

# From Automation to Augmentation

## How to *Succeed* in the Cognitive Technology Driven Economy

---

05 April 2016

---

CHRISTOPHER MUNDY

SENIOR MANAGER, KNOWLEDGE MANAGEMENT





# My Lawyers Made Me Do It

The opinions expressed here today are my own and not those of my employer – Intercept Pharmaceuticals, Inc.



# What We'll Discuss Today

- My Life Story (in ~2 minutes)
- Cognitive Technology – What Is It?
- How We Got Here
- How Cognitive Technology Is Changing Our World and Industry
- What You Can Do to Succeed

# My Credentials Explained

- B.A., United States History (UC San Diego)
  - I gave up on PreMed because I liked working too much (i.e. getting paid)
  - I have always been fascinated by our ability to forget and repeat mistakes
- Lean Six Sigma
  - I hate wasting time
  - See #2 above
- Project Management Professional
  - Six Sigma can't solve world hunger on its own
  - Spent 50% of my time identifying problems/solutions, and 50% implementing them
- M.S., Information & Knowledge Strategy (Columbia)
  - It makes for a great conversation starter during interviews
  - I won't be publishing my history book soon



## My Mission (T-Shirt Version)

Right People, Right Information, Right Time

*No more, no less.*

## My Go-To Questions

### People

- What do they want to do?

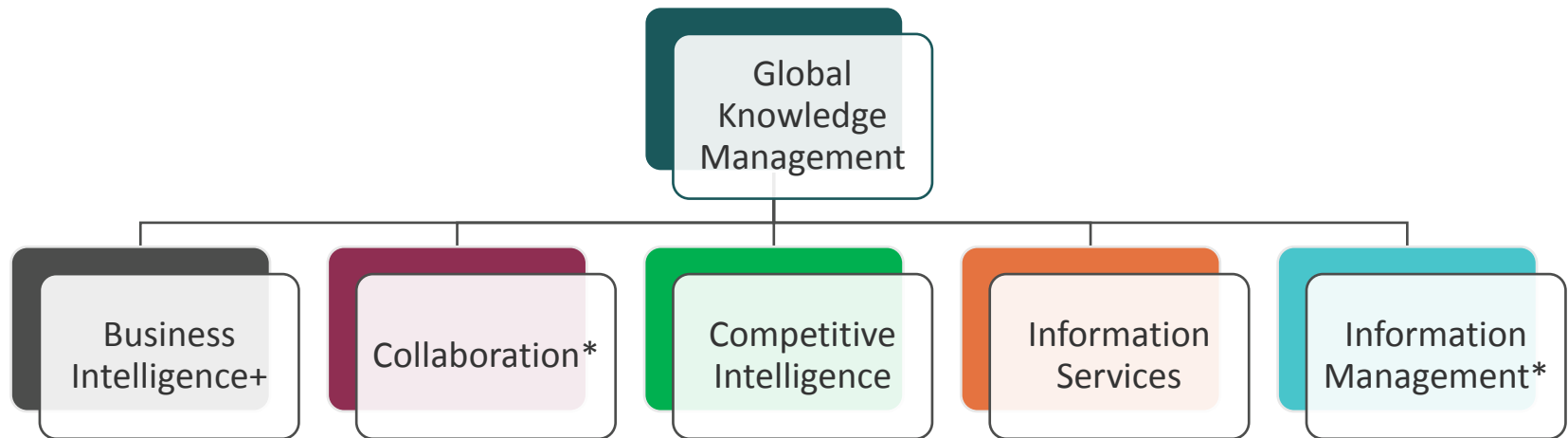
### Process

- How do they do it?

### Technology

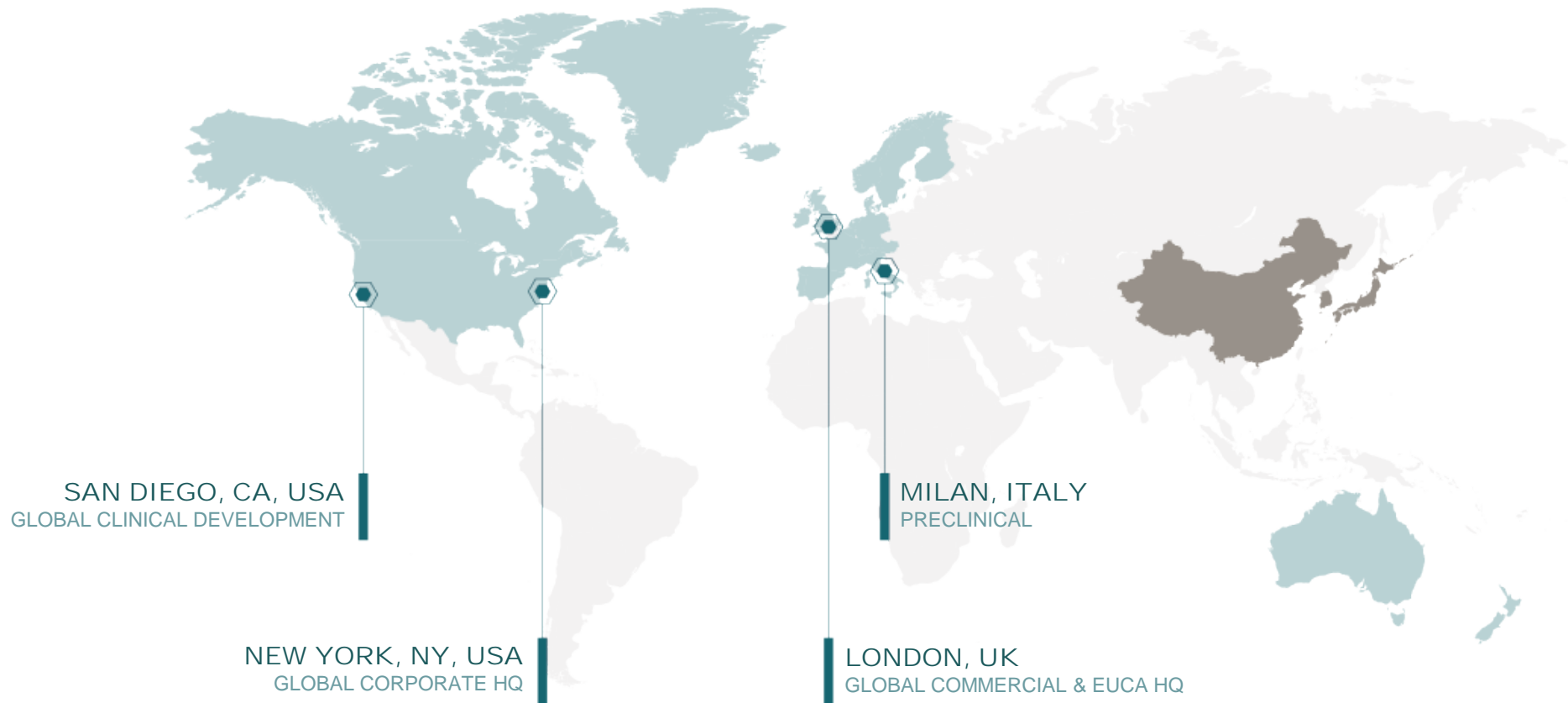
- How can technology support it?

# My Program Structure



What do you notice?

# Why do I have my fingers in so many cookie jars?

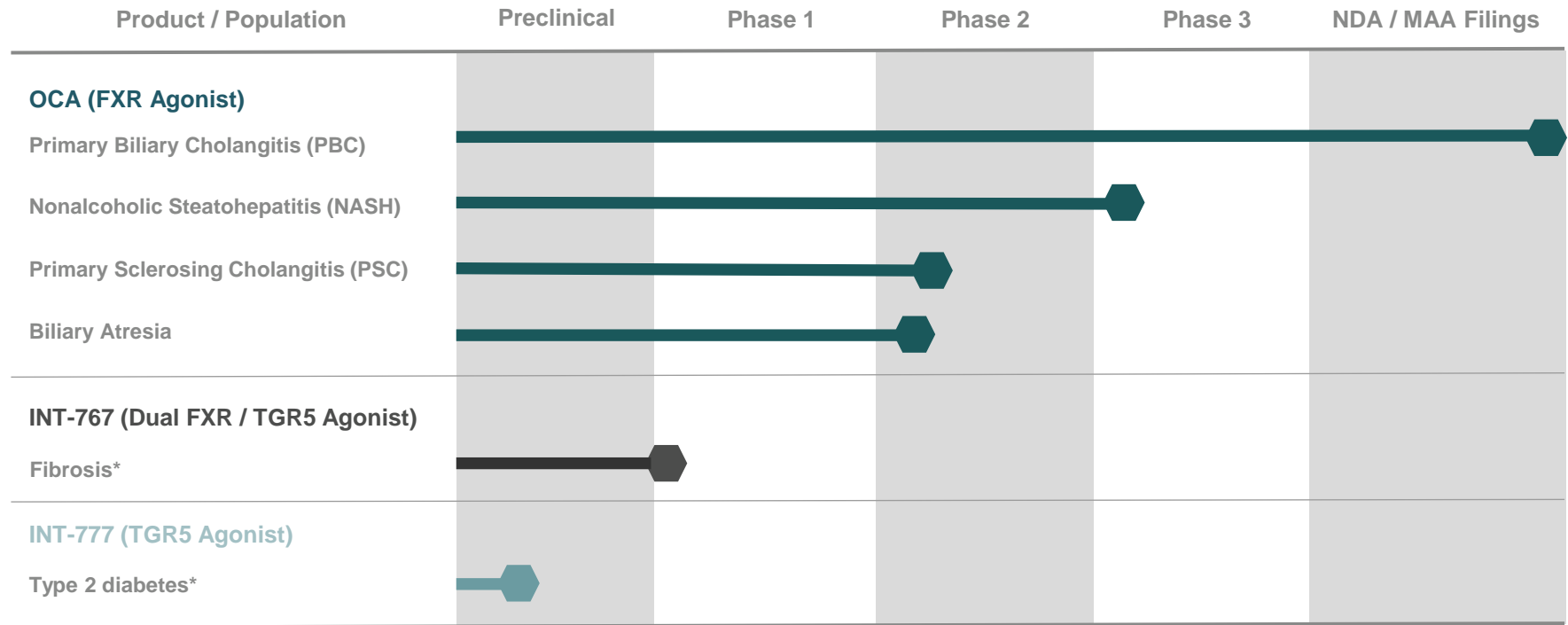


We have tripled in size in <18 months



# Why I Care About Technology

OCA is an investigational therapy currently under review by the FDA and EMA. OCA is not approved in any geography.



Own worldwide rights to all programs (except Japan, China & Korea for OCA)

\*Indications currently under consideration

How do I help us accomplish our current goals faster so we can tackle the future sooner?

The background of the slide is a composite image. It features a grayscale photograph of a starfish resting on a textured, porous surface, likely coral. Overlaid on the top left of the starfish is a digital graphic consisting of numerous small, teal-colored cubes. Some of these cubes are arranged in a structured, grid-like pattern along the starfish's arm, while others are scattered and appear to be floating or falling away, creating a sense of motion and digital data. A dark teal horizontal band spans the width of the slide, serving as a backdrop for the title text.

# What is Cognitive Technology?

# Artificial Intelligence ≠ Cognitive Technology

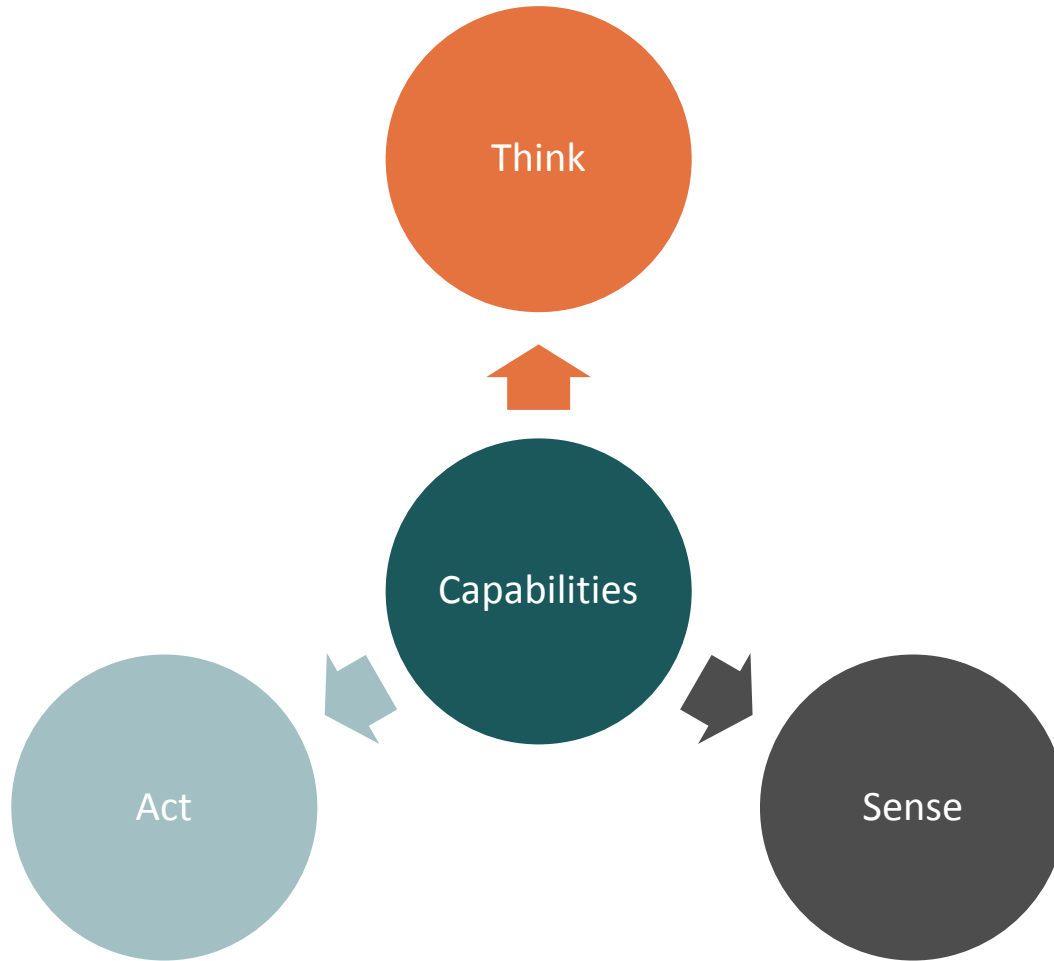
## Artificial Intelligence

- The **theory** and **development** of computer systems able to perform tasks that normally require human intelligence
- Future
- Definition is constantly evolving

## Cognitive Technology

- The real-world application of technologies born out of AI-research
- Today
- Applications are constantly growing

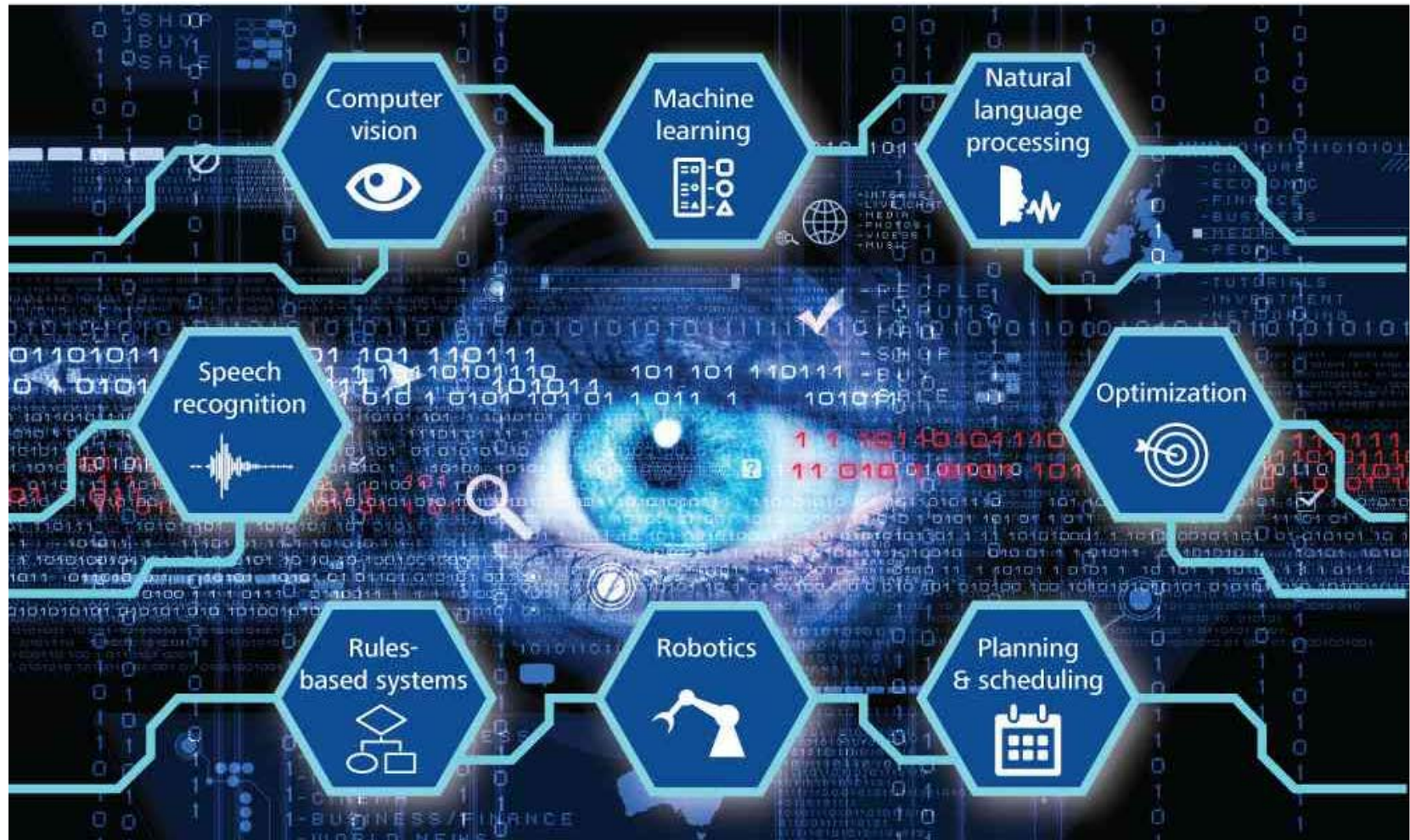
# Cognitive Technologies can...



Source: *turning Cognitive Computing into Business Value Today*. Accenture



You've seen Cog Tech in these areas...



Source: Deloitte University Press

Here's a popular application that falls short of the Cognitive Technology threshold



# Siri is not cognitive tech (yet) because...

- She cannot anticipate your needs (*sense*)
- She does not learn, she only queries a database\* (*think*)
- She gives terrible driving directions (*act*)

\*The database just happens to be the Internet

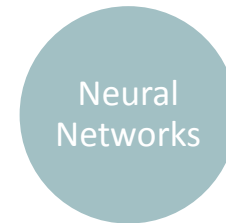
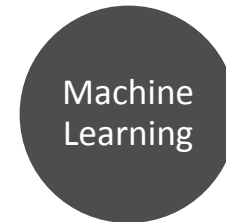
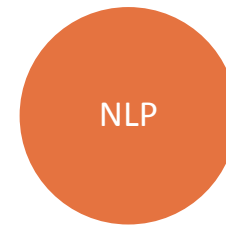
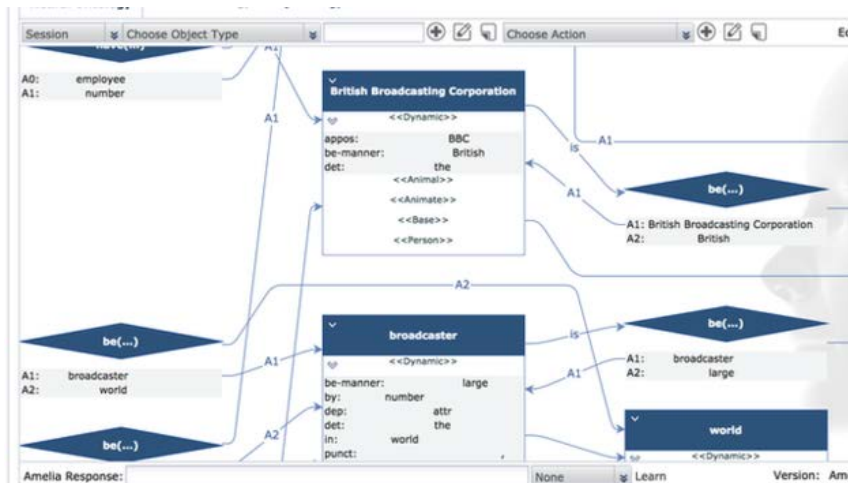
# Meet Amelia...the World's First Cognitive Agent



Source: IPsoft



# Amelia uses a combination of Cognitive Technologies to deliver enormous business value



Source: IPsoft

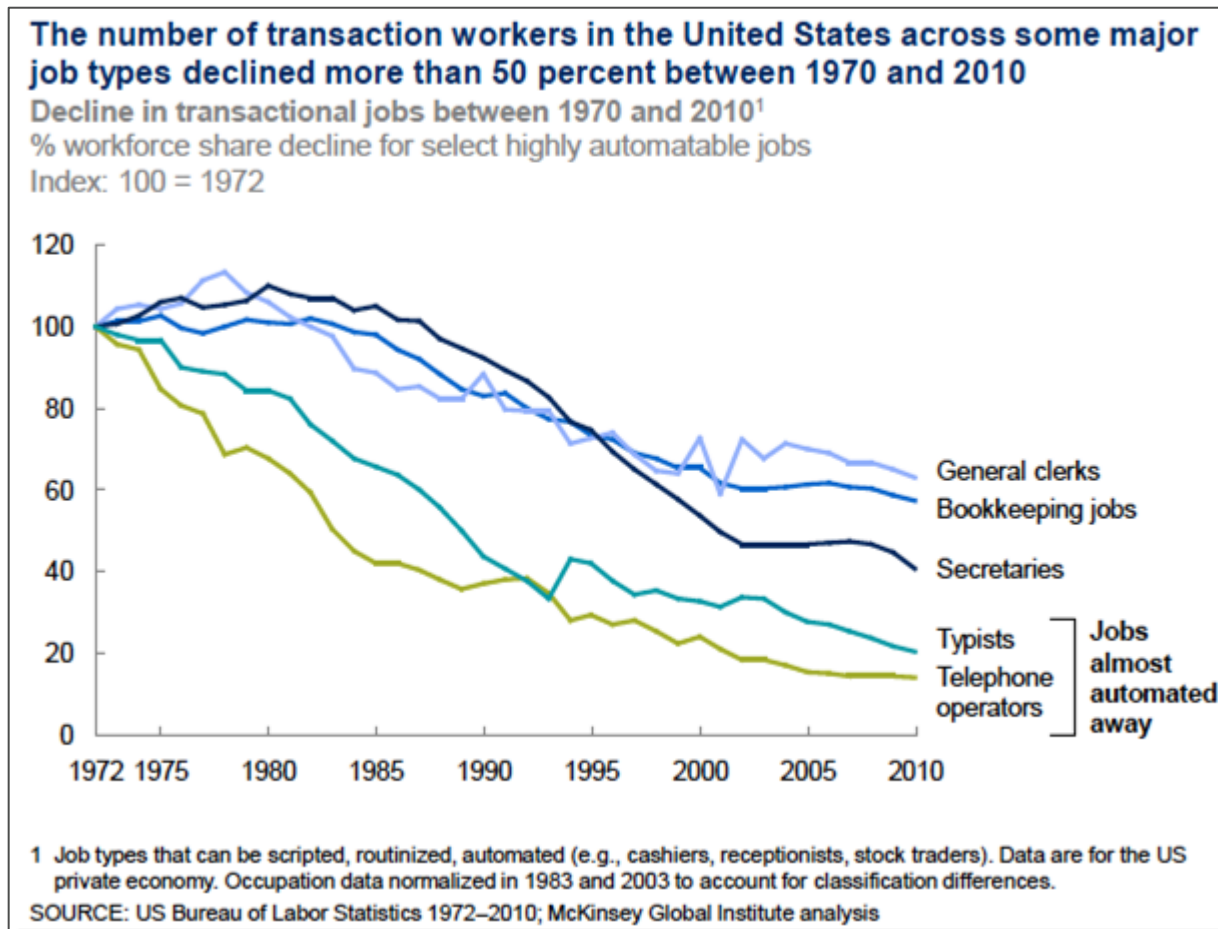
In just 3 months, Amelia was able to process 60% of all call center transactions, leading to a 50% reduction in required staff

Metric	Before Amelia	After Amelia
Calls/Month	65,321	41,165
MTTR	18.2 Min	4.5 Min
ASA	55 Sec	2 Sec
FTE in Call Center	72	36

Source: Amelia Product Announcement (2015), IPsoft.

How did we create such powerful technologies?

It's been a long time coming...

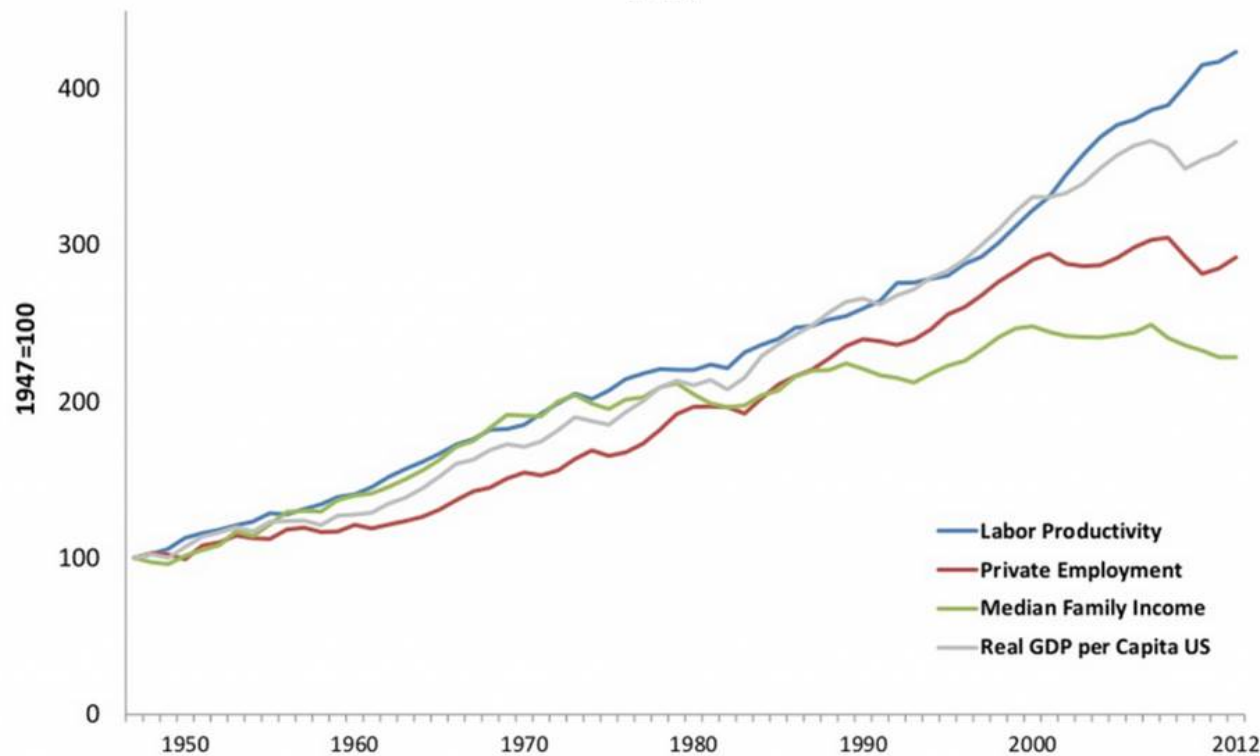


Where did all of the work go?

Technology has enabled a dramatic increase in productivity and the trend is accelerating

## The Great Decoupling

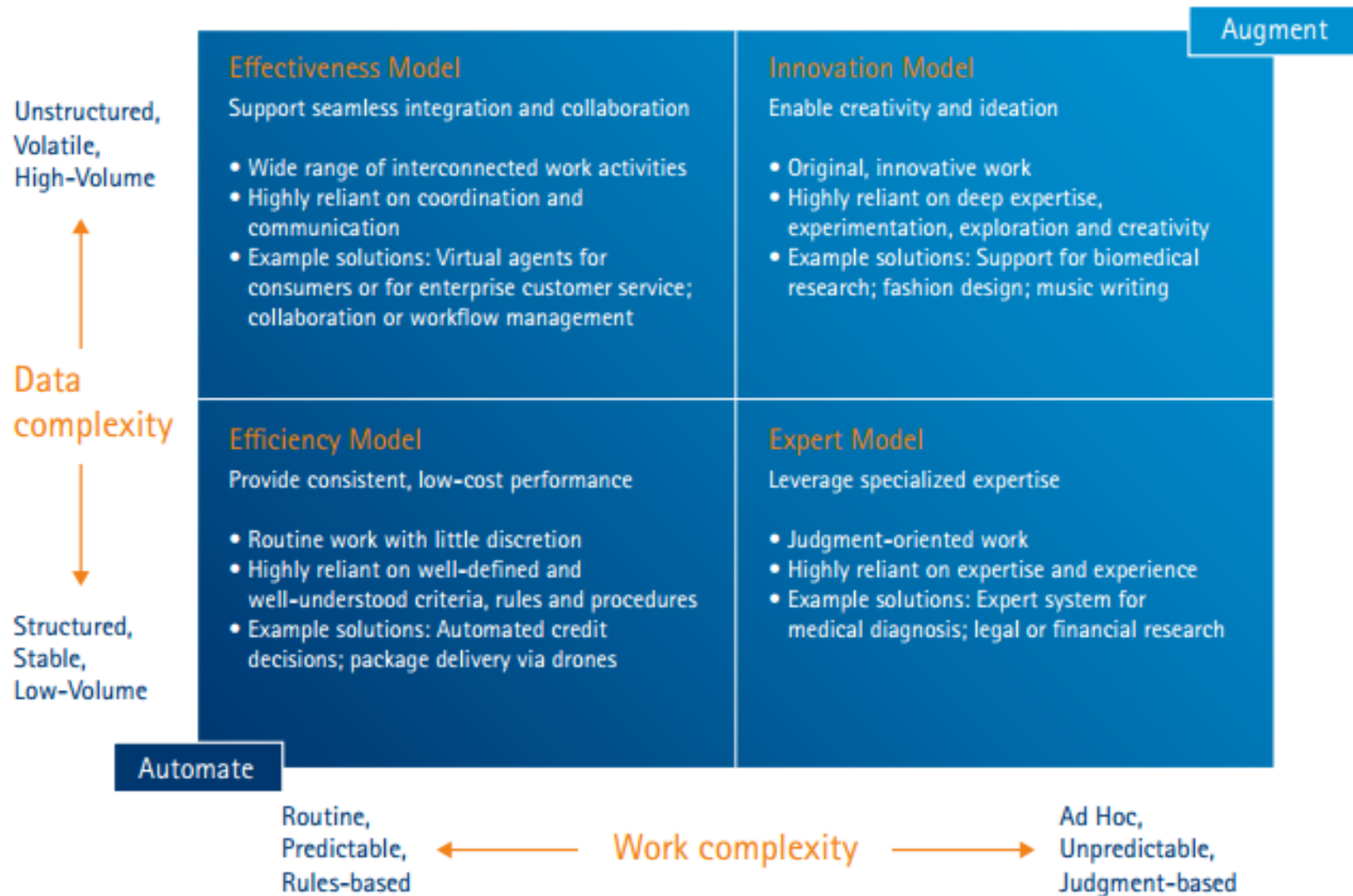
US Productivity, Real GDP per capita, Employment and Income: 1947-2012



© Andrew McAfee, 2014

Source: [research.stlouisfed.org](http://research.stlouisfed.org)

# Be mindful of where you fall on this map



Source: *Turning Cognitive Computing into Business Value Today*. Accenture.

# Pharma is embracing Cognitive Tech

## 2 Case Studies with IBM's Watson & Pharma

### Baylor College of Medicine

- Understand biological pathways of p53 protein (oncology)
- Digest 70,000 STEM articles to identify candidates
- Analyzed literature in 3 weeks
- Found 6 pathways
- 2 already validated in wet labs

### Johnson & Johnson

- Accelerate comparative effectiveness studies of drugs
- Typically takes 2.5 man-years just to identify and collect data
- Point Watson directly at literature
- Enable researchers to skip 2.5 man-years and ask questions immediately
- In Testing

Source: IBM



How you can get started today.

Not tomorrow.

Not next week.

Today.



# My Guidelines

- Use coffee, beer, wine, whiskey, vodka or any combination or any other means necessary to start a conversation
- Ask questions
- Dream BIG, start small
- Identify a need and fill it

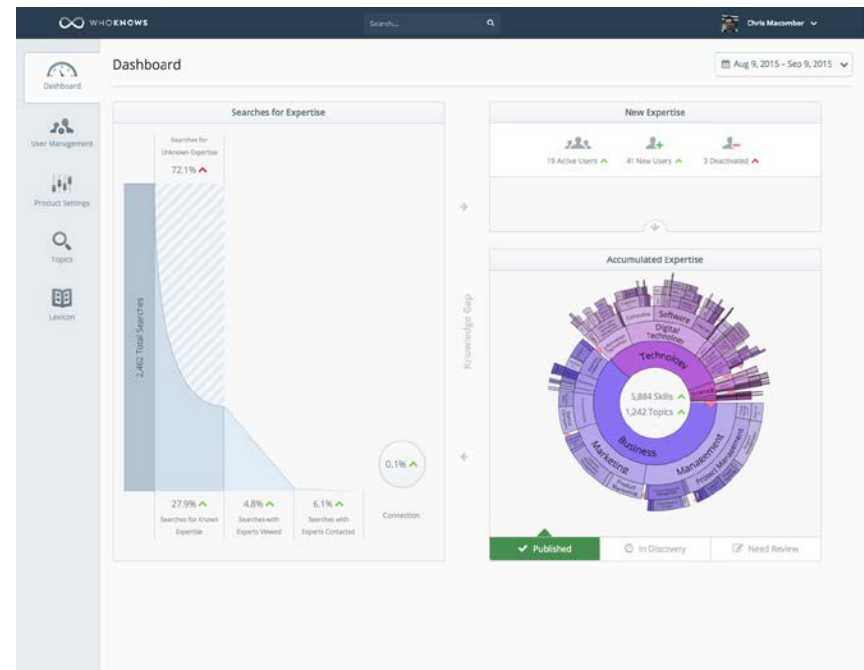
Q: Who's our expert on X?  
A: That's a great question.

Organizational knowledge is dynamic – your expert directory must match that

**Intercept**

# Benefits of using Cog Tech to support Expert Directory

- Significantly greater participation
- Dramatically lower cost of developing/maintaining expert directory
- Real metrics into the supply/demand of knowledge
- Visibility into our enterprise network



## Challenge the Status Quo

Source: WhoKnows



# My Takeaway For You

Learn to learn



# Thank You

[CHRISTOPHER.MUNDY@INTERCEPTPHARMA.COM](mailto:CHRISTOPHER.MUNDY@INTERCEPTPHARMA.COM)

O: 646-545-8431

