

A decorative background graphic consisting of numerous thin, wavy lines in shades of blue and red, some ending in small circular dots, creating a sense of data flow or network connectivity.

Snippets: RPA Implementation in Life Science Industry

Conceptualized and Developed: October-2021

The document's objective is to provide a comprehensive analysis of implementation of RPA solutions in life sciences industry and workloads undertaken by the solutions providers offering RPA services for the industry

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RPA Ecosystem in Life Sciences

- The intelligent automation market in the life sciences industry is expected to show ~50% annual growth from 2021-2023 to reach ~\$470 million by 2023
- Even though life sciences companies are facing several roadblocks in implementing RPA¹ like unavailability of test data and lack of adequate infrastructure, they are still automating processes to foster productivity, accuracy, scalability, and cost savings
- Major solution providers such as Automation Anywhere, Blue Prism, UiPath are providing advanced full suite solutions for RPA implementation for processes related to HR², Sales & Marketing, Manufacturing and Supply Chain

RPA Deployment Analysis

- Drug development and trials, device and systems, and manufacturing are some of the business intentions that are attracting automation through RPA in the life sciences industry
- Life sciences companies such as Thermo Fisher Scientific, Apollo Hospital Group, Eli Lilly and Company are collaborating with RPA providers to automate rule-based processes and free up employees to focus on more complex tasks for increased productivity
- Vendors are coupling RPA solutions with other digital technologies like OCR³, AI/ML⁴, and NLP⁵ to automate complex processes in the life sciences industry including regulatory/compliance management, pharmacovigilance, and customer support via chatbots

Opportunities


- Customer support chatbots, electronic batch recording, and documentation and reporting are some of the short-term applications that solution providers should target immediately
- AI/ML platforms, big data/analytics solution and NLP technology coupled with RPA offering can provide opportunities for RPA vendors in the life sciences industry

1. RPA: Robotic Process Automation 4. AI/ML: Artificial Intelligence/Machine Learning
2. HR: Human Resources
3. OCR: Optical Character Recognition 5. NLP: Natural Language Processing

01	Ecosystem & Digitization Framework
02	RPA Deployment in Life Sciences
03	ROI Analysis
04	Outsourcing Analysis
05	Opportunity Propensity



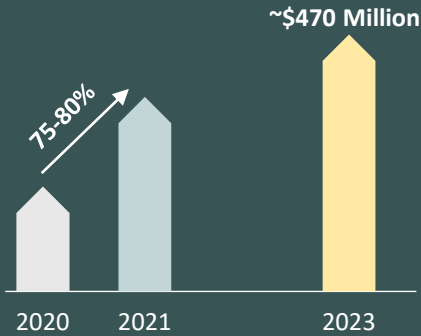
- Robotic process automation market is gaining high traction in life sciences industry globally with forecasted annual growth of nearly 50%
- Even with several implementation challenges, life sciences companies are deploying RPA in their organizations owing to various success drivers including cost savings and reduced manual errors

 Topics covered only in the Full Report

Overview: Life sciences companies are highly leveraging intelligent automation solutions for their core processes like drug discovery and product development in addition to operational and administration processes

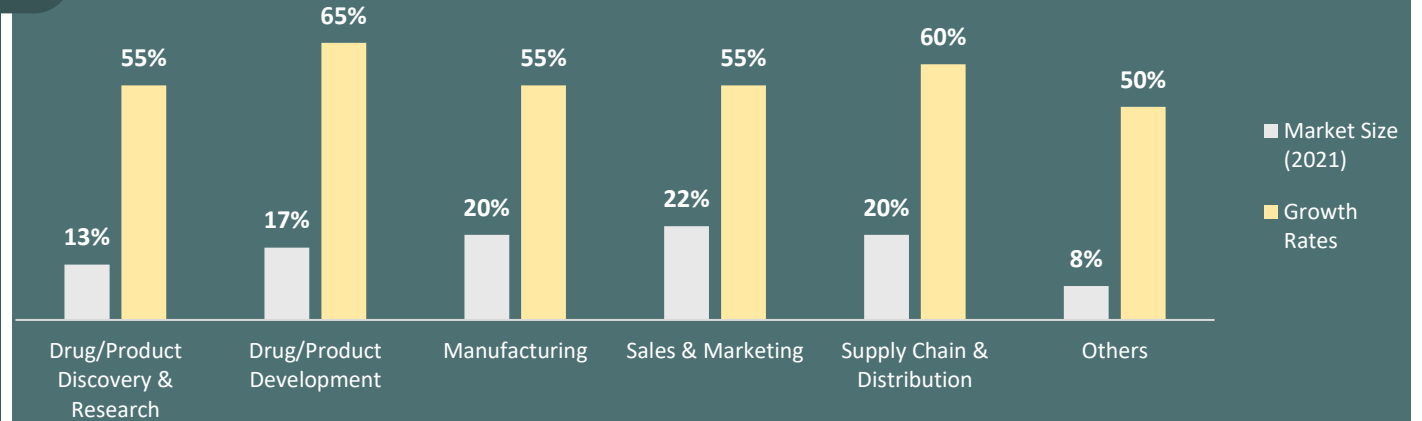


Intelligent Automation Market: Life Sciences






The intelligent automation market in life sciences industry is expected to show ~50% annual growth from 2021-2023

Market Growth across Life Sciences sectors (2021-2023)



RPA Organizational Models

- SILOED**  Decentralized operation where different business units have separate RPA teams to drive processes, awareness, and progress
- CENTRALIZED**  Inside-out model where RPA employees work at the same location and all RPA-related assignments are carried out and managed from the central Centre of Excellence
- HYBRID**  Central Centre of Excellence for operational and delivery support with local RPA units capable of identifying processes, documenting, and developing simple solutions

Major RPA Players

SOLUTION PROVIDERS



LIFE SCIENCES CLIENTS



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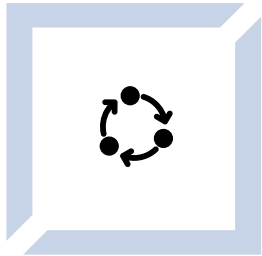
Source: Market Blogs (Intelligent Automation by Automation Anywhere); Whitepapers (Successful Implementation of RPA by PwC)

Note: The RPA players mentioned are not exhaustive

Roadblocks in RPA Implementation: Various challenges such as unavailability of test data, incompatible IT infrastructure, and organizational changes arise while implementing RPA in life sciences organizations



Unstructured Processes



- RPA implementation is difficult for business processes that are non-standardized and require frequent human intervention for execution
- Processes that aren't purely rule-based require other technologies such as ML and OCR in between implementation, which increases the cost

Test Data Unavailability



- A large amount of data is required to train bots on high importance minute interlinked details, particularly in the pharma industry
- Unavailability of test samples synchronized in all applications involved in the process, at lower hierarchical levels

Process Validation



- Missing out validating operating environment requirements such as business SLAs¹, process execution window, and dependent activities
- End-to-end process understanding and keen attention to detail for validating according to business needs
- Specific bot coding to ensure the validation of data fields replicates human review

IT Infrastructure



- Lack of in-house expertise for automation and collaboration between business and automation stakeholders, thus delaying implementation
- Compatibility issues between existing IT infrastructure and RPA solution such as interconnected systems and lack of homogeneous programming platform

Change Management



- There are frequent changes in business rules and operating procedures at various levels as per the changing industrial standards.
- It is difficult if multiple applications are used in the process and any change in the front-end UI even though not impacting the processing procedures, will impact the RPA script and the outcome.

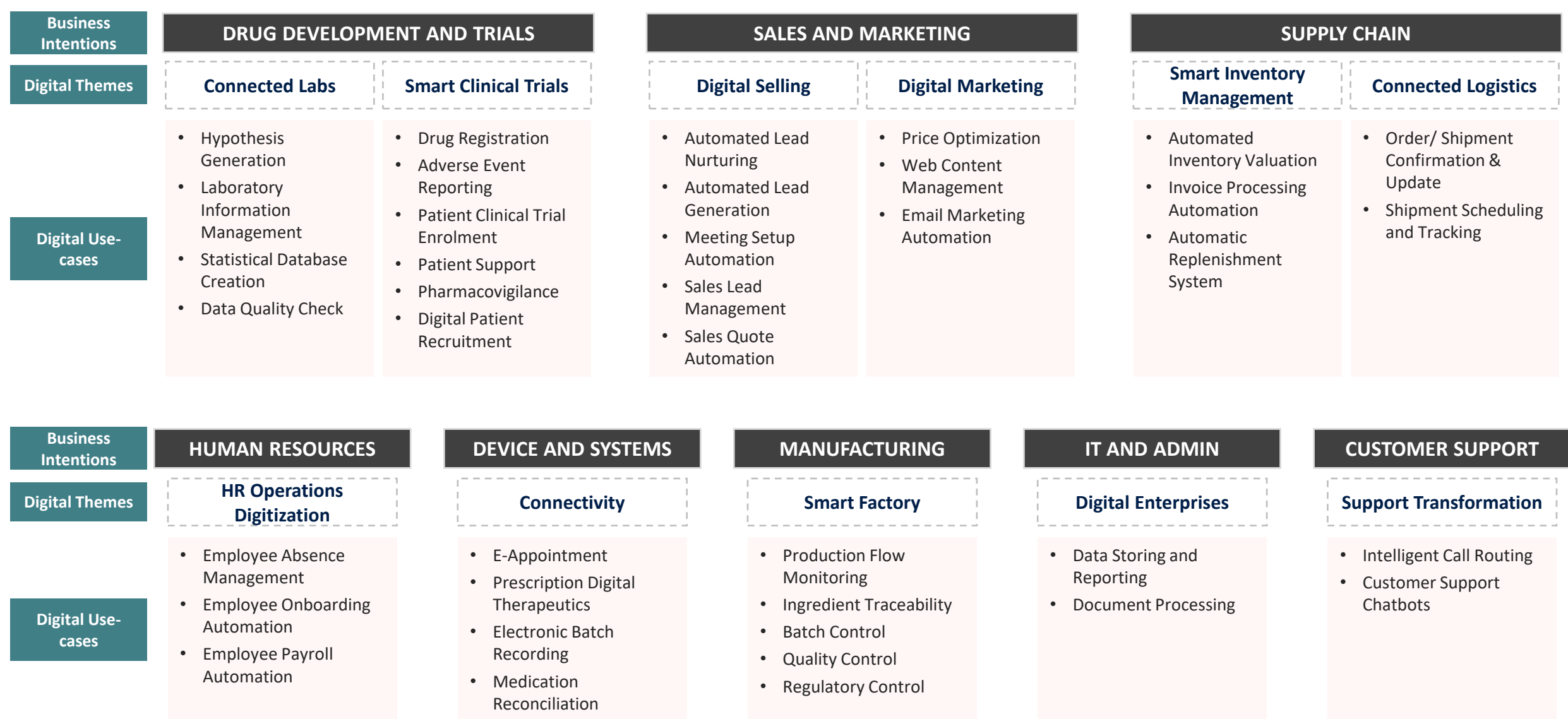
01	Ecosystem & Digitization Framework
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- This section provides the analysis of deployment workflow of RPA and various RPA solutions for business intentions in life sciences industry including
 - Drug Development and Trials
 - Sales and Marketing
 - Supply Chain
 - Human Resources
 - Device and Systems
 - Manufacturing
 - IT and Admin
 - Customer Support
- Business Process Prioritization Matrix
- Collaborations across Life Sciences
- Business Process Identification Criteria
- Scope of Automation
- RPA Solutions by Life Sciences Processes
- RPA Implementation Workflow Analysis

Topics covered only in the Full Report

RPA Implementation by Business Intentions: Drug development and trial, device and systems, and manufacturing are recent business intentions witnessing penetration of complex RPA solutions for automating processes



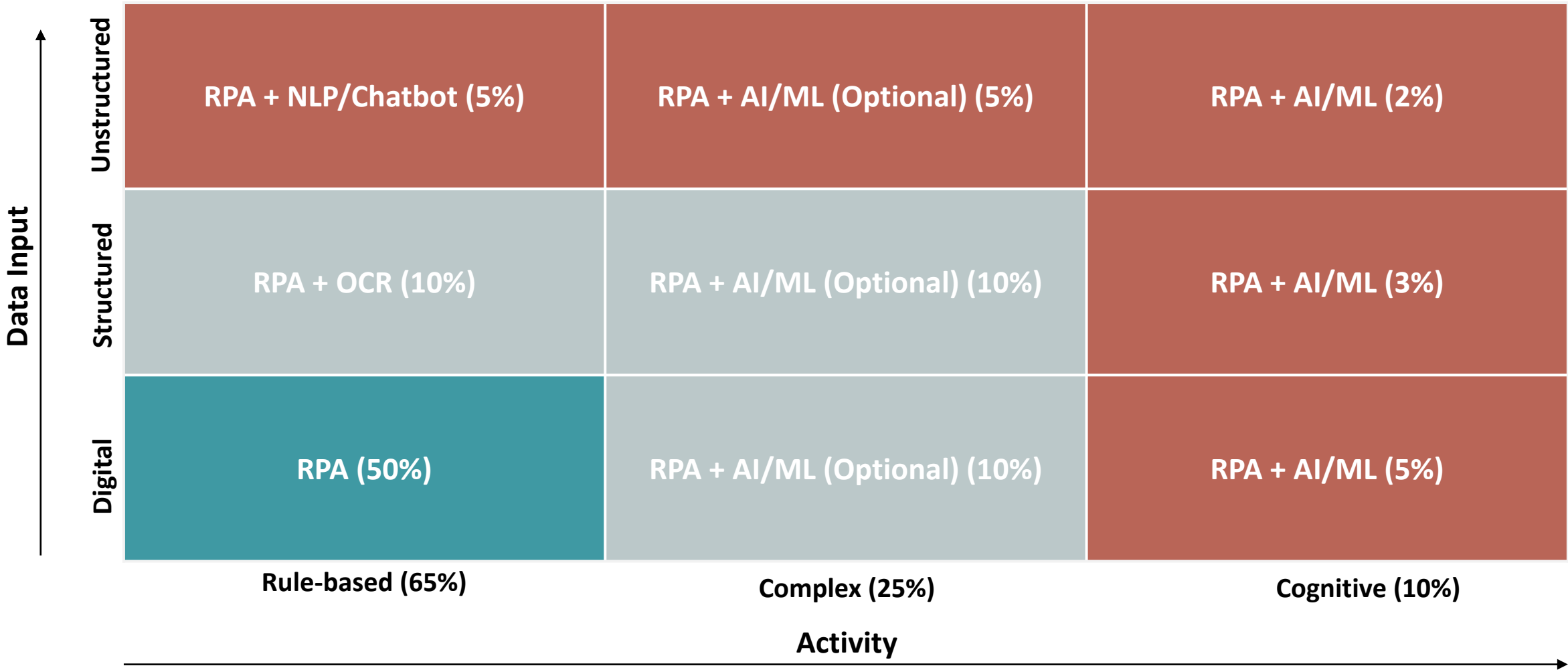
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Source: The analysis is based on Draup's internal research, customer engagement reports, and industry blogs and whitepapers
 Note: Above mentioned use-cases are not exhaustive

Business Process Prioritization Matrix: Targeting the highly rule-based digital workflows for first level automation and task automation for complex processes is key to witness high returns across value chain



Ideal Scout User Prioritization by Process type: % indicates the number of users to be allocated




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- Several tangible metrics such as time, cost, and labor and intangible metrics are taken into consideration to analyze the ROI gained by automating processes in life sciences industry
 - Metrics for RPA Script Monitoring
 - ROI Case Studies

 Topics covered only in the Full Report

Metrics for RPA Script Monitoring: Several tangible and intangible metrics such as costs, time, and manual errors are considered to monitor the RPA scripts in life sciences business intentions



Business Intentions	Tangible Metrics			Intangible Metrics
	Time	Costs	Labour/FTE	
Drug Development and Trials	<ul style="list-style-type: none"> Enrolment Time Testing Time Diagnosis Time 	<ul style="list-style-type: none"> Data Processing Time Check-in Time Equipment Costs Labour Costs 	<ul style="list-style-type: none"> Data Analyst Data Entry Personnel Lab Assistant 	<ul style="list-style-type: none"> Efficiency Data Storage Compliance Error Rate
Sales and Marketing	<ul style="list-style-type: none"> Lead Generation Time Emailing Time 	<ul style="list-style-type: none"> Sales Quotation Time Customer Churn Cost Stock-outs Cost 	<ul style="list-style-type: none"> Presales Associate Marketing Associates 	<ul style="list-style-type: none"> Manual Error Data Errors Customer Experience Accuracy
Supply Chain	<ul style="list-style-type: none"> Inventory Planning Time Shipment Time 	<ul style="list-style-type: none"> Inventory Data Management Time Shipping Costs Excess Inventory Costs Customer Churn Costs 	<ul style="list-style-type: none"> Service Executive Shipment Manager 	<ul style="list-style-type: none"> Customer Experience Manual Calculation Errors
Human Resources	<ul style="list-style-type: none"> Absence Management Time 	<ul style="list-style-type: none"> Employee Onboarding Time Labour Costs Office Supply Costs 	<ul style="list-style-type: none"> Data Entry Clerks 	<ul style="list-style-type: none"> Employee Tracking Error Documentation Error
Device and Systems	<ul style="list-style-type: none"> Hospitalizing Time 	<ul style="list-style-type: none"> Data Processing Time Operation Costs Employee Costs Medicine Wastage Costs 	<ul style="list-style-type: none"> Hospital Assistants Information Management Associate 	<ul style="list-style-type: none"> Process Throughput Manual Errors Data Entry Errors
Manufacturing	<ul style="list-style-type: none"> Labour Time Regulatory Checks Time 	<ul style="list-style-type: none"> Data Processing Time Labour Costs Downtime Costs Wastage Costs Medical Claims Costs 	<ul style="list-style-type: none"> Warehouse Specialists Manufacturing Labour 	<ul style="list-style-type: none"> Manual Errors Reading Errors Efficiency/Accuracy
IT and Administration	<ul style="list-style-type: none"> Document Processing Time 	<ul style="list-style-type: none"> Manual Entry Time Labour Costs Document Storage Costs 	<ul style="list-style-type: none"> Back-office FTE Data Entry Clerks 	<ul style="list-style-type: none"> Multiple Processing Efficiency Manual Error
Customer Support	<ul style="list-style-type: none"> Query Resolution Time 	<ul style="list-style-type: none"> Manual Call Times Employee Costs Infrastructure Costs 	<ul style="list-style-type: none"> Customer Service Executive 	<ul style="list-style-type: none"> Efficiency Employee Availability Customer Experience


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Source: The analysis is based on Draup's talent module, internal research, customer engagement reports, and industry blogs and whitepapers
 Note: Above mentioned metrics are not exhaustive

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- Vendor Analysis Overview
- Key Vendor Engagements

 Topics covered only in the Full Report

Outsourcing Analysis: Cognizant, TCS, and Accenture are major players in RPA outsourcing market in life sciences industry providing solutions for bot development, testing services, and system integration services



 **~40** Active Outsourcing Partners

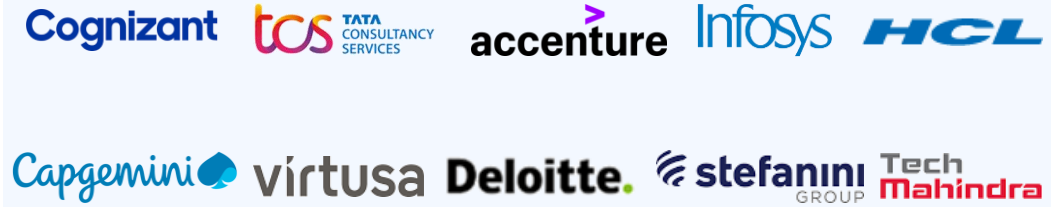
 **~1,300** Workforce analysed across Industries

Geographical Footprint – Client and Provider Locations



- Client Locations
- Provider Locations

Key Solution Providers



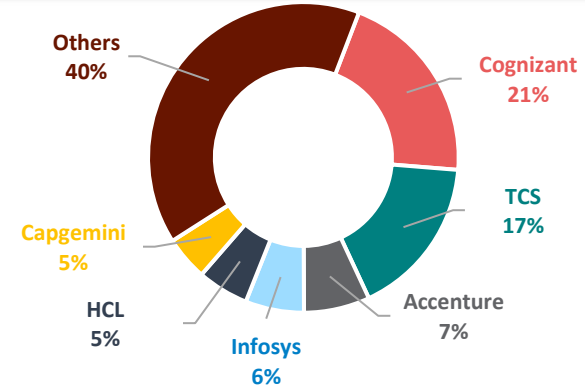
Key Provider Locations

- Bengaluru Area, India
- Chennai Area, India
- Hyderabad Area, India
- National Capital Region, India
- Kolkata Area, India
- Sao Paulo Area, Brazil
- Pune Area, India

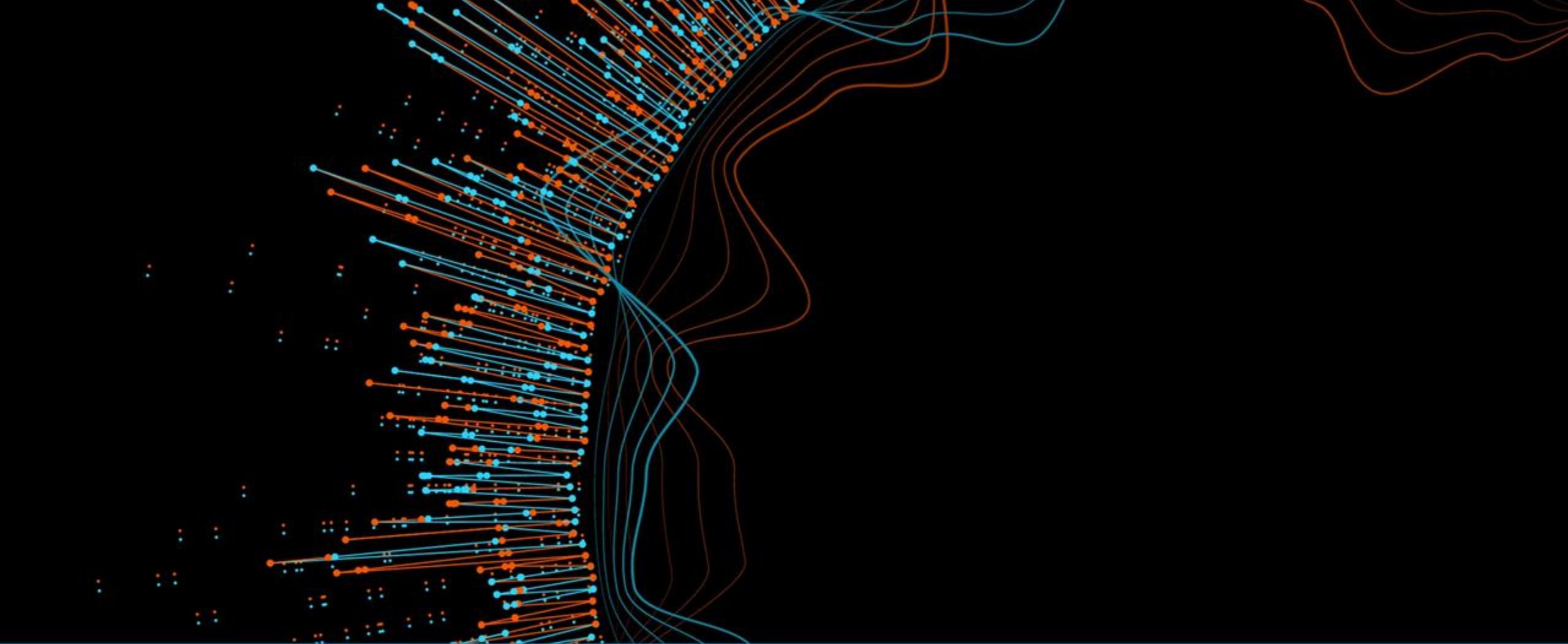
Key Client Locations

- Bengaluru Area, India
- Singapore
- Greater New York City Area, United States
- Greater Boston Area, United States
- Paris Area, France

Top Player Intensity



Source: Draup Outsourcing Module
Note: The list of Service Providers is non-exhaustive



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