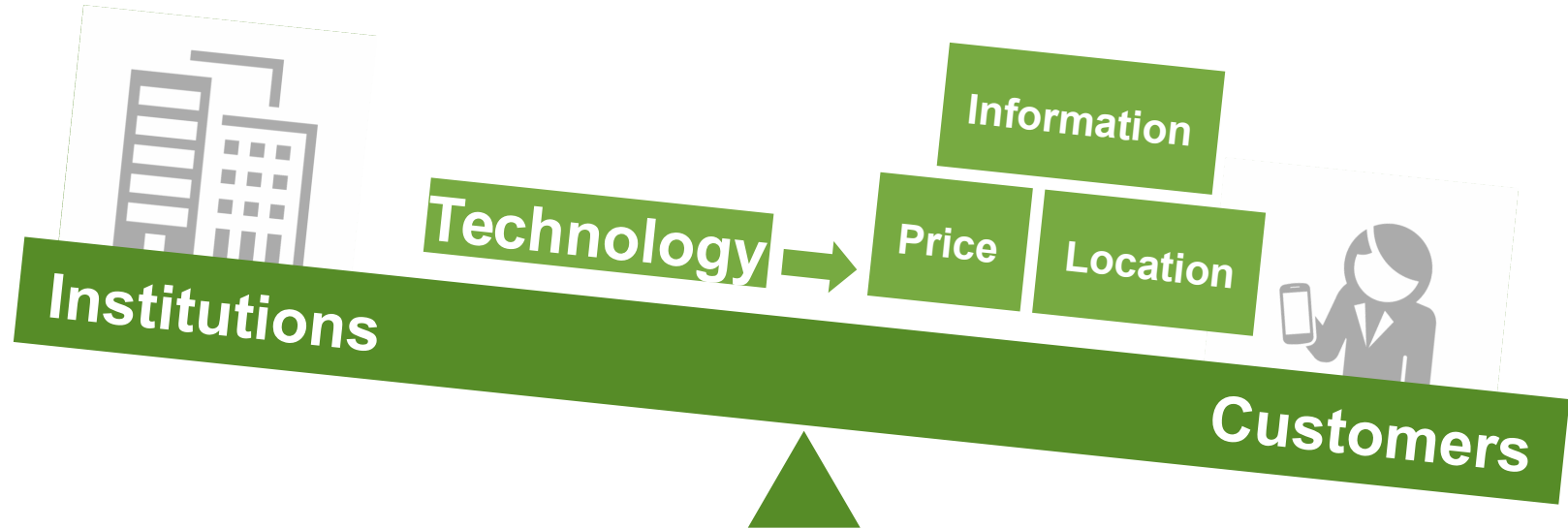
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We live in the age of the customer



The balance of information power has shifted



Four imperatives to win, serve, and retain empowered customers

AGE OF THE CUSTOMER:

When only the customer-obsessed will survive, companies must focus their business and technology decisions on four market imperatives:



of need.

2005



Image source: Associated Press (AP.org), picture taken by Michael Sohn

Luca Bruno / AP

2013

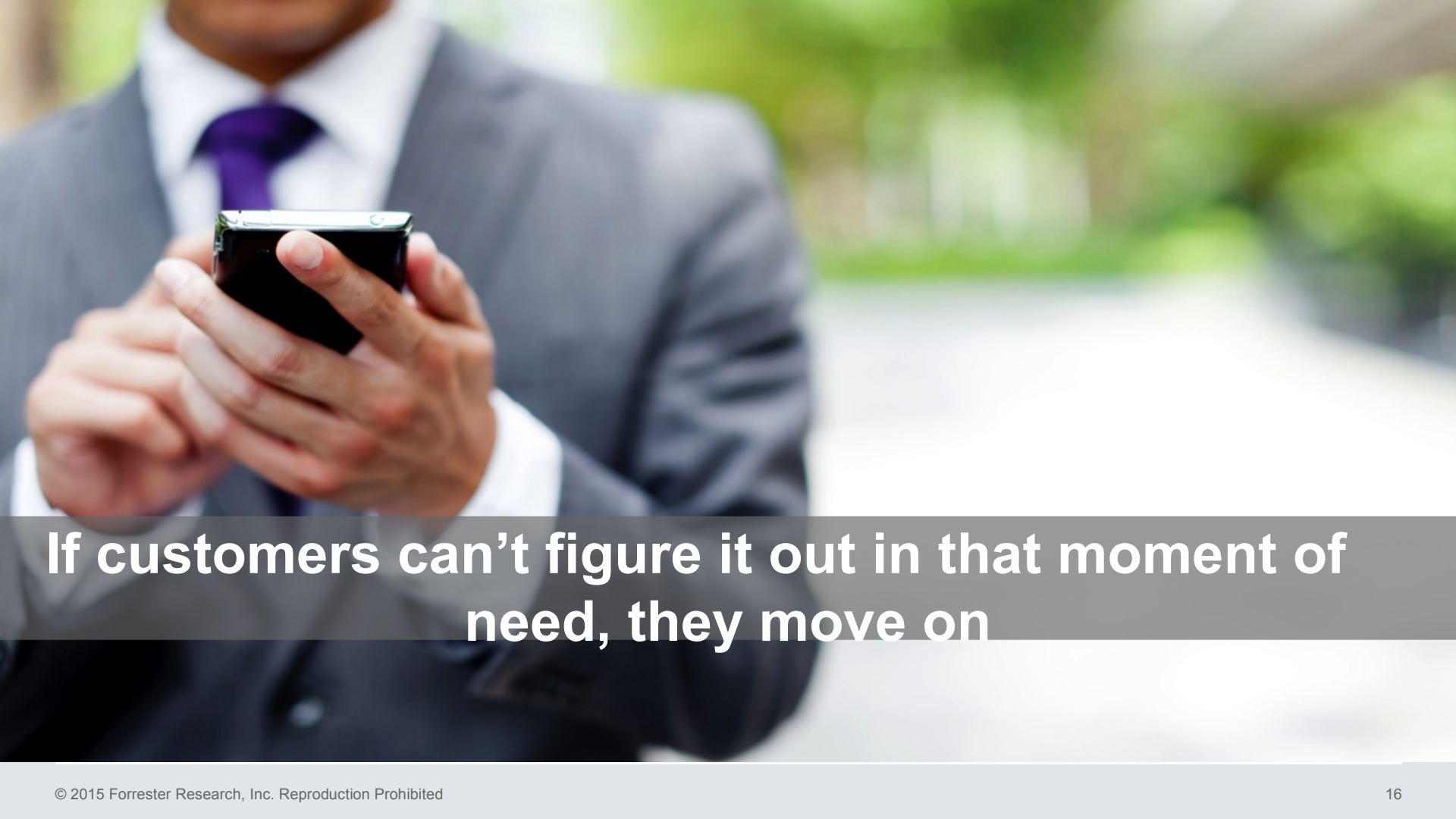


Image source: Associated Press (AP.org), photo by Michael Sohn

The mobile mind shift

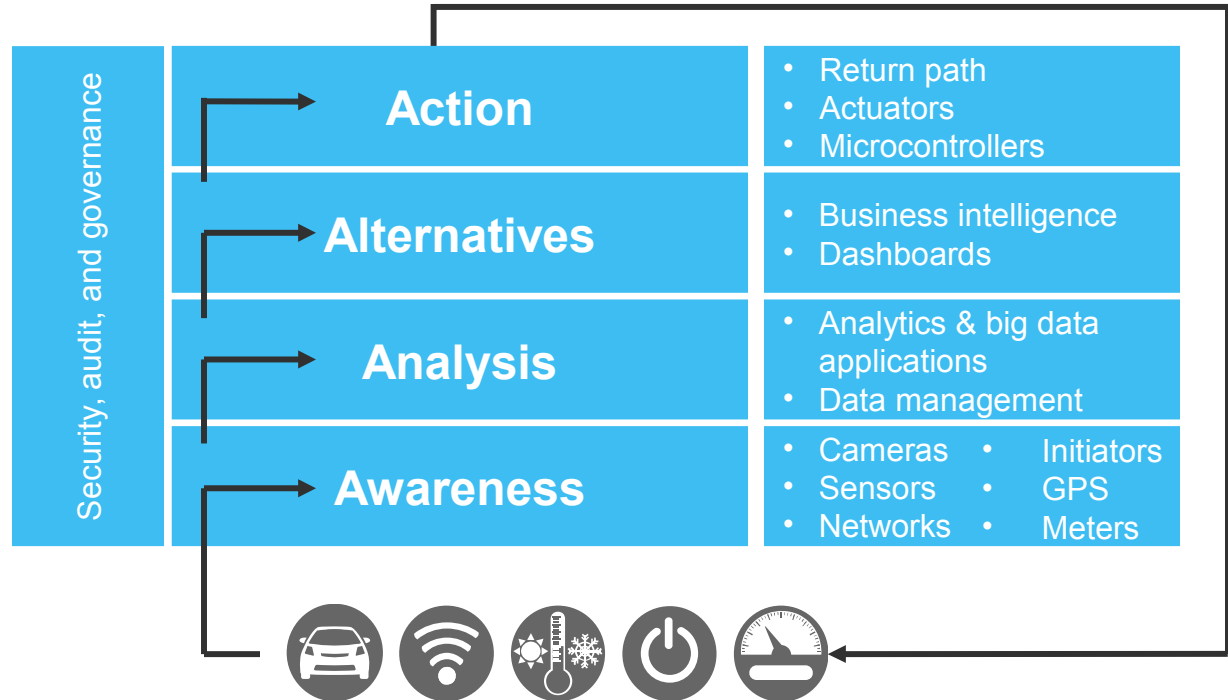
The expectation that I can get what I want in my **immediate context** and **moments of need**

Image source: Associated Press (AP.org), photo by Michael Sohn

A man in a dark grey suit, white shirt, and purple tie is holding a black smartphone with both hands. He is looking down at the screen. The background is a blurred outdoor scene with green foliage and a light-colored path.

**If customers can't figure it out in that moment of
need, they move on**

IoT data drives a feedback loop to digitize business and improve customer experience



- ▶ *How does IoT fit into the Age of The Customer?*
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Three levels IoT value propositions

BASED ON IMPROVED BUSINESS OUTCOMES



Optimize
physical assets



Innovate
new products
and services



Transform
customer
engagement

"We're going from using the customer as a sensor find out about the product's performance, to putting sensors in the product to learn about the customer's experience" - Russ Fadel, President of ThingWorx, a PTC company, at LiveWorx conference, May 2015

IoT enables better customer experiences

Eight ways that IoT enables customers to get products and services that:

1. Are designed and built for them
2. Give real time feedback
3. Deliver richer, personalized experiences
4. Improve over time
5. Work together seamlessly
6. Offer product-as-a-service options
7. Create assurance and peace of mind
8. Faster, more relevant design upgrade cycles

› Source: May 11, 2015, “Brief: The Internet Of Things Will Transform Customer Engagement” report.

1. Tailor products and services

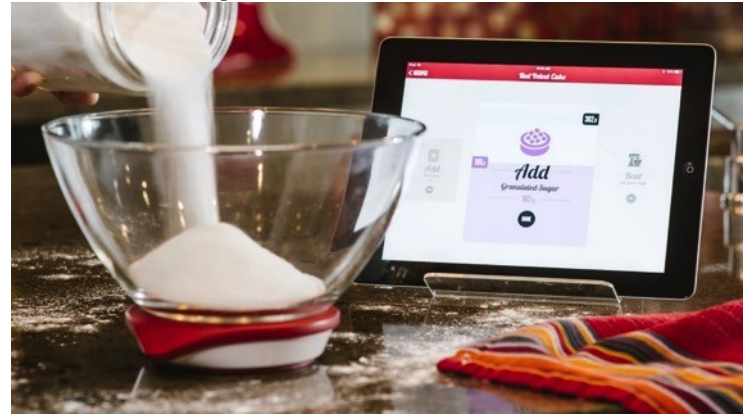


2. Give visibility into real-world events

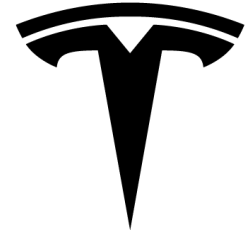


3. Deliver richer, more personalized experiences

Drop kitchen scale



4. Improve over time with software updates



5. Work together automatically

Samsung's SmartThings hub



6. Offer product-as-a-service options



7. Offer assurance and peace of mind



8. Provide faster, more relevant hardware upgrade cycles



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IoT-enabled offerings can deliver better experiences

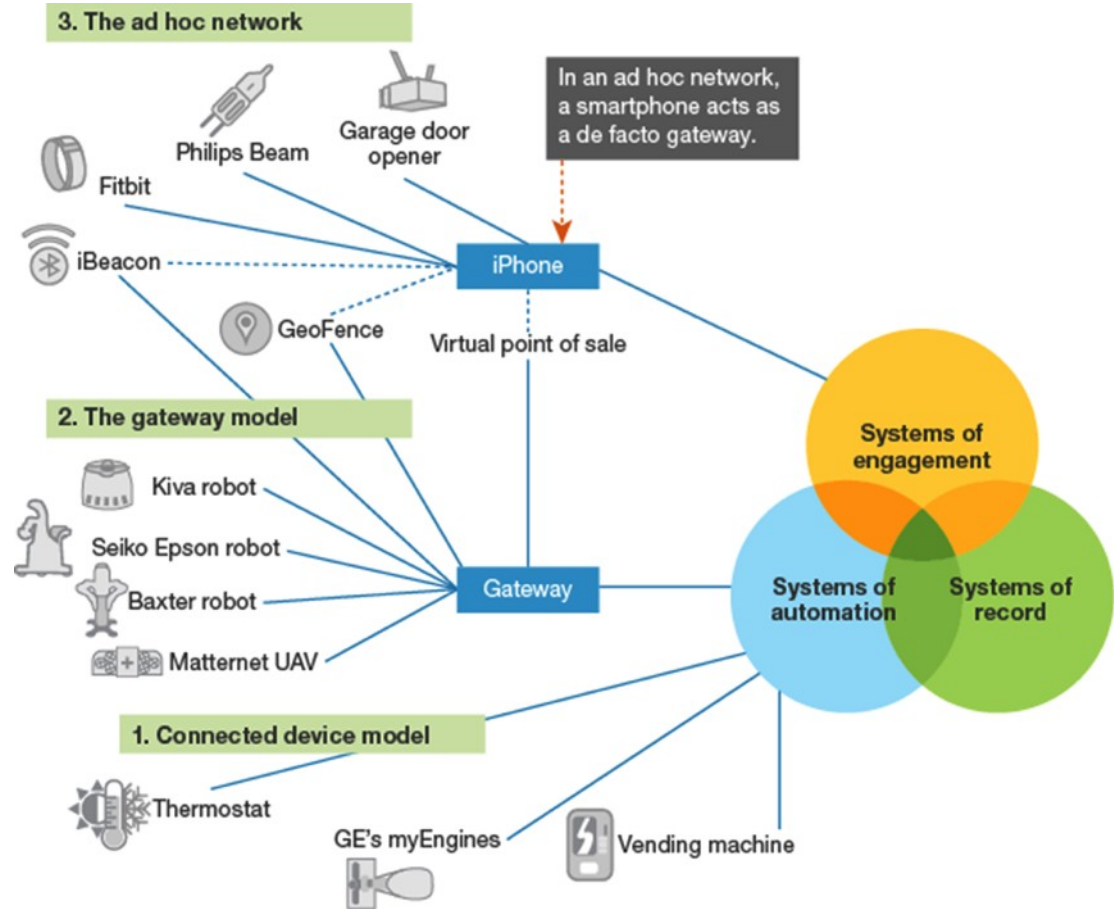
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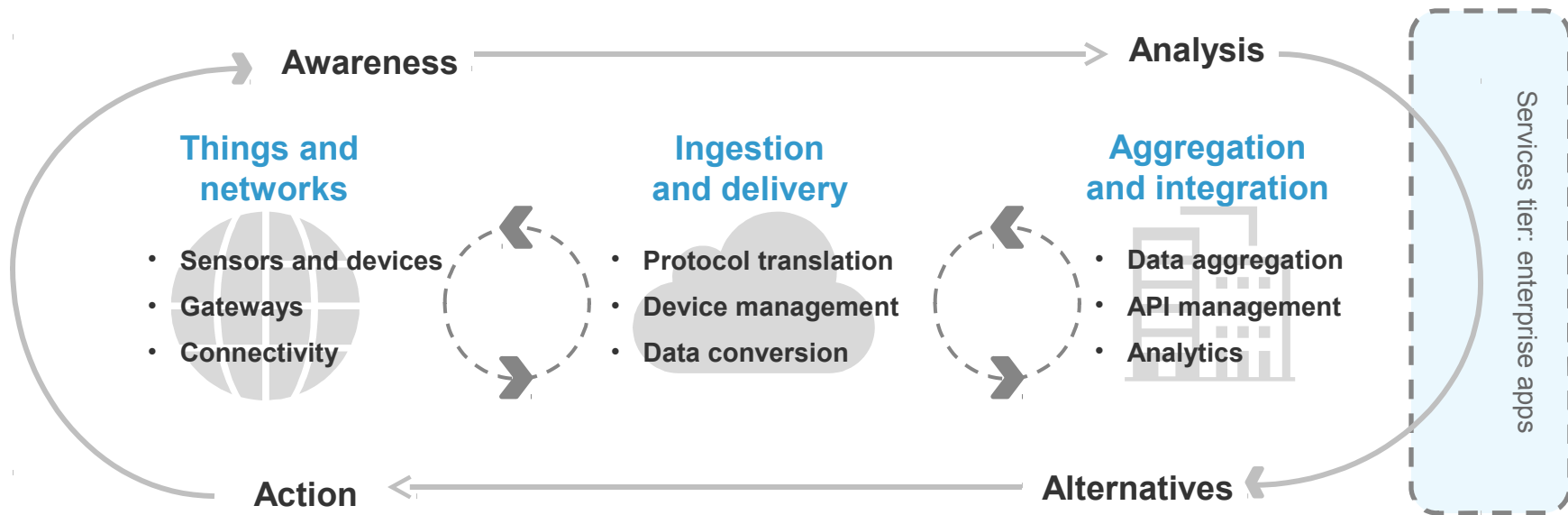
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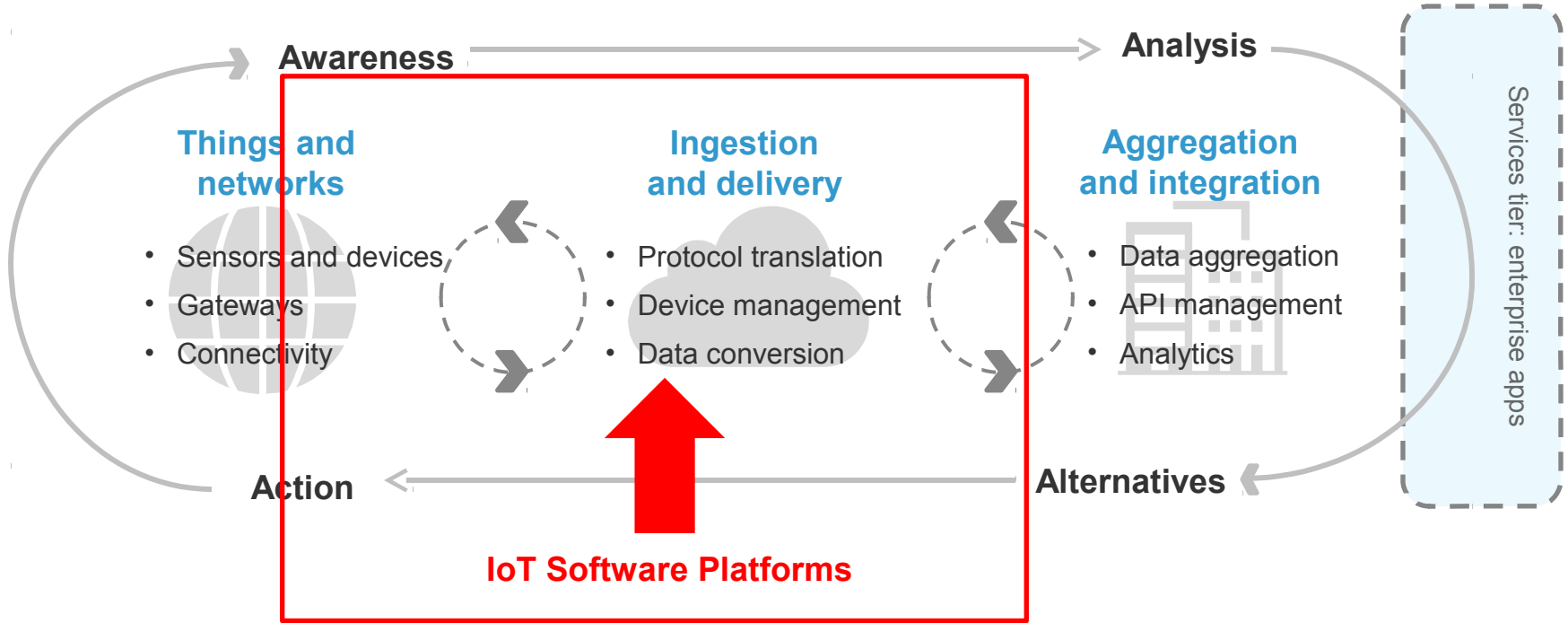
IoT connectivity can be complex and should be tested for real world experiences



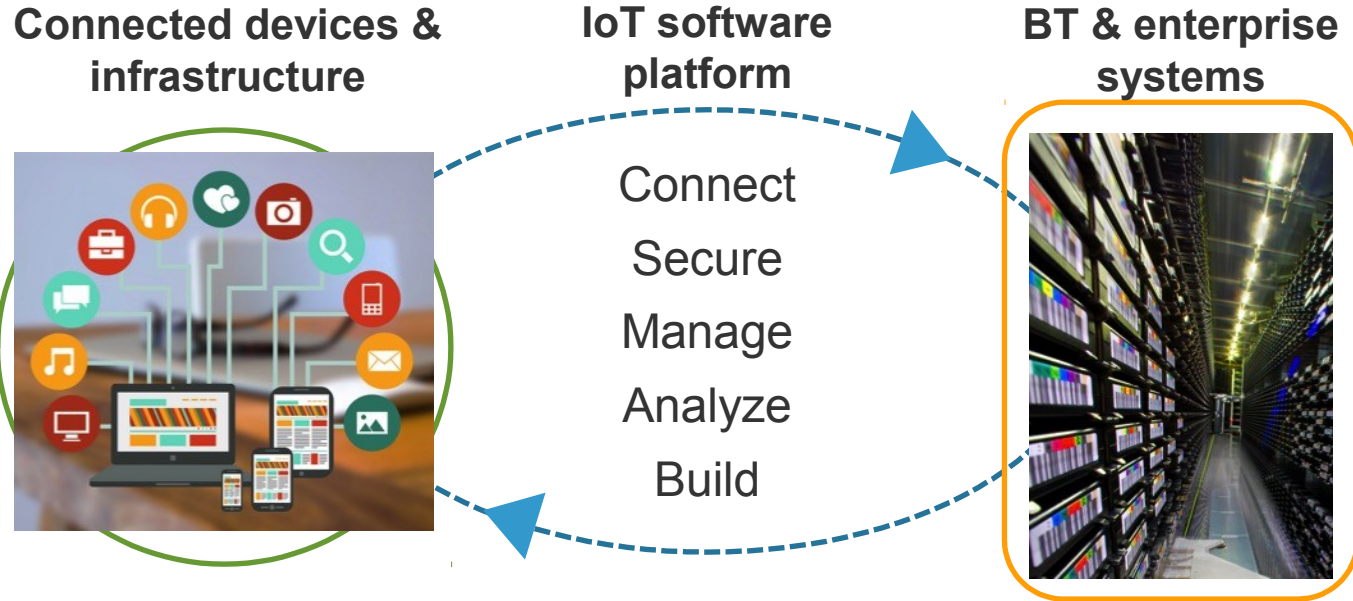
IoT requires much more than a mobile app: IoT architecture presents challenges




IoT requires much more than a mobile app: IoT architecture presents challenges



IoT Software Platform Integrates Edge Devices With Enterprise Systems



Source: "Internet of Things Software Platforms Simplify Business Transformation" Forrester report.

A close-up photograph of a hand with a finger touching a glowing blue surface, likely a digital screen. The background is dark with out-of-focus orange and yellow bokeh lights, suggesting an indoor setting with ambient lighting. A semi-transparent dark grey banner is overlaid across the top of the image, containing white text.

Integrating physical world and digital places a premium on real world testing

A QUICK REMINDER FROM WHERE WE CAME



CHALLENGES OF A QUALITY IOT EXPERIENCE

...

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OH LOOK, ANOTHER SCREEN!

- **IoT devices with an interface shouldn't be a slave to their mobile counterpart**
- **It's about transposing the experience, not transcribing it**
 - What makes the device unique?
 - What is the user trying to accomplish?
 - How do you leave the user alone?
 - How can you maintain your brand?
- **Use real estate wisely, but tap into the rest of the device**
 - Notifications
 - Sounds
 - Lights





SENSORS ARE EVERYWHERE. HOW DO YOU KEEP
THEM IN SYNC AND DECIDE THE MOST
ACCURATE DATA

YOU HAVE TO PLAY NICE WITH EVERYONE

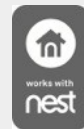
- **Where do you draw the line?**
 - Who do you integrate with?
 - What happens when you say no?
- **Integrations means more testing**
 - It's a moving target
 - Users don't care who broke their experience, you're to blame
- **Users don't listen**
 - Think beyond your minimum requirements
 - Think outside of your standard environments



android auto



Apple CarPlay





USERS EXPECT THEIR PRIVACY TO BE SECURED

TESTING IN THE IOT

...

APPLAUSE^o



The background image shows the interior of an anechoic chamber. The walls, floor, and ceiling are covered with blue, pyramidal-shaped electromagnetic absorbers designed to eliminate reflections. A measurement arm with a probe is visible on the right side, extending into the chamber. In the center-left, there is a small, dark, diamond-shaped opening or sensor.

YOUR LAB IS PERFECT...
AND THAT'S THE PROBLEM

A busy city street scene. In the foreground, a woman with long dark hair, wearing a blue jacket and a white scarf, is walking across the street while looking at her smartphone. Behind her is a yellow taxi cab with the number '1W42' on its roof. To the left of the taxi is a large black UPS truck. To the right, a man is riding a bicycle. In the background, there are other cars and buildings. The scene is brightly lit, suggesting it's daytime.

THE WORLD THESE DEVICES AND APPS
OPERATE IN IS FAR FROM PERFECT

THE 8 TENNANTS OF TESTING IOT...ITW

1. **Location, Location, Location**
2. **Vary The Environment**
3. **Test The Hardware**
4. **Then Test The Software**
5. **But Really, Test The Ecosystem**
6. **Test Like A User**
7. **Lock It Down**
8. **Be Ready For The Next Thing**

1. LOCATION, LOCATION, LOCATION

- Understand how your apps and devices perform under different connectivity, geographical and environmental conditions



2. Vary The Environment

- **Test everywhere your users are going to be**



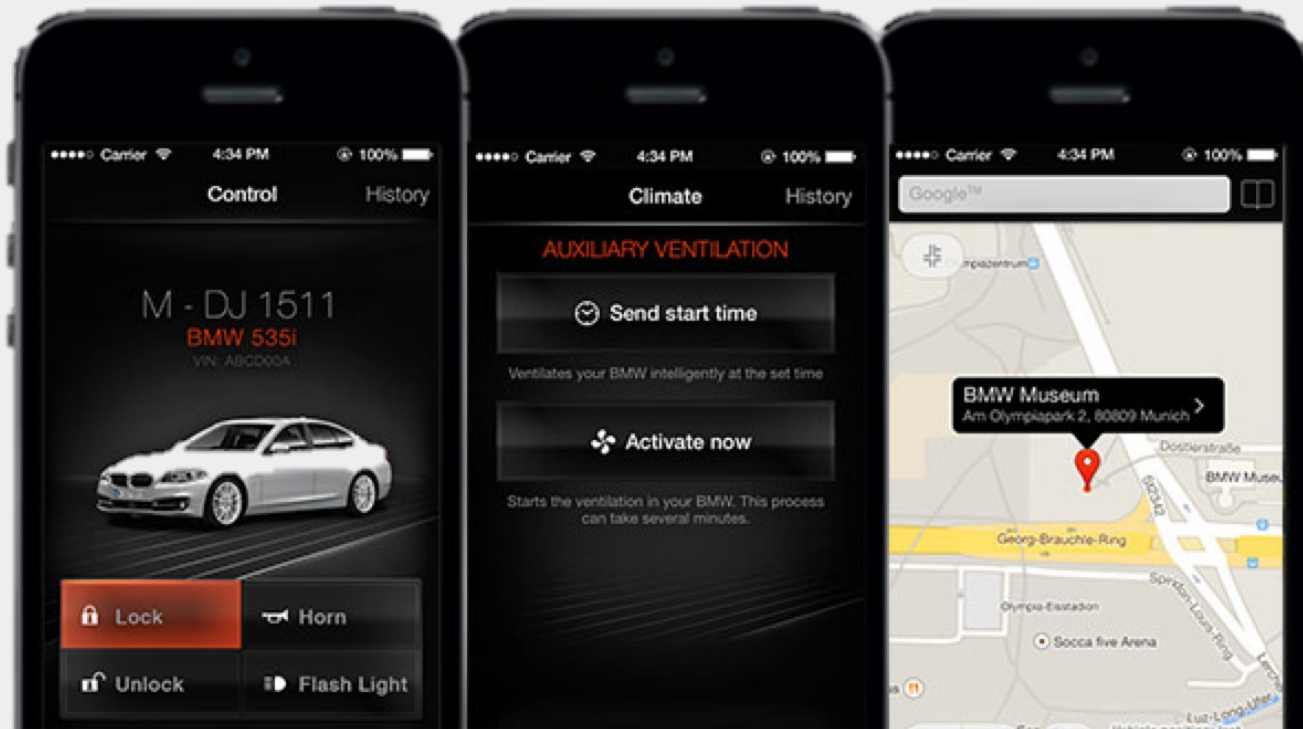
3. TEST THE HARDWARE

- **Ensure your hardware works on its own as intended**



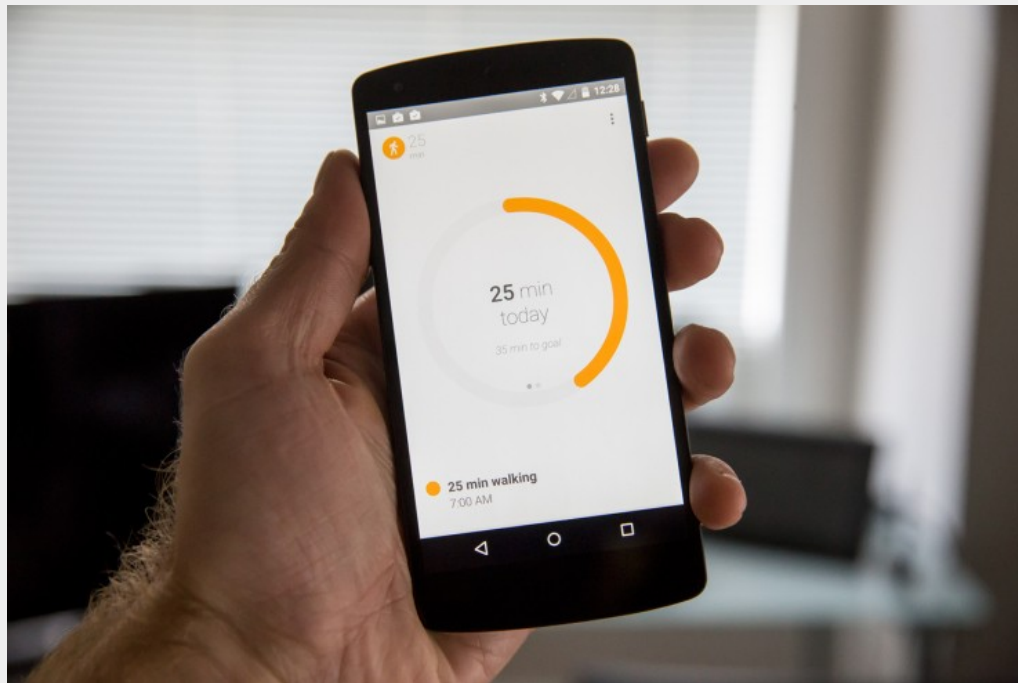
4. THEN TEST THE SOFTWARE

- Make sure your companion apps are bug & crash free, intuitive and stable



5. BUT REALLY TEST THE ECOSYSTEM

- **Make sure your sensors, app data and interfaces play well with others**



6. TEST LIKE A USER

- **Get in your users shoes to uncover issues you don't think about in the lab**



8. BE READY FOR THE NEXT THING

- The ecosystem around you is always changing... be prepared



Nest Weave

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CASE STUDY: LOCK ON LOCATION

- **CHALLENGE**

- A Smart Lock company came to Applause to test their lock on physical doors and better understand how their device handles in the wild

- **SOLUTION**

- Shipped devices to professional testers to install on their door
- Went through a thorough set of test cases to ensure usage
- Combined with exploratory testing to catch issues not thought of in the lab
- Performed a complete Usability Study to understand the setup process

- **IMPACT**

- Determined some locations with extreme weather required multiple unlock attempts leading to slight hardware tweaks
- Revamped the user on-boarding process to create a quicker and easier experience from box to locked, leading to improved customer satisfaction



CASE STUDY: SECURING SECURITY CAMERAS

- **CHALLENGE**

- An internet-enabled security camera provider wanted to verify that their third-party companion app was locked down

- **SOLUTION**

- Performed a security audit led by white hat experts to sniff out vulnerabilities

- **IMPACT**

- Uncovered issues related to the default password which could lead to camera control being taken over by a hacker
- Changed admin protocols to provide a safer consumer experience



CASE STUDY: WHERE DO I STORE THE CARS?

- **CHALLENGE**

- A leader in the connected car space wanted to test their connections to a variety of smartphones across new and legacy vehicles
- However, given the resources of the technology group, they could not store older vehicles to ensure backwards compatibility and perform regression testing

- **SOLUTION**

- Applause built a custom team of testers with the exact make, model year and options to test connectivity
- Applause was able to provide a view of testing for remote access and vehicles on the move

- **IMPACT**

- The car manufacturer was able to keep less old inventory on hand while ensuring they weren't disrupting their existing install base of loyal users



THANK YOU

QUESTIONS

For follow-up visit www.forrester.com
and www.applause.com/iot

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