

# Automation's one-two punch.

 **WorkFusion**

Adam Devine

IRPA NYC

12/3/15



# Automation's one-two punch:

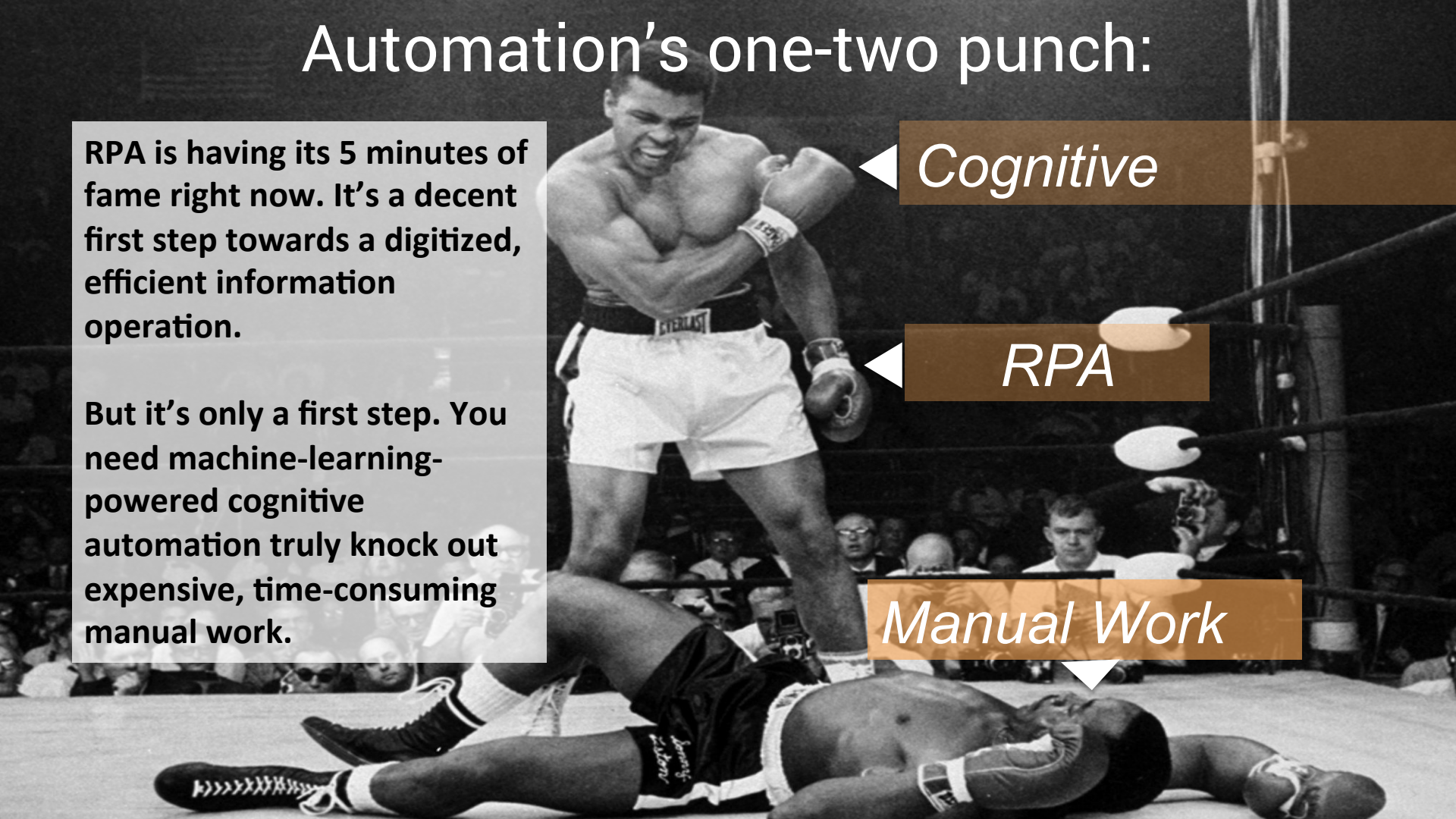
RPA is having its 5 minutes of fame right now. It's a decent first step towards a digitized, efficient information operation.

But it's only a first step. You need machine-learning-powered cognitive automation truly knock out expensive, time-consuming manual work.

*Cognitive*

*RPA*

*Manual Work*

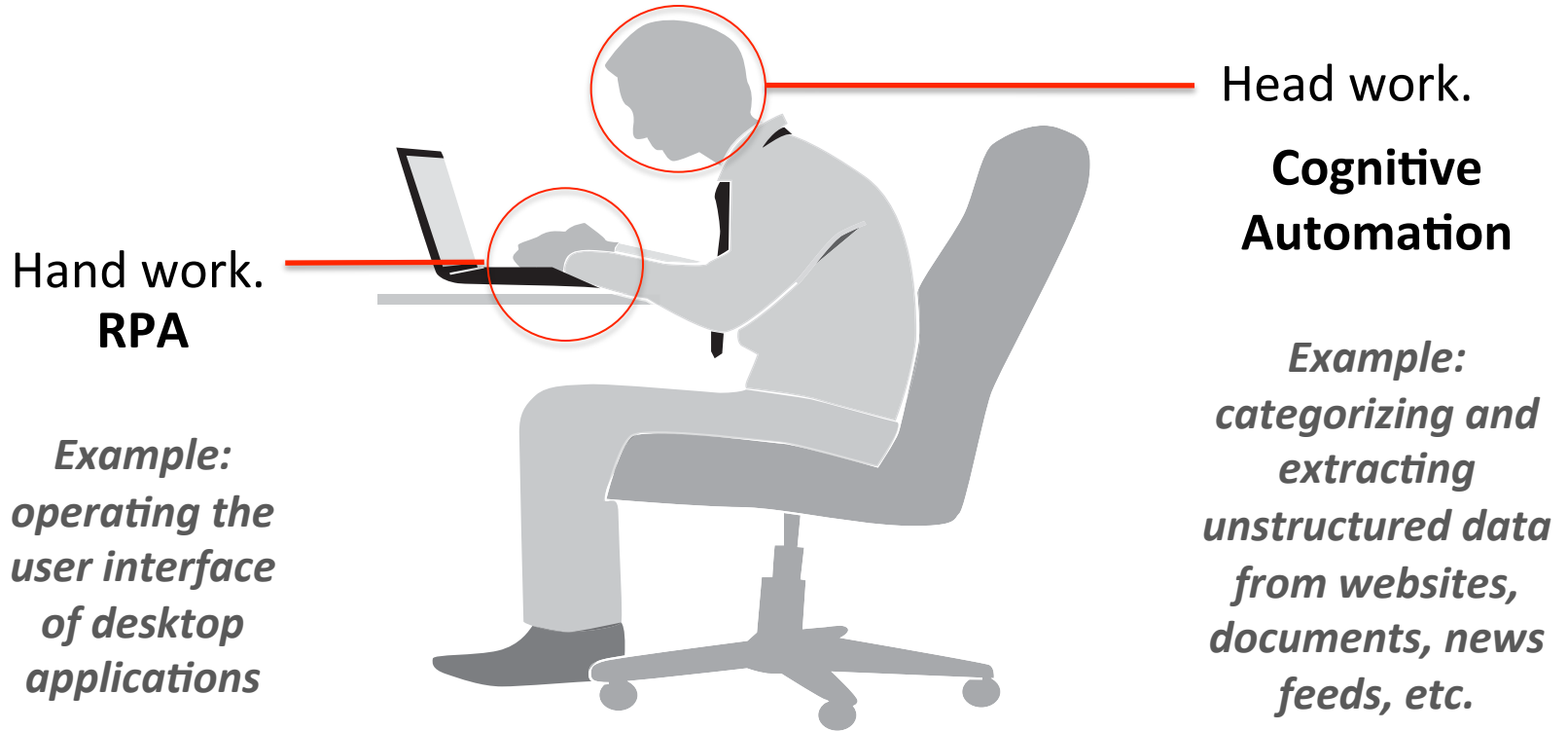


# Picture yourself in a gondola in Verbier....

*“Quelle est la  
différence entre  
RPA et  
Cognitive?”*

**After this presentation, you'll have an answer for Clooney, and you'll understand why RPA alone solves only a tiny sliver of your operational challenges, which are often claims processing, onboarding, settlements, and other high volume unstructured data processes.**

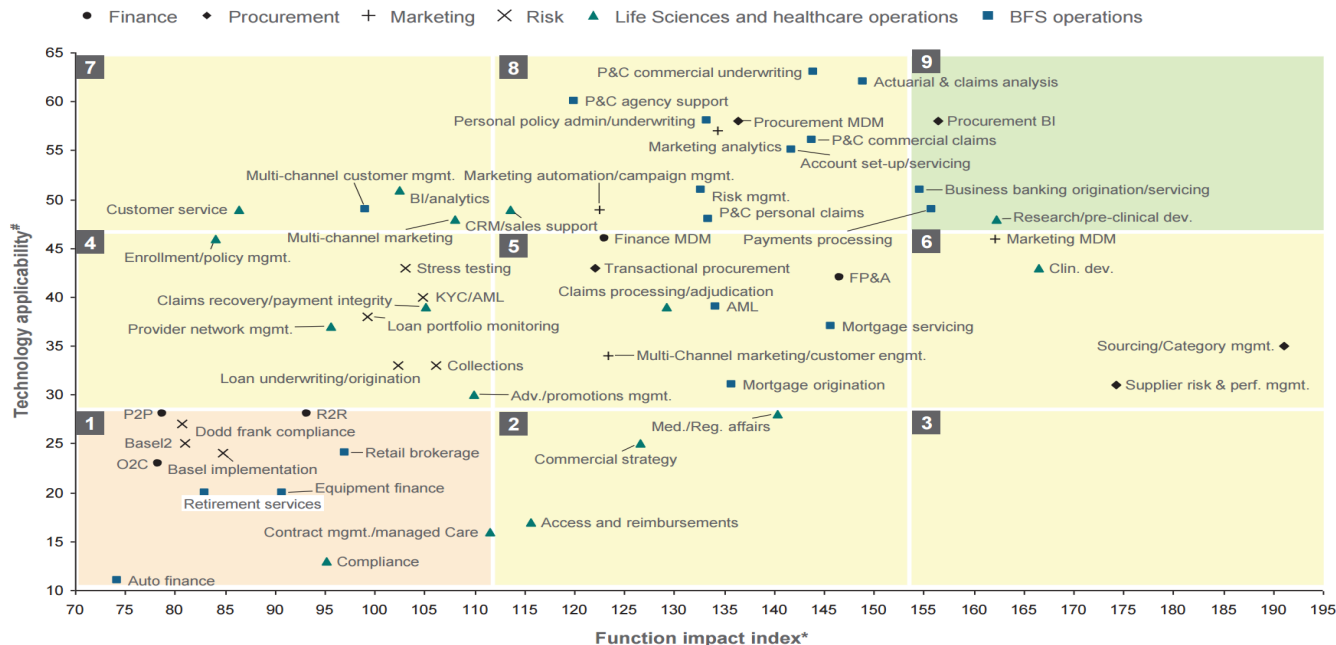
# RPA vs Cognitive:



What problem are we  
talking about?

# There's a lot of room for automation in your operation.

**Figure 3: Technology applicability correlates with functions' impact**



Source:

*Genpact's LinkedIn survey of customers about the applicability and impact of automation in their data operation.*


[1] Calculated as "impact index" that weighed the impact of each function according to the importance of the business challenges the function addresses


\*Function impact index: Higher index values mean that the function impacts many of the enterprise's most important challenges.

#Technology applicability: Percentage of the function's executives who stated that radically improved use of technology could have an impact on the function  
n = 912 executives from a survey conducted by LinkedIn, commissioned by Genpact

# Specifically, high-volume manual processes with variable, unstructured data performed by lots of analysts and point tools.

**Example: FX SSI in global banking - thousands of doc formats, millions of transactions per year, too many people doing repetitive work.**

			
Settlement Instructions for Commercial payments to Saxo Bank A/S			
July 2015			
<small>Saxo Bank A/S only accepts funds originating from a bank account or an account held at a licensed financial institution. Saxo Bank A/S does not accept Third Party Payments, Bankers Drafts, Check, Cash deposits and remittances from Exchange houses.</small>			
Currency	Correspondent bank SWIFT (Field 56a or 54a)	Receiving bank SWIFT (Field 57a)	Client account and name (Field 59)
AED	DEUTGB2L Deutsche Bank AG London 8 Bishopsgate EC2P 2AT United Kingdom	SAXOXXXX Saxo Bank A/S	/Account holders Danish IBAN Client name Address Country
AUD	CTIAUZZA Citigroup Pty Ltd, Sydney Citigroup Centre Floor 14 2 Park Street 2000 Australia	SAXOXXXX Saxo Bank A/S	/Account holders Danish IBAN Client name Address Country
CAD	CITICATT Citibank Canada Ltd, Toronto University Place Suite 1900 123 Front Street M5G 2K3 Canada	SAXOXXXX Saxo Bank A/S	/Account holders Danish IBAN Client name Address Country
CHF	UBSWCH33HA UBS AG Zurich 6 Bâlehofstrasse 8001 Switzerland	SAXOXXXX Saxo Bank A/S	/Account holders Danish IBAN Client name Address Country
CZK	DEUTCE3P Deutsche Bank Aktiengesellschaft Prague Fitzova Prtg, Organizacni Stokja Jungmannova 750/14 11000 Czech Republic	SAXOXXXX Saxo Bank A/S	/Account holders Danish IBAN Client name Address Country
DKK	NDEADNXX Nordea Bank Danmark A/S Copenhagen Havnegade 3 900 C Denmark	SAXOXXXX Saxo Bank A/S	/Account holders Danish IBAN Client name Address Country
DKK	DKK transfers from a Danish Bank	Saxo Bank A/S Reg. nr.: 1149	Clients account number is the last 10 digits of the IBAN.
DKK	Pay direct via: DKNBXXXX - Nationalbanken Copenhagen Havnegade 5 1093 Denmark	SAXOXXXX Saxo Bank A/S	/Account holders Danish IBAN Client name Address Country

		
Standard settlement instructions		
For FX, MM, derivatives transactions and commercial payments		
Nordea Nordic countries from 2 March, 2015		
AED	NATIONAL BANK OF ABU DHABI, Abu Dhabi	NBDA AE AA
AUD	WESTPAC BANKING CORPORATION, Sydney	WPAC AU 2S
CAD	ROYAL BANK OF CANADA, Toronto	ROYC CA 72
CJP	CREDIT SUISSE, Zurich	CRES CH 2Z 80A
CZK	CEKOSLOVENSKA OBCHODNI BANKA A.S. Prague	CEKOCZ 3P
DKK	NORDEA BANK DANMARK A/S, Copenhagen	NDEA DK KK
EUR	PAY DIRECT (VIA EBATARGET) We prefer concentrating our flows in EUR to EBA with the exception of Money Market transactions done with Nordea Bank Finland Plc. Nordea Bank Finland Plc. Nordea Bank Denmark A/S Nordea Bank AB (publ) - EBA: - TARGET: Nordea Bank Norge ASA - EBA: - TARGET: Nordea Bank AB (publ), Estonia branch, Tallinn (pay direct via Target) Nordea Bank AB (publ), Latvia branch, Riga (pay direct via Target) Nordea Bank AB (publ), Lithuania branch, Vilnius (pay direct via Target) HSBC BANK Plc., London STANDARD CHARTERED BANK (HK) Ltd, Hong Kong UNICREDIT BANK HUNGARY ZRT, Budapest BANK LEUMLE ISRAEL B.M., Tel-Aviv INR MIZHO CORPORATE BANK Ltd, Tokyo KOREA EXCHANGEBANK, Seoul NATIONAL BANK OF KUWAIT SAK, Kuwait BBVA BANCOMER SA, Mexico MNX account number for NDEASIS: 11111111 MNX account number for NDEADKCK: 22222222 MNX account number for NDEAJHH: 33333333 MNX account number for NDEANCKC: 44444444 NORDEA BANK NORGE ASA, Oslo ASH BANK Ltd, Auckland HABIB BANK Ltd, Karachi BANK POLSKA KASA OPEKI SPOLKA, Warsaw NORDEA BANK FINLAND Plc., Helsinki *NB Only for Nordea Bank Finland Plc. NDEAFHH 1. Account with ZAO Uncredit Bank, Moscow (IMBRKUMM), 5555555555555555. ZAO Uncredit Bank, Moscow's account number with the Central Bank of Russian Federation is: BIK. 77777777777777777777 Field 72: Payment Details (e.g. FX Cover) V066080 (fr inside IMBRKUMM) V066081 (fr outside IMBRKUMM) * For - Nordea Bank Denmark A/S NDEADKCK - Nordea Bank AB (publ) NDEASIS - Nordea Bank Norge ASA NDEANOKK	
GDP		
HKD		
IEP		
ILS		
INR		
JPY		
KRW		
KWD		
MXN		
NOK		NDEA NO KK
NZD		ASBN NZ 2A
PKR		HSBK PK CA 007
PLN		PKOP PL PW
RUB		NDEA FI HH
SAR		NDEA FHH
SEK		ISRF SE SAR
SGD		NDEA SE SS
THB		IBHS SE SS
TRY		IBTK TR IBK
USD		IBOF US SN
ZAR		SBZA ZA JJ



# “85% of a typical firm’s 900+ processes can be automated.”

McKinsey&Company

## Compliance & Risk

AIFMD  
AML | KYC  
Basel III  
BCBS 239  
EMIR  
FATCA Bios  
FATCA People Authority  
KYC Remediation / Sanction List  
LEI Mapping  
MIFID

## Corporate Actions

Actions Change Detection  
Bond Announcements  
Deep Links Announcement Extraction  
M&A Transaction Status  
M&A Transactions Announcements  
News Extraction  
Realtime Dividend Announcements

## Client Driven Events

Client Onboarding  
Standard Settlement Instructions (SSI)  
P2P

## Entities & Instruments

Verify Company Locations  
Bank Qualified Bonds  
Business Classification  
ETF Attributes  
Filings Extraction  
GIINS Filings  
Filings Extraction  
Hierarchies / Taxonomies  
Legal Entity Monitoring  
Loan Data Extraction  
Products and Services  
Shares Outstanding Monitoring  
Web Activity

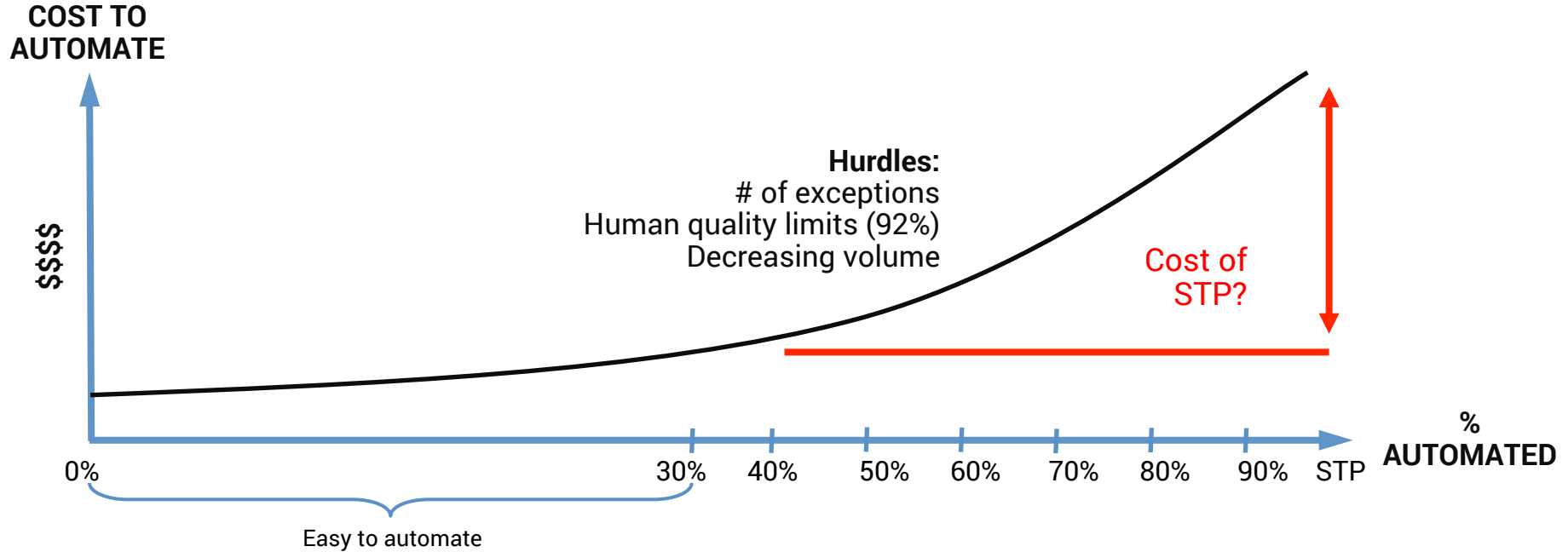
***Note: These are only  
a few common  
examples within  
banking – biggest  
problem in insurance  
is claims processing.***



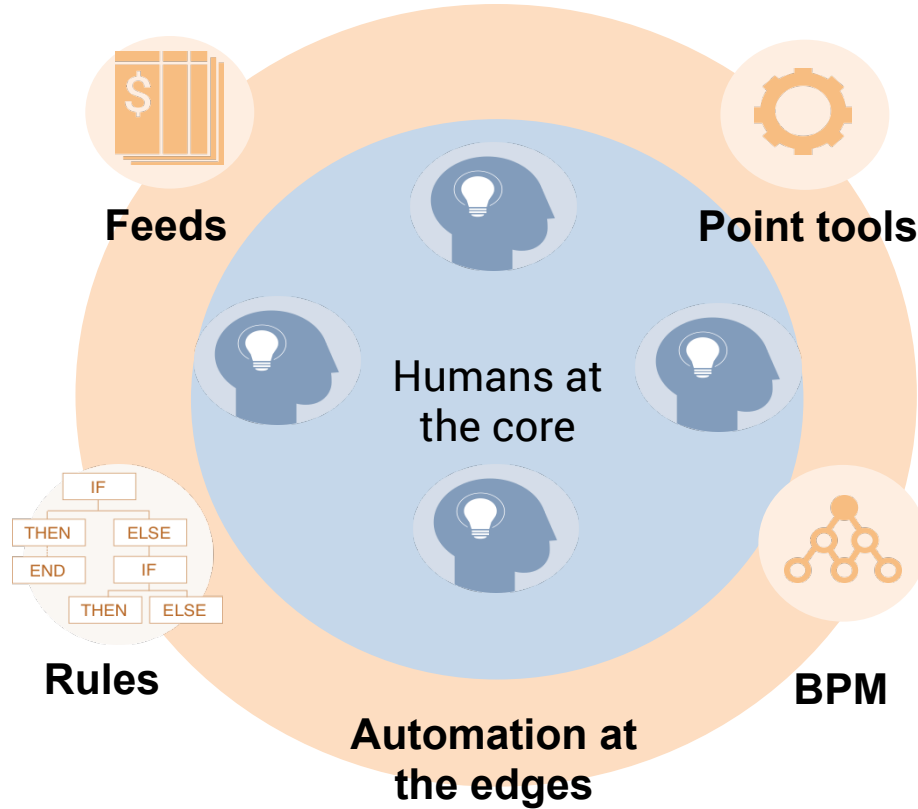
# Why can't RPA alone save us?



# RPA has limits, and pushing past them costs a fortune.

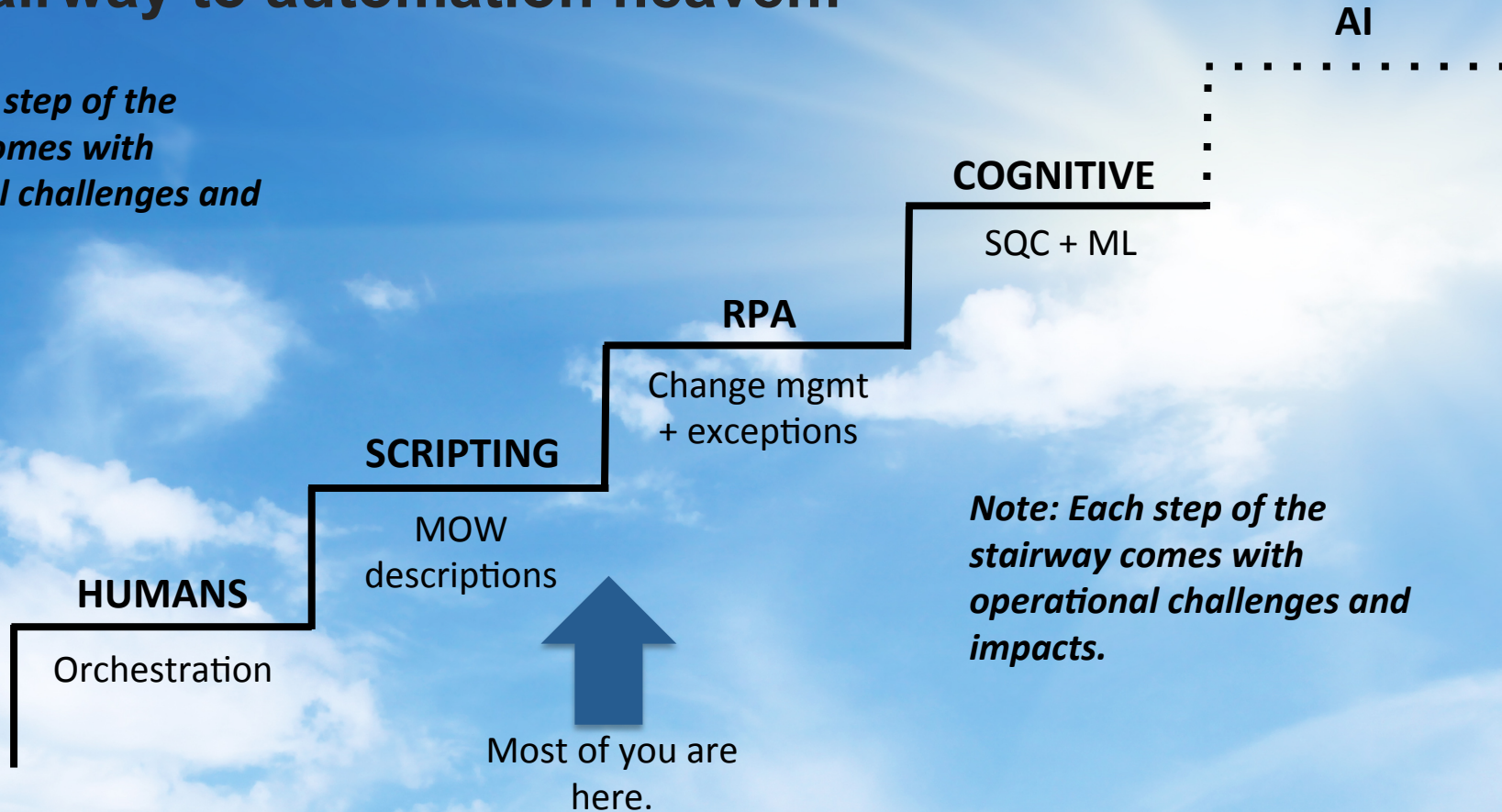


“Automated” processes still have humans at the core.



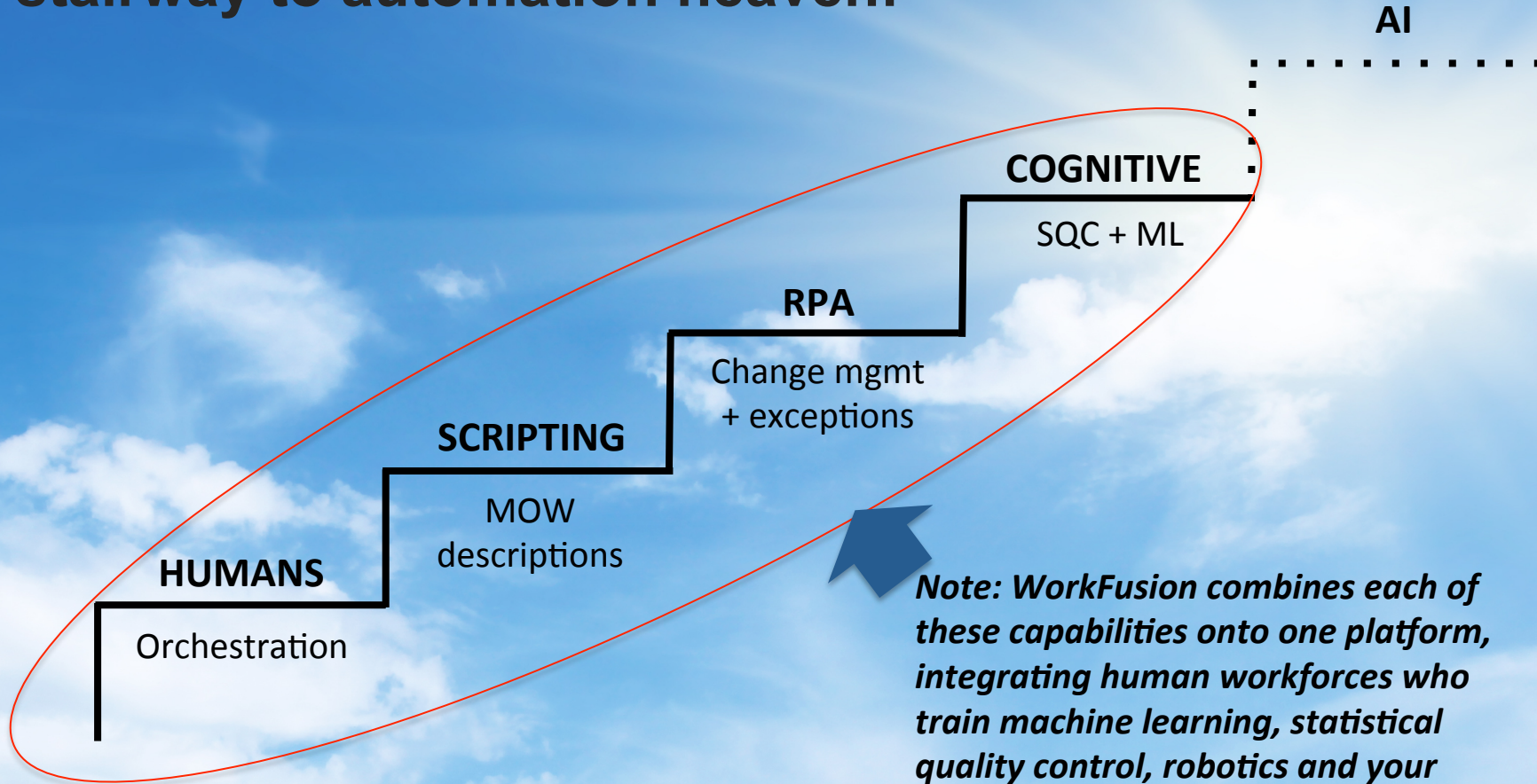
# The stairway to automation heaven:

*Note: Each step of the stairway comes with operational challenges and impacts.*



*Note: Each step of the stairway comes with operational challenges and impacts.*

# The stairway to automation heaven:



*Note: WorkFusion combines each of these capabilities onto one platform, integrating human workforces who train machine learning, statistical quality control, robotics and your custom / legacy tech.*

# You need both RPA and Cognitive.

Typical flow for document processing:



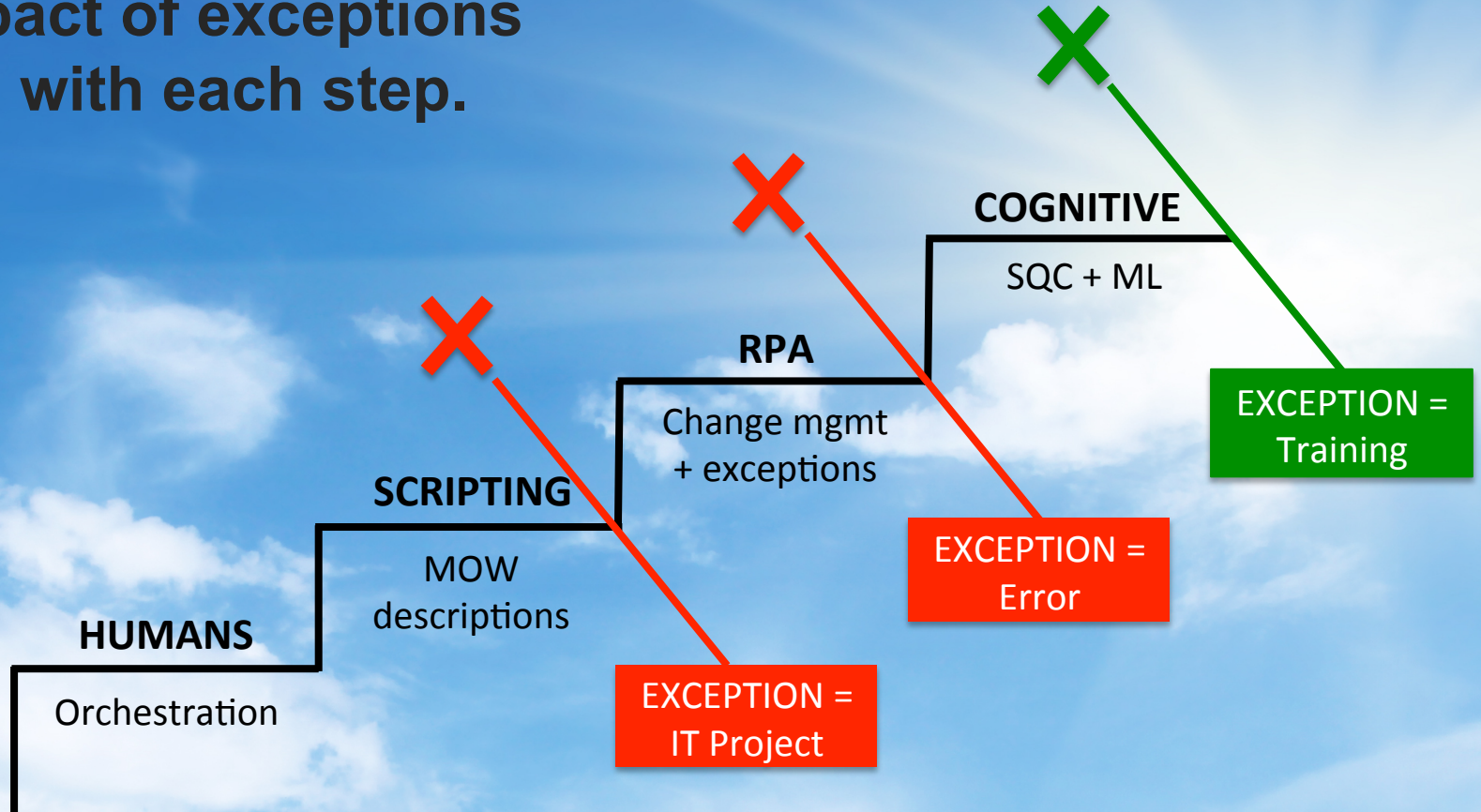
Cognitive

RPA



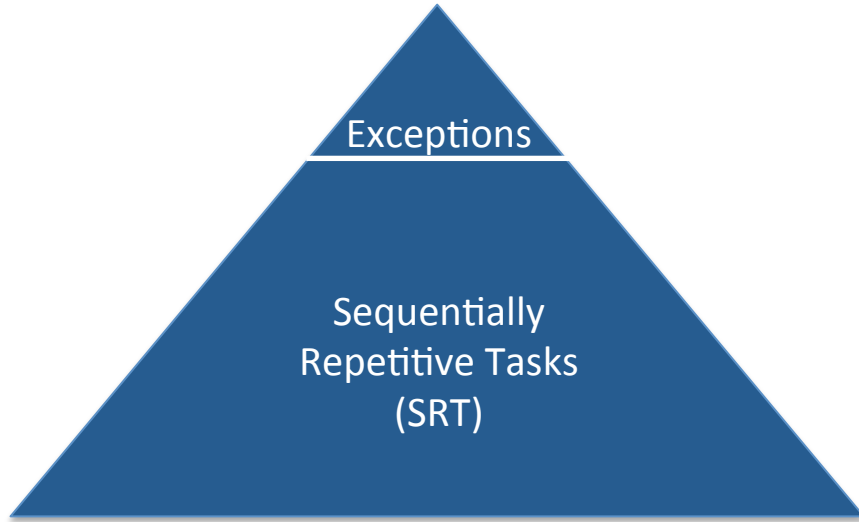
*Note: This slide illustrates a typical division of labor between RPA and cognitive in a fairly standard enterprise knowledge process. If you've only got RPA, you're leaving out the heart of the process.*

# The impact of exceptions evolves with each step.



*Note: Exceptions are a big issue with automation. It isn't until you get to the cognitive level that exceptions evolve from problem to productive input into a smart process system.*

Before climbing the stairs, majority of human work is repetitive.

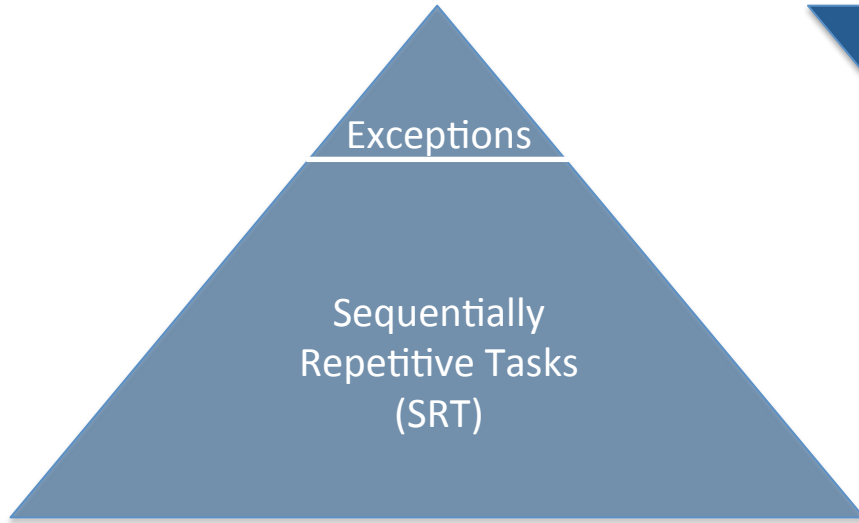


BEFORE

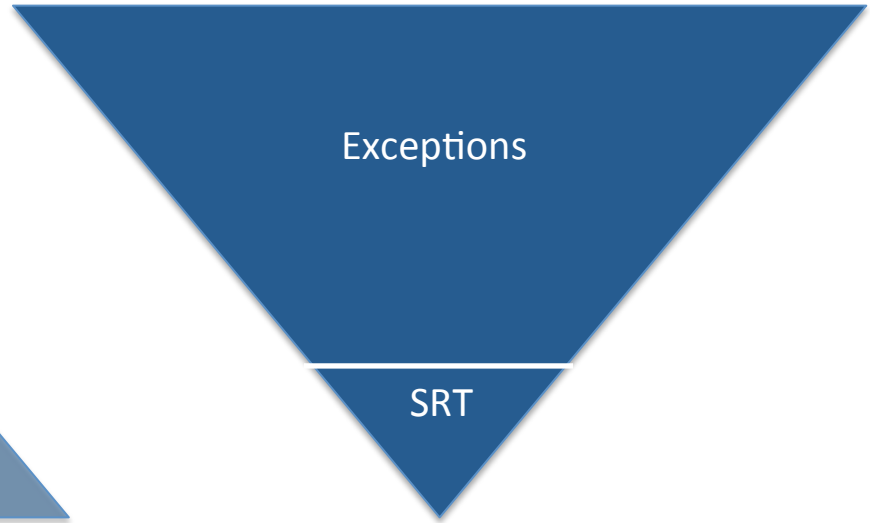
***Note: Think about the 1,000 data analysts you have crunching through documents and customer communications every day. Are they problem solving, or are they copying and pasting account numbers and names and codes or worse, manually keying them in from a PDF to an XLS?***



At the top of the stairway, humans are problem-solving.



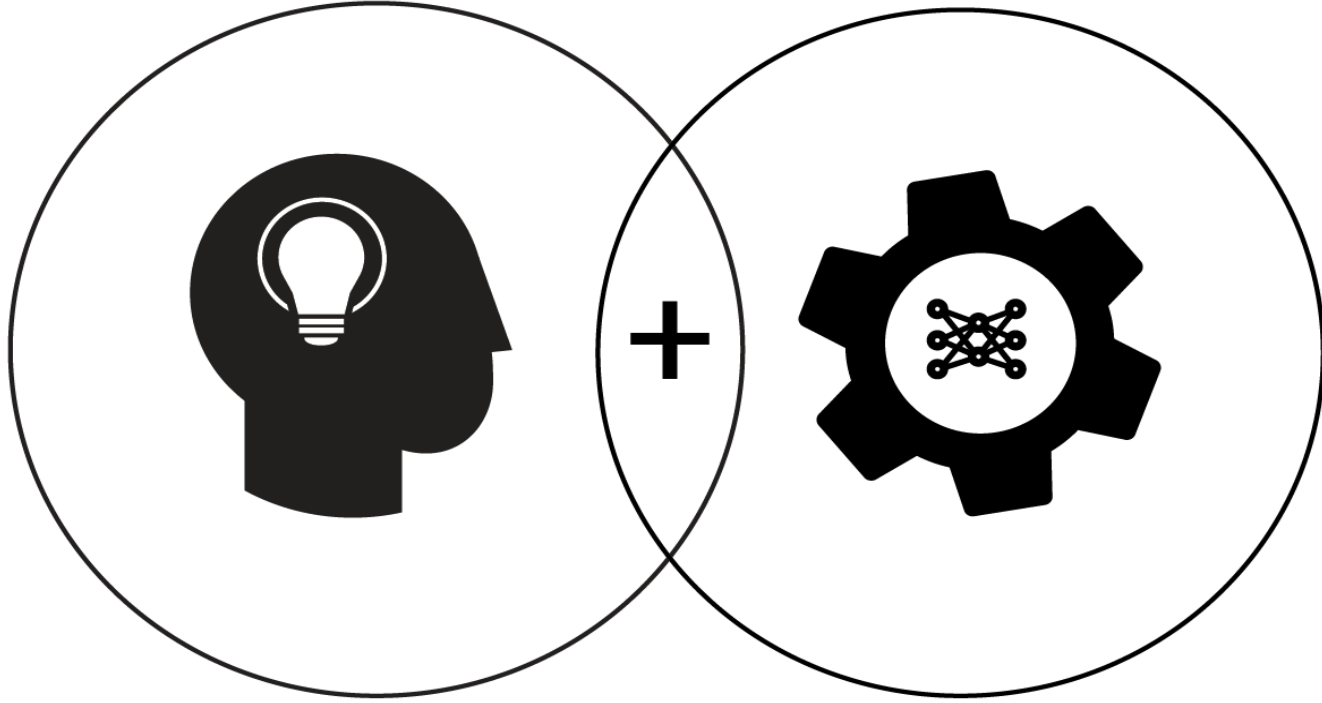
BEFORE



AFTER

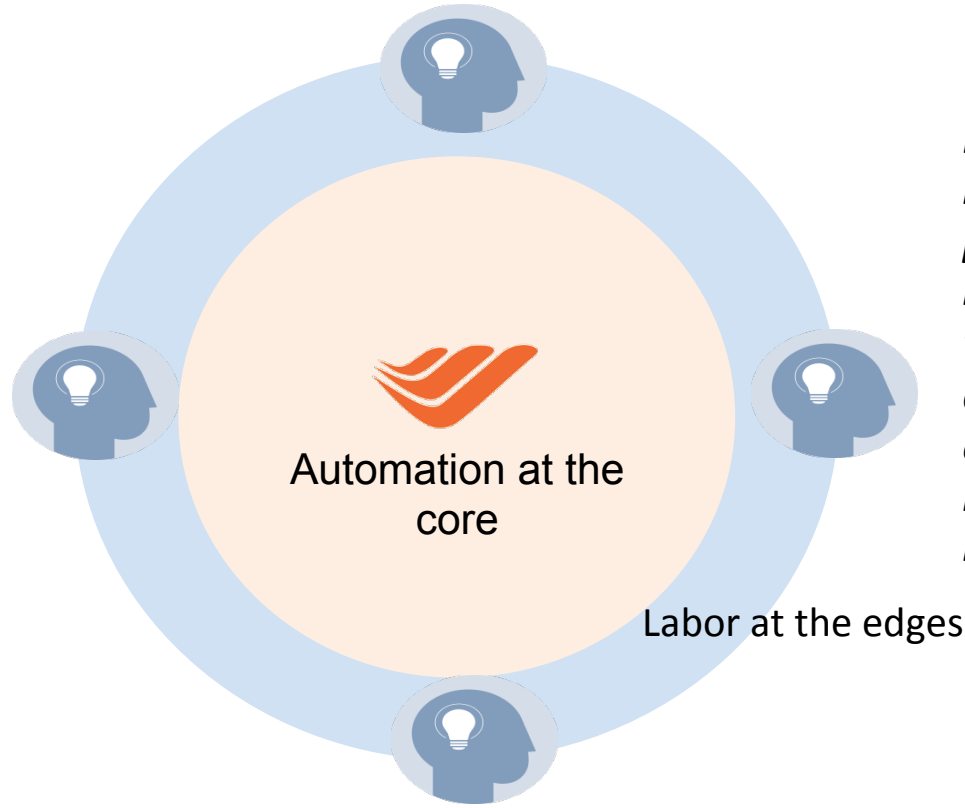
***Note: This is what your operation will look like with RPA + Cognitive – humans doing human work, not monkey work.***

Key point: you need people and machines working together on the same platform for a knockout.



What is the  
solution?

# Automation nirvana:



***Note: On WorkFusion, machines do predictable work, and humans handling new work (on unfamiliar data formats) or exceptions train machines to do even more.***

# Combining RPA and machine learning surpasses the limits of current automation.

## Process Improvement



1. Break down the process
2. Qualify workers
3. Orchestrate the work

## Smart Process Automation

### Human + Machine

Have machines do most of the work  
Getting the right work to the right person  
Change process in software vs in people

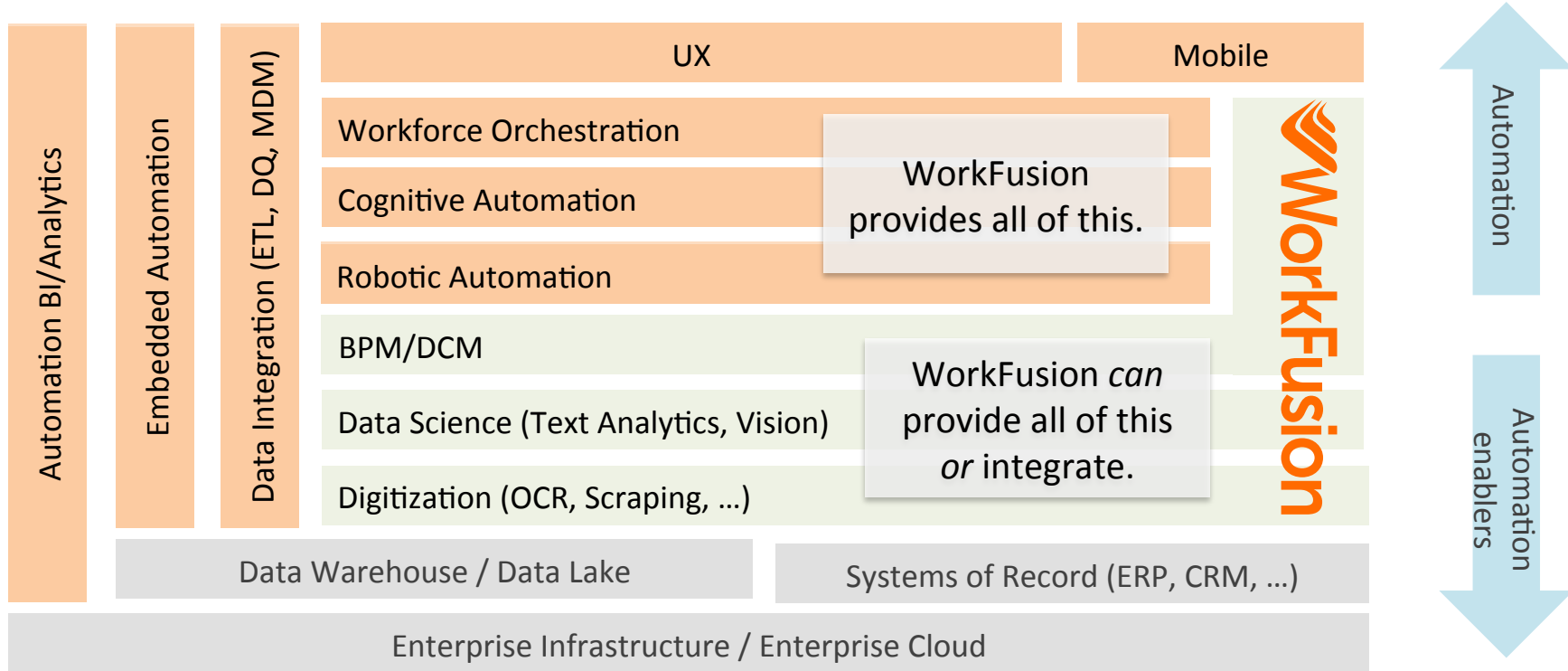
**50% +**  
efficiency gains

## Machine Learning

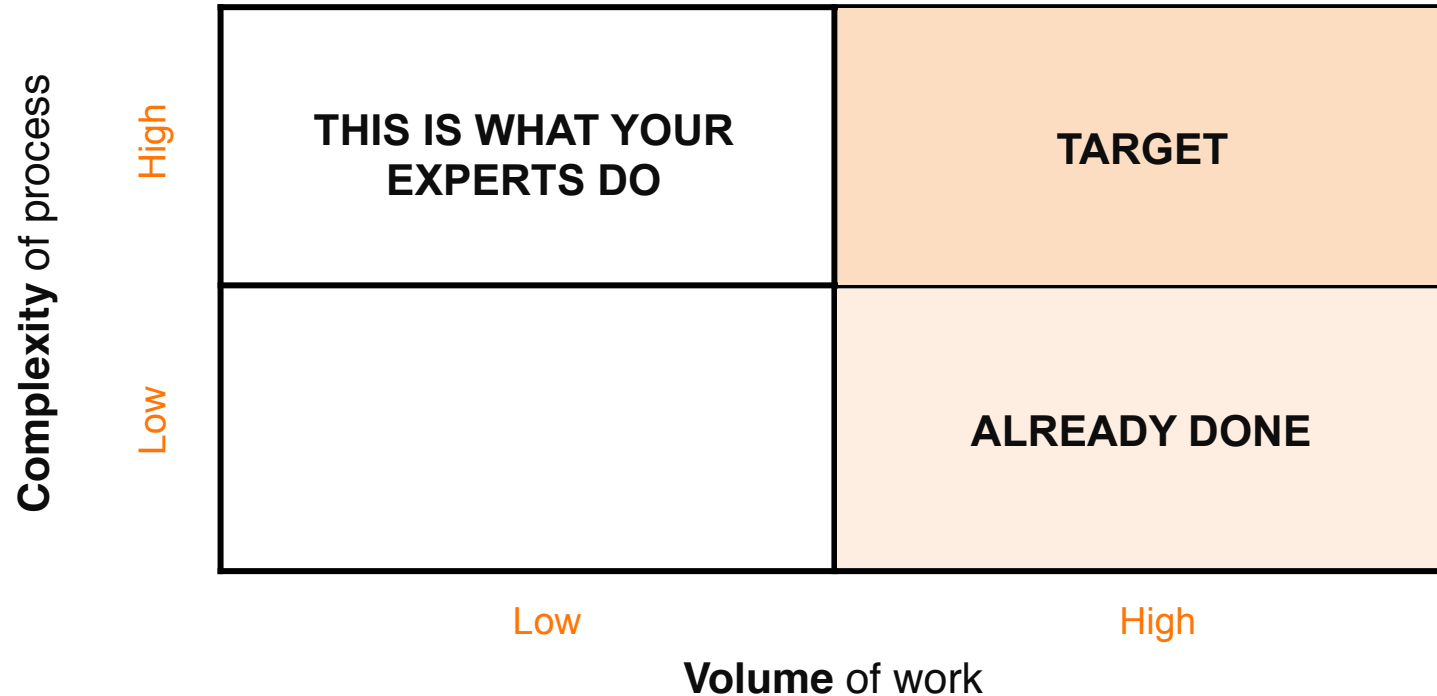


1. Take high quality data
2. Train the models
3. Deploy machine workers

# The optimal automation stack:



Customers use WorkFusion for hard-to-automate work done by large operations teams.



# CASE STUDY

## SSI: quality increased while reducing headcount in client onboarding and account services

			
Settlement Instructions for Commercial payments to Saxo Bank A/S			
Saxo Bank A/S only accepts funds originating from a bank account or an account held at a financial institution. Saxo Bank A/S does not accept Third Party Payments, Bankers Drafts, Check, Cash deposits and remittance orders.			
Currency	Correspondent bank SWIFT (Field 56a or 54a)	Receiving bank SWIFT (Field 57a)	Client account at (Field 59)
AED	DEUTGB33 Deutsche Bank AG London Erlangenstr. ECB 247 United Kingdom	SAOXDKK Saxo Bank A/S	Account holders Dan Client name Address Country
AUD	CTIAU2X Citigroup Pty Ltd. Sydney 2000 Australia	SAOXDKK Saxo Bank A/S	Account holders Dan Client name Address Country
CAD	CFICAT1 Citibank Canada Ltd. Toronto University Place Suite 1900 123 Front Street M5G 1Z4 Canada	SAOXDKK Saxo Bank A/S	Account holders Dan Client name Address Country
CHF	UBSWCH33 UBS AG Zürich 48 Bahnerstrasse 8001 Switzerland	SAOXDKK Saxo Bank A/S	Account holders Dan Client name Address Country
CHK	DEUT3333 Deutsche Bank Aktiengesellschaft Pilsener Platz Pilsener Platz, Organisations-Slozka, Jungfernenweg 11000 Czech Republic	SAOXDKK Saxo Bank A/S	Account holders Dan Client name Address Country
DKK	NDEADKK Nordea Bank Danmark A/S Copenhagen Søndergade 3 900 C Denmark	SAOXDKK Saxo Bank A/S	Account holders Dan Client name Address Country
DKK	DKK transfers from a Danish bank	Saxo Bank A/S Reg. nr.: 1149	Clients account number (the IBAN)
DKK	Pay direct via DANBANK1 - Nationalbanken Copenhagen Nørrebro 5 1300 Denmark	SAOXDKK Saxo Bank A/S	Account holders Dan Client name Address Country

### Nordea

**Standard settlement instructions**  
For FX, MM, derivatives transactions and commercial payments

**Nordea Nordic countries from 2 March, 2015**

<p>AUD WESTPAC BANKING CORPORATION, Sydney</p> <p>CAD ROYAL BANK OF CANADA, Toronto</p> <p>CHF CREDIT SUISSE, Zurich</p> <p>CZK CENSKOSLOVENSKA OBCHODNI BANKA AS, Prague</p> <p>NOK NORDEA BANK, DANMARK A/S, Copenhagen</p> <p>TRY TRY TRBLET (VIA EBATARGET)</p> <p>EUR We prefer concentrating our flows in EUR to EBA with the exception of Money Market transactions done with Nordea Bank Finland Plc Nordea Bank Finland Plc... Nordea Bank Danmark A/S Nordea Bank AB (publ) - EBA: - TARGET: Nordea Bank Norge ASA - EBA: - TARGET: Nordea Bank AB (publ), Estera branch, Tallinn (pay direct via Target) Nordea Bank AB (publ), Latvia branch, Riga (pay direct via Target) Nordea Bank AB (publ), Lithuania branch, Vilnius (pay direct via Target)</p> <p>GBP STANDARD CHARTERED BANK (UK) Ltd, Hong Kong</p> <p>HKD UNICREDIT BANK, HONGKONG ZHONGYUAN BANK, LIMA LEI ERKELI B.M., Tel Aviv</p> <p>INR STANDARD CHARTERED BANK, Mumbai</p> <p>JPY MIZUBOHU CORPORATION BANK, Ltd, Tokyo</p> <p>KRW KOREA EXCHANGE BANK, Seoul</p> <p>KWD BRYA BANK/MER SA, Manama</p> <p>MYR MGN account number for NDEASESS: H1111111 MGN account number for NDEADKKK: 22222222 MGN account number for NDEAFJBI: 33333333 MGN account number for NDEADKKK: 44444444</p> <p>NEP NDEADKKK</p> <p>NZD ASHB NZ FA</p> <p>PKR HABBIB BANK Ltd, Karachi</p> <p>PLN BANK, P.O.S.K.A KASA OPEKRI SPOLKA, Warsaw</p> <p>ROU NORDEA BANK, ENFLAND Plc, Istanbul</p> <p>RUB *NB Only for Nordea Bank Finland Plc... NDEAFJBI * Account with ZAO Interst Bank, Moscow (DMBKRU0M), 5555555555555555... ZAO Interst Bank, Moscow's account number with the Central Bank of Russian Federation is: IBIK: 77777777777777777777777777777777 Field 72: Payment Details (e.g. FX Cover) V060100 (if inside DMBKRU0M) (if outside DMBKRU0M)</p> <p>* For: - Nordea Bank Danmark A/S NDEADKKK - Nordea Bank AB (publ) NDEASESS - Nordea Bank Norge ASA NDEANOKK</p> <p>RUB The RUB SSI in Nordea Bank Finland Plc, Helsinki</p> <p>SAR HANJIE SAUDI FRANSI, Riyadh</p> <p>SEK NORDEA BANK, AB (PUB), Stockholm</p> <p>SGD DBS BANK Ltd, Singapore</p> <p>TIBT HANDEK BANK PUBLIC COMPANYY Ltd, Hanoi</p> <p>TRY TRYKUYE IS BANKASI AS, Istanbul</p> <p>USD BANK OF AMERICA NA, New York</p> <p>ZAR STANDARD BANK OF SOUTH AFRICA Ltd, Johannesburg</p>	<p>NBAD AF AA WPAC AU 28 ROYC CA 12 CRES CH 28 WA CEKO CZ PP NDEA DK KK</p> <p>NDEA FI HH NDEA DK KK NDEA SE SS NDEA FI HH NDEA FI HH NDEA FI HH NDEA EE 2X NDEA LV 2X NDEA LT 2X MEX GR 22 SCBL HK HH BACX HU HB LIME LT SCBL IN BD MICH JP JT KOEX KR SE NBRK KW KW ICBM MX MM CCOR</p> <p>NDEA NO KK ASNB NZ ZA HABB PK KA 07 PEOP PL PW NDEA FI HH</p> <p>NDEADKKK NDEASESS NDEANOKK</p> <p>NDEA FIHH DSR SAR NDEA SE SS DBSS SG SG HBEK TH BK ISBK US BOKA US SN SBEA ZA JJ</p>
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### Problem

- 75-person offshore team
- 1,000 inbound formats
- 1MM+ transactions per year
- 98.5% accuracy
- High trade repair and penalty costs
- SLA compliance costs

### Solution

- WorkFusion mimicked process
- Replaced OCR solution
- Machine learning automation
- Statistical quality control on exceptions
- Robotics desktop integration

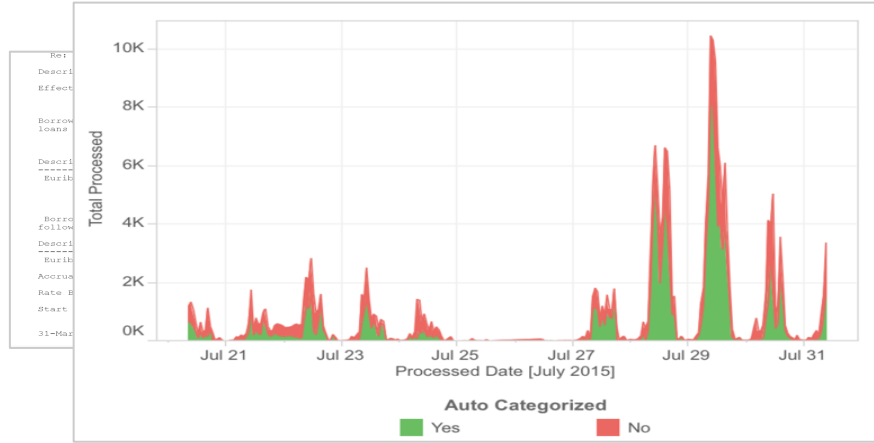
### Impact after 8 weeks

- 85% automation
- 100% quality
- 15min to 30s processing time
- 80% headcount reduction



# CASE STUDY

## Automated Fax Conversion, Extraction, and Categorization with OCR, Rules, and Machine Learning



### Impact

**70%**  
REDUCTION IN VENDOR'S  
HUMAN  
WORKFORCE

IMPROVED ACCURACY  
ABOVE  
**99%**

IMPROVED SLA ABOVE  
**99.5%**

### Situation

- Global Information Services firm receives 7MM faxes annually on behalf of clients
- Peak times are at month-end and quarter-end where an external vendor ramps-up to 120+ resources in India
- 30 minute SLA with clients

### Approach

- WorkFusion's OCR process converts document images to readable text
- User-defined rules and Machine Learning extract data for automated categorization
- Algorithms refined and fine-tuned over time
- Exceptions identified for distribution to human workforce

# CASE STUDY

## 3x coverage, 50% throughput, 72% headcount reduction in KYC process for global information provider

**Find Company Addresses (CN)**

江西华伍制动科技股份有限公司

Form Name in Chinese (必填中文名称) required  
Form Name in English (必填英文名称) required

股票简称	华伍股份	股票代码	300095
公司的中文名称	江西华伍制动科技股份有限公司		
公司的中文简称	华伍股份		
公司的外文名称	Jiangxi Huawu Brake Co.,Ltd.		
公司的外文名称缩写	Huawu Co.,Ltd.		
公司的法定代表人	魏展华		
注册地址	江西省丰城市工业园区新程路 7 号		
注册地址的邮政编码	331100		
办公地址	江西省丰城市工业园区新程路 7 号		
办公地址的邮政编码	331100		
公司国际互联网网址	http://www.huawu.com		
电子邮箱	hw_xq@163.com		
公司聘请的会计师事务所名称	大华会计师事务所（特殊普通合伙）		
公司聘请的会计师事务所办公地址	北京市海淀区西四环中路 16 号院 7 号楼 12 层		

二、联系人和联系方式

姓名	职位	电话
董事会秘书	证券事务代表	

**You need to know Chinese in order to complete this task.**  
Please read below complete instruction 仔细阅读以下工作指引 to working on any Hits.

Your task is to find and enter company address(es) in the given pdf document - it could be its headquarter address, registered address OR secondary address.

For the most part, we pre-populated existing(possibly auto-filled) data for you for each company, you are asked to update only the document has different/updated information. 基本上每个公司我们将提供的相关数据提供给你, 如果年报上的内容和我们给你的有所不同, 请更新。有些地方, 我们的现成数据不全, 也请更新。 Best place to check is in 公司简介, 公司信息 sections.

Please read the document and find the followings:  
• **Firm Name in Chinese:**  
- If the data we show is different from the document, please enter the Company name in English as appears in the document.  
- If the document does not specify an official english name of the company, please check if our data translation is acceptable, if not, please help us translate by Pinyin/English

• **Firm Name in English:**  
- If there is company official website given in the document, please copy&paste starting with "www." unless existing data provided by us is the same

**Company Addresses** - we provide existing data related to company address(es), please check the document for ALL (usually 1 or 2) to either validate or update accordingly

• **Address Type:**  
- If there's existing data presented to you to check, please ensure that you look at the tabs above the "Add address" button and click on each available record to check if a different/new address type is discovered by you, click "Add address" to select address type from the list below and to enter the address detail accordingly.  
Headquarters (HQ) address: 办公地址 - when the address is labeled as the headquarter/main office  
Registered office address: 注册地址 - when the address is clearly labeled as the registered office AND not a headquarter office; if it's both HQ and registered, it is HQ  
Secondary address: 另外地址 - when the address is neither Headquarter/Main nor Registered office

• **Address Detail:** Should be provided in English (pinyin)  
• **Address Line 1, 2 & 3** - If the existing address we pre-populated is no longer the correct address, or if it's not corresponding to the correct address type anymore, please correct and update.  
• **City** - If the existing city we show is wrong, please use the auto-completion feature to update  
• **Province** - When the data we provide is incorrect, please update by selecting the correct 省, 市/县, 自治区 based on the document

### Situation

- Unstructured high-volume Annual Reports
- ~3,500 PDFs per annum per language
- Required SMEs with special language skills

### Solution

- WorkFusion enabled global reach to cloud workers with qualified language skills
- Cloud workers extract and validate data
- Client's internal SMEs in the loop to moderate crowd results
- Data sanity checks embedded within UI
- Automated exceptions management

### Impact in 4 months

- ✓ Throughput increase by 50%
- ✓ Expansion to 3x number of languages
- ✓ 72% FTE reduction

Note: I'm happy to answer any questions for those exploring solutions or put qualified buyers with near-term automation projects in touch with our business development team to discuss use cases.

**ADAM@WORKFUSION.COM**

