

# Embracing Automation to Support Drug Development

*Finding the right method and level of automation to support pharmacovigilance needs and increase efficiency.*



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Life sciences organizations have embraced advanced data analytics, automation, and software to better support every aspect of drug development. In fact, over 70% of life science organizations use some form of automation across their research and development (R&D) processes.



Automation has become an expected function of successful R&D strategies. Therefore, organizations must find the right method and level of automation to support their pharmacovigilance (PV) needs, including adverse event reporting, risk management, and signal detection. By implementing automation, organizations significantly increase their efficiency and achieve greater process consistency, improved data quality, and the ability to shift resources to higher-value initiatives.



# Types of automation

With the development of more innovative and agile technology, automation's potential has expanded in recent decades. When they consider which capabilities best align with their PV efforts, life science organizations should look at these three types of automation.

## *Rule-based automation*

Structured, more repetitive tasks rely on rule-based automation, like automating duplicate data checks and establishing bulk case intake workflows. Rule-based automation optimizes common workflows, which reduces the cost of case processing, improves data quality, and shortens cycle times.

## *Knowledge-assisted automation*

Life science firms needing to process higher case volumes across more countries benefit from knowledge-assisted automation, like machine translation or natural language processing (NLP). Knowledge-assisted automation scales to address increased case volumes and can better handle structured or unstructured case sources. Certain knowledge-assisted tasks include literature database screenings or causality assessments.

## *Knowledge-based automation*

Knowledge-based automation tools include mature cognitive systems, like artificial intelligence (AI), machine learning (ML), and natural language generation. These tools contain sophisticated algorithms that can perform tasks usually requiring: visual perception; cognitive reasoning; speech recognition; and decision-making.

Knowledge-based automation can be the most complex to implement in safety workflows. However, it unlocks insights into large data sets related to patient safety and compliance.

This type of automation also digests unstructured data that requires exception handling. Managing unstructured data and applying intelligent automation will remain critical components in driving life sciences forward.

## BENEFITS OF AUTOMATION

To implement successful automation, organizations should consider its intended benefits. Life science organizations have more data than ever before, yet they trail other industries in effectively using the information drawn from that data. Automation is a helpful tool for analyzing data and reducing friction to accelerate insights and actionable steps. Data insights keep patients safer by informing organizations and enhancing decision-making.

Automation also accelerates drug development and can bring treatments to the market 500 days faster when:

- Reducing delays in reporting events by creating a one-stop shop for forecasting and optimizing case processing workloads, generating automated report scheduling, and reducing safety update report preparation.
- Enabling proactive risk management by uncovering higher-quality signals and leveraging safety signals for more effective risk mitigation. Automation workflows ensure built-in compliance with regulatory requirements by aggregating internal and external data sources automatically.
- Eliminating routine, manual tasks by freeing employees to work on more strategic initiatives, including data analytics and benefit-risk assessment. Removing repetitive, manual tasks also helps organizations see up to 40% immediate cost savings and gain 35% efficiency.

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To unlock automation's promised benefits, life science organizations must evaluate existing legacy processes to examine where they can begin to implement modern, next-gen technology.

## A need for touchless automation

Life science organizations should plan, test, and validate their automation strategies using a touchless solution. A touchless system automates as many processes as possible, unlocking efficiencies human efforts or home-grown solutions alone can't match.

For example, an organization could implement touchless case processing of non-severe adverse events with minimal human intervention or a hybrid combination allowing human intervention at specific points. Once again, this streamlining of manual processes frees employees to focus on higher-order tasks.