

McKinsey&Company

ISSA Symposium Securities Services Industry: Disrupted?

AUTOMATION & ROBOTICS

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Your presenters today



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Topics of today's discussion

Perspective on the securities services industry

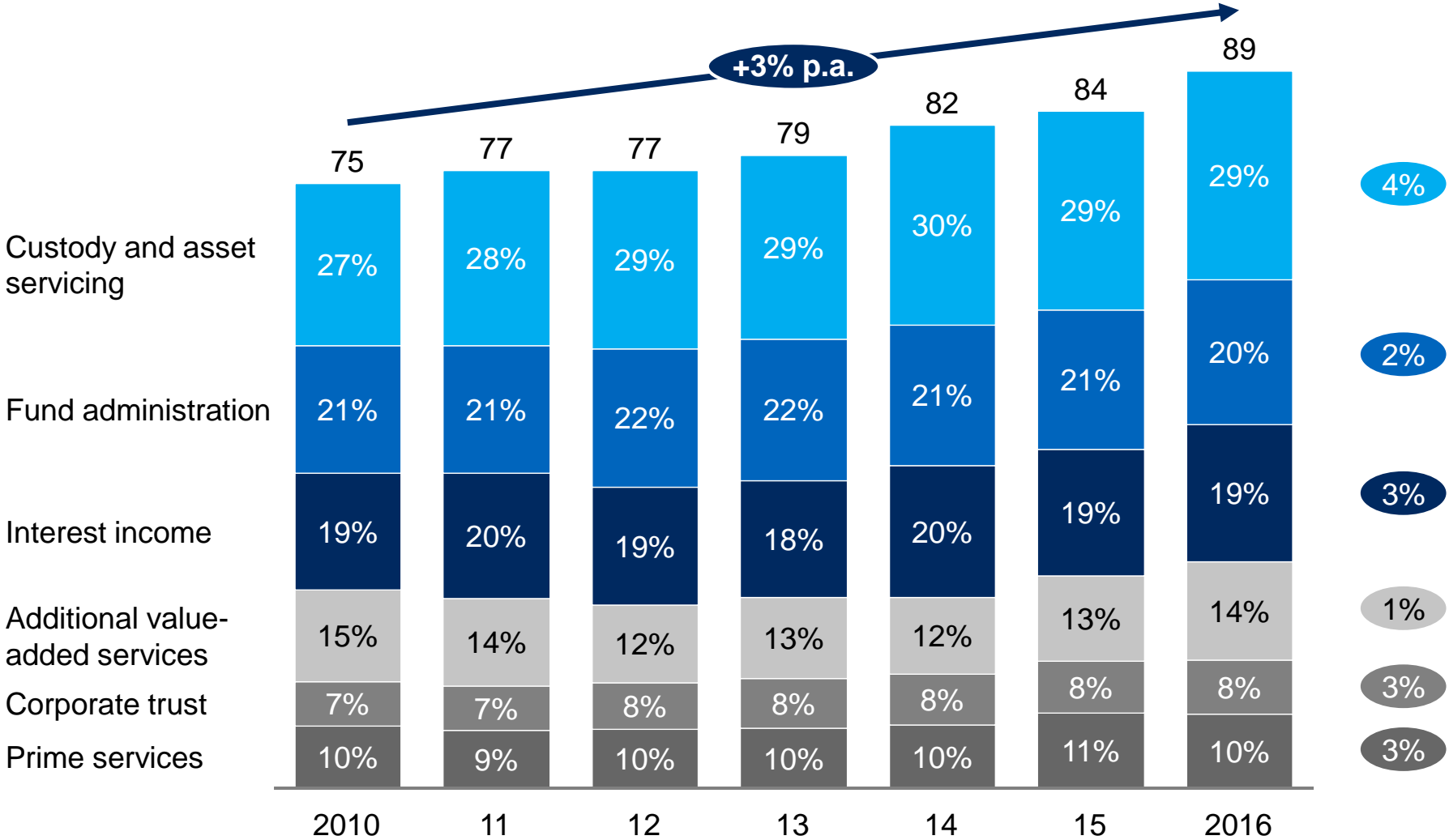
Automation & Robotics – what are we talking about?

Automation & Robotics in securities services

Securities services industry has been growing at low-single digit growth rates since 2010

Global securities services revenues by product
USD billions

CAGR
2010-16

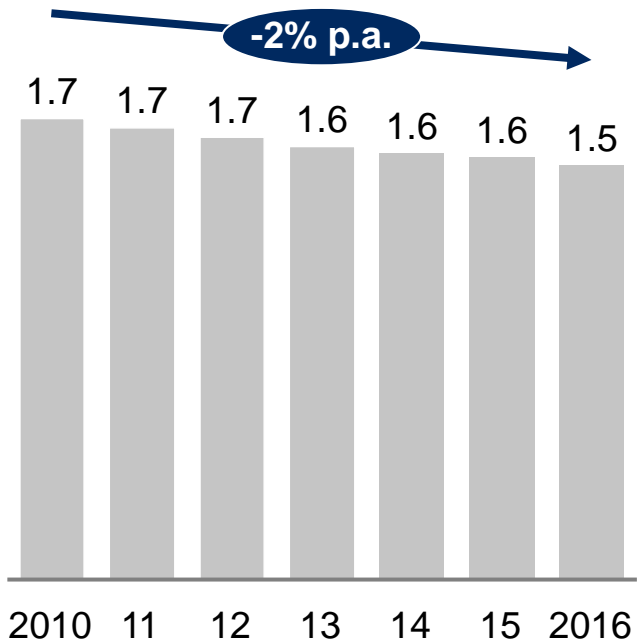


SOURCE: McKinsey

Constant margin pressure impacts the securities services industry

Custody business¹

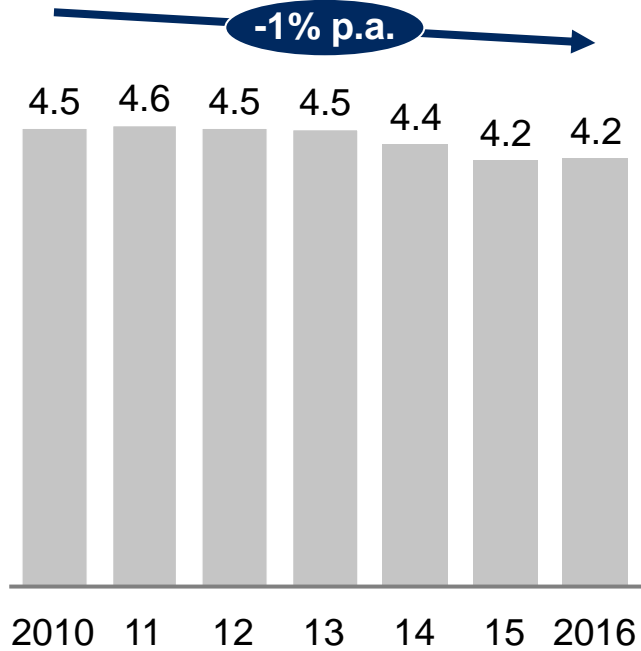
Revenue margin (custody revenues/AuC) basis points



AuC volumes, indexed (2010 = 100)
 100 110 115 121 133 134 143

Fund administration business

Revenue margin (fund administration revenues/AuA) basis points



AuA volumes, indexed (2010 = 100)
 100 100 108 111 113 117 121

Increasing pressure on top line and profitability requires constant efficiency improvements of high impact

¹ Includes local and global custody

Automation & Robotics as structural lever to respond to industry trends

Number and diversity of securities

Higher number of securities in the market observed in recent years resulting in more work for the securities services players (e.g., growth to ~\$660bn in smart beta ETF AuM (~\$160bn net inflows in 2017))

Regulatory requirements

- Increasing regulatory requirements leading to higher number and more complex reports
- Higher number of message flows



Structural usage of **Automation & Robotics at scale** as compensation to industry trends

Focus of this document



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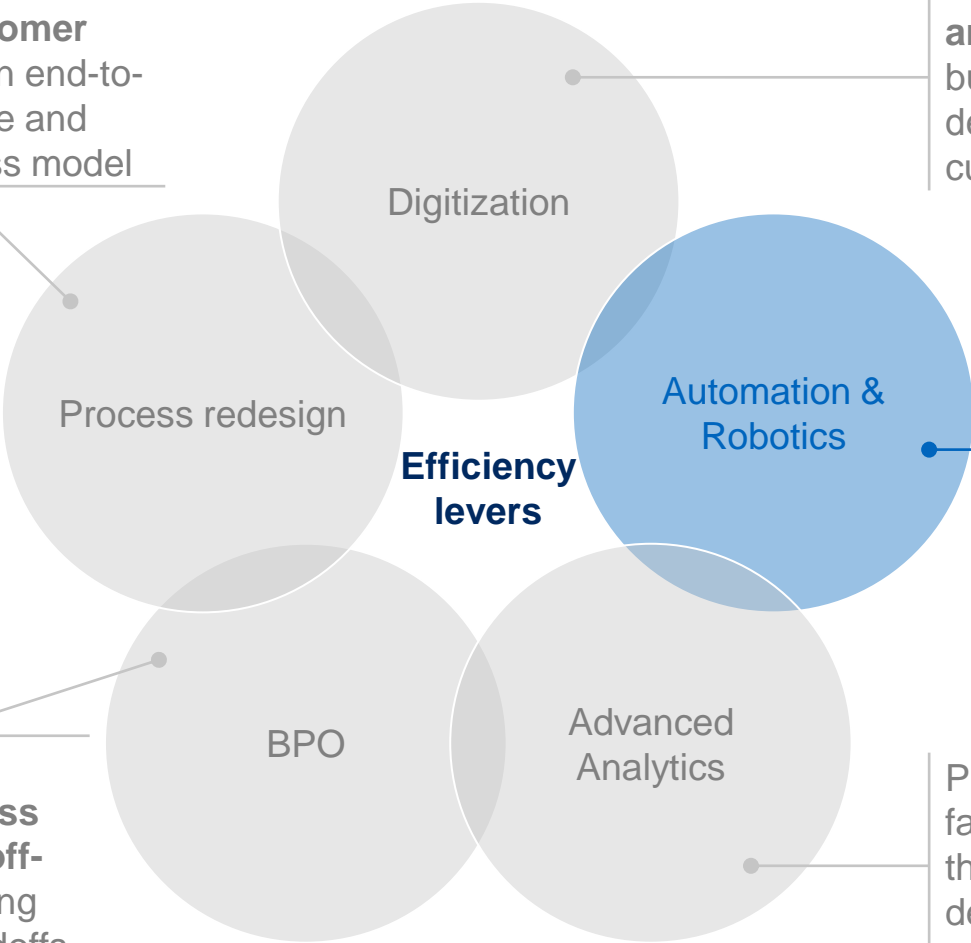
Automation & Robotics in securities services

Automation & Robotics progressively replace or complement traditional efficiency levers like BPO and process redesign

■ Detailed on next pages

Redesign **customer journey** with an end-to-end perspective and rethink business model

Digitize **customer experience and day-to-day operations** by building digital sales and developing “seamless” customer experience



Process redesign

Efficiency levers

Automation & Robotics

Introduce **Automation & Robotics** to replace human tasks

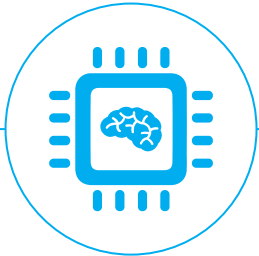
Drive the next wave of **process outsourcing/offshoring** creating seamless handoffs to ensure end-to-end optimization

BPO

Advanced Analytics

Provide **advanced analytics** to facilitate decisions, drive straight-through processing and improve decision automation (e.g., underwriting, retention)

Five Automation & Robotics technologies can be employed for large scale transformation of processes



1 Robotic process automation

Automate routine tasks through existing user interfaces (e.g., data extraction and cleaning)

2 Smart workflows

Integrate tasks performed by groups of humans and machines (e.g., month end processes)

3 Machine learning

Identify patterns in data through supervised and unsupervised learning (e.g., decision algorithms)

4 Natural language processing

Create seamless interactions between humans and technology (e.g., data-to-story translation)

5 Cognitive agents

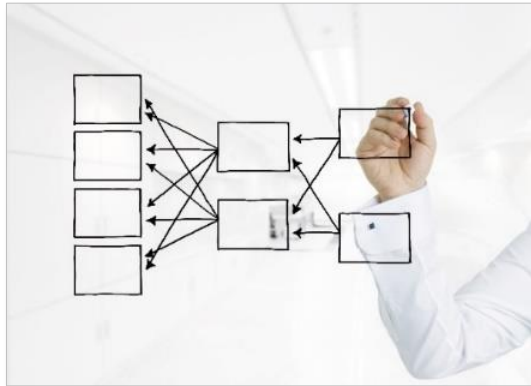
Build a virtual workforce capable of supporting employees and customers (e.g., employee service centers)

1

Example robotics process automation (RPA): Mimicking user behavior and automating repetitive tasks with very limited development effort



Business user records workflow on his screen



Team creates process flow, which can be customized afterwards

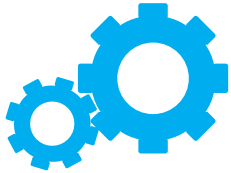


Software executes recorded workflow as required on dedicated workstation



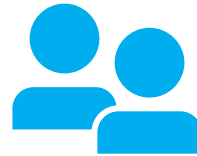
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Example natural language processing (NLP): Helping to improve efficiency, engagement, compliance and innovation



Increase Operational Efficiency by automating manual tasks

- Focus on higher-value tasks
- Tailored information at scale
- Deliver the most interesting and important information



Enhance Engagement at Scale by writing custom content

- Personalized narratives for your audience to increase loyalty
- Unlimited reach
- Power conversational interfaces and bots



Achieve Regulatory Compliance by generating compliance reports

- Automate writing for accuracy and time savings
- Traceable back to the record of system
- Narratives automatically update as data changes

5

Example cognitive agents: Cognitive agent Amelia can play the role of any customer service agent and when she does not know what to answers, she involves a human colleague and learns by listening

The screenshot displays the Amelia cognitive agent interface. On the left, a chat window shows a conversation in Spanish. The user asks, "What is my house built on?" and the agent responds, "On a flat lot with solid concrete slab." The user then asks, "What is my house built on?" again, and the agent responds, "En un lote plano con losa de concreto sólido." The interface includes a language selector (English/Spanish) and a "Learn Mode" toggle.

The main area shows a "Neural Ontology" diagram. This diagram maps natural language phrases to structured objects. For example, the phrase "distance mile" is mapped to an object with attributes "attr" and "num" (value 3). Other objects include "house", "fire station", and "history". The diagram uses various symbols like diamonds and boxes to represent relationships and actions between these objects.

At the bottom, there is a "Neural Cognition" section with tabs for "Semantic Role Understanding", "Fol Predicates", "Dialog Service", "Semantic Similarity", "UIM", "Phoenix Parser", "Subsystem Responses", "Emotion Score", and "Clarify Handler". The "Pattern" field is set to "Neural Operation".



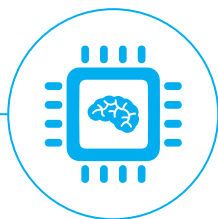
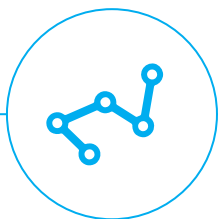
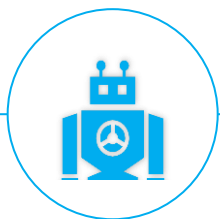
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Automation & Robotics in securities services

Applying Automation & Robotics in securities services – examples



Robotic process automation

Smart workflows

Machine learning

Natural language processing

Cognitive agents

Benefits

- Efficiency gains
- Quality improvement
- Lead time reduction

- Efficiency gains
- Flexibility and agility
- Lead time reduction

- Analytics driving new service offering/ pricing
- Cost mgmt.

- Engagement at scale by driving custom content
- Achieve Regulatory Compliance

- Client satisfaction
- Efficiency gains
- Development of new services

Examples

- Automated reconciliation
- Automated first level of investigation
- Corporate action information processing

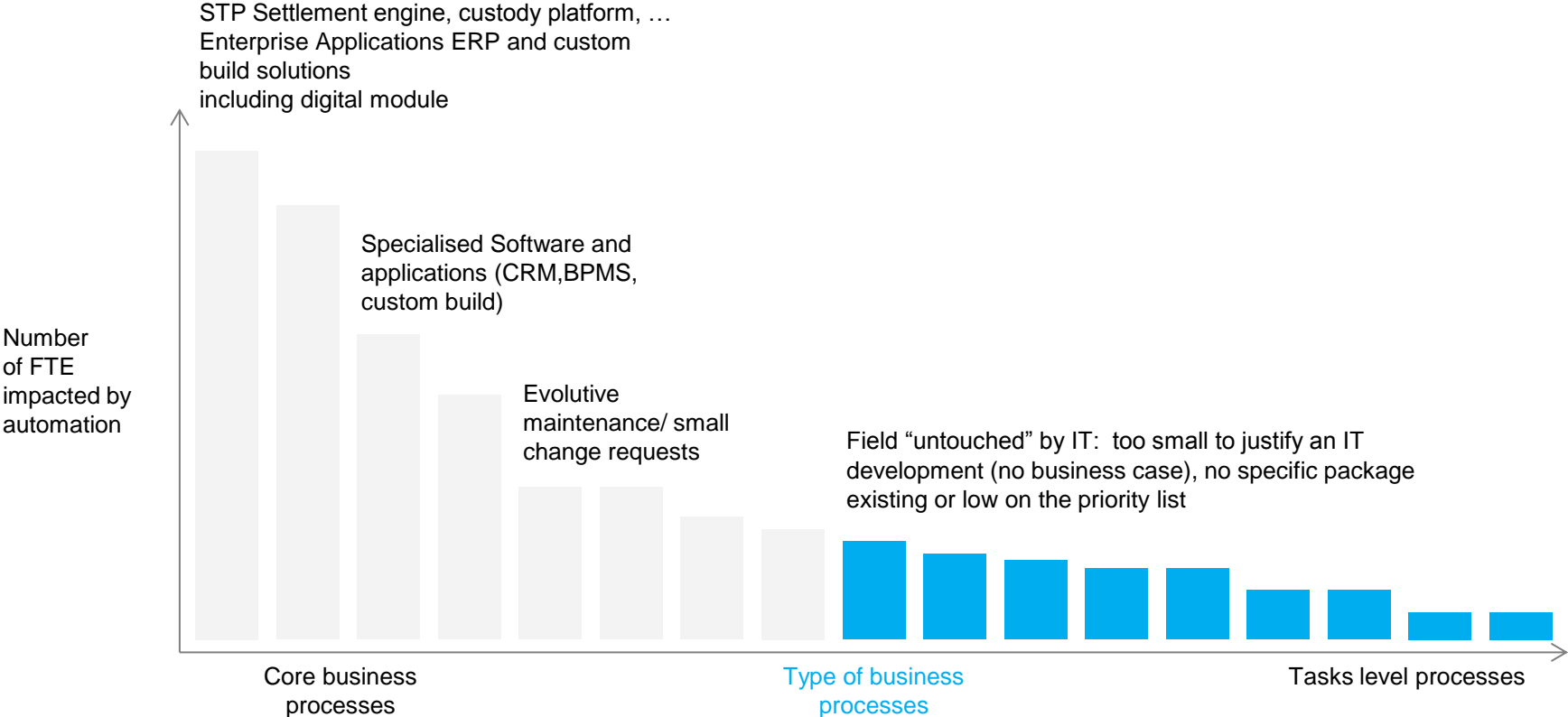
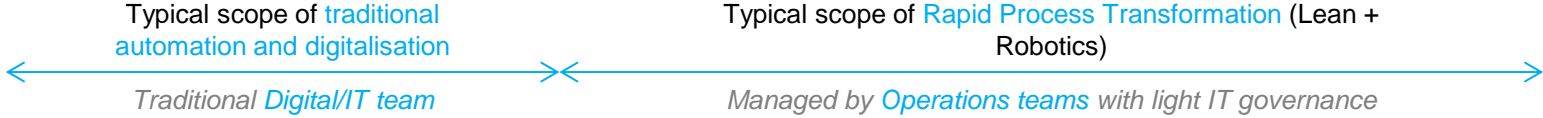
- Investigation case handling
- Project team work allocation and follow-up

- Advanced analytics applied to client data to drive pricing on client queries

- Personalized narratives
- Unlimited reach
- Power chat interfaces and bots
- Very traceable
- Automatic updates as data changes

- First and second level information handling on client services teams

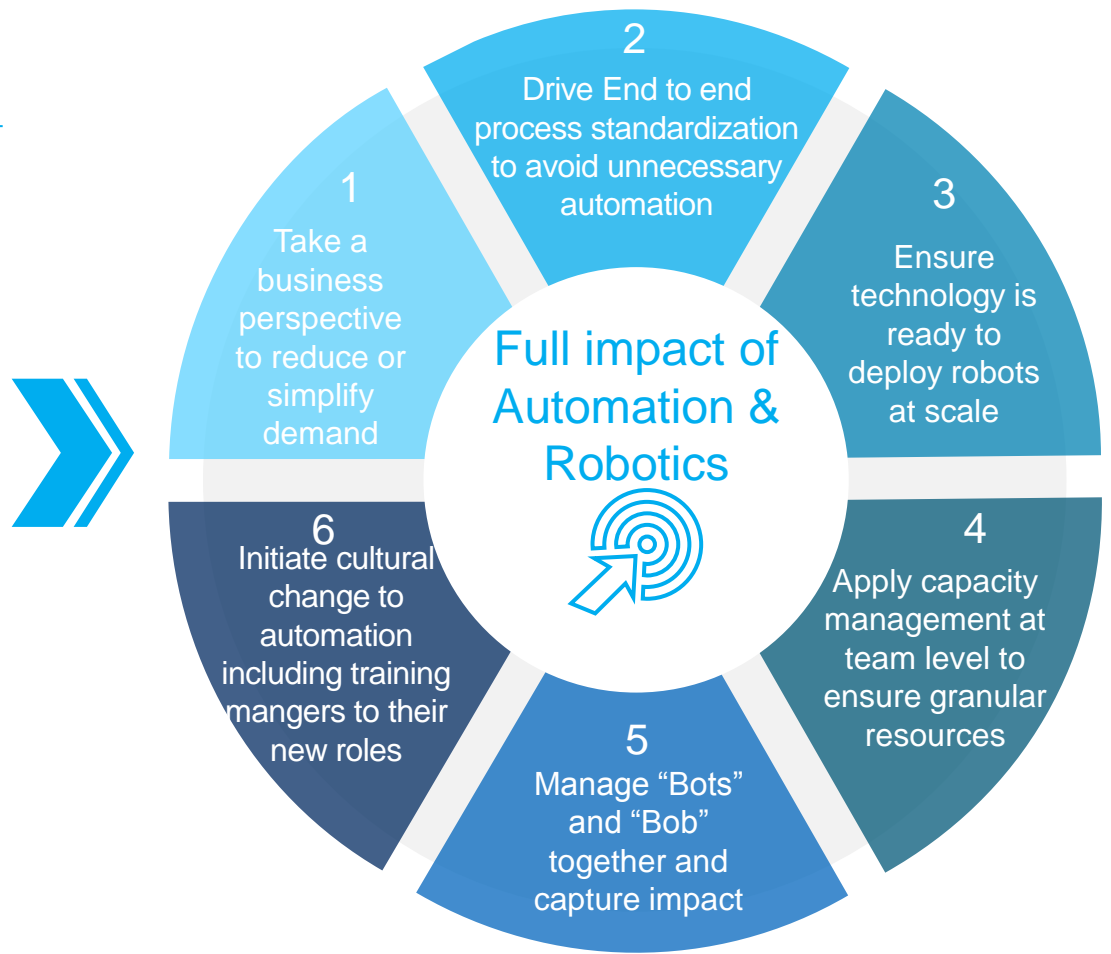
The long tail of Automation & Robotics potential – Robotization can be a game changer as it enables automation support for resources focusing on what is not STP



The complexity of securities services organizations requires a specific approach to Automation & Robotics to achieve full impact of automation

Characteristics of many security services organizations

- Fragmented teams leading to fragmented automation potential
- Processes spread among people
- Complex process re-engineering (IT system modification)
- Experts based teams and managers
- Static work allocation
- Limited performance management
- Importance of IT with long cycle time and big roadmaps



The big picture: How can the operating model of an advanced securities services player look like – leveraging Automation & Robotics at scale

