Intel: enabling the *internet of things* collaboration and trust through omnichannel engagement

explore the market

- Where do I find thought leaders and what are they talking about?
- What is Intel's perspective?
- What products and services does Intel offer?

help me decide

- Why is this solution going to work?
- Can I support it?
- Can Intel help me find the right partner?

information at my fingertips

- Does Intel understand my needs?
- Can Intel show me how their solutions fit into my business?

keep me informed

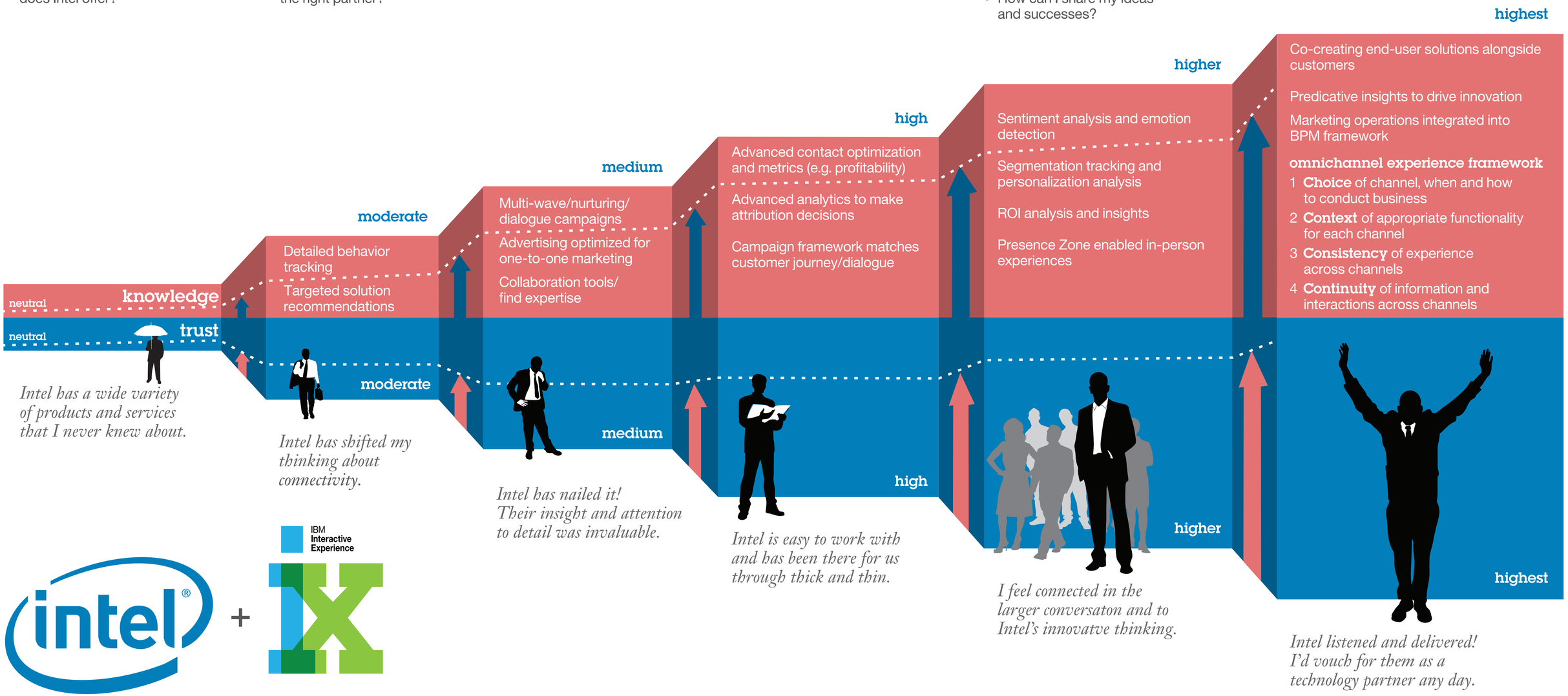
- Can Intel react quickly enough?
- Does Intel remember where we left the conversation off?

my peers and community

- Can Intel's other customers share their insight?
- How do I keep up when everything is changing so fast?
- How can I share my ideas and successes?

exceed my expectations

- Where is the market going and how will that impact my business?
- I have unique challenges; can Intel modify their solution?



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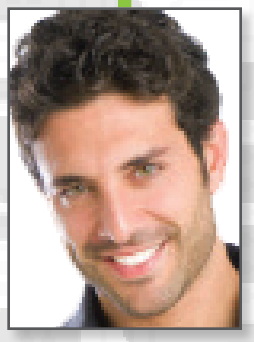


Internet of Things Persona Playbook

Version 14 | 18 February 2015

Sanjiv | Analytics Architect | ElectroCo

"Connected things need to make quality of life better by making us healthier, saving us money, averting disaster, or simply adding fun to our lives.

Machines are going to have to look after themselves to a scale they've never had to before."

About

Sanjiv has a wide range of experience as a systems developer, product manager and plant GM. He is a lifetime tinkerer, inventor and hardware and software developer. His current focus is developing products that leverage the power of IoT while delivering value to customers. He understands the IoT framework and the complexities of interoperability. He is the corporate advocate for delivering consumer value in a personalized experience. Achieving this requires him to architect a solution that integrates data from multiple sources, enabling quick and efficient analytics and delivering real-time information to customers. He is responsible for the monetization of IoT capabilities, insuring that it is recognized in the P&L statement and prioritized for investment based on the value delivered.

Sanjiv:

age: 42
marital status: married
children: 2
income: $140K
location: Seattle, WA
channel preference: peer-to-peer, seminars, and online forums

	1	2	3	4	5	6	7	8	9	10
risk taking:			●							
collaboration:									●	
value creation focus:							●			
technology enthusiasm:								●		
technology knowledge:									●	
brand loyalty:		●								
security/privacy concerns:					●					

ElectroCo:

industry: electronics consumer products
size: medium – large (global Americas)

Goals

- Organically grow revenue by 25% with IoT enabled solutions
- Find partners that provide solutions that compliment his products and services as well as enhance value

Touchpoints

- New product and innovation trade shows
- Webinars and educational seminars
- Online community forums

Pain Points

- Getting executives to put him on their calendars, much less understand the complex but valuable IoT solutions he's plugging
- Arranging new partnerships in innovators to develop simplified architecture

Source: IBM research and analysis; Intel-provided documentation

Tony | IoT Solutions Architect | ElectroCo

> *I know IoT is the next big trend, but what does that mean for us?*
>
> *Exploiting IoT could be a huge opportunity for ElectroCo.*

About

ElectroCo's CIO hired Tony after reading an MIT industry report he had co-authored with a professor there while doing a masters in information systems. While championing the latest, most innovative designs at work, Tony keeps the creativity going at home, tinkering with his Arduino board. With his in with the CIO, Tony thinks he can influence the team to take some risks and adopt large-scale IoT solutions that will make ElectroCo an edgy, successful leader in a tightly-regulated space.

Tony:

age: 33
marital status: married
children: none
income: $115K
location: San Mateo, CA
channel preference: online (i.e. work with technology forums)

	1	2	3	4	5	6	7	8	9	10
risk taking:							●			
collaboration:				●						
value creation focus:						●				
technology enthusiasm:									●	
technology knowledge:								●		
brand loyalty:					●					
security/privacy concerns:						●				

ElectroCo:

industry: electronics consumer products
size: medium – large (global Americas)

Goals

- Be CIO someday
- Own new IT initiatives
- Bring innovative solutions to the table

Touchpoints

- IoT MeetUps
- Hobbyist forums
- Nuts & Volts magazine
- Key IT conferences

Pain Points

- Balance pragmatism with innovation
- Finds pace of work slow and antiquated
- Feels underutilized; his role could be more strategic
- Hasn't yet figured out how to bring IoT to his company

Source: IBM research and analysis; Intel-provided documentation

Uwe | Operations Manager | ElectroCo

"I'm not going to make decisions without sufficient data on clear returns, but I'm willing to drive change in order to improve."

About

Uwe's day-to-day responsibilities include overseeing the procurement and sourcing of electronic components for a large-scale manufacturing plant. He believes technology plays an essential role in his key job responsibilities: increasing productivity and efficiency, working toward the goal of a zero defect operation, and new challenges with the physical site, like energy management. However, he's unsure if the organization has the correct data and talent to take advantage of the latest innovations – so he seeks input from IT, trusted vendors, and industry consultants while maintaining control of the final say.

His biggest asset is the operations workforce he manages. He empowers his people as best as he can with the latest information and tools in order to complete their job as safely and effectively as possible. Uwe has begun to learn about IoT solutions and is interested to learn more – he's eager to change the way the company does business from reactive to proactive. Ultimately, Uwe wants his shop to strive for perfection in all areas of operations – connecting people and technology to form a well-tuned and harmonious system.

Uwe:

age: 44
marital status: married
children: 3
income: $165K
location: San Mateo, CA
channel preference: peer-to-peer direct communication, web

	1	2	3	4	5	6	7	8	9	10
risk taking:			●							
collaboration:									●	
value creation focus:		●								
technology enthusiasm:								●		
technology knowledge:					●					
brand loyalty:							●			
security/privacy concerns:									●	

ElectroCo:

industry: Electronics (consumer products)
size: medium – large (global Americas)

Goals

- Increase productivity: work smarter and faster, with less waste
- Decrease costs while maintaining quality
- Shift toward strategic sourcing to drive increased value and ROI
- Distinguish himself within the Operations organization

Touchpoints

- Social: industry-specific blogs, LinkedIn
- Tradeshows
- Publications: trade magazines and white papers.

Pain Points

- Lack of sufficient data or talent to drive strategic sourcing initiatives
- Managing a variety of new touchpoints within the organization and educating people above operational systems and goals

Source: IBM research and analysis; Intel-provided documentation

Katie | Operations Analyst | ElectroCo

"Predictive analytics will drive improvements in production line performance.

Things can be extremely smart on their own, but they need the power of data and analytics to realize their potential."

About

Katie began her career as a Production Manger and is a disciple of lean and agile methods. A veteran at big data management, analytics and information interpretation, Katie finds the Internet of Things to be a refreshing renaissance to her roots in production optimization. She believes that analytics will provide guidance for improvements to processes and cost profiles. Her recommendations focus on the total cost of ownership and support, as opposed to short term material cost savings. Today she leads the Operational Analytics Center of Competency bringing years of experience in data design, predictive analytics and business case models. She is experienced in program management, operational transformation and data, driven value realization. Her team coordinates investments in all aspects of Tooling, Engineering, Supplier Management, Quality Assurance, Safety and Ergonomics.

Katie:

age: 48
marital status: single
children: none
income: $155K
location: Everett, WA
channel preference: peer-to-peer direct communication, web

	1	2	3	4	5	6	7	8	9	10
risk taking:							●			
collaboration:									●	
value creation focus:									●	
technology enthusiasm:						●				
technology knowledge:				●						
brand loyalty:						●				
security/privacy concerns:				●						

ElectroCo:

industry: electronics consumer products
size: medium – large (global Americas)

Goals

- Reduce operational costs through predictive analysis
- Develop a 'factory of the future'
- Drive global adoption of operational analytics and improvement

Touchpoints

- Webinars and educational seminars
- Online tutorials, training and reference manuals
- Online professional communities

Pain Points

- Getting the relevant data needed for operational analysis
- Achieving executive support for transformation projects
- Getting the discussion started – and the budget – to make an upgrade production machines possible

Source: IBM research and analysis; Intel-provided documentation

Trent | Strategic Sourcing Manager | ElectroCo

"We're looking at a very broad range of options. We'll move forward with the partner that can best innovate and scale right along side us."

About

Trent was recently thrust into a role with responsibility for business development and strategic sourcing on a cross-functional team that is aiming to identify and exploit organic growth opportunities for the firm. Currently the team is exploring possible product-market fit for an Analytics as a Service (AaaS) solution consisting of a miniature benchtop lab device and processing power on the cloud. Trent is leading the effort to select partners to provide IoT expertise from the edge to the cloud and back and has been meeting with potential collaborators ranging from startups to multi-national firms.

Trent:

age: 41
marital status: married
children: 3
income: $170K
location: San Mateo, CA
channel preference: print, digital, in-person, events, social

	1	2	3	4	5	6	7	8	9	10
risk taking:						●				
collaboration:								●		
value creation focus:								●		
technology enthusiasm:						●				
technology knowledge:				●						
brand loyalty:							●			
security/privacy concerns:				●						

ElectroCo:

industry: Electronics (consumer products)
size: medium – large (global Americas)

Goals

- Wants to be seen as a valued team contributor
- Rally and motivate employees
- Get a promotion

Touchpoints

- Industry events and professional associations (CAUCUS)
- Publications: Fast Company, WSJ, Techcrunch, Harvard Business Review, TED
- Occasional tech MeetUps

Pain Points

- Minimal technical know-how
- Concerns regarding partner ROI
- Worries about partners' values and ethics

Source: IBM research and analysis; Intel-provided documentation

Dan | Business Development Manager | Systegration Solutions Consulting

"I might not be technical but I know my client's products - and their favorite sports teams, too.

I know my Systegration team is the best in the business, but, it can be tough to sell new work when we're the first to build that solution."

About

Dan believes his efforts are the key to taking his company to the next level. His major plays: strategic relationships, lots of facetime with the client, and innovative solution design customized to his audience. He understands that there is currently demand for instrumented, interconnected, and intelligent devices from his clients and is anxious to provide what they need. He's well versed in his team's capabilities but sometimes falters when it comes to techtalk or industryspeak. Because Dan's track record is champion-level, his CEO has set a high hurdle of sales goals and he's confident he can reach them... at least, he always brings his game face.

Dan:

age: 48
marital status: married
children: 2
income: $170K
location: Austin, TX
channel preference: in-person, phone, digital, media

	1	2	3	4	5	6	7	8	9	10
risk taking:								●		
collaboration:										●
value creation focus:						●				
technology enthusiasm:								●		
technology knowledge:			●							
brand loyalty:						●				
security/privacy concerns:				●						

Systegration:

industry: services
size: mid-sized

Dan, an MBA graduate of Arizona State University's Thunderbird School of Management, is an ambitious, chatty guy who relishes a good project sale as much as he likes a good round of golf.

Goals

- Career progression
- Beating sales targets
- Winning the business
- Crushing the competition.

Touchpoints

- Events driven: SxSW, CES, MobileWorld
- Industry/trade magazines for focus verticals: LinkedIn, WSJ, TechCrunch, Fortune.

Pain Points

- Lack of technical knowledge
- Newer to market with limited relationships.

Source: IBM research and analysis; Intel-provided documentation

Ravi | Director of Information Technology | ElectroCo

"We are well-positioned for growth in these increasingly complex times. I maintain a close network of trusted peers for advice and help to keep me on the bleeding edge."

About

Ravi reports to the CIO and as a Director he is responsible for most decisions relating to hardware and infrastructure. He works closely with business units to understand their needs as his #1 priority is ROI from IT solutions. As Ravi has a business, rather than IT, background, he relies heavily on his team to understand emerging technology and is currently very interested in potential cost savings from transitioning to the cloud.

Ravi:

age: 47
marital status: married
children: 3
income: $180K
location: San Mateo, CA
channel preference: his team: to reach Ravi, reach his team

	1	2	3	4	5	6	7	8	9	10
risk taking:							●			
collaboration:							●			
value creation focus:								●		
technology enthusiasm:										●
technology knowledge:						●				
brand loyalty:						●				
security/privacy concerns:							●			

ElectroCo:

industry: Electronics (consumer products)
size: medium – large (global Americas)

Goals

- Ensuring the visibility of the ROI provided by IT throughout the firm by providing transformational solutions
- To succeed through the visibility of his solutions and his team, not his own
- Keeping the team excited and motivated

Touchpoints

- Listens to his team above all else
- Wall Street Journal
- Industry press: CIO Magazine

Pain Points

- Ensuring that technology can integrate with marketing to provide seamless consumer and end-user experiences across various legacy systems and applications
- Having to rely on his team to understand complicated technical concepts

Source: Intel-provided documentation

Jen | CMO | ElectroCo

> *I know the next big thing when I see it. And, I make sure that I see a lot.*

About

Though Jen's background is non-technical, coming from the account management side of Ogilvy, she is championing the use of IoT as a progressive leader in a conservative industry. As CMO she is responsible for all marketing activities. She does not have final decision-making authority on technology spend but initiates consideration of IoT solutions in order to communicate with customers and ensure a compelling omnichannel experience.

Jen:

age: 42
marital status: married
children: none
income: $500K
location: San Mateo, CA
channel preference: industry pulse through online and print

	1	2	3	4	5	6	7	8	9	10
risk taking:								●		
collaboration:									●	
value creation focus:										●
technology enthusiasm:										●
technology knowledge:							●			
brand loyalty:								●		
security/privacy concerns:				●						

ElectroCo:

industry: Electronics (consumer products)
size: medium – large (global Americas)

Goals

- Enhancing customer experience and achieving business / marketing goals through smart use of IoT solutions
- To be a changing agent leading the transition to a richer, more personal and more holistic customer experience

Touchpoints

- Industry experts and consultants
- Reads analyst reports and white papers

Pain Points

- Customer touchpoints are currently inconsistent, designed for internal operational efficiency
- Customer data cannot be accessed nor made actionable in real time
- No simple way to track metrics that prove ROI from current marketing infrastructure and investments

Source: Intel-provided documentation

Cathy | Hybrid Software Developer | ElectroCo

"I'm an innovator. My colleagues and I are always looking for ways to increase our efficiency through shortcuts and workarounds."

About

A self-described "jack-of-all-trades," Cathy is undaunted by learning new languages, in both the coding and business world. As a hybrid developer, Cathy can see the full system blueprint and understand each detail. With her team, she enjoys seeing systems connect, creating new 'things,' and designing from practical human use. With a strong mind for business, this double-edged sword also knows what questions to ask, where to get data from, and what actionable insights she can provide. She's aware of current limitations, like budgets and the conservative industry she is in, but for Cathy, the sky is the limit on what technology can do. Though newer to the company, she holds the keys to more hands-on knowledge and creative perspective in the technology realm, and has the potential to become a real leader at ElectroCo, or whichever firm steals her out eventually. Undaunted by learning new languages. Holds the system-wide view in all its glorious detail. Enjoys making systems work together, creating new "things," designing for human needs, and providing actionable insights.

Cathy:

age: 30
marital status: single
children: none
income: $110K
location: San Mateo, CA
channel preference: events; digital: social, mobile and web

	1	2	3	4	5	6	7	8	9	10
risk taking:								●		
collaboration:								●		
value creation focus:				●						
technology enthusiasm:										●
technology knowledge:										●
brand loyalty:						●				
security/privacy concerns:							●			

ElectroCo:

industry: Electronics (consumer products)
size: medium – large (global Americas)

Goals

- To ensure that the unique mix of skills she brings to the table is valued by management
- Provide useful and usable solutions

Touchpoints

- Tech MeetUps when she can
- Larger conferences in the area, like RTECC
- Online forums like Intel EDC, Stack Overflow, and GitHub

Pain Points

- Often seen as a replaceable, outsourceable laborer, and not yet seen as a strategist or key decision maker
- Faces challenge to integrate many different edge and platform technologies

Source: Intel-provided documentation

Carlos | Hardware Developer | ElectroCo

> *I know people throughout this industry and I don't mind passing business to well-qualified friends.*

About

A hardware developer by day, Carlos' passion is building robots with his buddies at night. Carlos loves a challenge, whether at work or in his personal life – this explains his rock climbing hobby and the fact that he will leave an employer at the drop of a hat if the work gets too easy or regimented – Carlos does not like to be micromanaged. Carlos is often brand-agnostic: he'd rather buy from an unknown that provides open-source, top-notch components across vendors, but at work, he seems the compelling reason to buy an end-to-end solution from a highly-regarded brand. Though he likes problem-solving, he would want ElectroCo to have hardware systems that aren't causing problems, and he knows some brands can provide better support, with a pricetag.

Carlos:

age: 35
marital status: single
children: none
income: $120K
location: Seattle, WA
channel preference: digital, face-to-face, conferences/ workshops, hackathons

	1	2	3	4	5	6	7	8	9	10
risk taking:										●
collaboration:							●			
value creation focus:					●					
technology enthusiasm:										●
technology knowledge:										●
brand loyalty:		●								
security/privacy concerns:						●				

ElectroCo:

industry: Electronics (consumer products)
size: medium – large (global Americas)

Goals

- Create solutions to challenging problems from scratch
- To build his personal brand as an expert in the IoT space

Touchpoints

- Google is his first go-to for questions
- User-driven communities and forums, like Intel's, where he asks and advises peers
- Product documentation
- Hand-on workshops

Pain Points

- Hard to find relevant information on specific topics online
- Past vendors have provided minimal post-sales support, diminishing investment value and making a sceptic of Carlos
- Insufficient information to make the "make vs. buy" decision

Source: Intel-provided documentation

Intel

Internet of Things Journey Map **Predictive Maintenance**

Scenario

ElectroCo experiences lost revenue and expensive emergency repair costs due to unplanned downtime when assembly line equipment fails. ElectroCo would like to reduce unplanned downtime by proactively predicting service needs and scheduling maintenance during off-peak times.

Decision Making Unit

Uwe, *Operations Manager*
Uwe experiences the pain point of unplanned downtime

Sanjiv, *Analytics Architect*
Sanjiv is responsible for analytics across ElectroCo

Katie, *Operations Analyst*
Katie works for Uwe and is charged with optimizing operations

Tony, *IoT Solutions Architect*
Tony is charged with finding value in IoT for ElectroCo

Ravi, *IT Director*
Ravi is an IT decision maker and is familiar with Intel's non-IoT offerings

Dan, *System Integrator*
Dan's firm has existing relationships with both ElectroCo and Intel

Sales Stage

Qualify	Define	Develop	Design Win	Production Win

Awareness

Ravi, an IT director at ElectroCo, recently read a WSJ article on the emerging application of the Internet of Things to industrial spaces. He was familiar with IoT for the consumer and has his own FitBit, but hadn't really considered the enterprise implications of such devices. He gets the weekly IT@Intel newsletter and knows the brand from its strong presence in the tech space. He's attended non-IoT Intel-sponsored events. Ravi also has a relationship with Dan, whose system integration firm has done work for ElectroCo in the past.

After a meeting between ElectroCo's IT and Ops teams to discuss 2015 initiatives, Ravi shares the WSJ article with Uwe, who he knows is open to new technology that will help improve equipment efficiency.

Discovery

Uwe shares the article with Katie, Sanjiv and Tony to start researching the sort of IoT solutions that could be implemented for their organization. As they all fire up their search engines, key terms like 'Intro to IoT,' 'IoT for operations,' and 'manufacturing maintenance analytics' come into play. Will Intel's site come up?

Thanks to some buyer-type specific IoT content on Intel's site, Katie finds IoT 101 and so her education begins. Tony is looking at the site of a distributor he has a relationship with, where Intel products are featured as well.

Ravi forwards Uwe a webinar about IoT for Industry, and he sees the highlighted use cases from Intel and their partners, a brand he knows and recognizes at a high level.

Consideration

At their research check-in, Katie, Sanjiv and Tony share some initial thoughts about their findings, and Uwe forwards them the webinar information. Katie shares the IoT 101 link around, which leads Tony to the IoT Solutions Directory, where he sees some familiar names, and potential new partners to make all kinds of solutions happen.

The Intel site reacts to Tony's browsing the solutions page for a while and suggests he check out the IoT Advisor and Product Wizard. Tony explores it, and then schedules time to share his findings with Uwe. The Wizard tool has done most of the legwork for the team, providing a comprehensive OEM, ODM and software solution based on some inputs from Uwe and Tony about the current organization's capabilities and needs.

Ravi is also contacted by Dan around this time, offering a demo of a new analytics system, based on Intel chip feedback for machinery. Ravi invites Dan to come and show him, Tony and Uwe the demo.

Evaluation

From a recent feature in a local maker newsletter he receives, Tony knows Intel has an accelerator space for IoT solutions. He suggests he take a day to go work on a proof of concept over there. Uwe asks Dan to join Tony there, since Ravi has recommended him as a possible partner for project implementation.

Uwe also asks Sanjiv to work through the business case for the solution, which Intel's site has a tool for, linked from the IoT 101 page Katie had shared.

Uwe invites the full team back together to hear about Tony's workshop experience and see the outputs of Sanjiv's business case.

Decision

Dan helps Tony complete the plans using an Intel site configure/price/quote tool they were shown at the accelerator space – the tool has been prefilled with some of the information gathered at the space.

Within a week, Uwe and Ravi are able to approve Dan and Tony's plans. The four plus Sanjiv attend the signing meeting where they click the virtual checkout, an embedded partner site through Intel's page, using the preferred distributor Tony had been researching through early on.

Delivery

As soon as the purchase is accepted, Uwe receives a confirmation, with a link to track the packages coming his way. As expected, Uwe receives a welcome package with details, specs and all his team needs to know and to get the support they need to get up-and-running.

A specialized delivery team from the distributor comes to facilitate initial installation. Since ElectroCo has worked with this distributor before, the transition feels familiar and easy.

Support/Service

The units have been embedded and the networks have been connected, but Tony has been facing a security error that's blocking his go-live date. After scanning the forums, he submits a request for an Intel direct response. Because of his premium support package, a local Intel Field Engineer is able to come out and troubleshoot with Tony on-site.

Thanks to an Intel webinar on what data to pull to measure the right systems, Katie and Sanjiv were able to customize some dashboard reports that provide the insights needed for operational efficiency and ROI reporting.

Dan's team is also providing regular feedback as a partner responsibility, keeping Intel up to date on how the project has turned out.

Growth/Advocacy

Tony has become a regular reader on the community forums, particularly around getting the most out of your system. He's begun verifying himself as an expert by responding to other posts. He's invited to speak at the IDF as an Intel-verified expert.

Ravi's recent blog on the challenges and successes of pioneering an IoT solution is picked up by IT@Intel as a 'Read of the Day.' He and Uwe are asked to contribute their project story as a use case for an upcoming white paper Intel is co-authoring with a research partner. The white paper is later sent over in a quarterly 'What's New' newsletter for Open Interconnect Consortium members, Intel's clients who are paving the way for IoT pioneering across industries.

touchpoints

- reports and articles
- face-to-face
- partner
- web
- social
- event/space
- email
- delivery service
- phone

Capabilities

Awareness	Discovery	Consideration	Evaluation	Decision	Delivery	Support/Service	Growth/Advocacy
· Traditional Advertising · Public Relations · Content Strategy and Creation · Partner Initiatives · Social Sharing	· Partner Initiatives · Content Strategy and Creation · Webinar · SEO and SEM Optimized Content · Traditional Advertising	· Partner Initiatives · Content Strategy and Creation · Web Personalization · Social Sharing · Cognitive IoT Advisor	· Accelerator Space · Design-In · Sponsor Content and Communities · Public Relations · Business Value Tool	· Solution, Price, and Quote Tool · Master Data Management · Auto-Filled Forms · Easy Contract-Signing Tool · Partner Initiatives	· Personalized Follow-up · Order Management Tool · Delivery Experience · Field Deployed Engineers · Documentation/Support Package and Quick Start Guide	· Field-Deployed Engineers · Webinars · Premium Support · Partner Initiatives	· Community Forums · Verified Peer Experts · Partnership Development · Content Strategy and Creation · Event Strategy and Execution · Marketing Automation

Metrics

Awareness	Discovery	Consideration	Evaluation	Decision	Delivery	Support/Service	Growth/Advocacy
· Share of Voice · # of Active Registered Users	· Share of Voice	· % Inquiry to Prospect · Cost per Customer Interaction · Channel Usage Rate	· % Prospect to Marketing Qualified Lead · Cost per Customer Transaction · Channel Usage Rate · Channel Adoption Rate	· % Marketing Qualified Lead to Sales Qualified Lead · % Sales Qualified Lead to Win · Marketing and Sales Expense as a % of Total Revenue · % Sales Direct vs. Indirect · % Sales <5M		· Service Cost as a % of Sales · Cost per Transaction · % Sales by Account Type · % Resolution Thru Self Service	· Customer Retention Rate · Net Promoter Score

Intel

Internet of Things Journey Map **Smart Buildings**

Scenario

ElectroCo product manager Katie is responsible for identifying innovation opportunities to bring new products to market. Katie heard about ElectroCo's internal success with Intel IoT for operations. Her local paper covered energy-savvy tax rebates for building owners, and she's been wondering if this could trickle down to reduce her rent. Knowing that her superintendent is not very technically savvy, Katie envisions an out-of-the-box smart buildings product that would enable building managers to easily connect the edge to the cloud and automate energy savings. Katie must now find out whether such a solution is technically feasible, if there would be demand for this product, and whether the offering would be profitable for ElectroCo.

Decision Making Unit

Katie, *Product Manager*
Katie shares many attributes with Katie the Operations Analyst except that her duties are to manage a product portfolio: constantly innovate, advocate for her assigned products and the customers of those products internally.

Tony, *IoT Solutions Architect*
Tony is charged with finding value in IoT solutions for ElectroCo.

Carlos, *Hardware Developer*
Carlos was hired to build new connected device hardware solutions.

Cathy, *Hybrid Software Developer*
Cathy is capable of coding to UI, Data, the Edge, and Infrastructure as well as overseeing development teams.

Dan, *Business Development*
Dan is a service provider and Intel distributor that has existing relationships with ElectroCo.

Sales Stage

Qualify	Define	Develop	Design Win	Production Win

Awareness

Through an online product innovation professionals network, Katie attends an IoT innovation webinar. Based on the use cases described, she decided to further explore an innovation opportunity regarding smarter building energy solutions.

Katie's only other experience within the field of IoT is her own "smart" thermostat, but she knows there are more opportunities for costs savings through a true IoT end-to-end solution.

With a high-level understanding of a few IoT solutions that could work for ElectroCo, Katie sends her trusted software and hardware development leads, Cathy and Carlos, to IDF to familiarize themselves with IoT solutions, capabilities, and specifications.

Katie engages in additional research while Carlos and Cathy are away. She reads a variety of white papers she found through Google and learns about a few marketplace offerings involving IoT – including an interesting solution where Intel partnered with another firm to create a HVAC regulation system for commercial real estate.

Cathy and Carlos made several contacts at IDF and Intel's Next Best Action System recommends a follow-up call. During Carlos' call with Intel, he is invited to the Developers Program, offering access to insider knowledge and samples. He receives further information from Intel via email.

Discovery

Upon returning to work, Cathy starts reading her go-to blogs and forums to begin a competitive landscape analysis. This review allows her to complete her knowledge of the capabilities IoT brings to the table, and what the future of IoT will be.

Carlos is able to join the Intel Developers Program through a link sent to him by his IDF contact, as suggested by the Next Best Action System. Signing up takes less than a minute as the form is pre-populated for him based on information collected at IDF.

Exploring the site, Carlos finds an events calendar with a listed local meetup for IoT hardware developers and emails the group leader for more information.

Katie attends an industry-specific conference where ElectroCo is presenting a session on manufacturing operations. Here, she meets Tony, another ElectroCo employeee, who agrees to help her with her initiative. Tony tells Katie about his IoT expertise as they explore the conference, including about his recent trip to the Intel Accelerator Space. The tools that he was able to get hands on with at the accelerator could also help Katie form her solution. Katie asks Tony to conduct research on potential partners for her initiative. Tony uses a personalized solutions directory from the operations project, where his favorites have been bookmarked. He quickly finds some potential matches for Katie to contact.

Consideration

As the Hardware Development Lead for this project, Carlos starts the legwork for considering options for hardware solutions.

He receives a variety of sample boards and board planning guidance from a few vendors that he selected through Intel's product comparison tool, filtering out options that won't meet the project requirements. When unsure, Carlos turns to IoT Community Forums communities and reads content from verified peer experts and Intel experts, too.

Cathy and Carlos, along with Katie who travels with them, visit the Intel IoT Accelerator Space in order to start putting together a prototype based on Carlos' initial recommendations.

Based on Cathy's experience developing software for Intel architecture and working with Intel partner software, the team develops the basic system design for their IoT vision.

Their designs are critiqued and revised based on feedback from a few Intel Field Engineers based in the accelerator.

Meanwhile, Tony has a consultation with an IoT Systems Engineer at ElectroCo to review the architecture of the solution ElectroCo is developing.

Evaluation

Based on the decision to move forward with final solution design, Carlos and Cathy, with assistance from Tony, proceed to design the end solution.

Carlos creates the initial hardware designs through using Dev Kits and SDKs provided by Intel. He also leads a two-week effort at the Intel Accelerator Space, where he and his team create the first prototype pieces of hardware.

Meanwhile Cathy looks to refine code and scripts. The Next Best Action system sends her an invitation to an upcoming IoT development event. Her Intel Point of Contact follows up with a phone call to explain that this event would be a great opportunity to gain peer leader insights towards improving her designs.

Katie peruses a variety of content from the Intel.com solution, blueprints, and case studies page to help her understand a few of the partnership options that her Intel point of contact shared. The Intel Technology Provider program offers a variety of helpful resources for Katie, including co-marketing, as well as the opportunity to join the IoT Alliance which makes selecting Intel as a hardware, software, and platform partner attractive.

moment of truth

Based on his experience with the previous IoT project at ElectroCo, Tony is familiar with the ROI Modeling Tool on Intel.com He assists Katie with the tool towards justifying investment into this offering.

Decision

Katie and Tony work to close a deal to partner with a local building management firm, RentCo, to implement the prototype of ElectroCo's new IoT Energy Management solution.

Working with RentCo, Cathy uses an Intel Partner Software and Service marketplace to choose their software and service implementation solutions.

Delivery

During the prototype testing phase, Tony and Cathy are visited by an Intel IOTG staffer who goes on a site walkthrough with them, and begins to discuss the longer-term potential for this product as a pioneer in the smarter buildings space.

Prompted by the Next Best Action system, Katie's Intel single point of contact calls to make sure that everything is going as expected with the delivery of products are being used in the hardware for the smart building prototype.

Support/Service

Due to the easy-to-understand quick start guide, Cathy and Tony are able to utilize free tech support channels to troubleshoot minor issues. As Intel has identified ElectroCo as a key account, Cathy and Tony are able to call a dedicated tech support hotline, as necessary, for immediate assistance as part of their partnership tier.

Katie has been able to reach out to her single point of contact when difficult challenges arise. Her point of contact at Intel connected her with Dan, an Intel distributor that has previously worked with ElectroCo and has been managing the ElectroCo account on behalf of Intel.

Growth/Advocacy

Due to the success of the prototype, Katie and Intel work out a deal for ElectroCo to join Intel's partner program as ElectroCo scales and commercializes the new product. In order to spread the word, Katie and Intel are developing a co-marketing plan to promote the value that ElectroCo's new IoT product can provide.

Through her work on this project and participation in communities to help build her IoT-specific coding skills, Cathy feels confident in her new abilities. As she continues to share her knowledge with the community, she is identified as a verified peer expert with a badge next to her username.

touchpoints

- reports and articles
- face-to-face
- partner
- web
- social
- event/space
- email
- delivery service
- phone

Capabilities

Awareness	Discovery	Consideration	Evaluation	Decision	Delivery	Support/Service	Growth/Advocacy
· SEO and SEM Optimized Content · Sales Strategy and Execution/ Lead Nurturing · Event Strategy and Execution · Content Strategy and Creation · Next Best Action · Single View of Customer · Marketing Automation · Webinars · Sponsored Content and Communities	· Partner Relationship Management · Auto-Filled Forms · Master Data Management · Accelerator Space · Event Strategy and Execution · Solutions Directory · SEO and SEM Optimized Content · Sponsored Content and Communities · Next Best Action · Web Personalization	· Physical Materials · Board Planner Tool · Product Comparison Tool · Accelerator Space · Field-Deployed Intel Engineers · Partner Initiatives · Content Strategy and Creation · Sponsored Content and Communities	· Physical Materials · Accelerator Space · Event Strategy and Execution · Partnership Relationship Management · Business Value Tool · Solutions Directory · Content Strategy and Creation · Next Best Action	· Vendor Selection Tool · Solutions Marketplace	· Field-Deployed Intel Engineers · Next Best Action · Single View of Customer · Personalized Follow-Up	· Documentation/Support Package and Quick Start Guide · Post-sales Support · Partnership Relationship Management · Omnichannel Contact Center · Premium Support	· Partnership Relationship Management · Content Strategy and Creation · Community Forums · Verified Peer Experts · Co-Marketing

Metrics

Awareness	Discovery	Consideration	Evaluation	Decision	Delivery	Support/Service	Growth/Advocacy
· Share of Voice · # of Registered Users · Email Click Through Rate	· Channel Adoption Rate · # of Registered Users · % Inquiry to Prospect	· Channel Usage Rate · % Prospect to Marketing Qualified Lead	· % Marketing Qualified Lead to Sales Qualified Lead · Cost per Customer Interaction · Channel Usage Rate	· % Sales Qualified Lead to Win · % Gross Profit by Product Type · % Sales Direct vs. Indirect · Average Value of Sale	· Customer Satisfaction	· % Resolution thru Self-Service · % Sales by Account Type · Customer Satisfaction	· Customer Retention Rate · Net Promoter Score

Intel

Internet of Things Journey Map **Data Optimization**

Sales Stage: Qualify | Define | Develop | Design Win | Production Win

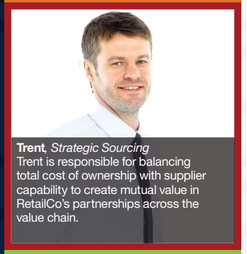
Scenario

RetailCo's CMO wants to know how to use all the data she is collecting, as well as the data that she knows she is not currently collecting, to provide personalized experiences to each customer in every touchpoint but has no idea what the solution might be.

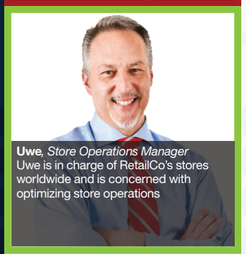
Decision Making Unit

Jen, *Chief Marketing Officer – Brand Management*
Jen, RetailCo's CMO, is looking to enhance customer engagement through individualized experiences.

Ravi, *Director of Information Technology*
Ravi, an IT decision maker, has an existing relationship with Intel as RetailCo's data centers run on Intel architecture.



Trent, *Strategic Sourcing*
Trent is responsible for balancing total cost of ownership with supplier capability to create mutual value in RetailCo's partnerships across the value chain.



Uwe, *Store Operations Manager*
Uwe is in charge of RetailCo's stores worldwide and is concerned with optimizing store operations

Tony, *IT Manager by Day / Maker by Night*
Tony the IT Manager's profile matches that of Tony the IoT Solutions Architect except that his job responsibilities are limited to general IT management.

Awareness

At a marketing insights conference co-sponsored by Intel, Jen discusses a variety of challenges she has including customer data security solutions, inventory management, and traffic counting with a rep at the Intel booth. Uwe accompanied Jen to the conference

In an effort to share the conference experience with their colleagues, Uwe and Jen tweet throughout their time at the event.

Intel conducts social listening on conference attendees who are using the offical event hashtag to help identify potential sales leads.

Intel identified both Jen and Uwe as potential leads and the marketing automation system sends targeted and personalized emails to the two containing branded information, IoT use cases, and a call to action to learn more.

At an after hours industry event at the conference, Jen learns about how other CMO leaders are solving their problems with customer analytics and experience personalization.

When she returns to the office the next week, she reads through the information Intel sent her, as well as a few case studies and analyst reports she finds through keyword searches on the topics she and her peers had been discussing.

Discovery

Jen calls a meeting with Uwe and Ravi to overview her experience at the conference and takeaways. She explains how she heard about a few great solutions from peers and booth reps, and she has a couple she wants the team to explore together. The team decides to focus on developing an IoT solution to augment their customer relationship management and analytics capabilities across all the touchpoints that they currently invest in towards clarifying ROI.

Ravi contacts his trusted vendor that has provided RetailCo with hardware and software components including Intel products for past projects.

He inquires about IoT-specific solutions in order to start building his knowledge about what it takes to implement them, how they would integrate with his current systems, and high level cost details.

While searching for retail-specific IoT solutions, Jen comes across a press release about a co-branded solution venture involving Intel and another retailer.

Jen's marketing research team engages with Tony, who has experience with internal IoT operations efforts, and Ravi, who is a key information resource when it comes to IT at RetailCo. They discuss the use case that Jen and Uwe have reviewed. Ravi and Tony then share their assessment of the complexity involved in implementing an IoT solution in RetailCo's stores to link live customer data to the CRM system.

Consideration

Jen and Uwe dial into an Intel-sponsored Thought Leadership Webinar featuring additional information about the co-branding effort Jen researched. As suggested by the Next Best Action system, Intel assigns a single point of contact to RetailCo who phones Jen and Uwe to follow up. In this call they review how a similar effort could help RetailCo acheive their goals of using IoT to improve customer engagement.

Trent is contacted by Uwe and Jen to issue an RFI to support their investigation into other potential vendors in the IoT space..

Uwe begins evaluating the solution information he received from Intel with responses from the RFI. When he encounters questions he doesn't have the answers to, he uses Tony as an internal reference, and verified peer experts within a retail topic provided with the Intel IoT communities.

Additionally, Uwe starts comparing products on sales channels.

Uwe and Trent meet to evaluate the initial solutions and responses they received from the RFI and filter out options based on initial high-level criteria from their current state assessment.

Uwe, Trent, and Ravi invite Intel and two other vendors to a "bake-off" where they'll spend a few hours comparing vendor offerings. They send an email summarizing the outcomes of the bake-off to inform Jen's decision making.

They do a final review of these concepts before submitting them to Jen as the list of the three viable options for addressing her pain points.

Evaluation

Jen, Uwe, Ravi, and Tony attend a workshop at Intel's Retail Client Center in order to get hands-on with potential hardware and software solutions.

The information and materials they gain from the Center go directly into the pilot use case development that she, Uwe and Ravi are building to justify ROI.

Meanwhile Trent is executing strategic sourcing research for the considered options. One of the major tools he is using is supplier/sourcing selection tool he found through searching online.

From his customer benefit analysis, Trent sees that Intel's place among partners in the IoT Alliance will provide a lower TCO through scalability, security and OTC exchanges.

moment of truth

Uwe incorporates Trent's findings into the pilot case, rounding out the ROI/Revenue model of an investment in IoT for CRM improvements using a business case tool on intel.com.

Decision

Trent works closely with Uwe to work through the Partner, Hardware, and Service marketplace in order to select the partners and solutions for their solution.

Uwe approves the results of the ROI / Revenue modeling tool for the Intel solution due to the quick ROI on the solution and the long-term ability to scale at cost.

Jen signs off on the SOW and purchase agreement for 10 pilot locations. Uwe and Ravi attend the meeting as well, and they sign off as key project advisors.

Delivery

As directed, Trent uses the Partner Software, Hardware, and Service Marketplace to source a service integrator to work with Uwe and Tony to implement the pilot.

Tony and Uwe arrive on-site of the first pilot location on the same day as their first order arrives as they were able to track the order from processing to delivery in real-time.

With their system integration consultant in tow, they are pleased to find that the software, hardware, and components to enable their store come in a single bundle. In addition, the bundle comes with quick-start documentation and guides that make it easy for them to understand the implementation process they are going through with the SI.

Ultimately Tony and Uwe feel comfortable with the ease of implementation as they proceed at multiple locations.

Support/Service

The Systems Integrator becomes a key support resource as Uwe, Ravi, and Tony start becoming comfortable with the implementation of the solution – from installation at the pilot locations, to integration of the data across locations and with the retailers systems.

Growth/Advocacy

The Next Best Action System automatically sends an email asking Trent to serve as a reference. Trent's feedback as a sourcing professional serves as testimonial to the great service experience.

The Next Best Action System also suggests inviting Jen to be a keynote speaker at NRF, where Intel and RetailCo are co-sponsoring a booth on Retail in-store technologies. In her keynote address, Jen shares the success of the program, and the ROI it's beginning to show thanks to more targeted customer data. She has plans to expand the IoT insights program globally.

touchpoints

- reports and articles
- face-to-face
- partner
- web
- social
- event/space
- email
- delivery service
- phone

Capabilities

Awareness	Discovery	Consideration	Evaluation	Decision	Delivery	Support/Service	Growth/Advocacy
· SEO and SEM Optimized Content · Social Listening and Analytics · Event Strategy and Execution · Content Strategy and Creation · Marketing Automation	· Enterprise Content Management · SEO and SEM Optimized Content · Partner Initiatives	· Sales Strategy and Execution/ Lead Nurturing · Next Best Action · CRM · Master Data Management · Single View of Customer · Event Strategy and Execution · Webinars · Program Management Support · Verified Peer Experts · Community Forums · Product Comparison Tools · Partner Initiatives	· Accelerator Space · Supplier Selection Tool · Vertical-Specific Client Briefing Center · Business Value Tool	· Solutions Directory · Business Value Tool	· Order Management Tool · Documentation/Support Package · Solutions Directory · Business Value Tool	· Partner Initiatives	· Partner Initiatives · Event Strategy and Execution · Marketing Automation · Next Best Action

Metrics

Awareness	Discovery	Consideration	Evaluation	Decision	Delivery	Support/Service	Growth/Advocacy
	· Share of Voice · # of Referrals · Channel Usage Rate	· % Inquiry to Prospect · # of Registered Users · Cost per Customer Interaction	· Marketing and Sales Expense as a % of Total Revenue · Cost per Customer Interaction · % Prospect to MQL	· % MQL to SQL · % SQL to Win · Average Value of Sale · % Sales <5M · % Sales by Account Type · % Sales Direct vs. Indirect · Sales Quota Attainment		· Service Cost as a % of Sales · % Resolution Through Self Service	· Net Promoter Score · Customer Retention Rate

Intel Internet of Things: Future State Journey

Persona	Awareness	Research	Selection	Post-Purchase Support	Advocacy
	Event Dam et estiatis dent re peruptio mincta dit acealc temporem. Nam, te et faccupt assus, od modipisqui abor re vel et ex.	**Peers** Andignis sit omnianto moluptio. Parum imolutUst, sa dolupta tumque cullab ipsunt re nonsecum eaquas exped. **EDC Communities** Ne doluptur? Puditibus etur aut autemol orporiolpidene aceprat iuntibus pelendit, estet libeaquunt volores tiandiam. **Moment of Truth:** **One-On-One Chat** Volorporum siminvelecea coRi am sequi temporibea sum lab. Ficae culpari atquias itissit. **Specifications** Bores magnatur aut earum quae volorporere,Sundit, ipsapis etur, sam explitate dolorest re lab inctus utatur am volo et quatet	**Select** Ximenis inum doloreium aut volorepro te ra porroAs il idi unto doluptatis con nis eum ute simodipsundi dolo maximus.	**Tech Support** Dus, nectiustio exerionDoluptiis autenihil min endi rem reptatus, totaquid quae recto ipsam hitatemAcia vid mo eos etur. **Tech Support** Ressum in parunt quias aut fuga. Tur apedi odiVenda conseque dit mi, qui simus doluptas doluptas nem res aspid maiorem olecepr. **Data Help** Met hit rem. Ut a sam fugitas et optatectem. Ut ant doluptium cum non re pla ipsusda ndellatur moluptat.	**Advocate** Va inimpos sequias rem nobis sed quam aute laborpores debit, nisciam asi offic te neseque num latiur? Quis cus nonsequam incimen dandusam qui in re nonecto elestium qui cuptati sequideria sinvel ipicitia dit modias sin cus sintius reium.
Capabilities and Channels	Touch Screens	Communities Roundtables In-person Chat	eCommerce	Phone In-person Engineering	Social
KPIs	App Downloads	Average Handle Time	Pre-defined Web Analytic Events	Net Promoter Score Average Handle Time	Share of Voice

Intel

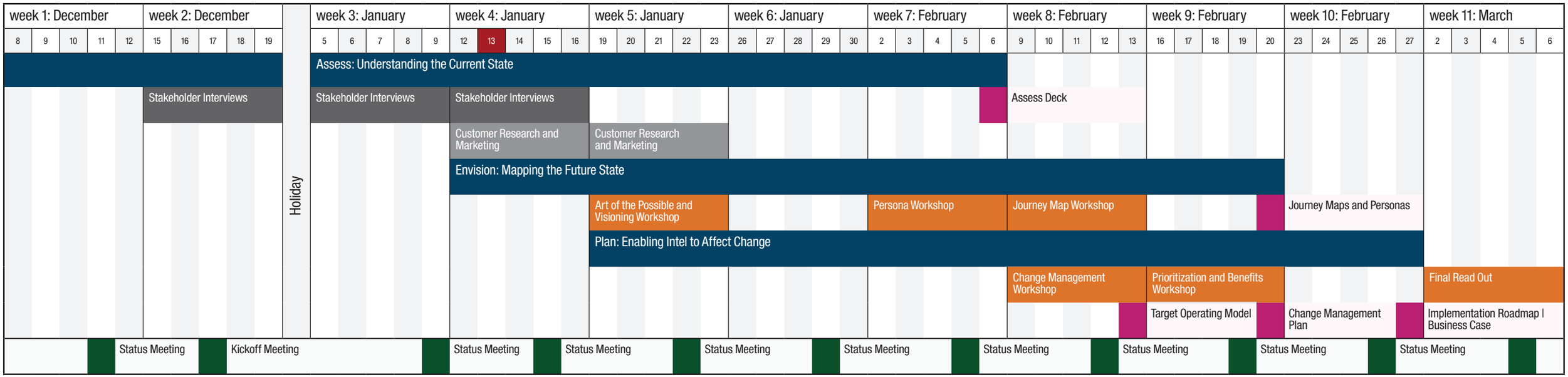
Internet of Things: Sample Journey

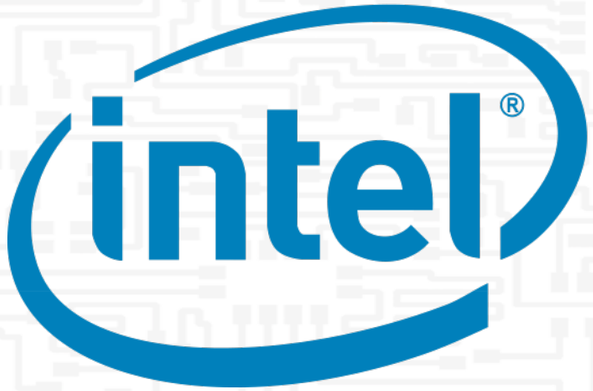
Persona	Awareness	Discovery	Consideration	Evaluation/Decison	Delivery/Production	Support
 **Tony,** *IT Architect*	1. Interested in IoT While attending CES, Tony visits the Intel booth and sees the demo for the connected car. This gives him the idea for a home health monitoring system. Tony registers with Intel.	4. Solution Kit Charles registers for product support from Intel and other providers. The IoT solution kit is exactly what he needs to get started. He orders one and installs it.	6. Register for Assistance Dan registers the discussion with Intel. Dan and Intel meet to discuss how to progress the solution.	10. Approval to Continue Tony presents the POC to the Executive Board. The board approves the funding to develop a working prototype.	14. Production Contract Tony asks Chris to produce a quote for the hardware.	17. Improvement The performance of the analytics is poor. The Intel team assists with the data flow from the home device to the operations center.
Charles, *Developer*	2. An IoT Idea Back in the office, Tony consults with Charles. Charles has developed the algorithms for monitoring patients in the hospital, and believes he can extend the capability to home health.	5. Initial Engineering Charles and Dan begin to engineer the solution. Their first challenge is to get the data from the home health device to the monitoring center. After research, he finds that Intel is working on a similar solution.	7. Enabling the POC Dan and Intel provide Charles the required hardware and software to get the proof of concept working. Intel also helps Tony develop the business case to justify the investment.	11. Solution Sold An HMO contracts Tony for the service.	15. Product Shipped Product is manufactured and shipped.	18. Design Optimization Intel works with the contract manufacturer to optimize the hardware design and reduce cost.
 **Dan,** *Business Development Manager*	3. Investigation Approved Charles consults with Dan and develops a high level business case. Tony gets funding for investigation.		8. Assembling the Team Tony assembles the project team, including consulting services from Intel. The design for the home health device is underway.	12. Negotiation Tony negotiates production contracts with Intel and the contract manufacturer.	16. Pilot Launched The HMO activates a pilot group of 100 patients for home monitoring.	19. New Features Chris assists with the optimization based on predictive analytics.
 **Chris,** *Design Service Provider*			9. Collaborative Design Charles begins to work through the design for collecting and analyzing data. Dan contacts Intel.	13. Going to Market Dan sets up the contact and monitoring center.		20. Next Generation Tony envisions the next generation of the device.
Capabilities	Brand Strategy Customer Engagement Strategy and Design 360° View of Customer Campaign Strategy and Planning	Campaign Execution Lead Management Market Mix Optimization Customer Acquisition Interaction Optimization Targeted Marketing	Lead Scoring and Management Integrated Lead Visibility Next Best Action Preferred Partnership Social Engagement Strategy Marketing Automation	Sales Advisor Expertise Locator Solution sales Guided selling Sales Status Visibility	Improved Partner Experience	Brand Loyalty Predictive and prescriptive analytics Partner Feedback and Retention
Metrics	Brand Equity Share of Voice % Prospects to MQL % Name to Prospect	Campaign Effectiveness Organic Search rankings Target Reach	Return on Marketing Investment % MQL to SQL Marketing Mix Effectiveness Social Media Impact and Sentiment	% Opportunity to Win Market Share New Customer Revenue Average Growth Margin Customer Acquisition Cost		Customer Lifetime Value Customer Retention Customer Satisfaction Improve Customer Experience

Intel Internet of Things: Current State Journey

Persona	Awareness	Discovery	Consideration	Evaluation/Decison	Delivery/Production	Support
 **Tony,** *IoT Architect*	1. Header While attending CES, Tony visits the Intel booth, and sees the demo for the connected car; this gives him the itea for a health home health monitoring systems. Tony registers with Intel.	4. Header Charles registers for product support from Intel and other providers. The IoT solution kit is exactly what he needs to get started. He orders one and installs it.	6. Header Dan registers the discussion with Intel. IBM and Intel meet to discuss how to progress the solution.	10. Header Tony presents the prototype to the Executive Board. The board approves the funding to develop a working prototype.	12. Header Tony asks Chris to produce a quote for the hardware.	15. Header The performance of the analytics is poor. The Intel and IBM team assist with the data flow from the home device to the operations center.
Charles, *Developer*	2. Header Back in the office, Tony consults with Charles. Charles has developed the algorithms for monitoring patients in the hospital, and believes he can extend the capability to home health.	5. Header Charles and Dan begin to engineer the solution. Their first challenge is to get the data from the home health device to the monitoring center. After research, he finds that IBM is working on a similar solution. Dave contacts IBM.	7. Header Dan and Intel provide Dave the required hardware and software to get the proof of concept working. IBM and Intel also help Bill develop the business case to justify the investment.	11. Header The HMO contracts Tony for the service.	13. Header Product is shipped and manufactured.	16. Header Intel works with the contract manufacturer to optimize the hardware design and reduce cost.
 **Dan,** *Business Development Manager*	3. Header Charles consults with Dave, and develops a high level business case. Bill gets funding for investigation.		8. Header Tony assembles the project team, including consulting services from IBM and Intel. The design for the home health device is designed.	12. Header Tony negotiates production contracts with IBM, Intel and the contract manufacturer.	14. Header The HMO activates a pilot group of 100 patients for home monitoring.	17. Header Chris assists with the optimization based on Watson and predictive analytics.
 **Chris,** *Design Service Provider*			9. Header Charles and Dan: Dan begins to work through the design for collecting and analyzing data. Dave contacts IBM.	13. Header Dan sets up the contact and monitoring center.		18. Header Tony envisions the next generation of the device.
Capabilities	Brand Strategy Customer Engagement Strategy and Design 360° View of Customer Campaign Strategy and Planning	Campaign Execution Lead Management Market Mix Optimization Customer Acquisition Interaction Optimization Targeted Marketing	Lead Scoring and Management Integrated Lead Visibility Next Best Action Preferred Partnership Social Engagement Strategy Marketing Automation	Sales Advisor Expertise Locator Solution sales Guided selling Sales Status Visibility	Improved Partner Experience	Brand Loyalty Predictive and prescriptive analytics Partner Feedback and Retention
Metrics	Brand Equity Share of Voice % Prospects to MQL % Name to Prospect	Campaign Effectiveness Organic Search rankings Target Reach	Return on Marketing Investment % MQL to SQL Marketing Mix Effectiveness Social Media Impact and Sentiment	% Opportunity to Win Market Share New Customer Revenue Average Growth Margin Customer Acquisition Cost		Customer Lifetime Value Customer Retention Customer Satisfaction Improve Customer Experience

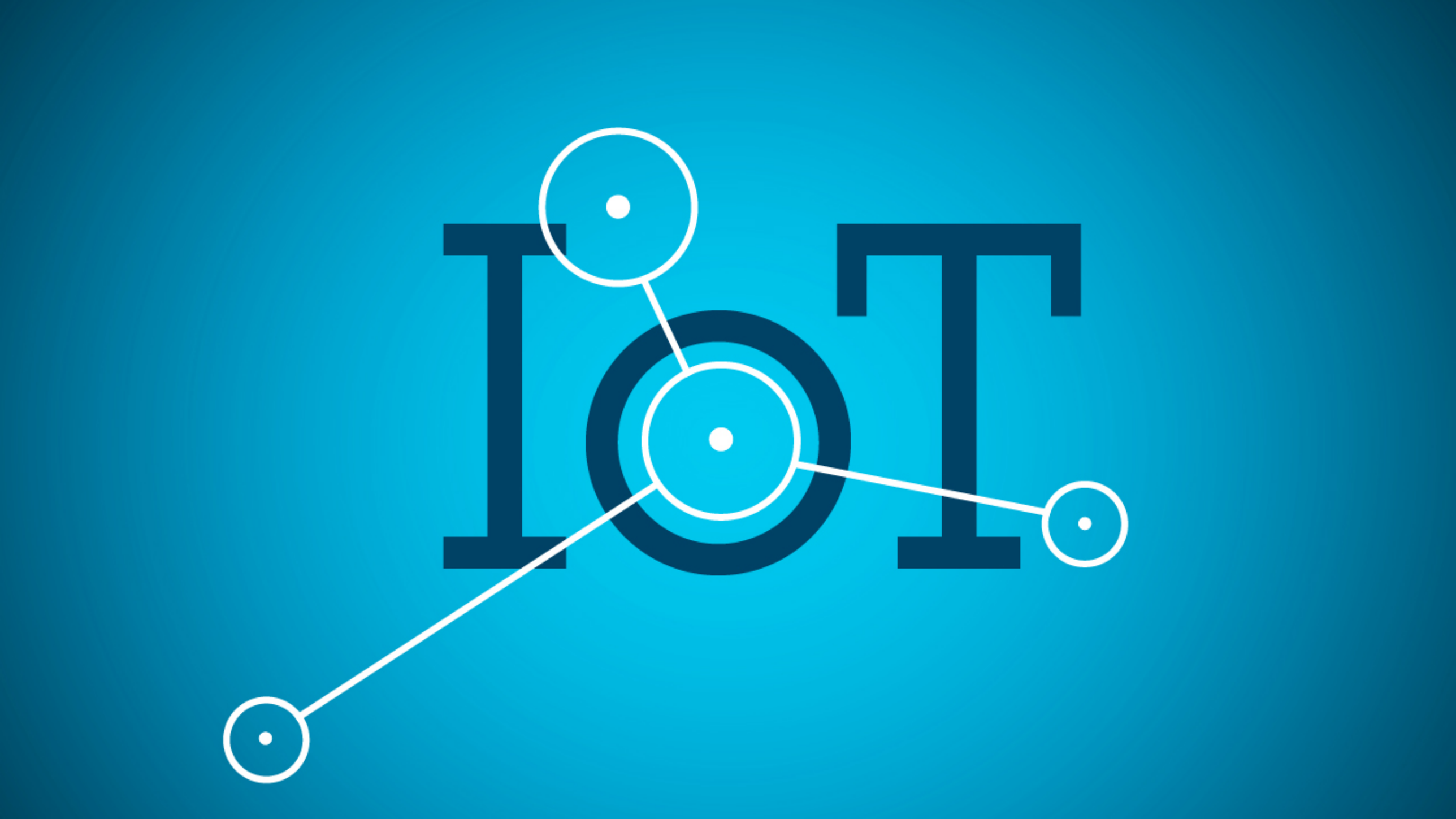
Intel IoT Customer Engagement Model: **Current Project Timeline**





Intel: The Internet of Things: Customer Engagement Model

IBM Internet of Things PoV


IoT

Overview

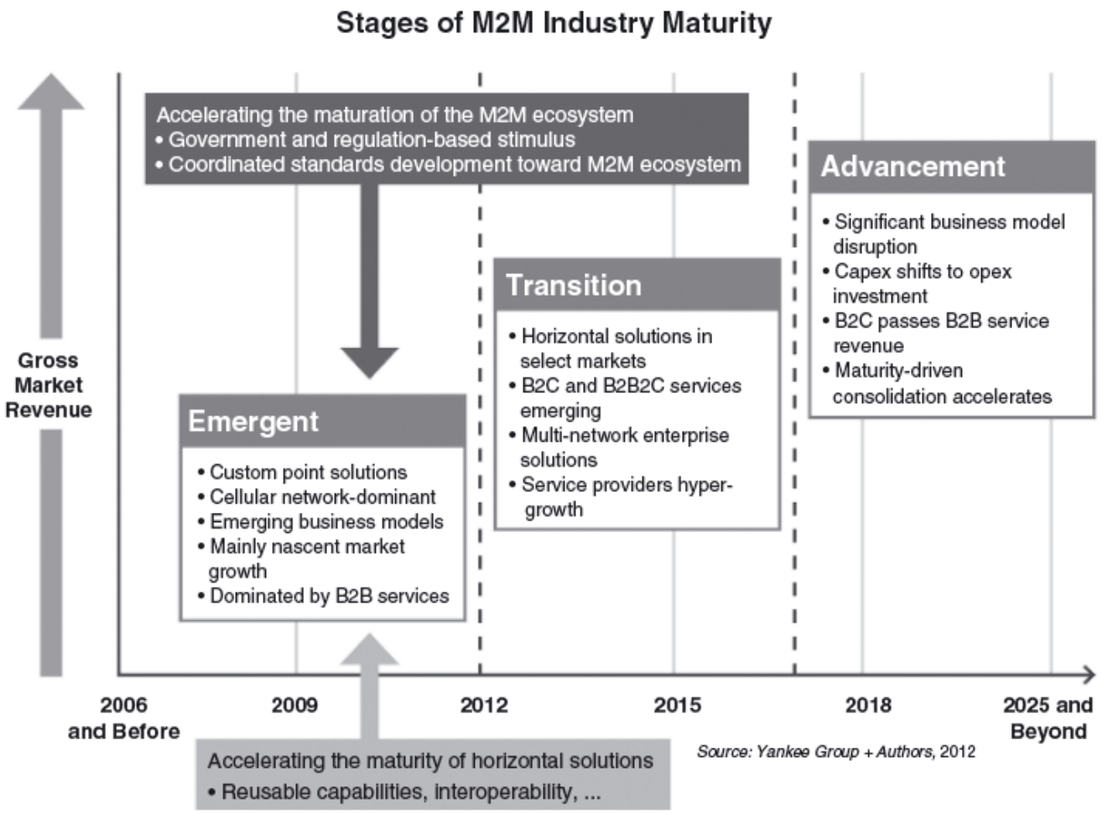
- How does IBM understand IoT?
  How has IBM interacted and sujpported early IoT era solutions?
- What is IBM's strategic approach to IoT?
- Who is buying IoT and why?
  - Makers
  - Users
  - Developers
- What comprises the IBM IoT Buyer experience?
  - Selling Solutions
  - Perfect Partnerships
  - Choice Channels and Marketing Mix
- Industry and Client-Specific Use Cases

How does IBM understand IoT?


Why bother listening?
isolation
integration
IoT
To visualize the future of IBM, you must know something of the past.
Thomas J. Watson
visualize
instrumented
interconnected
intelligent
Vision without execution is hallucination.
Thomas Edison
vision
Pratt & Whitney
COMMERCIAL AIRCRAFT ENGINES
analyzing data to predict trouble before problems arise
Vestas
WIND ENERGY IN DENMARK
analyzing petabytes of data to improve the accuracy of wind turbine placement
San Francisco Bay Area Rapid Transit
HIGH-SPEED ELECTRIC TRAINS
proactive maintenance while modernizing the entire system
Everything should be made as simple as possible ...
Albert Einstein
devices
protocols
analysis
partners
devices
protocols
analysis
partners
inventors
IoT
operators
The best way to predict the future is to invent it.
Alan Kay
invention
invent
improve
innovate
Technology gives us power, but it does not and cannot tell us how to use that power.
Jonathan Sacks
data
create
new value
new value
E pluribus unum
unknown
infrastructure
foundation
The riskiest thing we can do is just maintain the status quo.
Bob Iger
journey
destination
demand
innovation
scale
The best time to plant a tree was 20 years ago. The second best time is now.
Chinese proverb
strategicvision

Emergence of horizontal platforms and open standards drives the transition from M2M to IoT

- M2M Solutions have been dominated by vertical solution providers
- Lack of standards has kept M2M solutions in vertical solutions to align devices, protocols application
- SIs have been big players in M2M due to lack of standards and integration needs for large scale solutions
- Horizontal solution capability emerging to leverage sensor devices across many applications, 1:n leverage
- M2M Enablement platforms emerging providing both device management functions and application development capabilities



IBM has insight from over 2,000 projects with cities of all sizes

Smart metering in **Malta** helps citizens pay only for the energy they use

Predictive analytics helped slash **Richmond's** crime rate by **40%** in one year

Data analytics helped cut crime **35%** in NYC

In **Delft**, developing enhanced flood prediction and protection systems for coastal areas and river deltas

In Taiwan, **99%** of smarter trains run on time

Miami-Dade County Public Schools have **increased academic achievement** across the board

In downtown **Stockholm** smart traffic systems helped reduce gridlock by **20%**

IBM helps **Amsterdam** Airport Schiphol move **20** million more bags every year with a smarter baggage system

Peak energy loads fell by **15%** when IBM helped homes in the Pacific Northwest talk straight to the grid

Leveraging information, anticipating problems, coordinating resources

At IBM, we understand that the Internet of Things is an integrated fabric of devices, data, connections, processes and people

We understand that the Internet of Things is based on a careful balance between both the Internet and the things within it – locally and globally, in the design lab and on the assembly line, whether in buildings, on roads, and in our very own pockets.

I invent...

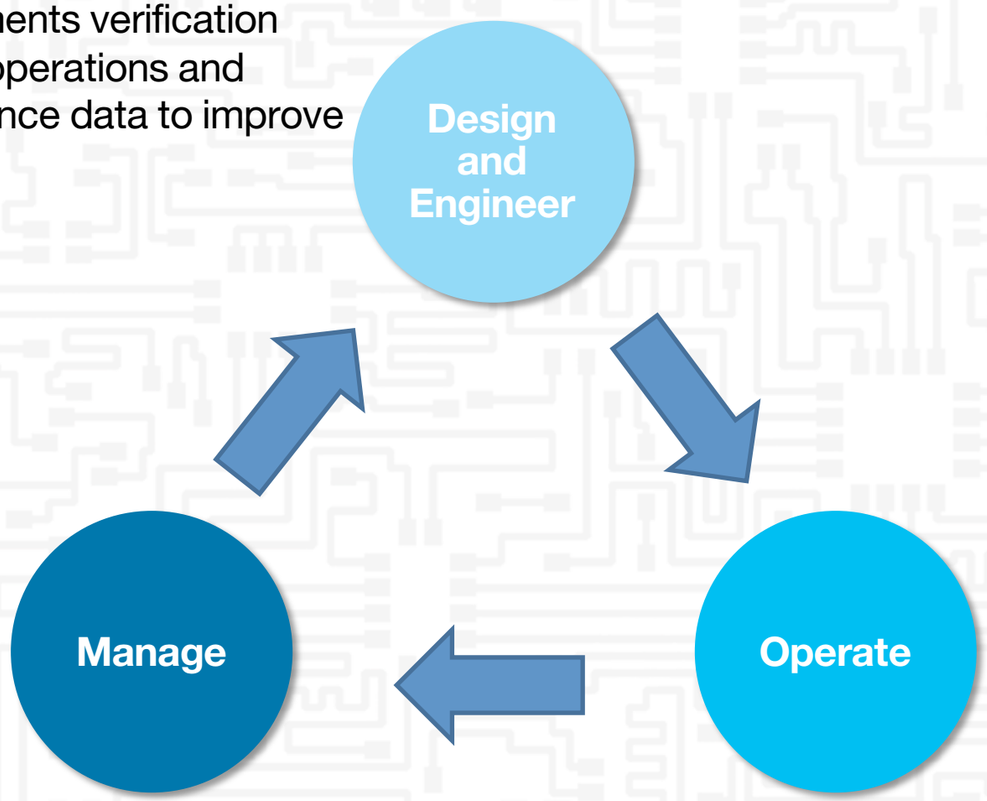
IBM can help you design, operate and manage the things you deliver for optimized performance. We can help you mitigate warranty costs, minimize product recalls and gain new insight into customer use patterns that will empower entirely new levels of product and service innovation.

I operate...

IBM can help you bring things together from multiple vendors across heterogeneous environments, optimizing the whole to deliver greater than the sum of its parts. We deliver the insights that enable you to reduce utility costs, optimize compliance and exceed customer expectations. IBM's expertise also allows us to offer exceptional levels of privacy and security.

IoT patterns span the device lifecycle

- Develop connected products
- Requirements verification
- Analyze operations and maintenance data to improve designs



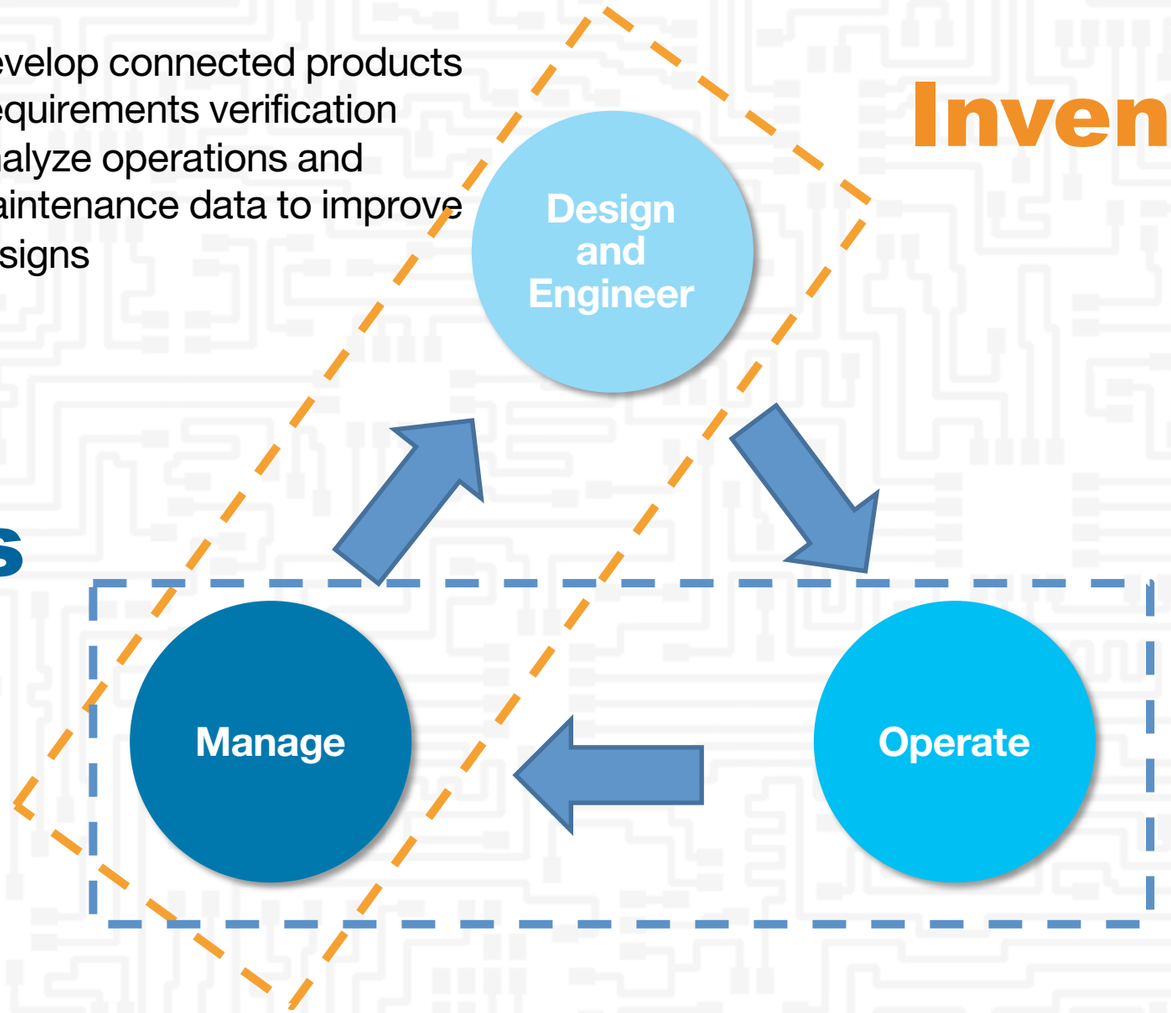
- Integrate across heterogeneous devices
- Optimize processes for business outcomes
- Predict quality issues
- Analyze heterogeneous fleets

- Maintain devices
- Predict failures
- Analyze warranty & support data

IoT patterns span the device lifecycle

Inventors

- Develop connected products
- Requirements verification
- Analyze operations and maintenance data to improve designs

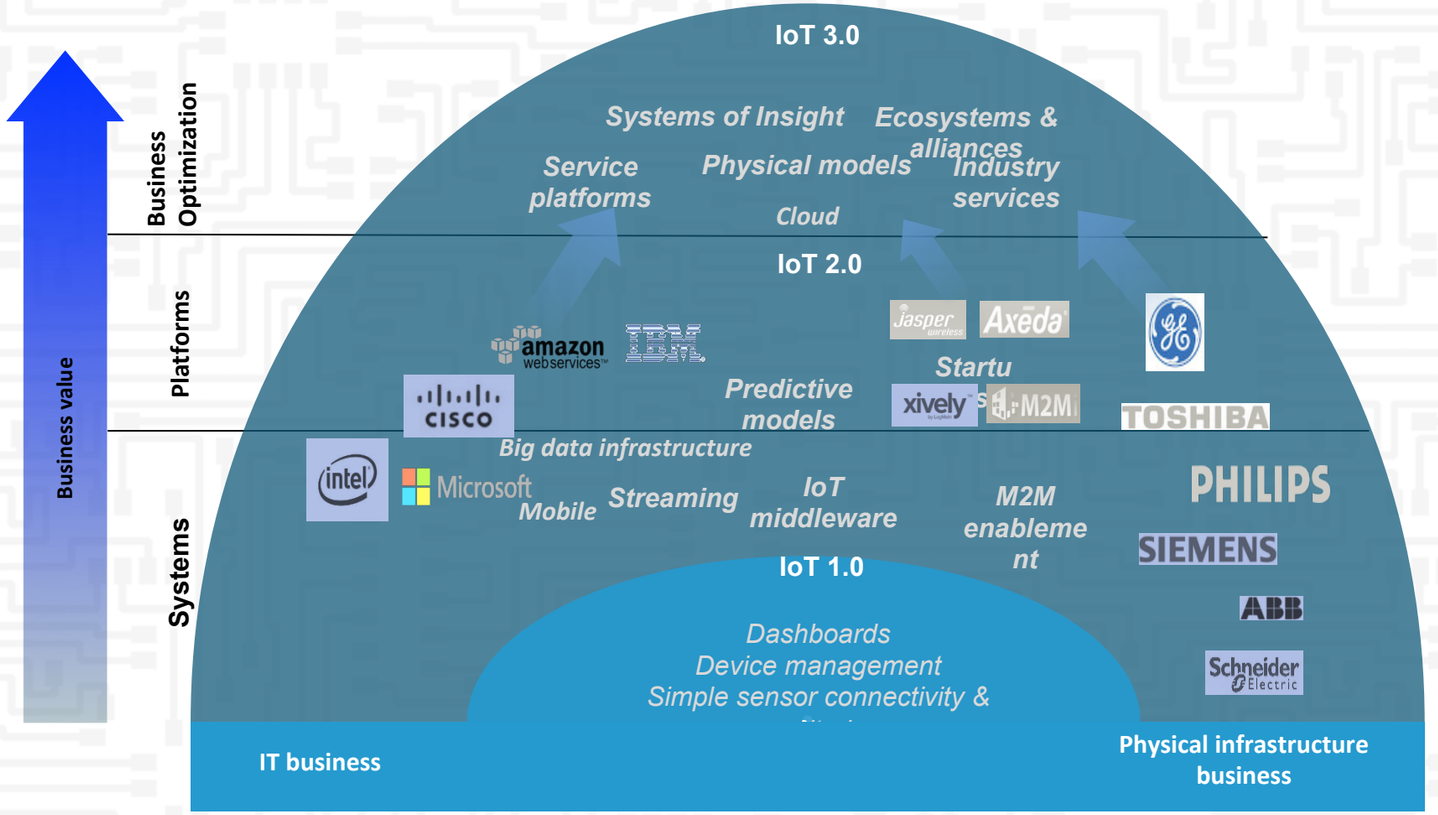


Operators

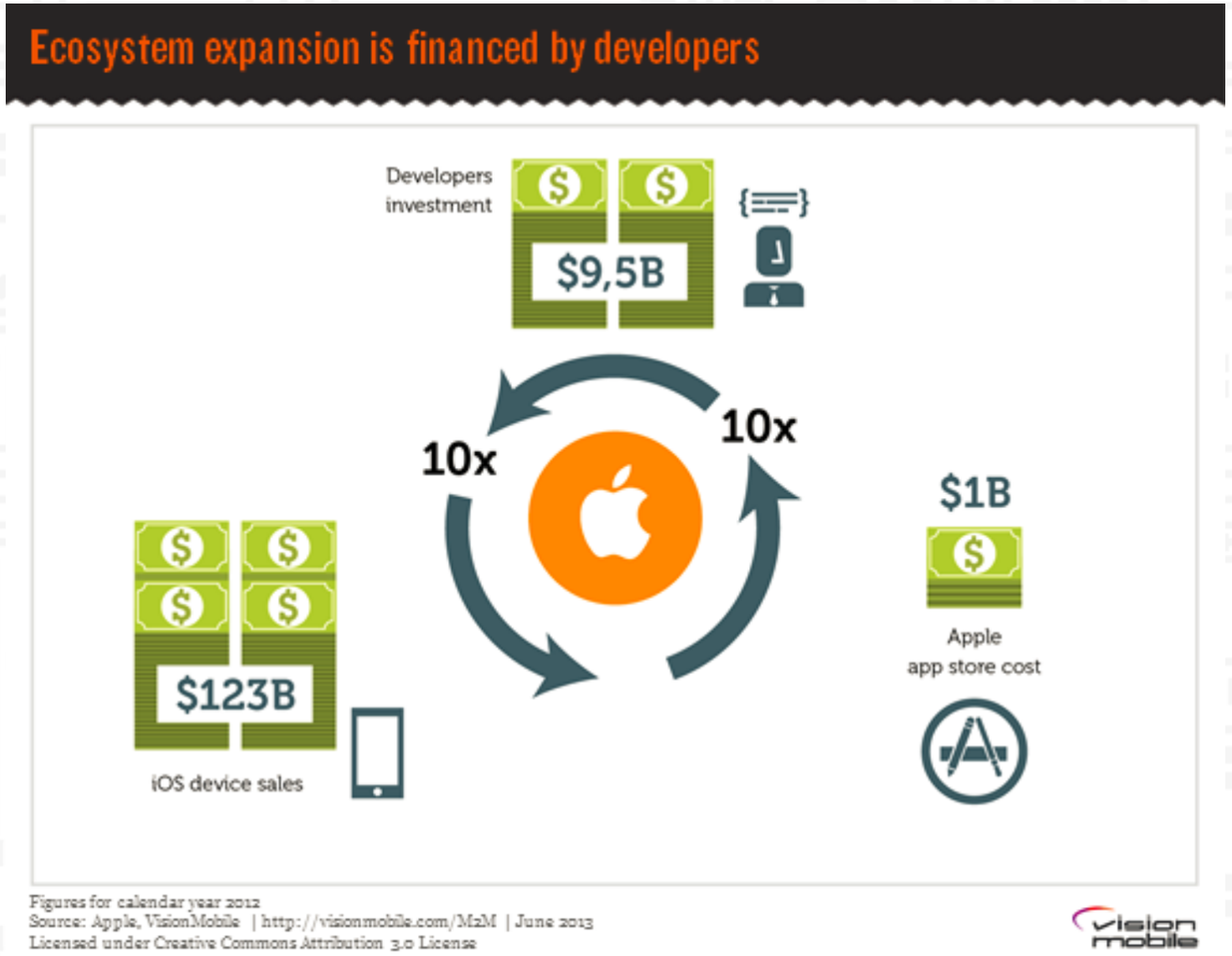
- Maintain devices
- Predict failures
- Analyze warranty & support data

- Integrate across heterogeneous devices
- Optimize processes for business outcomes
- Predict quality issues
- Analyze heterogeneous fleets

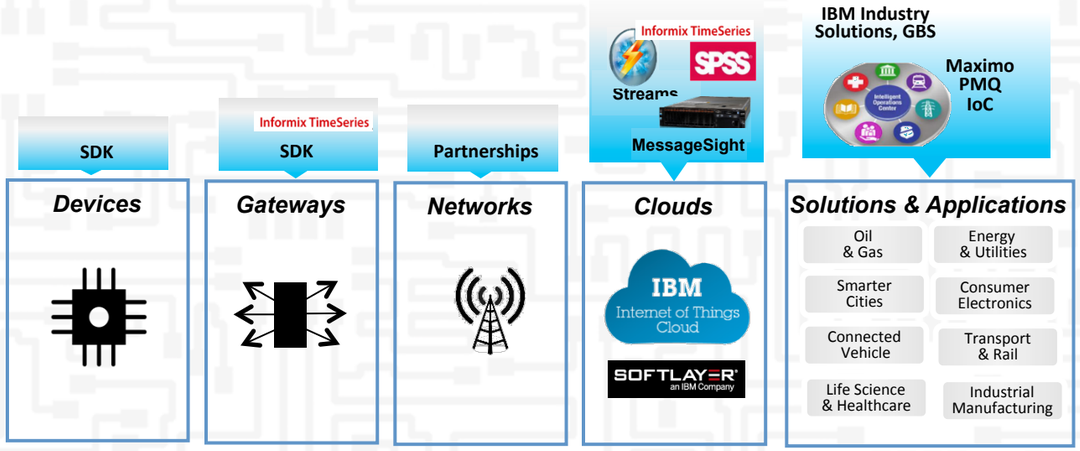
Two worlds of technology are converging and much growth opportunity is at stake



Investment in platform ecosystems can be profitable



No company provides all the pieces:
Internet of Things solutions need an ecosystem

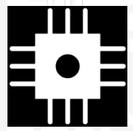


IBM IoT Ecosystem partnerships

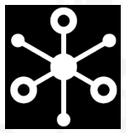
Developer outreach (both embedded and cloud application developers)
Use and driving of appropriate open standards
Use and driving of appropriate open source

Key takeaways and trends that inform strategy

- Mobile devices now outnumber the human population
- New silicon connectivity opens up a massive Internet of Things marketplace
- 82% of IT decision makers think Machine-to-Machine interaction enables businesses to respond to real world events.
  Business is coming to solution providers
- Successful companies will be those creating an Internet of Things strategy that embraces instrumented, interconnected and intelligent
- The IoT is moving from point products and protocol wars to middleware foundations
- There are two main roles in the IoT – these help move from hype to understandable conversations
  - Inventors of Things
  - Operators of Things
- Technology is not enough – we must focus on business value for clients
  - Analytics that provide actionable insights
  - Lifecycle bridges to Continuous Engineering, Maintenance, CRM, ERP, SCM, Talent/Training…



instrumented



interconnected

intelligent

What is IBM's strategic approach to IoT?

devices

protocols

analysis

partners

IBM has built the world's broadest and deepest portfolio in data, analytics, and cloud, ready to support IoT.

$24 billion

invested to date to build IBM's capabilities in Big Data and analytics, with $7 billion in organic investment

$17 billion

of gross spend for Big Data and analytics, including more than 30 acquired companies

15,000

Analytics consultants and 400 mathematicians

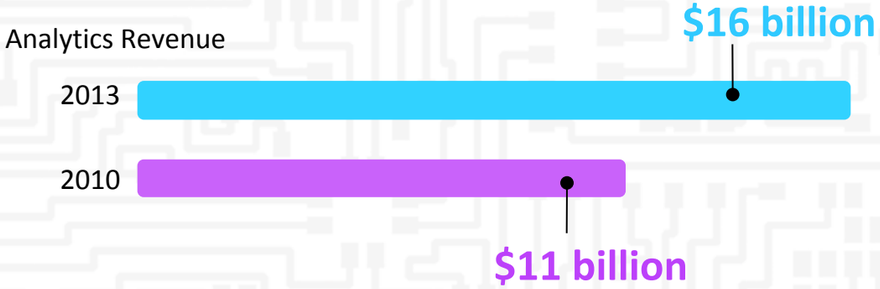
500

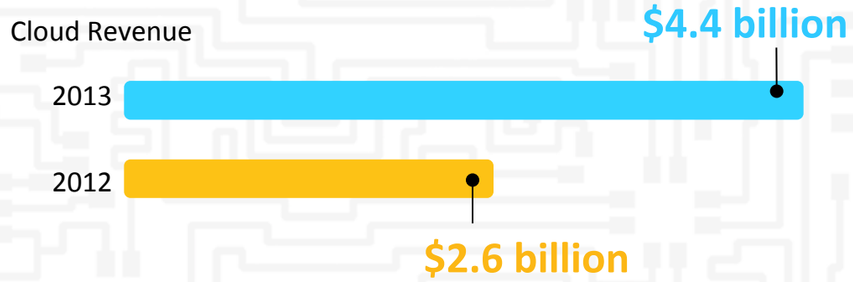
Analytics patents generated each year

40

total cloud data centers across five continents

We have significantly increased analytics and cloud revenue through strategic investments, and new skills and capabilities.

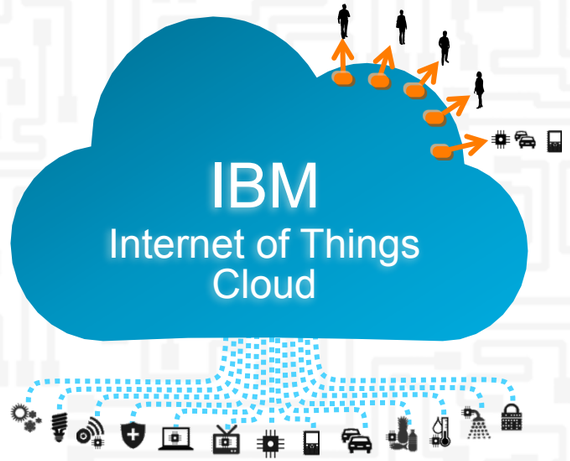




IBM Statement of Direction:

Enable the Internet of Things and M2M applications with Cloud Service

- Easily integrate devices in new and existing systems
- Enable better business outcomes through real-time analytics
- Simplify device connectivity through cloud solutions, driving faster product time to market
- Near real-time delivery of device data
  - Events are then stored for analysis, providing a customized and predictable client experience
- Planned capabilities include:
  - Suitability for a wide spectrum of devices across many industries, for example, retail, health, industrial and electronic, travel and transportation
  - Scalable connectivity for small and large numbers of devices
  - Uses industry-standard, MQ Things Transport (MQTT)
  - Registration of devices for access to the cloud service offering
  - Ability for devices to produce and consume events and messages in near real-time
  - Interfaces to enable new and existing applications such as dashboards and analytics to consume messages from and deliver messages to devices



Improve operational management with simplified, scalable device connectivity in the cloud

Full Statement of Direction here:
http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=an&subtype=ca&appname=gpateam&supplier=897&letternum=ENUS213-490

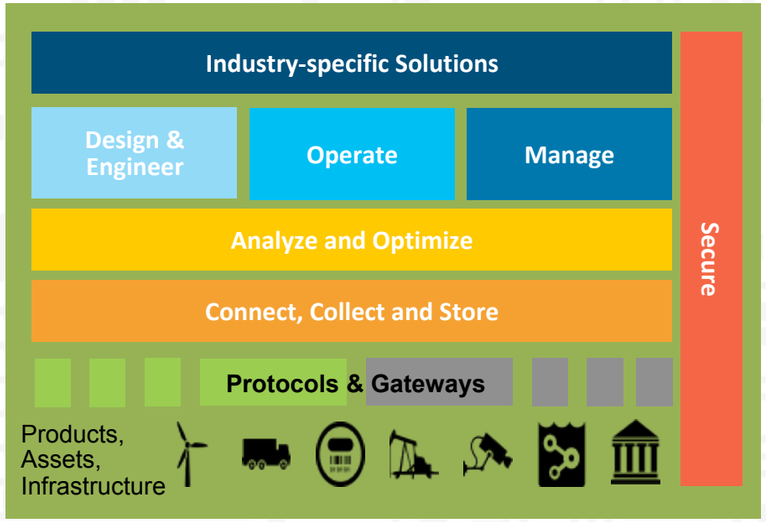
IBM IoT Strategy

Deliver value through industry specific solutions and analytics *built on foundational capabilities*

Operate
infrastructure safely and securely from rollout to production

Manage
the lifecycle of things ensuring safe, reliable and predictive operations

Design and Engineer
things and applications addressing requirements management and complex system design processes



Secure
intelligence and action is critical from the thing up through industry solutions

Connect, Collect and Store
information from a range of things with range of volume, variety and velocity

Analyze & Optimize
information from across the lifecycle leveraging insight for action

Who are the Buyers? What do that want?

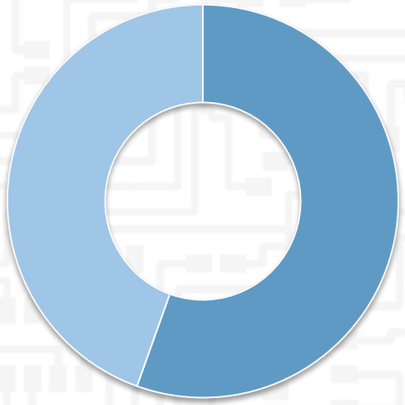
- Maker of Things
- User of Things
- Developers, the core audience
  - Cloud
  - Mobile
  - Enterprise
  - Influencers as market force

IDC Survey
IoT Buyers Behavior: All Respondents

Adoption

61%

of organizations are actively pursuing IoT initiatives.



N=3568 (Weighted)

Drivers and Barriers

Top IoT Drivers

1. **Lower Operational Costs**
2. **Better customer service and support***
3. **Customer acquisition/ retention**
4. **Business process efficiency**
5. **Product/service improvement and innovation**

34%

of respondents cite data security concerns as the number one barrier.

N=2194 (Weighted)

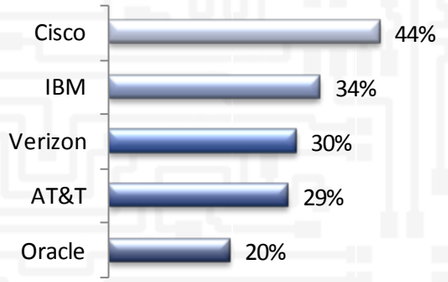
Budgets

6.8%

of the average IT budgets is being allocated to IoT initiatives...

N=3568 (Weighted)

...and respondents plan to work with the following vendors over the next 2 years:



N=2194 (Weighted)

Source: IDC Global Technology and Industry Research Organization, 2014

Key IoT Buyer: Maker of Things

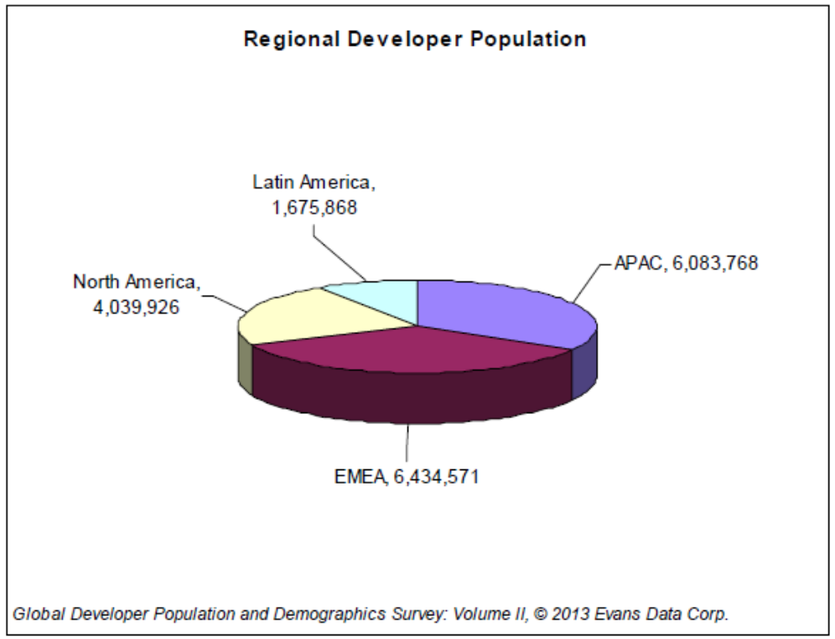
- Make Things
  - To sell to others
- Key Concerns
  - Connect/Manage/Analyze
  - Warrant performance/recalls
  - Maintenance contracts
  - Customer service/relationships
  - Product lifecycle
    - Customer usage (real vs. anticipated)
    - Improve next generation
- Homogeneous Scope
  - Things I make
  - Technologies I pick
- Security
  - My things, so my choice of security
  - But they are “living in the wild” outside my four walls

Key IoT Buyer: User of Things

- Use a Collection of Things
  - To provide a product of service
  - As an owner or as an operator of a leased asset
- Key Concerns
  - Making things work together
  - Optimizing the system
  - Safety/Compliance
  - Customer commitments/satisfaction
- Heterogeneous Scope
  - Things made by others
  - Technologies picked by others
  - Fundamentally an integration problem
- Security
  - Bringing other people's things inside my firewall
  - How do these things use my network?
    - To send data back home? What data?
    - To receive updates? What commands?

There are approximately 18M developers worldwide

- EMEA leads the regions with 35% of the developer population driven by growth in Russia
- APAC accounts for 33% of the total population and has a forecasted 9% growth rate with India and China as the primary drivers
- NA is forecasted to have the slowest growth rate over the next 6 years at 2.5-3.2%

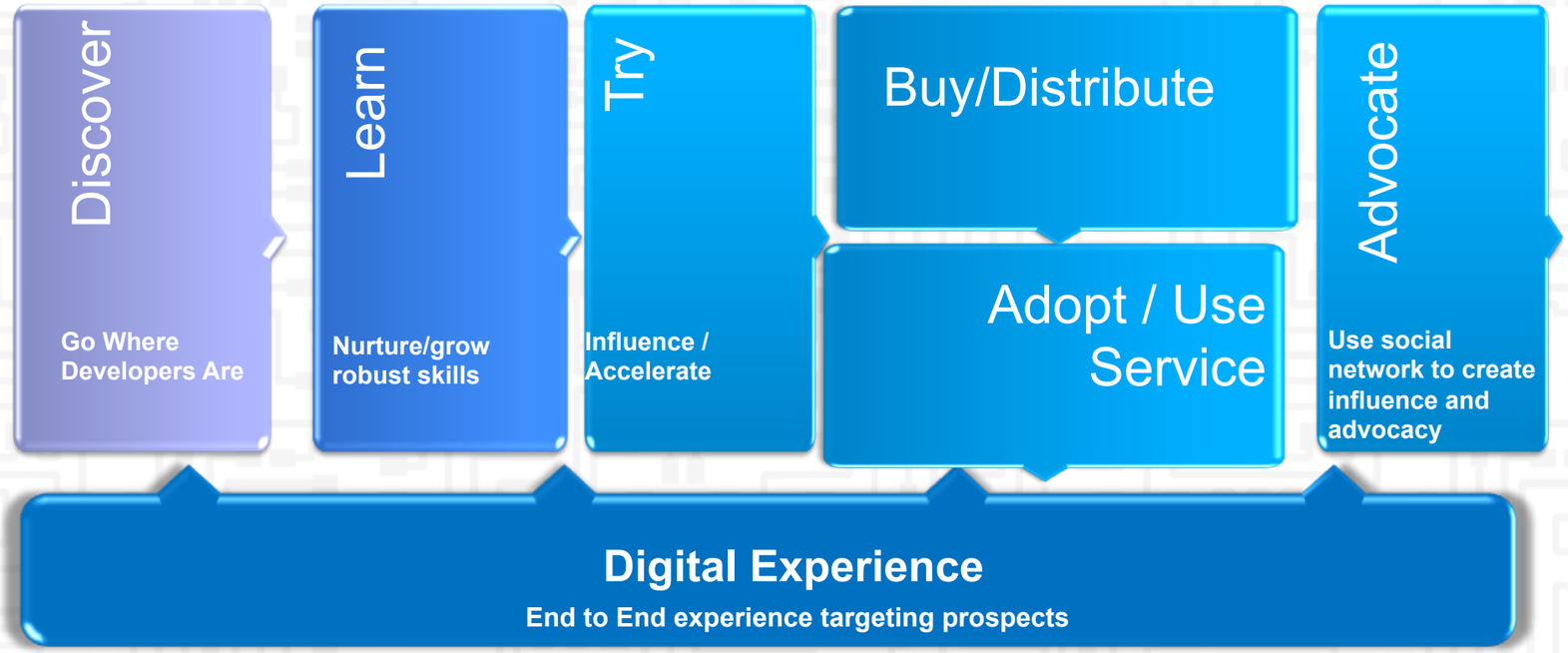


Global Developer Population and Demographics Survey: Volume II, © 2013 Evans Data Corp.

What are Buyer Journey Experience is IBM offering?

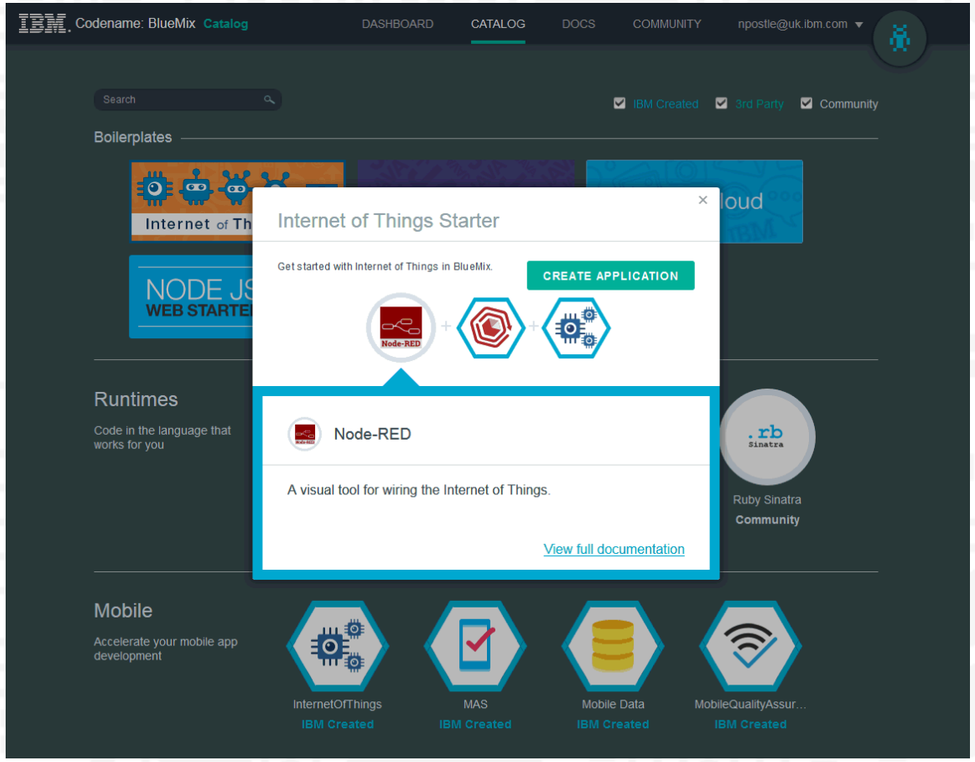
The Buyer Journey with IBM IoT

Create an exceptional experience to easily find, try and use software



What we announced at Impact

- New IoT Cloud Service
  - Connect devices
  - Create full-duplex real-time connections
- IoT Starter Boilerplate
  - IoT Cloud Service
  - Time Series Service
  - Node-RED
- IoT Recipes
  - Simple recipes for connecting common boards and chips

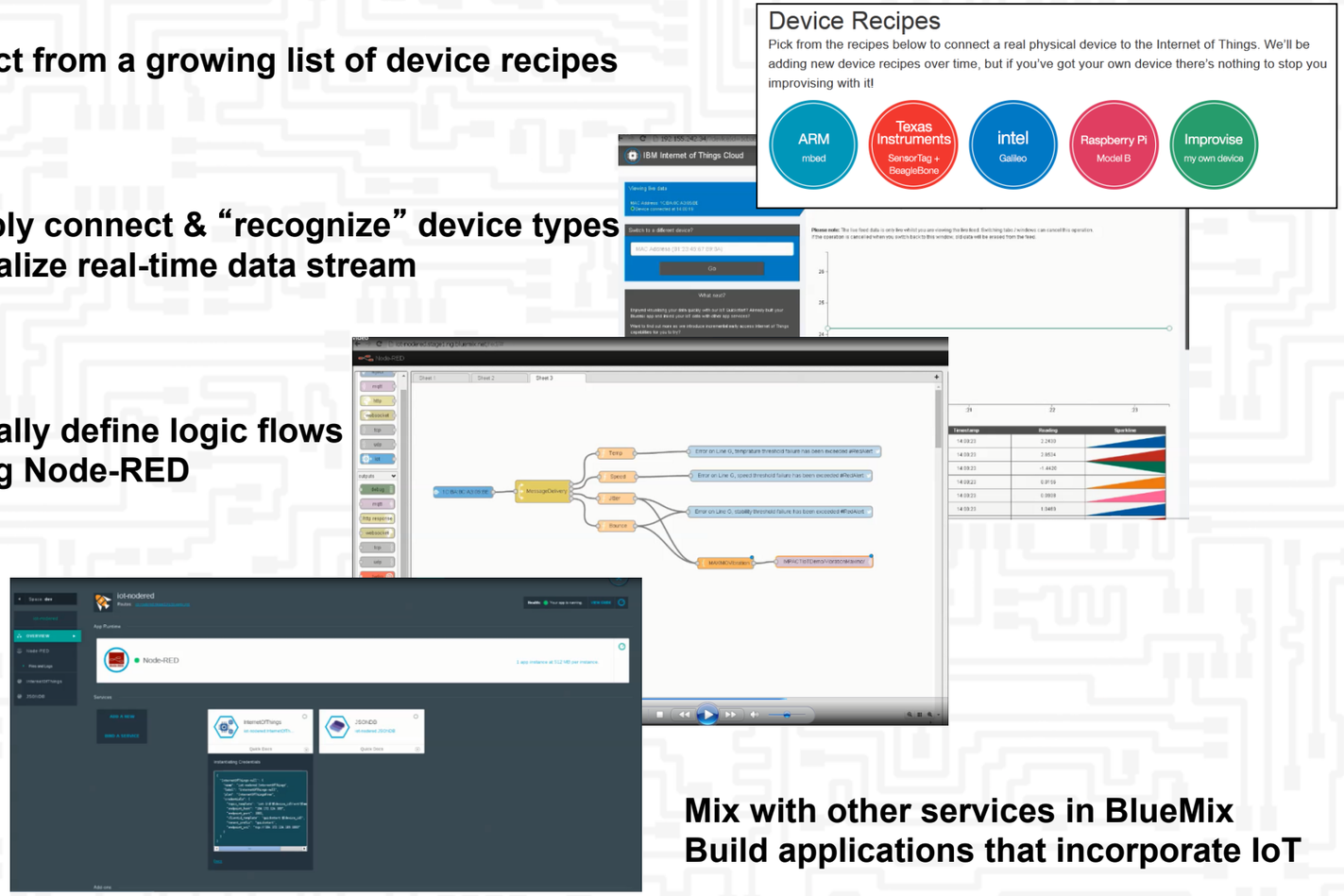


What developers can do with IoT offerings

Select from a growing list of device recipes

Simply connect & “recognize” device types
Visualize real-time data stream

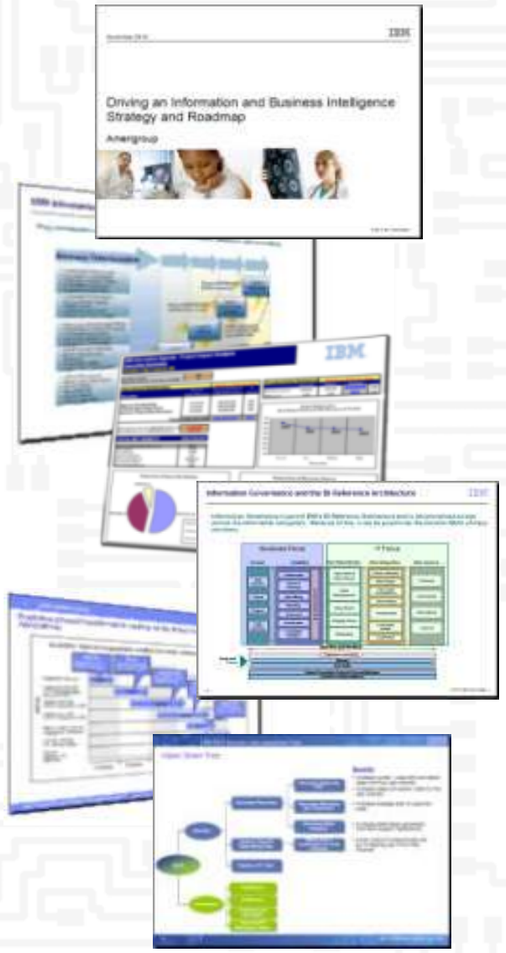
Visually define logic flows using Node-RED



Mix with other services in BlueMix
Build applications that incorporate IoT

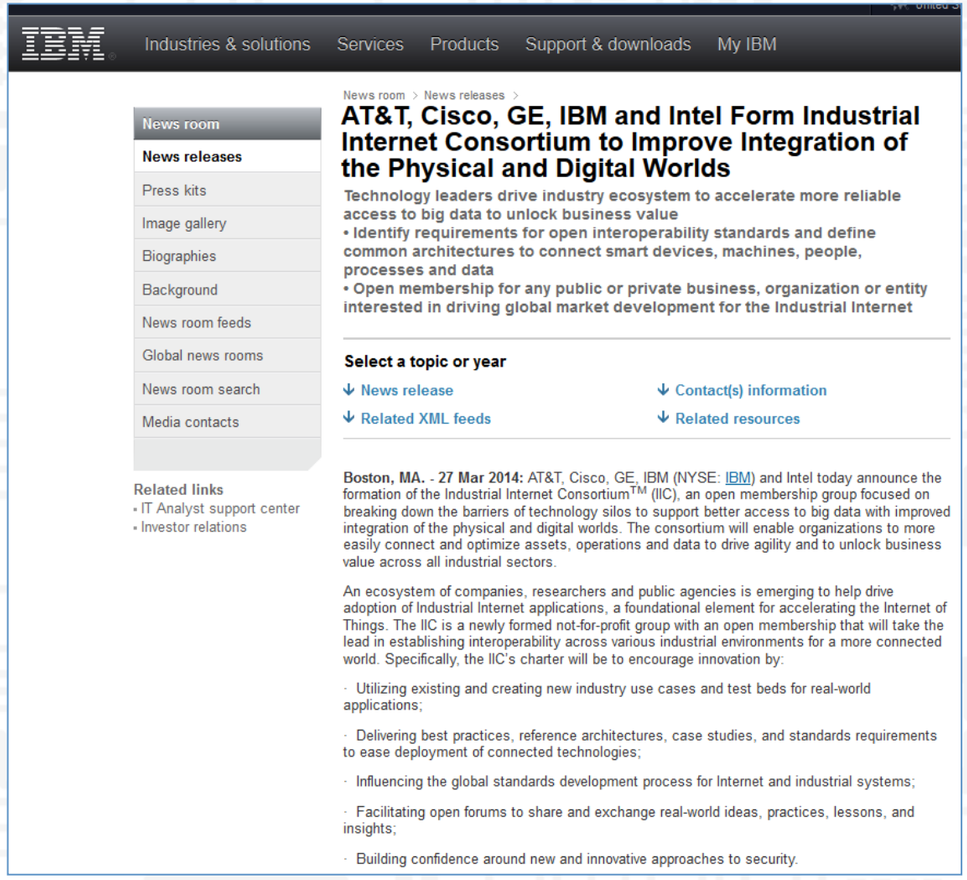
Business Value Assessment (BVA) Overview

- A team of business strategy and technology consultants with industry and IoT solution experience
- Partner with you to understand how the shifting business models in the aviation industry are impacting Boeing's business
- Ideate business opportunities to take advantage of these market shifts in the context of your current environment
- Present deliverables that document the vision, roadmap and value case for these opportunities
- Drive stakeholder consensus and align the business value rationale with the proposed solution



Partnerships to complete the ecosystem

IBM/Industrial Internet Consortium (IIC)



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AT&T, Cisco, GE, IBM and Intel Form Industrial Internet Consortium to Improve Integration of the Physical and Digital Worlds

Technology leaders drive industry ecosystem to accelerate more reliable access to big data to unlock business value
• Identify requirements for open interoperability standards and define common architectures to connect smart devices, machines, people, processes and data
• Open membership for any public or private business, organization or entity interested in driving global market development for the Industrial Internet

Select a topic or year

News release | Contact(s) information
Related XML feeds | Related resources

Boston, MA. - 27 Mar 2014: AT&T, Cisco, GE, IBM (NYSE: IBM) and Intel today announce the formation of the Industrial Internet Consortium™ (IIC), an open membership group focused on breaking down the barriers of technology silos to support better access to big data with improved integration of the physical and digital worlds. The consortium will enable organizations to more easily connect and optimize assets, operations and data to drive agility and to unlock business value across all industrial sectors.

An ecosystem of companies, researchers and public agencies is emerging to help drive adoption of Industrial Internet applications, a foundational element for accelerating the Internet of Things. The IIC is a newly formed not-for-profit group with an open membership that will take the lead in establishing interoperability across various industrial environments for a more connected world. Specifically, the IIC's charter will be to encourage innovation by:

· Utilizing existing and creating new industry use cases and test beds for real-world applications;

· Delivering best practices, reference architectures, case studies, and standards requirements to ease deployment of connected technologies;

· Influencing the global standards development process for Internet and industrial systems;

· Facilitating open forums to share and exchange real-world ideas, practices, lessons, and insights;

· Building confidence around new and innovative approaches to security.

- Influencers
- University speaking – thought leadership
- Ourselves as influencers because we can't do it on our own

How is that journey created?

Channels and Marketing Mix

Buyer outreach is the key

- Online Demos
  - Range of m2m & IoT demos today at http://m2m.demos.ibm.com
  - Adding additional Industry use cases
  - Adding in IoT cloud demos
- Community
  - developerWorks community and Social presence (Twitter, Tumblr, Facebook…)
    - Follow @IBMIoT
  - Recipes showing how to connect range of devices
  - Key event participation e.g. MWC, Embedded World and industry IoT events
- Events
  - First Internet of Things Hackathon for 200+ M2M Developers in London Nov 26th
  - Presentations & Demos at RedMonk's ThingMonk event Dec 3rd
  - dev@Pulse – IoT hackathon
  - dev@IMPACT & Sportshack – IoT hackathon
  - CES – 20% of developers were on Bluemix
- Online learning
  - Developing online course for codeacademy and others based on IoT Cloud APIs

Next steps offered across channels

- Learn more
  - Try IBM Internet of Things Cloud Quickstart!
  - Play with Node-Red
  - Signup for the Bluemix beta
  - Check out recipes to connect your devices & learn how to build a Bluemix IoT app
- Get Involved
  - Register interest in our Early Access Program for new Internet of Things Cloud function
- Schedule Internet of Things Workshop
  - Speak to your IBM representative about a best practices workshop including exploration of use case & value assessment
- Stay social … follow & interact
  - @IBMIoT, twitter.com/IBMIoT
  - Check out articles on our blog: ibminternetofthings.tumblr.com

The Internet-of-Things Workshop Agenda

June 20-21, Room1301,13/F, Jinmao Tower, Shanghai

Time	Session	Presentation and Discussion Topics
08:30 - 12:00 June 20	IoT Leadership Summit	▪ IoT Research Big Bet: Technology, Architecture, Solutions, Client Pilots and Go-To-Market Experimentation ▪ IoT SWG Strategy and SWG Product Offering ▪ IoT Market Trend and Business Opportunities ▪ IoT Industry Focus and Client Engagement Pipeline
13:00 - 14:30 June 20	IoT Industry Session: Telecom	▪ IBM's Business Opportunity in Telecom M2M, Client Engagements and Requirements ▪ Execution Plan Discussion
15:00 - 16:30 June 20	IoT Industry Session: Electronics	▪ IBM's Business Opportunity in Electronics, Common Architecture and Solutions for Connected Devices ▪ Execution Plan Discussion
09:00 - 12:00 June 21	IoT Industry Session: Automotive	▪ Customer Meeting with China's Telematics Provider ▪ Client Engagements and Pipeline ▪ Execution Plan for Selected Anchor Clients
13:00 - 15:00 June 21	Read-out: Summary and Action Plan	▪ Summary on IoT Technology Development, Industry Focus, Client Engagements, and Go-To-Market Strategy ▪ Action Plan of Research, SWG and Industry Leaders on Joint Technology Development and Go-To-Market

Ground setting

Account planning with industries

Action plan & commitment

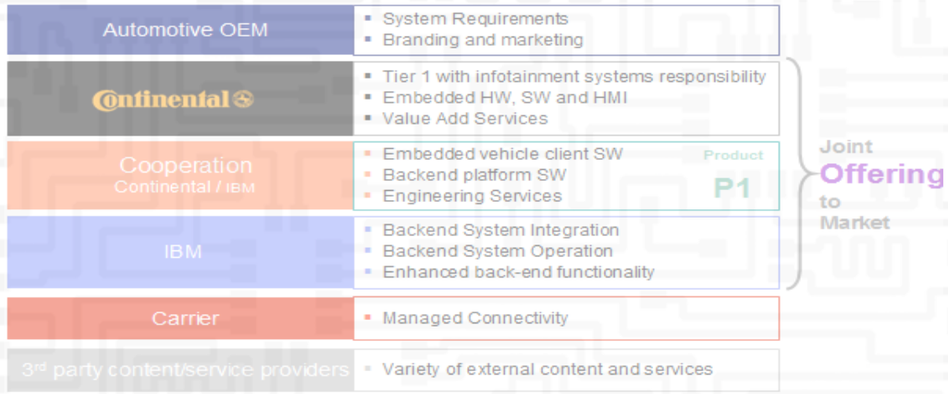
To listen well is as powerful
a means of communication
and influence as to talk well.

—John Marshall

Industry and Client-Specific Approaches to Selling IoT

Continental

- Tier 1 supplier to Automotive OEMs with Euro 32.7B revenue in 2012
- Continental is developing significant connected vehicle opportunities with strong pipelines of leading Automotive OEM clients
  - VW, BMW, Ford, Toyota, Nissan, JLR,GM, etc.
- IBM is developing strategic partnership with Continental to create joint offering and accelerate the capture of market opportunities
  - Start from Product 1 with embedded software client and a base backend platform
    - Industry team targets to sign master agreement in early 3Q with $100M+ in 5 years
    - Currently going through challenging IBM internal investment case process
  - Expand to broader set of backend platform and applications as next phase




Pratt & Whitney
COMMERCIAL AIRCRAFT ENGINES
analyzing
data to predict
trouble before
problems arise

Vestas

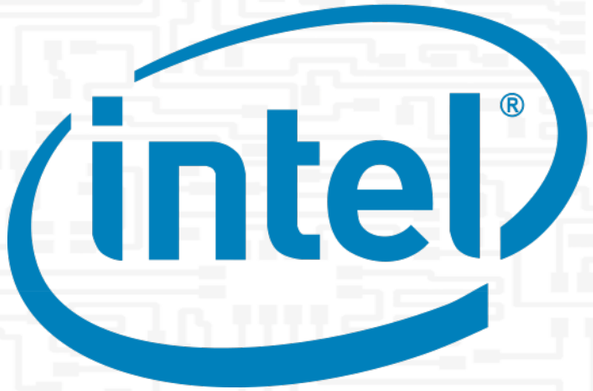
WIND ENERGY IN DENMARK

improving the accuracy of wind turbine placement using petabytes of data

San Francisco Bay Area Rapid Transit

HIGH-SPEED ELECTRIC TRAINS

proactive maintenance while modernizing the entire system



Thank You