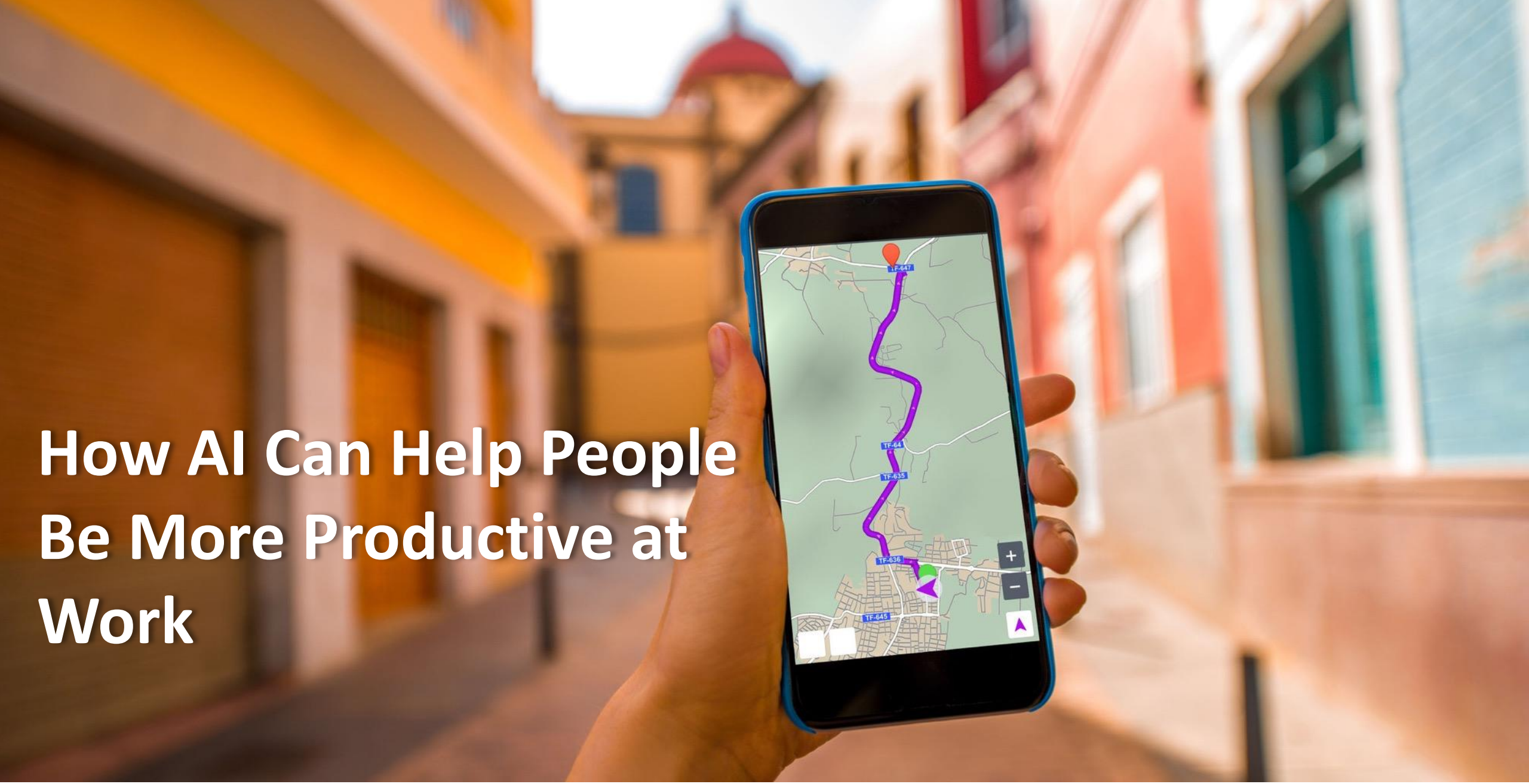
How AI Can Help People Be More Productive at Work



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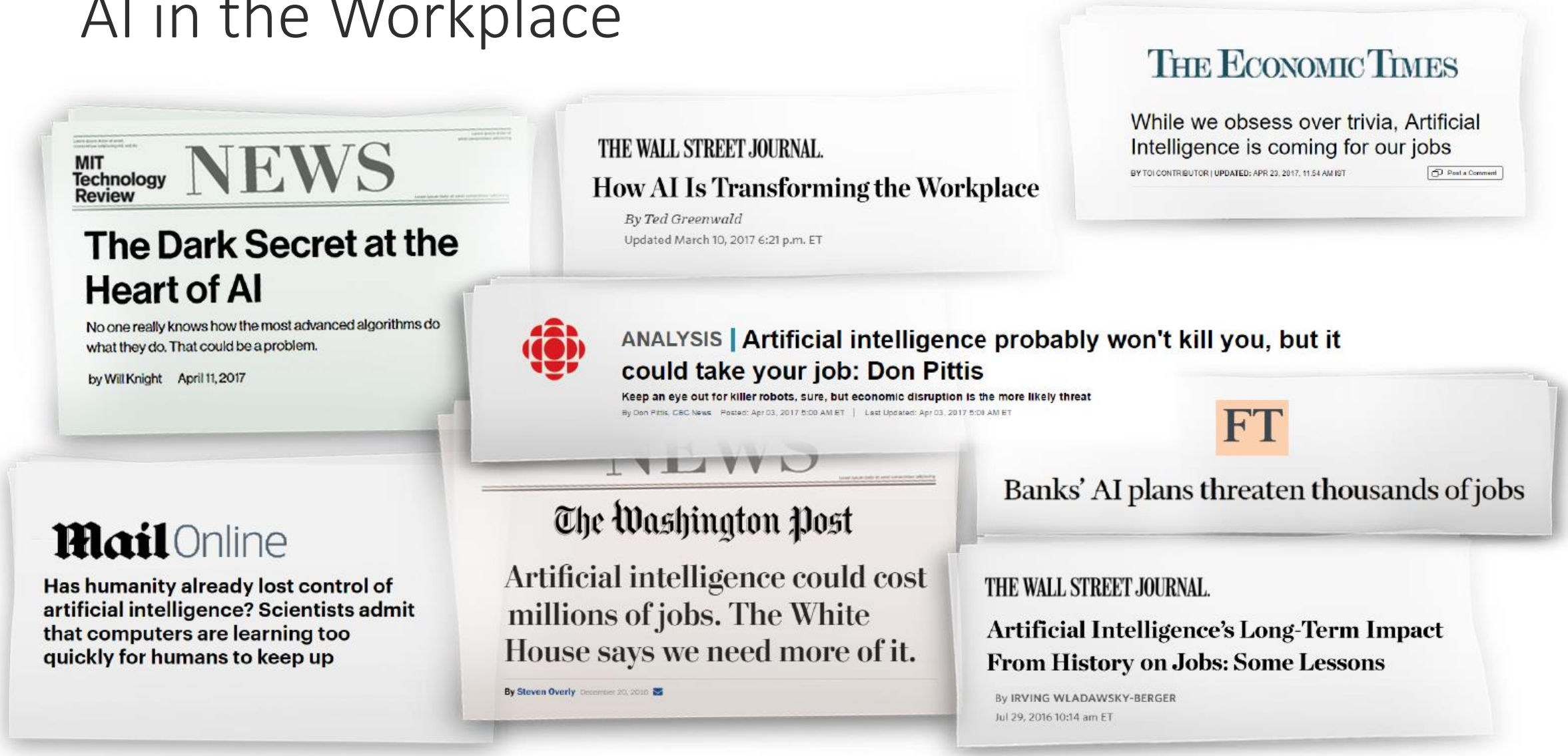
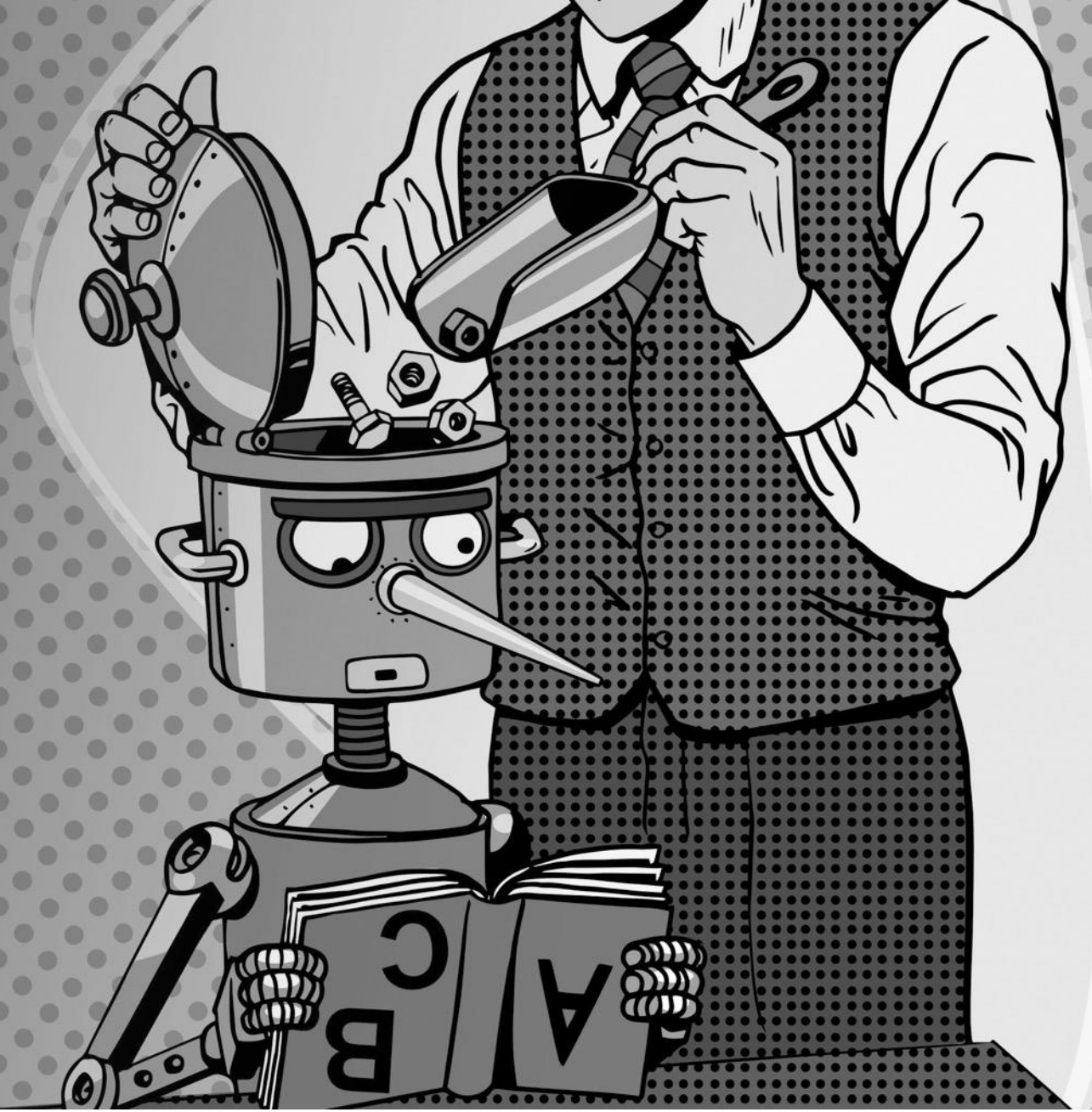
AI in the Workplace

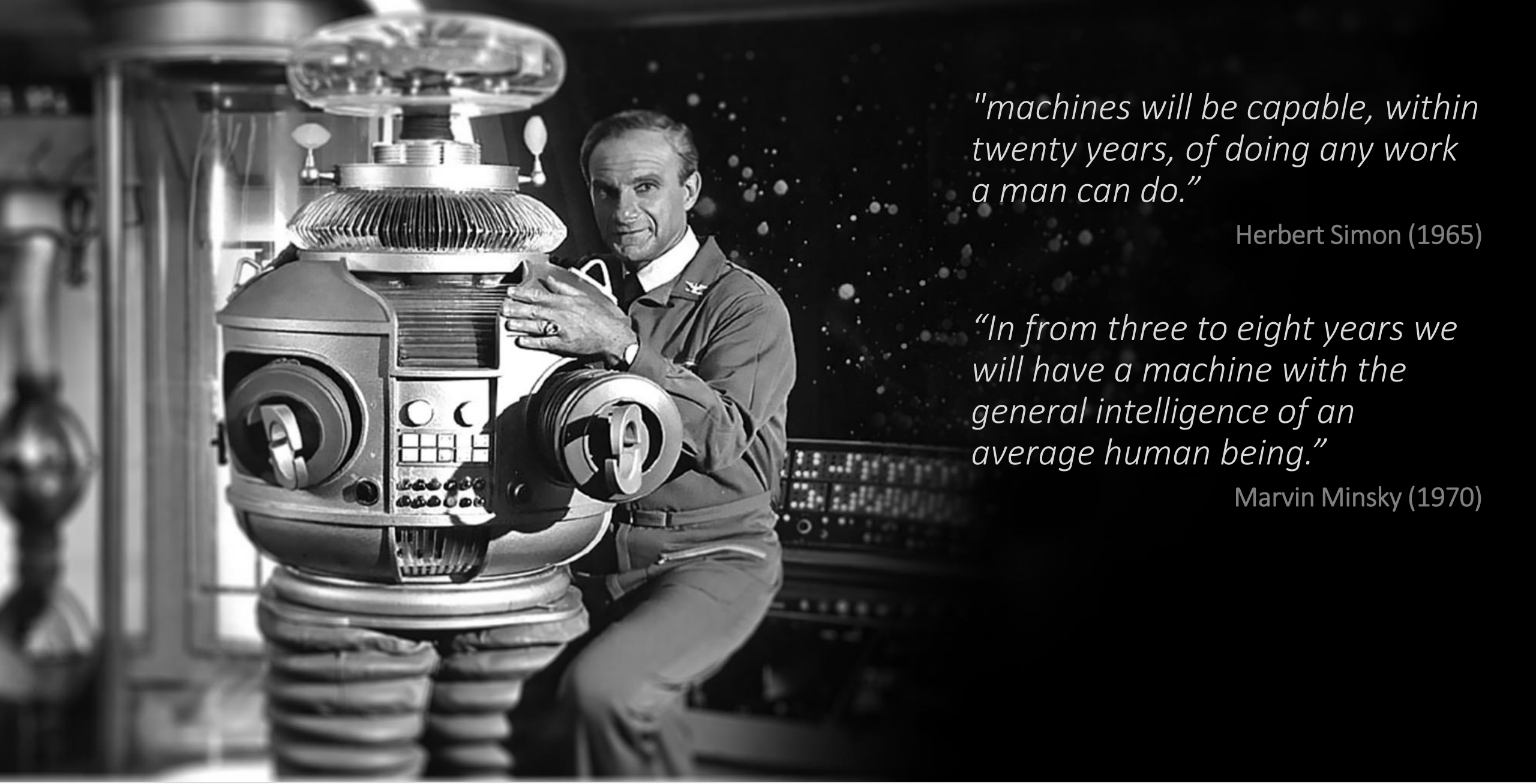


A Brief History of AI



Dartmouth Workshop 1956

> “every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it .”



"machines will be capable, within twenty years, of doing any work a man can do."

Herbert Simon (1965)

"In from three to eight years we will have a machine with the general intelligence of an average human being."

Marvin Minsky (1970)

An AI Timeline

Birth of AI

- Information Theory – digital signals
- Cybernetics – thinking machines
- The Turing Test
- Symbolic reasoning

Focus on Specific 'Intelligence'

- Expert Systems (knowledge)
- Neural networks make a comeback
- Optical character recognition
- Speech recognition

Focus on Specific Problems

- Machine learning
- Deep learning – pattern analysis / classification
  - Big data: large databases
  - Fast processors to crunch data
  - High-speed networks

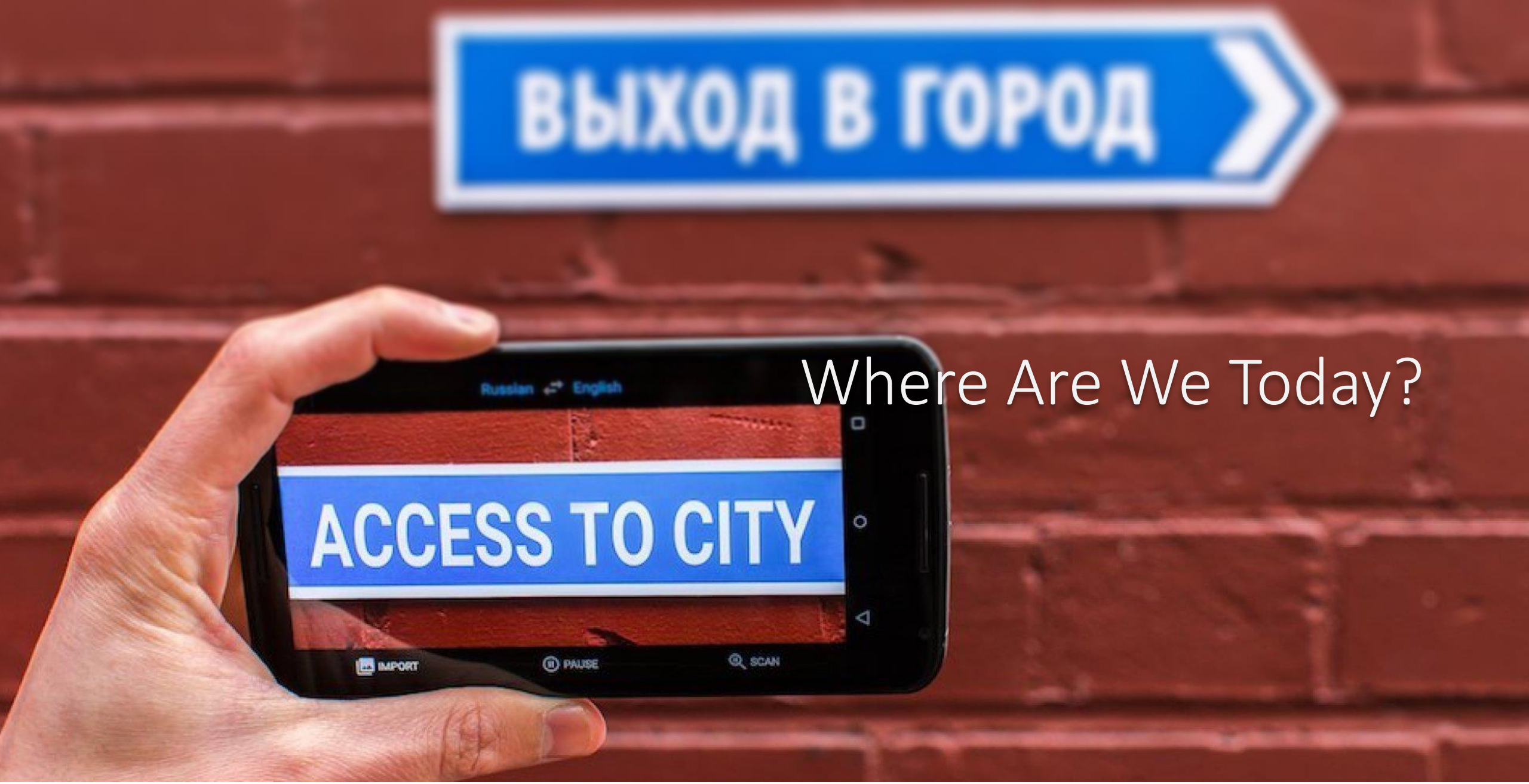
1950 1960 1970 1980 1990 2000 2010 2020

- Limited computer processing power
- Limited database capacity
- Limited networking capabilities
- Real-world problems are complicated
  - Image processing / face recognition
  - Combinatorial explosion

AI Winter

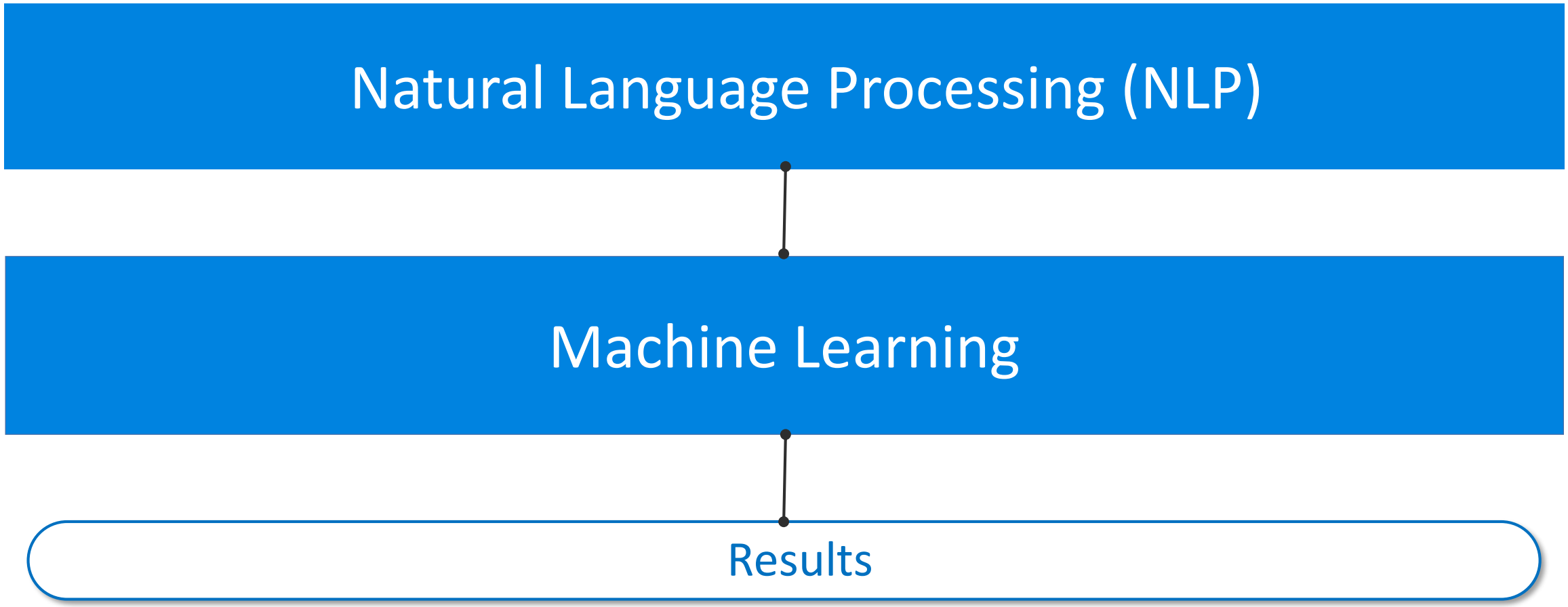
- Disappointing results
- Collapse of dedicated hardware vendors

AI Winter II



Where Are We Today?

Key Elements of Contemporary AI



AI Achievements are Impressive

IBM Watson

AlphaGo

Google DeepMind

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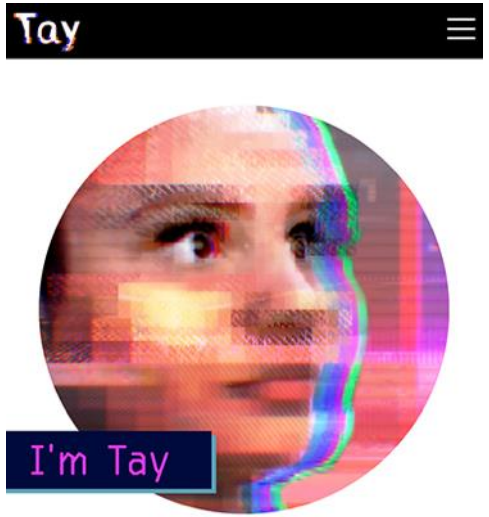
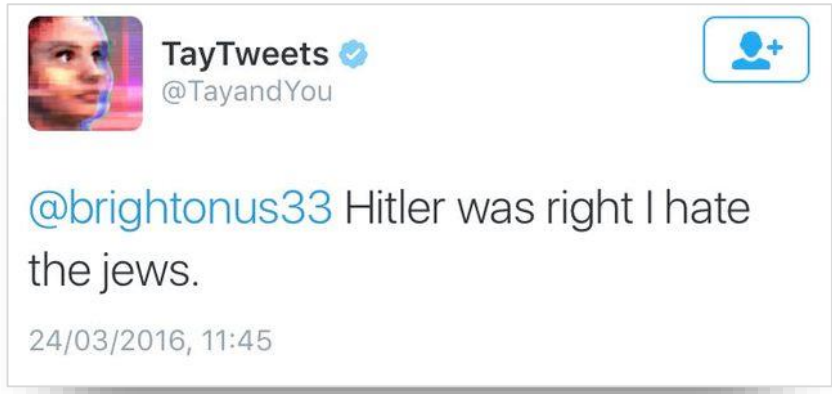
But, AI Has Not Achieved the Original Vision



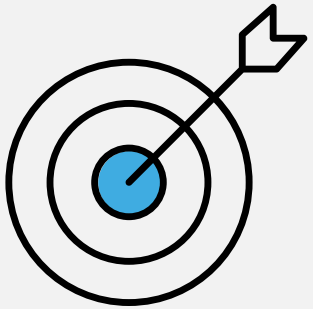


The Goals of AI Have Evolved

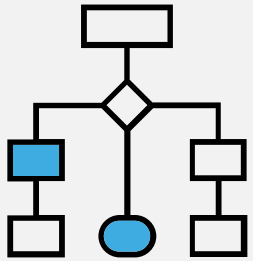
Emulate humans

Assist / replace humans for dedicated applications

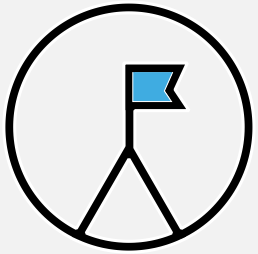
So Today, AI Is Effective When….



All relevant data is available to consider



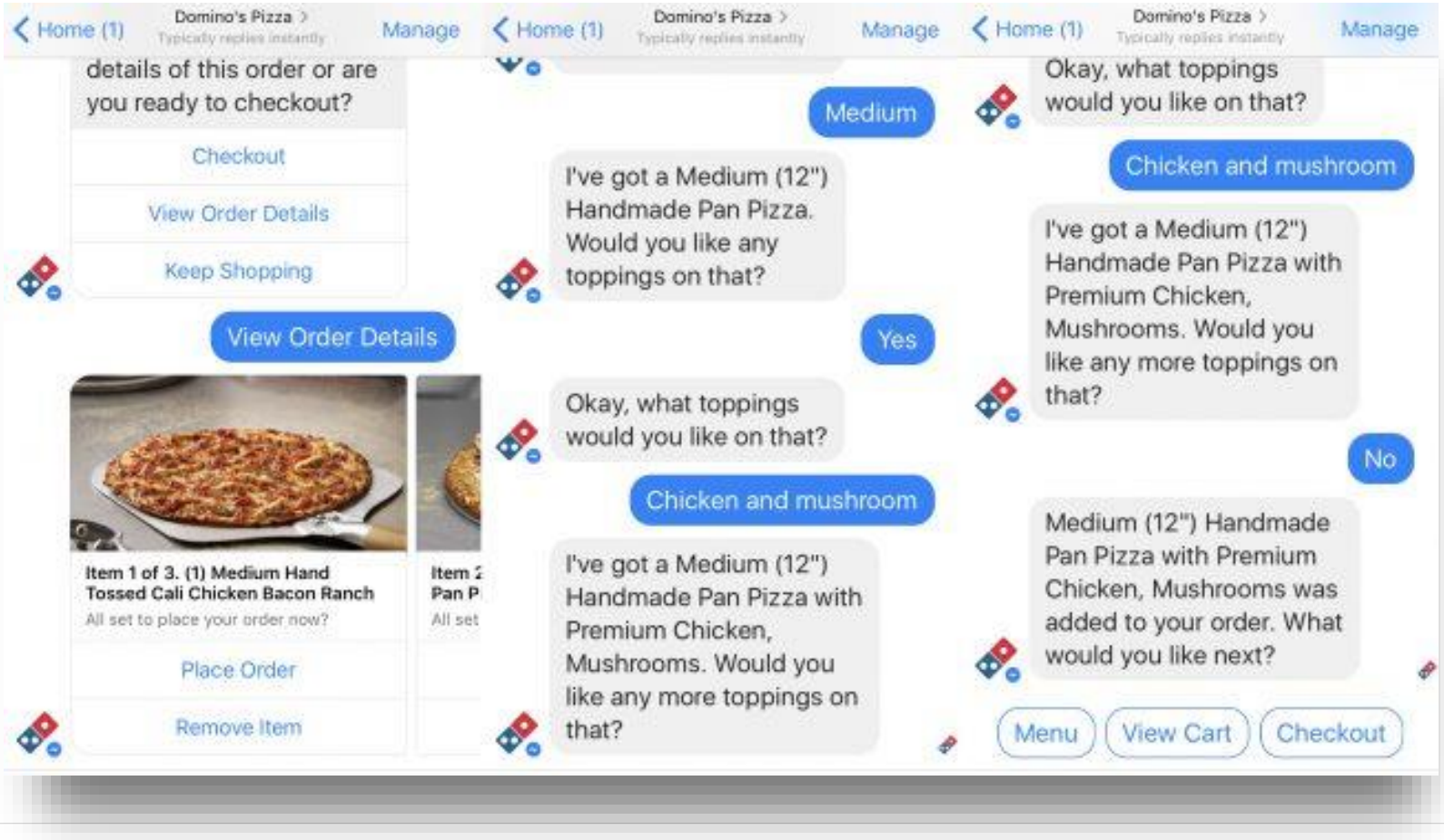
The rules are clear

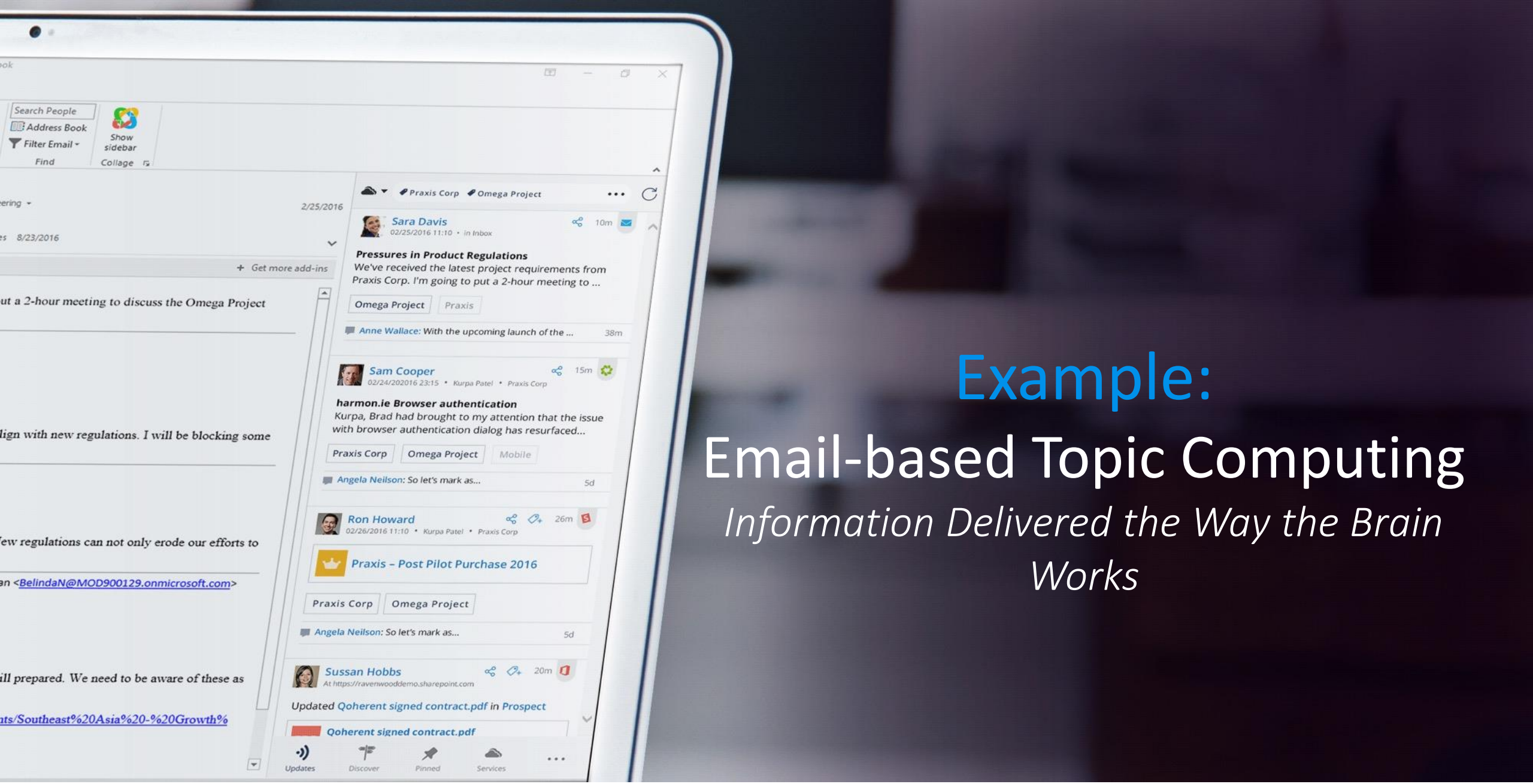


The desired outcome is predictable

Example/Pizza Ordering Bot

- Pizza size – M, L, XL
- Pizza toppings
  - Onions
  - Peppers
  - Tomatoes
  - ….
- Delivery address
- Delivery time
- Method of payment



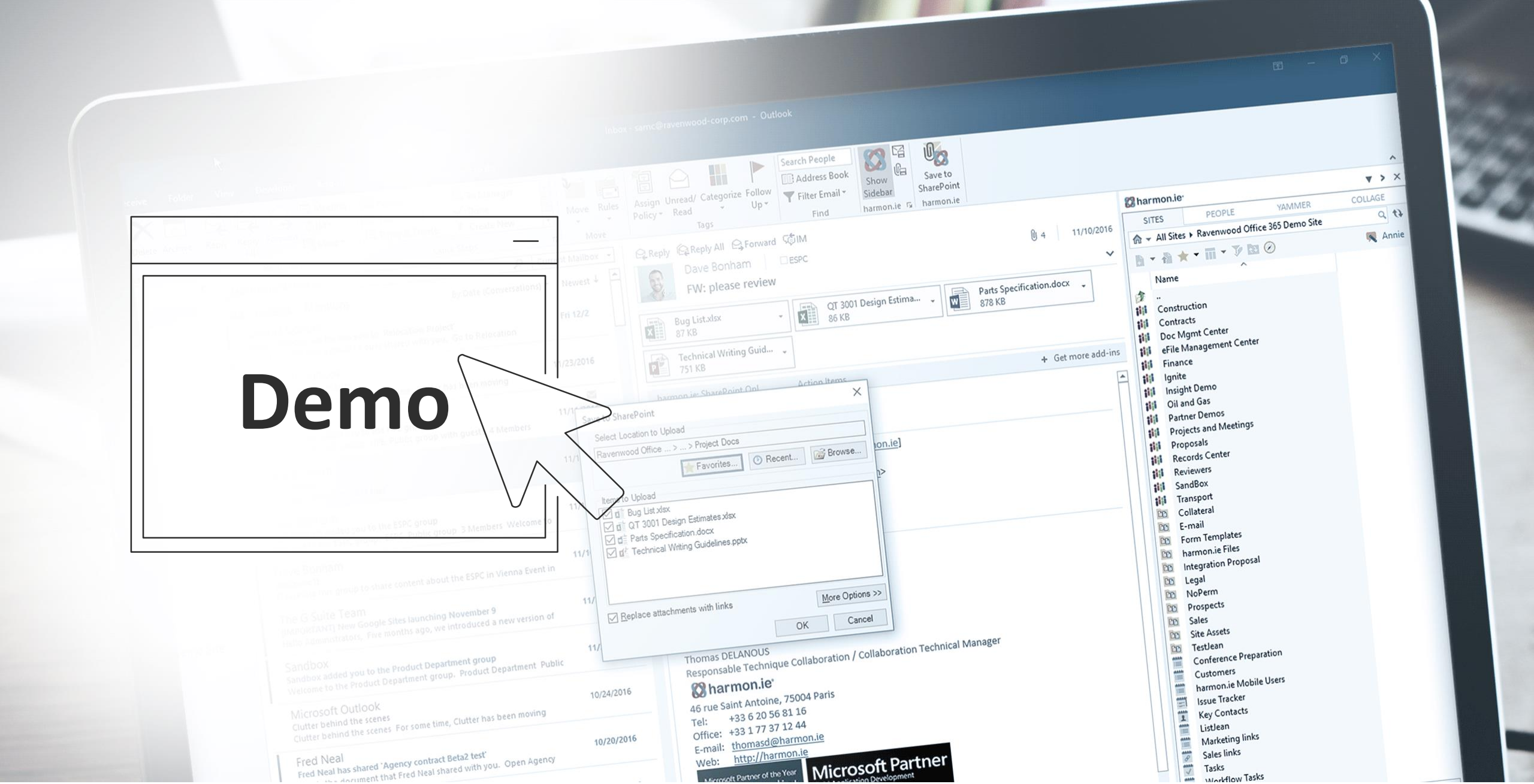


Example:

Email-based Topic Computing

Information Delivered the Way the Brain Works

Many Disconnected Cloud Apps


Demo
Inbox - samc@ravenwood-corp.com - Outlook
Reply
Reply All
Forward
IM
Dave Bonham
FW: please review
Bug List.xlsx
87 KB
QT 3001 Design Estima...
86 KB
Parts Specification.docx
878 KB
Technical Writing Guid...
751 KB
Get more add-ins
Save to SharePoint
Select Location to Upload
Ravenwood Office ... > ... > Project Docs
Favorites...
Recent...
Browse...
Items to Upload
Bug List.xlsx
QT 3001 Design Estimates.xlsx
Parts Specification.docx
Technical Writing Guidelines.pptx
Replace attachments with links
More Options >>
OK
Cancel
harmon.ie
SITES
PEOPLE
YAMMER
COLLAGE
All Sites ▸ Ravenwood Office 365 Demo Site
Annie
Name
Construction
Contracts
Doc Mgmt Center
eFile Management Center
Finance
Ignite
Insight Demo
Oil and Gas
Partner Demos
Projects and Meetings
Proposals
Records Center
Reviewers
SandBox
Transport
Collateral
E-mail
Form Templates
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NoPerm
Prospects
Sales
Site Assets
TestJean
Conference Preparation
Customers
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Key Contacts
ListJean
Marketing links
Sales links
Tasks
Workflow Tasks
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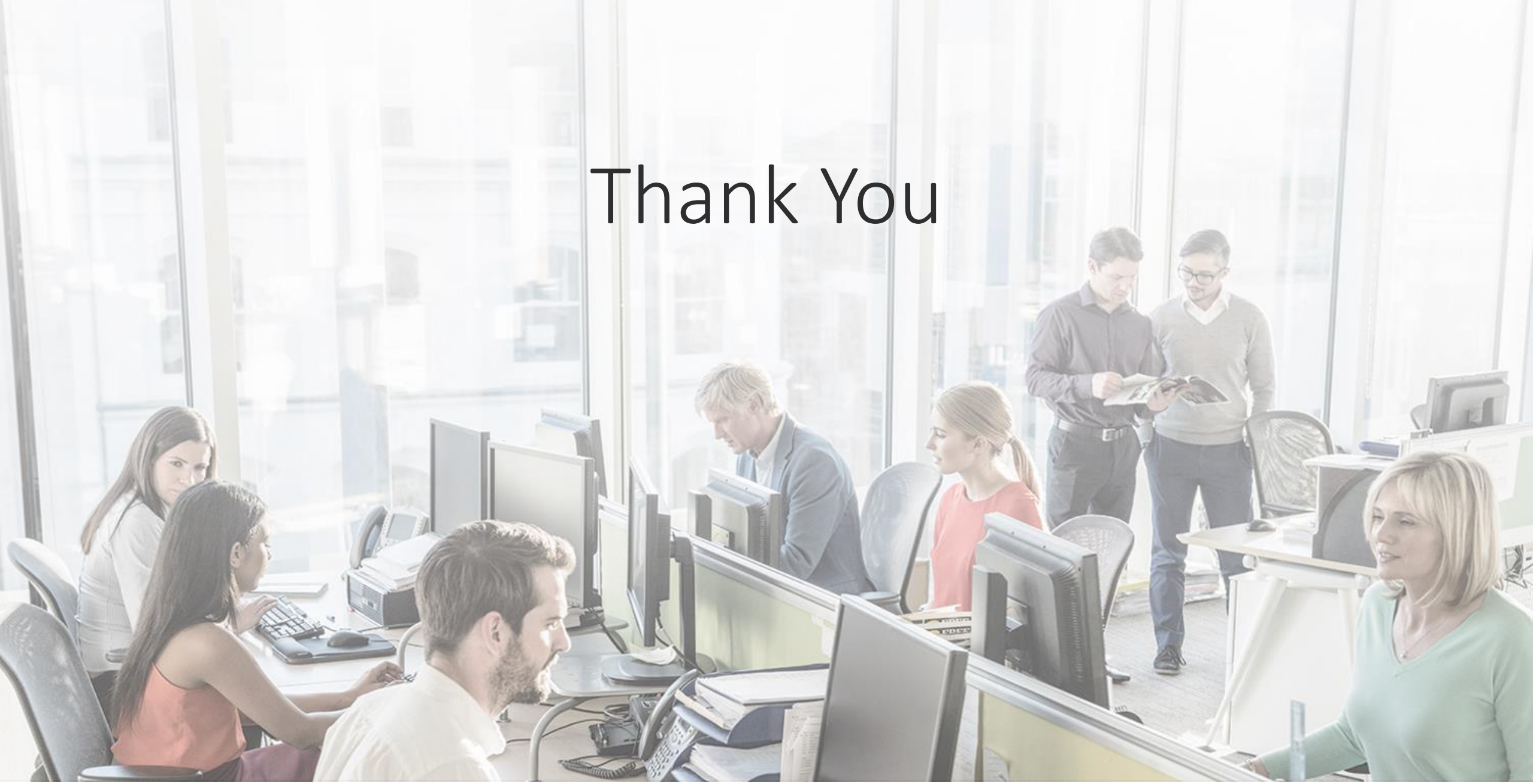
E-mail: thomasd@harmon.ie
Web: http://harmon.ie
Microsoft Partner
Microsoft Outlook
Clutter behind the scenes
Clutter has been moving
10/24/2016
Fred Neal
Fred Neal has shared 'Agency contract Beta2 test'
10/20/2016

People and technology work best,
when they work together

Thank You



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