

A tropical beach at sunset. The sky is a mix of orange, yellow, and blue, with some clouds. Two palm trees are silhouetted against the bright sun. The ocean is calm with small waves, and the sandy beach is in the foreground.

Digital Operations through INTELLIGENT AUTOMATION

 **WorkFusion**

THE FUTURE OF WORK IS HERE

Shared Services
1970s

Outsourcing
1990s

Analytics
2000s

Digital Operations
2017

...BUT IT'S NOT DISTRIBUTED EVENLY

DIGITAL COMPANIES ENJOY
10x DIFFERENCE IN PERFORMANCE

Sales per employee

Netflix = **\$4,500,000**

Average bank = **\$350,000**

A man in a dark suit and tie stands in front of the Lincoln Memorial. The image is dark and moody, with the man's face and the monument's columns visible. A green horizontal bar is overlaid across the middle of the image.

\$1 BILLION

Meson, Netflix's AI-based recommendation agent
reduces customer churn by several % saving \$1b+

GENERAL MOTORS BUYS CRUISE

Automotive giant to pay \$1b for startup in race against Ford, Toyota to be first to self-driving cars



CHARLES SCHWAB REINVENTS ITSELF WITH ROBO ADVISORS

Schwab Intelligent Portfolios accumulated US\$3 billion in assets
in less than four months



**WHAT DO THESE DIGITAL
COMPANIES HAVE IN COMMON?**



**“We no longer program
by prescribing rules,
but by giving examples.**

**We let the computer
learn.”**

- Sebastian Thurn

**Inventor of autonomous car
Board member of Credit Suisse**

DIGITAL CUSTOMER EXPERIENCE RUNS ON DIGITAL OPERATIONS



Access



Context



Immediacy



Precision



Agility



Access



Context



Immediacy



Precision



Agility



Core Apps



Unstructured
Data



Limited
Capacity



Conversations



CORE SYSTEMS

60% of ERP upgrades take > 12 months

30% of customers can't upgrade at all

Average business process involves 3-10 applications

#vintagesystems

ROBOTIC BOTS

Use apps UI like people do
Operate at scale
Always available

#rpa

Before

People + IT

Big and long IT projects
Fragile disparate systems
Solving problems with people

After

Configuring, not developing

Non-disruptive UI-based automation
Agile deployment
On-demand use of resources

Machine Learning power

Exception discovery
Exception routing



AI

BUSINESS

A background image showing a close-up of a person's hands holding a device, with the palm of the left hand visible and fingers of the right hand gripping the device. The image is slightly blurred and has a dark overlay.

UNSTRUCTURED DATA

70%+ of all data is unstructured
200,000 data entry jobs on Indeed.com alone
8% human entry error rate

#copypaste

COGNITIVE BOTS

Process unstructured data
Learn from and teach people
Always available

#norules

Before

Rules and scripts

Mapping processes
Documenting rules
Programming & scripting

After

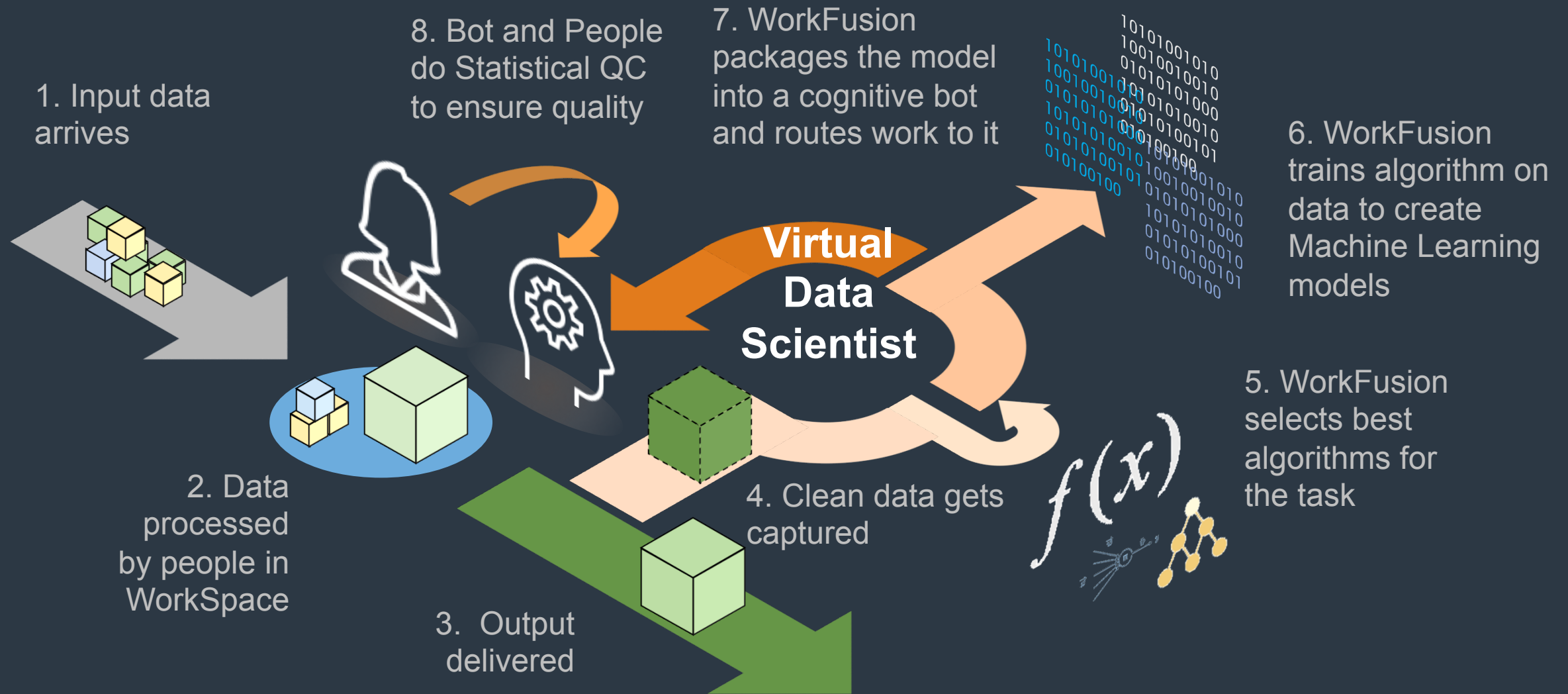
Learning from doing

Harnessing existing data
Adaptive controls for compliance
Continuous improvement

Machine Learning power

Best algorithms
Best task-algorithm matching
Non-disruptive training

Anatomy of cognitive automation



“How does cognitive / ML learn?”

Invoice Information Extraction

[Click to show/hide instructions](#)

[Original PDF](#)

Extract data from invoice

↶

↷

Split view

Popup

🔍

🔍

⬆

⬇

View answers as a table

INVOICE

Invoice number 102893 Invoice date 06/12/2016 Customer no.: 0000-1293

Bill to: Ship to:
Workfusion Inc. Workfusion Inc.
48 Wall Street New York 48 Wall Street New York
NY, 10007 NY, 10007
Phone number +1 201-999-7777 Phone number +1 201-999-7778

Model No.	Description	Quantity	Amount
012391010	HF- Adhesive	1	2000.00
019239120	Chemicals	1	544.90
Sub-total			2544.90
Total amount (incl. tax)			2544.90

PARTY DETAILS (0)

S

Supplier Name

[set value](#)

E

Customer Name

[set value](#)

INVOICE (1)

N

Invoice Number

[set value](#)

D

Invoice Date

06/12/2016

⋮

A

Invoice Amount

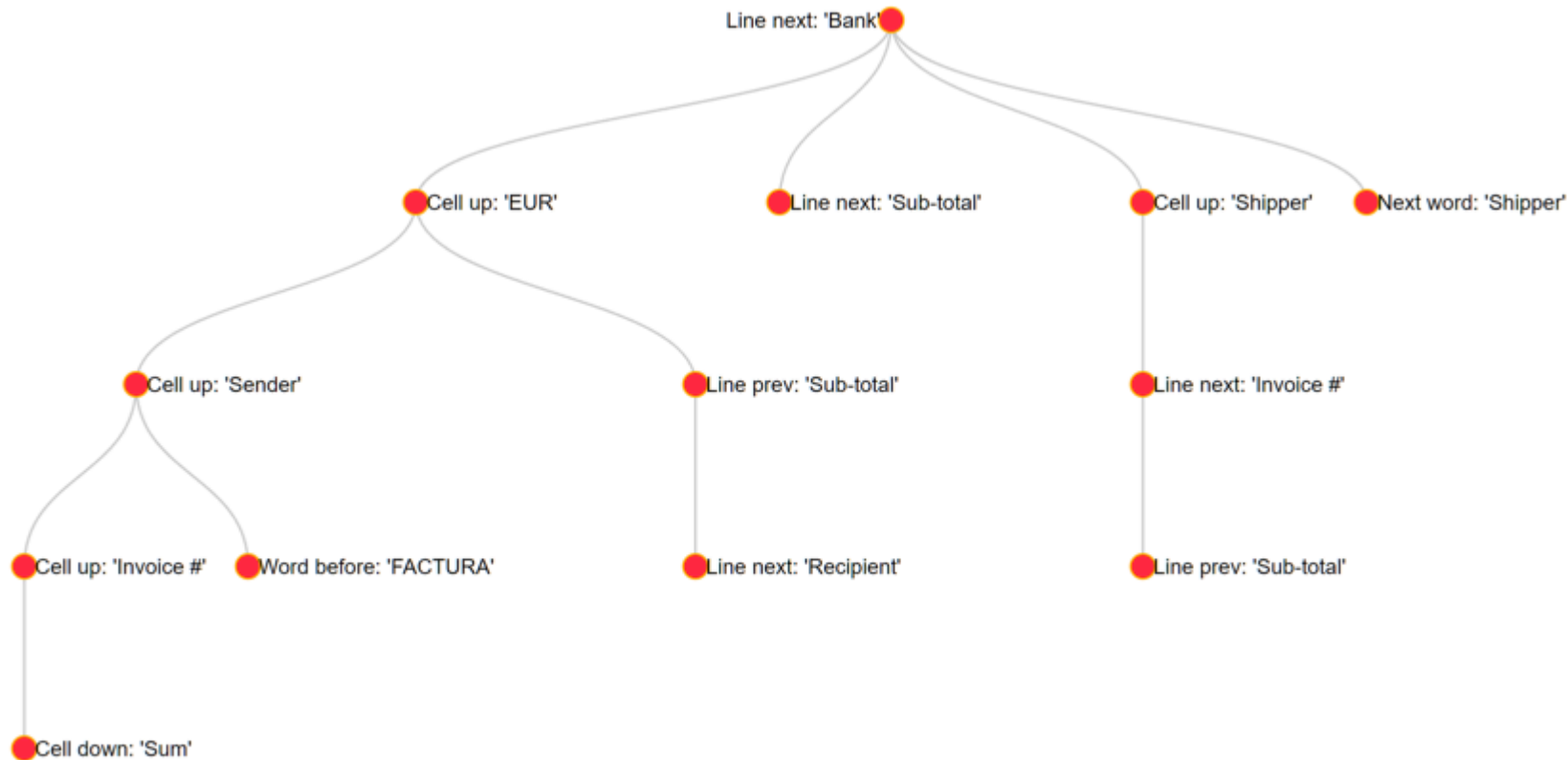
[set value](#)

Z

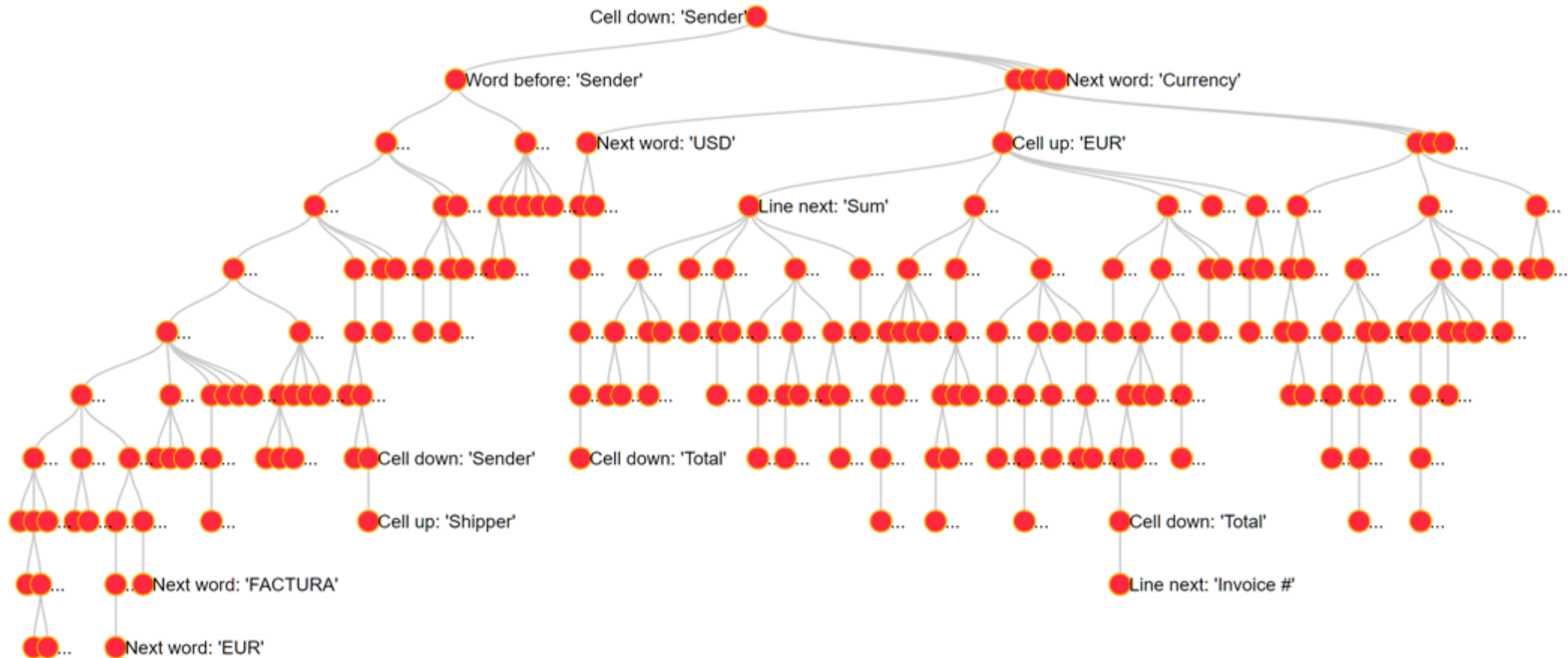
Invoice Currency

[set value](#)

Machine Learning is about programming by giving examples



... and doing it at scale that cannot be done by SME



The background of the slide features a large whale swimming horizontally across the frame, with a diver visible below it. The entire scene is overlaid with a semi-transparent dark blue filter.

CONVERSATIONS

10x transaction cost when agent gets involved

25% of agent interactions can be automated

Access to all information is key to customer satisfaction

#press1for

CHATBOTS

Naturally conversant

Complete tasks

Always available

#turingtest

Before

Phone call and maybe chat

Call centers

Web chat with an agent

Interactive Voice Response (IVR)

After

1:1 omni-channel conversations

Every channel

Seamless integration with automation

Full corporate and personal knowledge

Machine Learning power

Conversation understanding

Situational responses

Knowledge management

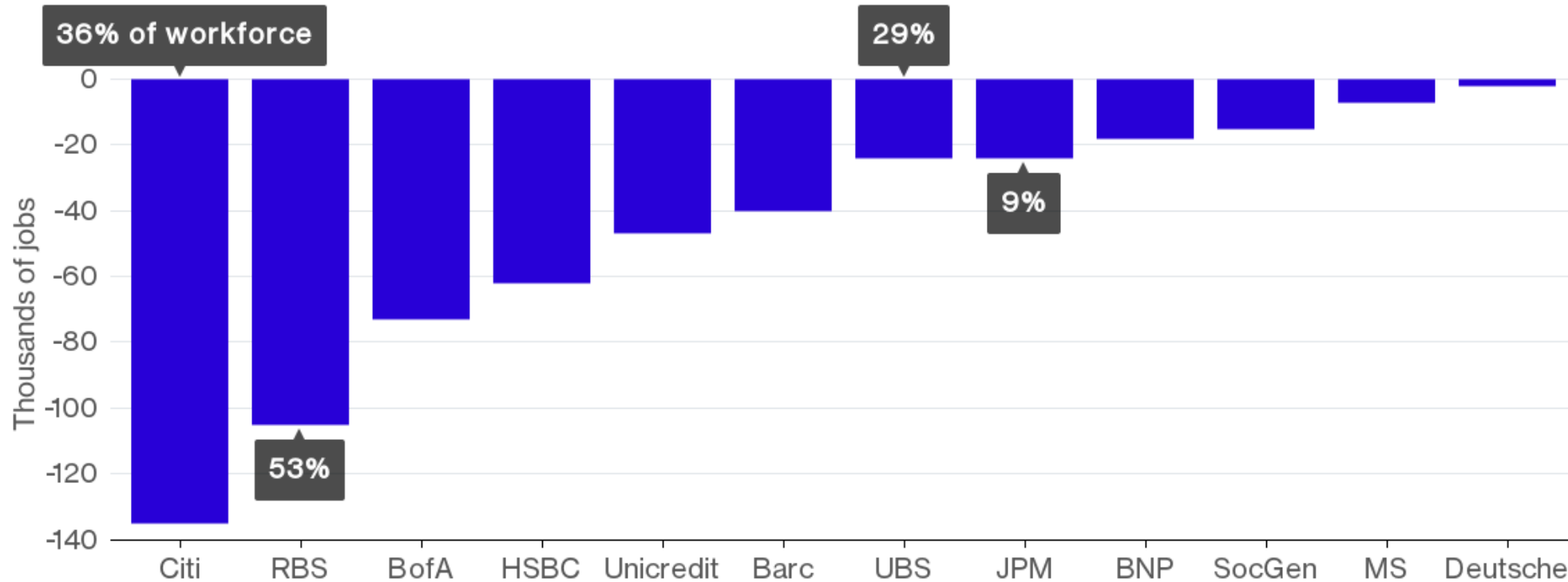
A photograph of ancient stone ruins, possibly Mayan or Aztec, with large, gnarled tree roots growing over and through the structures. The scene is dimly lit, with a dark, moody atmosphere. The text is overlaid on the right side of the image.

LIMITED CAPACITY

500,000 banking jobs lost since peak employment
80,000 regulations added each year in US

#morewithless

Shrinking banks



Source: Company filings.

Figures, as of Sept. 30, 2015, show declines from peak employment following the crisis. 2015 data for Barclays and BNP Paribas based on company announcements.

Bloomberg 

CROWD

Do any manual work
Available on-demand
Fill specialty gaps

#workfitness

Before

Employees or contractors

Signing contracts
On-/off-boarding
Managing overhead

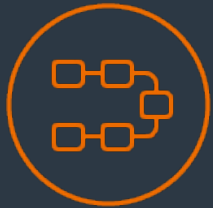
After

Crowdsourcing

Global employee + freelance workforce
Full range of data protection
\$0 overhead

Machine Learning power

Intelligent training and work routing
Algorithmic quality management
Algorithmic cost optimization



Smart Process
Automation



Smart
Crowd



Chatbots



Core Apps



Unstructured
Data



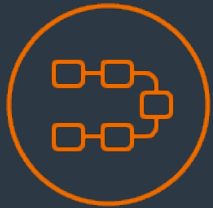
Limited
Capacity



Conversations



Intelligent Automation



Smart Process
Automation



Smart
Crowd



Chatbots



Cognitive
Bots



Robotic
Bots



People

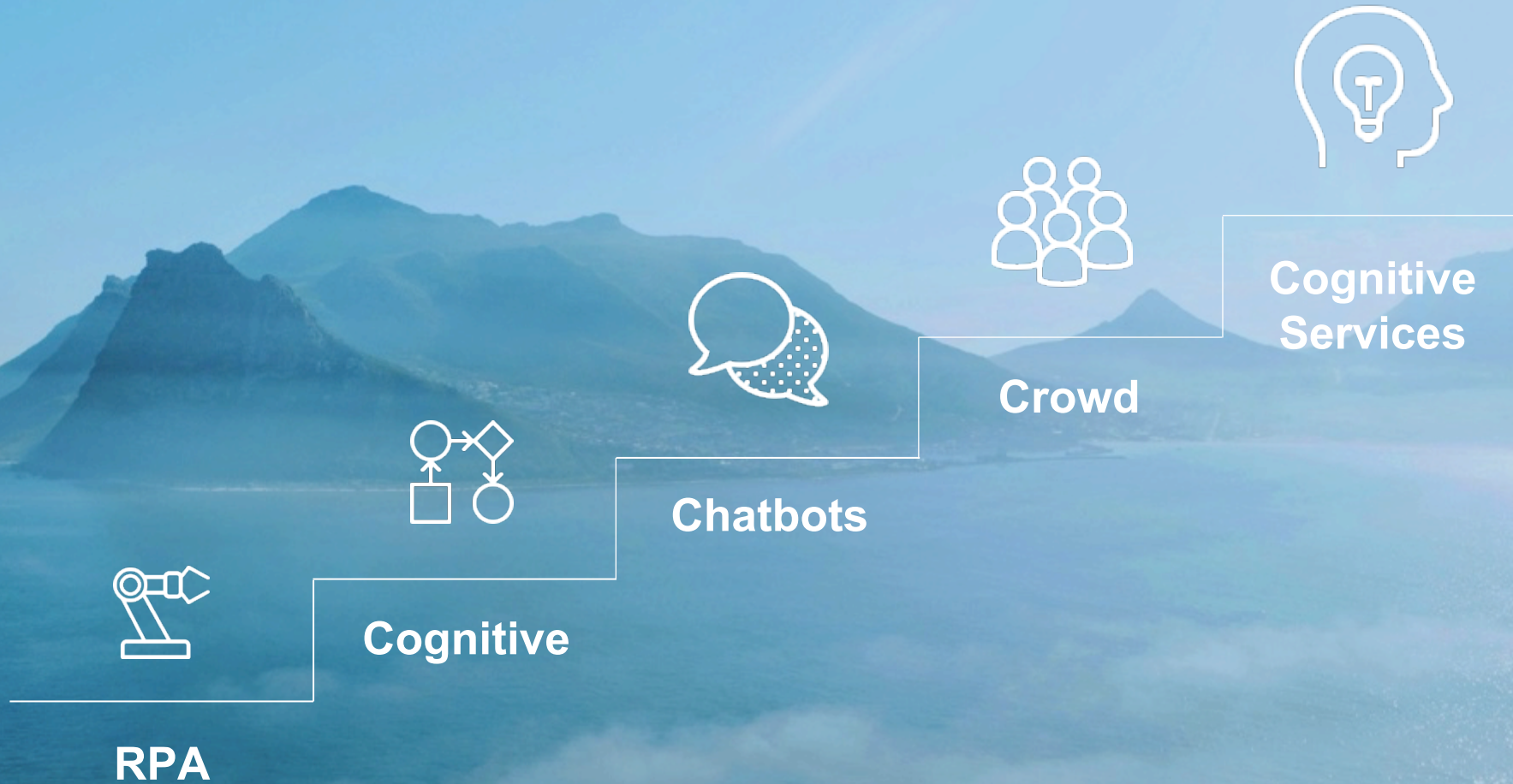


Crowd



Chatbots

Stairway to Digital Operations





FINANCE & ACCOUNTING

Accounts Payable: Invoice compliance

Low coverage: 10% checked only

Highly unstructured: invoices

High-volume: 1000s of transactions/day

Time-sensitive: same day processing

Global: 80 countries



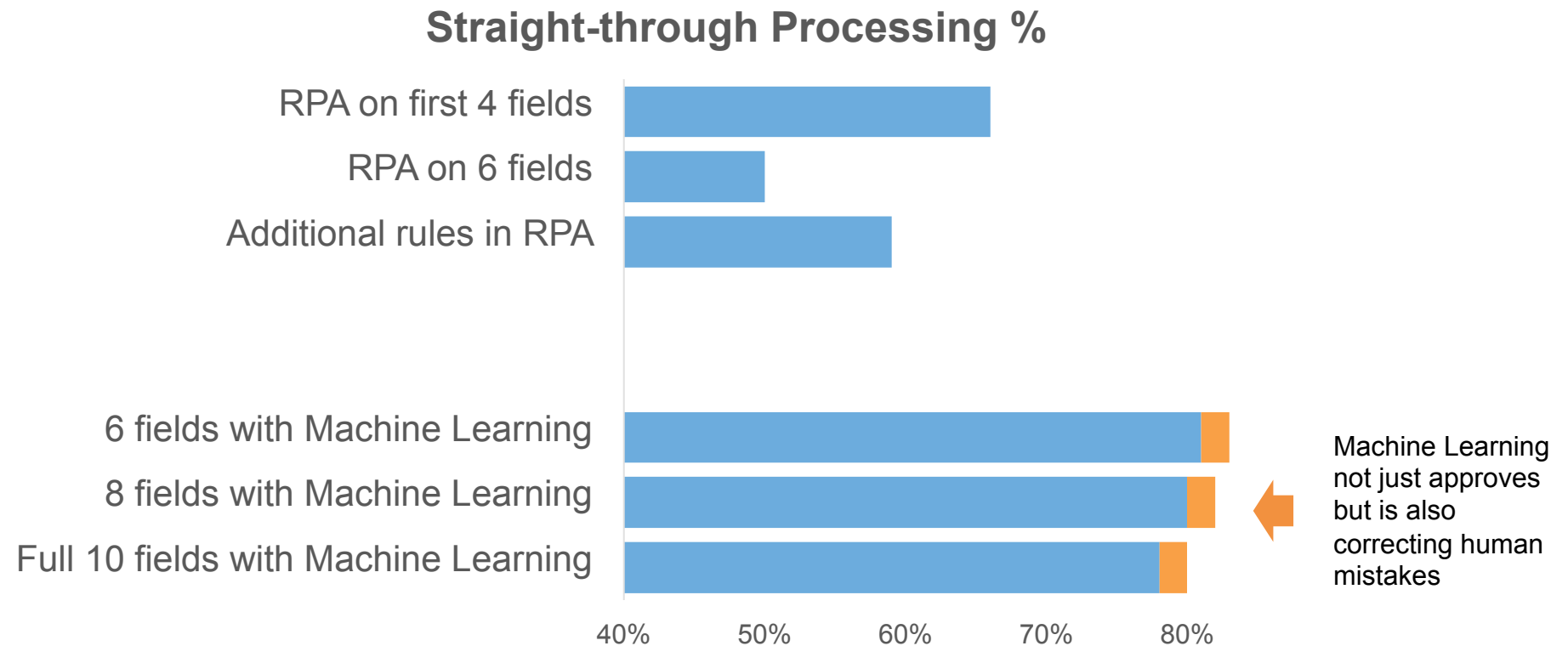
80% Straight-Through Processing rate invoice compliance

Phase 1: RPA

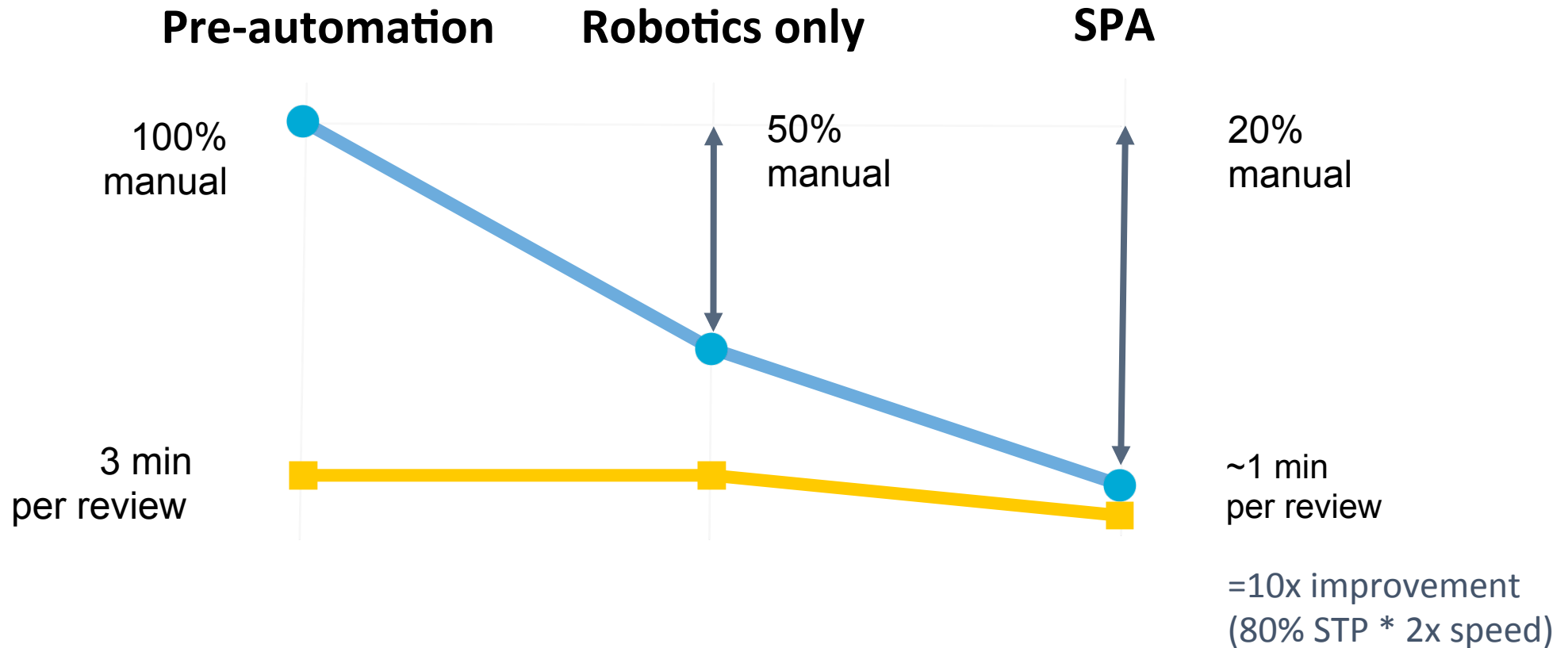
Testing how much
can be accomplished
with RPA

Phase 2: SPA

Machine Learning-
based compliance
based on 3000
transactions

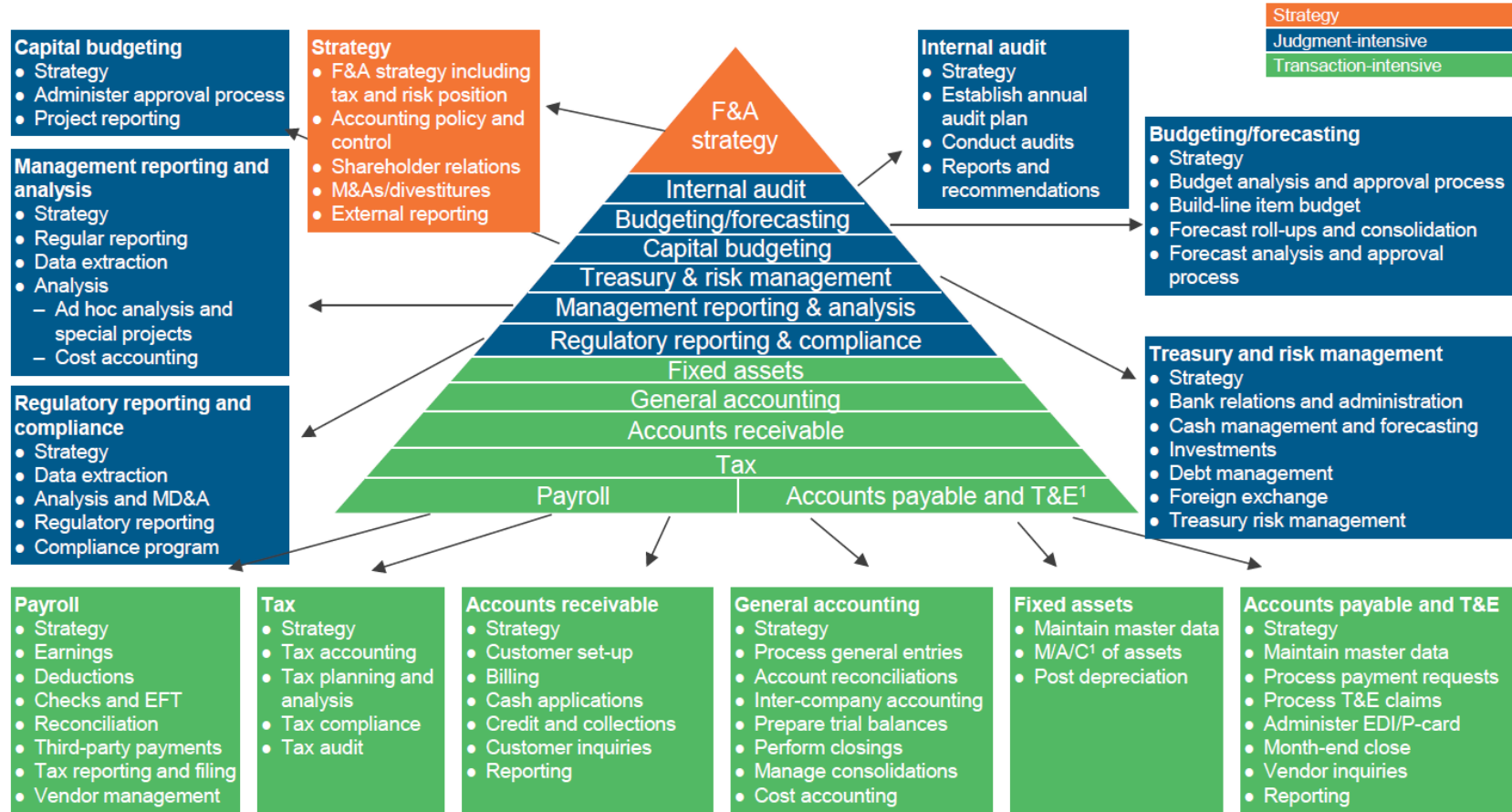


10x improvement resulting from automation and speed gain

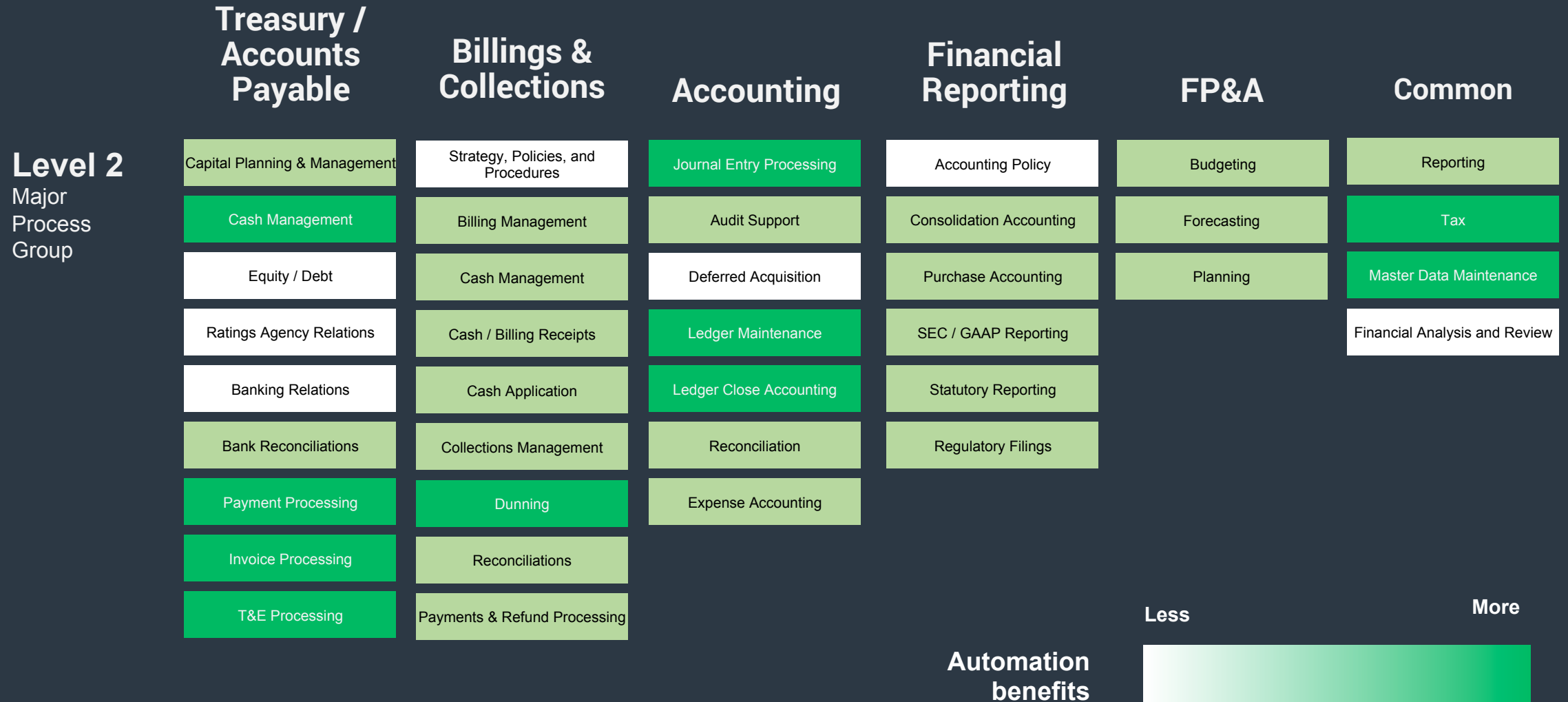


FnA map

Functional definition of FAO



FnA Automation Heatmap





TRADE FINANCE

50% of \$18 trillion of trade is financed by banks

Open
account

Documentary
collection

Letter of
credit

Cash-in-
advance

More secure for Exporter



More secure for Importer



...at the same time

Regulated: Foreign Trade Policy / DGFT, FEMA, banking (KYC), taxation

Highly unstructured: invoices, bills, declarations, certificates, letters

High-volume: 1000s of transactions/day

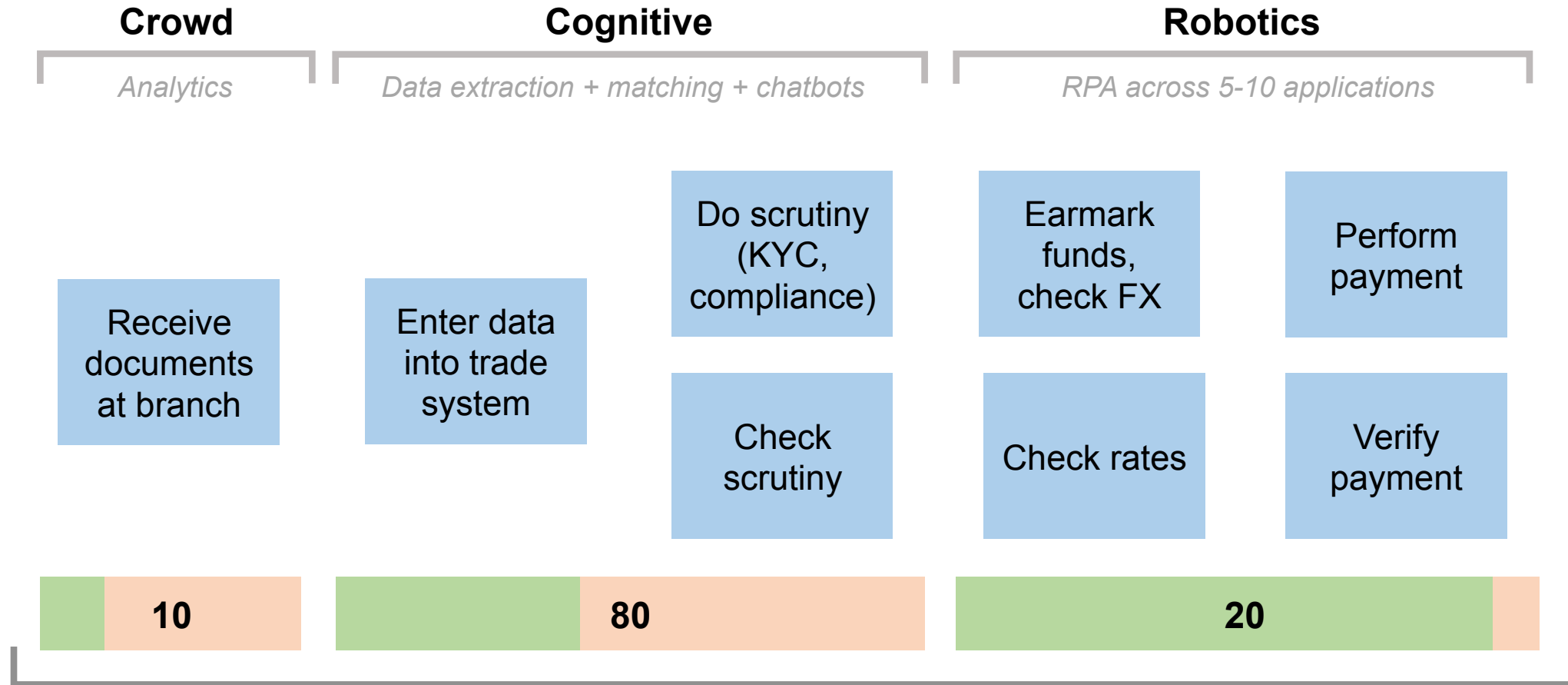
Time-sensitive: same day processing

Complex: FX, delayed collections, loans, inter-bank, cross-border

Cross-system: multiple core systems



Trade finance: import payments



Headcount: 110 > 47 FTE

Automation rate: 57%

Business Case

\$7m savings
over 3 years
6 months
payback

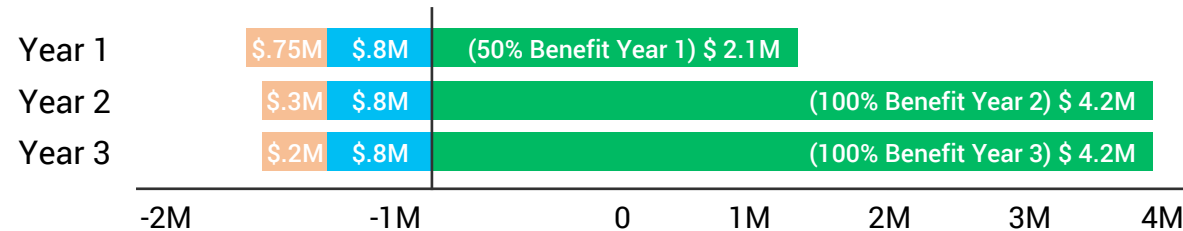
Current State

Process	FTE	FTE Cost	Total FTE Cost
Trade Finance	77	\$37,000	\$2,849,000
Know Your Customer	170	\$35,000	\$5,950,000
Reconciliation	188	\$22,000	\$4,136,000
Total	435		\$12,935,000

Target State

Automation	Workforce Reduction	Total Annual FTE Savings
54%	41%	\$1,153,845
45%	34%	\$2,008,125
35%	26%	\$1,085,700
42%	32%	\$4,247,670

Investment Return



Key Assumptions

- Reducing time and effort will create FTE capacity that can be realized as hard savings to the P&L
- Workforce Reduction = 75% * Automation Percentage (based on partial FTE utilization and other factors)
- FTE compensation figures are annual cost estimate averages (USD) and include direct and indirect compensation, operational costs including hard and soft provisioning, hiring and training



***“In 3 months we were able to
reduce the account opening time
from 22 days to under 5 minutes”***



Standard Bank

The background of the slide features a silhouette of several large industrial cranes, likely at a port or construction site, against a vibrant sunset sky. The sky transitions from a deep orange near the horizon to a dark blue at the top. The cranes are dark, intricate structures with lattice booms. A semi-transparent dark grey rectangular box is centered over the image, containing the text.

Q&A
adam@workfusion.com