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Robotic Process Automation

How Mastek is helping the NHS to reduce administration, increase productivity, improve the working lives of staff, and deliver for patients

What is robotic process automation?

Robotic process automation uses intelligent automation technologies to perform repetitive office tasks that would otherwise be carried out by administrative staff.

RPA combines system interfaces and rule-based scripts that emulate human processes to extract information and conduct transactions across software systems. It acts as a "digital worker" - freeing up increasingly scarce and expensive human workers for more complex, higher- value tasks.

What is the role of RPA in the NHS?

The NHS needs to improve efficiency and productivity to meet the demands facing it in a constrained financial environment.

Since a report by Lord Carter of Coles argued the NHS could generate millions of pounds of efficiency savings by standardising working practices and removing unwarranted variations in performance, NHS England has run programmes to explore the role of automation in delivering these.

Its transformation directorate suggests that commissioners and trusts may use RPA and associated technologies in the front office (for example, to handle appointment scheduling); the middle office (to generate and distribute reports); and the back office (to carry out HR or finance tasks).

With basic RPA in place, organisations can add further automation technologies. Intelligent or cognitive automation uses natural language processing, large language models and chatbots to carry out more complex processes, such as producing summaries and reports from underlying data.

While machine learning or artificial intelligence examines large, unstructured, and varied data sets to uncover hidden patterns and trends that can be used to inform human decisions.

What is the Mastek approach?

Mastek's approach is to focus on process excellence. Before we talk to organisations about technology, our expert process excellence consultants talk to them about how they can standardise their procedures; embed a culture of continuous improvement; leverage their data; and empower their staff to contribute ideas and take ownership of new workflows.

Once we engage with an organisation, we build a centre of excellence to make sure that automated processes are excellent processes that deliver value. In addition to our process excellence consultants, our CoE team will include project managers experienced in delivering for large clients and automation experts to select the most appropriate technologies, tools and features for the project in hand.

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What is Mastek's experience with the NHS?

Mastek has been a trusted partner to the NHS since the turn of the century, when we worked with BT to build the very first iteration of the NHS Data Spine. Since then, we have delivered solutions for NHS England, national bodies and trusts, that transform the way individuals interact with healthcare systems.

Our deep understanding of the health and care system, long-standing relationships and expertise made us the national choice to develop RPA projects for NHS England and individual providers, working with our partner, UiPath.

Our automation journey in the NHS

2020

- Point of concept for single automation platform (working with Microsoft Azure and UiPath)
- Set up platform at NHS England
- Manage PPE requests to support the Covid-19 effort
- Pilot use at trusts

2021

- Develop HR processes on the national RPA platform
- Migrate platform to cloud
- Develop best practice processes for trusts to use
- Develop on boarding processes for interested trusts
- Start working with the Northampton General Hospital accelerator project

2022

- Start RPA implementation at more trusts, via the NGH accelerator
- Go-live with a significant project at Central and North West London NHS Foundation Trust, to improve finance processes

2023

- Continue working with NHS England, Northampton General Hospital, Central and North West London, and further providers, including Hull University Teaching Hospitals NHS Trust and Northern Lincolnshire and Goole NHS Foundation Trust

2024

- Support NHS England in a discovery process, to establish where automation can support providers with the challenges they face, in constrained financial environment.

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NHS England

A single automation platform, and supporting the distribution of PPE during Covid-19

To promote the use of RPA in the health service, NHS England commissioned a single automation platform and service. The aim was to deliver consistency, agility, and security for these technologies and to improve the experience of trusts that wanted to adopt them at speed.

Mastek was chosen to support the project, which was in-flight when the Covid-19 pandemic arrived and created an urgent demand for personal protective equipment. To obtain PPE and other items, trusts and social care providers were asked to submit a request to a central mailbox, which quickly became inundated.

Staff spent time receiving and logging calls about orders, delays and deliveries, creating a bottleneck in the supply chain. We were table to integrate the mailing system (Microsoft Exchange) with the case management system using RPA technology and to use cloud-based tools (in Microsoft Azure) to create multiple bots to address the situation.

For example, we created a bot that used optical character recognition (OmniPage) to read delivery receipts and to close the case once PPE was delivered, so admin staff no longer needed to find these in the email chain. This alone saved around 4 minutes per request.

Piloting The National Platform

Automating HR and finance processes

Mastek continued to develop the national automation platform and service, and successfully migrated it from an on-premises to a cloud-hosted environment. Meanwhile, NHS England looked to streamline some of the HR processes conducted via the Electronic Staff Record, which is linked to the national payroll and pensions system.

Mastek developed bots to add a position to the ESR, update or amend a position on the ESR, onboard new starters, and carry out some routine editing of invoices.

NHS trusts were also invited to pilot the national platform and service. Mastek worked with Central and North West London NHS Foundation Trust automate financial processes, including the generation of bank accrual and bank finance debt reports. The aim was both to save time and to reduce the errors associated with staff generating these from journals.

Mastek also worked with Hull University Teaching Hospitals NHS Trust and Northern Lincolnshire and Goole NHS Foundation Trust to automate the upload of advice and guidance requests and electronic patient referrals from the national e-Referral Service to the electronic patient record (Lorenzo). The vision was to enable administrators to concentrate on value-added processes.

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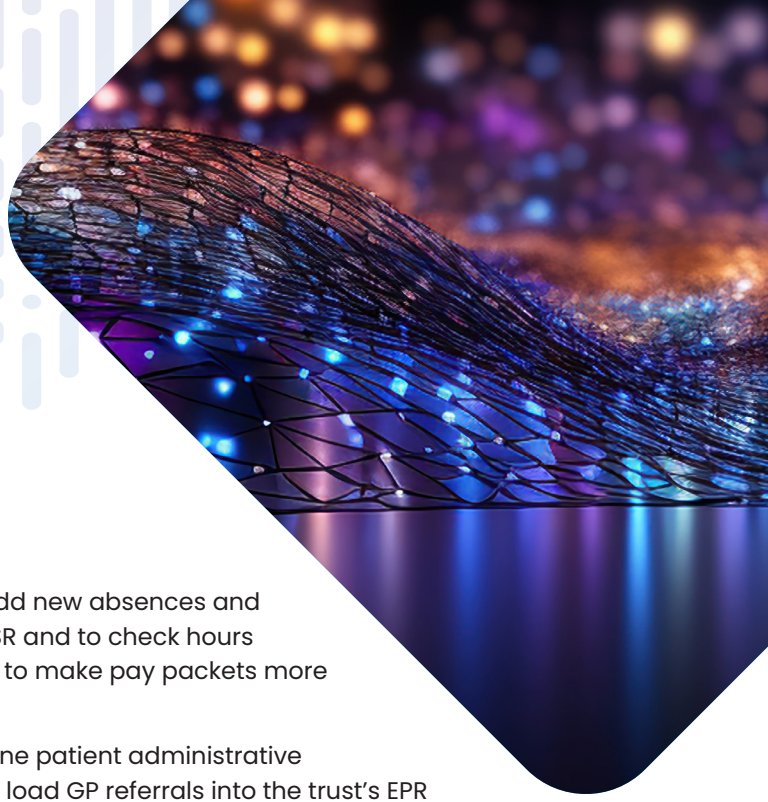

Northampton General Hospital

Working with a national centre of excellence

NHS England also created two centres of excellence for RPA at the Royal Free London NHS Foundation Trust and Northampton General Hospital NHS Trust. These organisations worked with different consulting and technology partners, with Mastek becoming part of the Northampton General accelerator programme.

As part of its engagement with Northampton General, Mastek created bots to support the HR department. We automated the process of generating a contract for new hires, once pre-employment checks have been created.

We also created a bot to add new absences and update absences on the ESR and to check hours logged against hours paid, to make pay packets more accurate.

We also worked to streamline patient administrative processes, creating bots to load GP referrals into the trust's EPR (CAMIS), to record outpatient outcomes in the same system, and to transfer care notes to the trust's patient portal.

Why should you consider RPA with Mastek?

In his independent review of the NHS for the incoming Labour government, Lord Darzi called for "a major tilt towards technology to unlock productivity." He noted that there is "enormous potential in AI" to transform processes and help the system to deliver.

RPA and its associated technologies can streamline processes and reduce bottlenecks to generate cost savings while ensuring the delivery of high-quality products and services. They can also enable organisations to respond quickly to changing conditions and user needs and foster a culture of innovation and experimentation.

However, the NHS will only see these benefits if it executes RPA projects well; and that's where Mastek comes in. We don't start by asking: what can we automate? Instead, our process excellence consultants spend time talking to people on the ground to find out what is working well, and where automation could play a role.

We can draw on our extensive experience of working with NHS England and English trusts to advise on best practice and replicability. Only then do we use our tried and proven methodology to run effective projects that realise tangible benefits.

We start with your processes, identify the opportunities for automation, and then work with the best partners in the industry to build bots that work for you and for your human workers, while realising tangible benefits for your service users and the clinicians and patients who rely on them.