

CASE STUDY

ROBOTIC PROCESS AUTOMATION (RPA) TECHNOLOGY HELPS SOLVE HEALTHCARE CHALLENGES



SUMMARY

KFM inherited many legacy systems and processes from King's College Hospital which required considerable amounts of human effort involving manual, repetitive and boring tasks.

The challenge was to add value through technology by streamlining and digitally automating the legacy processes, introducing improved financial controls and efficiency, or adding a commercial advantage.

The solution

KFM decided to implement Robotic Process Automation (RPA) technology to meet this challenge.

It is developing the use of bots in many areas of hospital life to improve efficiency in patient care. Over the last 18 months KFM has been working with procurement, finance, HR and clinicians to design and deploy bots. The results are outstanding with a combination of CIP, cost reduction, clinical time release and reducing data errors.

There is significant opportunity within NHS and private healthcare to adopt RPA to automate processes which are repetitive, rules based, high volume and low in variability.

The Benefits

• Covid-19 pandemic response

RPA has been instrumental in King's College Hospital's Covid-19 pandemic response. Since January 2021 KFM has been supporting King's College Hospital NHS Foundation Trust with RPA in hospital staff Covid-19 swab testing.

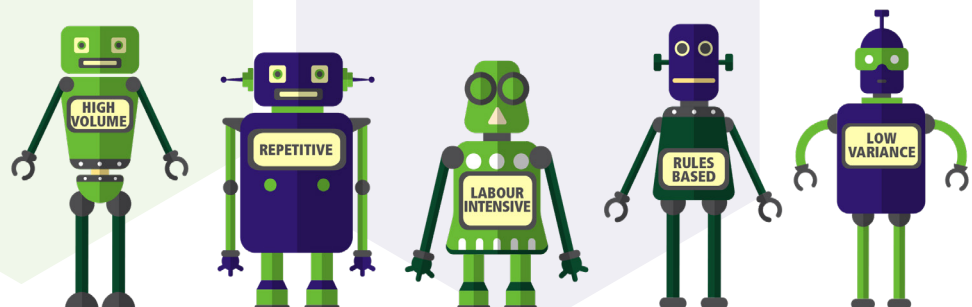
Patient-facing staff are required to be tested for Covid-19 regularly. The results of those tests need to be recorded by the hospital's admin staff.

Previously someone needed to collect all those results each day and compile them before laboriously entering the details into the hospital's rostering system.

RPA has been used to automate the compiling and data-entry processes.

Staff can now send results to the robot's email address where the robot picks up the information and verifies it to ensure it is accurate and error-free.

The robot updates the system to ensure that the most up to date details of each staff member's test results are readily available. This is also useful for staff and roster management as the bot alerts managers of mandatory self-isolation periods following a positive test result.

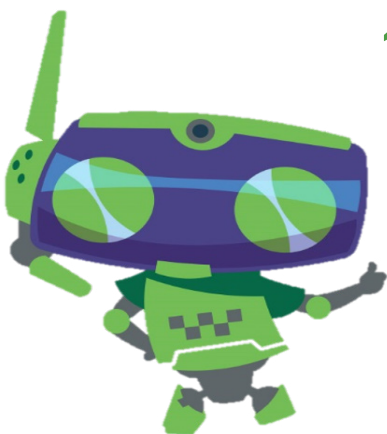


“Peter Hanover, Admin Assistant, Occupational Health & Wellbeing, King’s College Hospital, said: “The RPA programme has made a big difference in freeing me up for other duties in the Occupational Health Department. Previously, I would spend hours every week inputting data. The automated process can do this much faster and can make results live on Healthroster as soon as results are received. I’ve been impressed how the new system is able to learn like a person and its accuracy is increasing all the time.””

- Improved delivery turnaround times

The robot automatically chases suppliers when goods haven’t been received within the expected delivery lead time. Previously delays in receiving goods would lead to a lack of inventory for operations and procedures. This would require additional purchase orders to be raised with increased freight charges applied due to the need for same day delivery.

“Milena Wasala, Inventory & Purchasing Support Team Leader, said: “Supply Chain raises a lot of orders, using both manual and automated ordering. The robot sends out enquiries to suppliers on our behalf, and passes back all responses with justification of any delays. We often get all sorts of additional information from suppliers. This process saves Supply Chain teams considerable time, helps us to quickly spot any issues or anomalies and mitigate potential risks.””

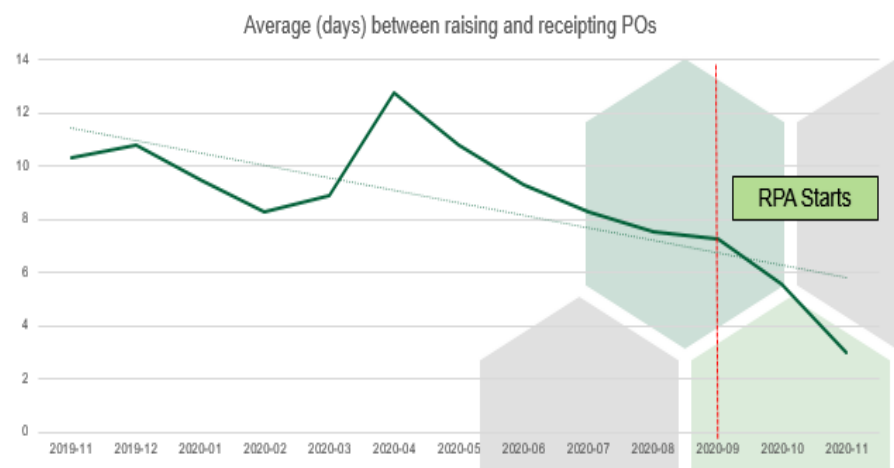


- Rejection of supplier price increases

In this scenario the robot contacts the supplier when it sees a supplier has charged KFM a price that exceeds the contracted price. **The robot rejects around 10 supplier invoices per day helping KFM avoid cost increases of up to £1,000 per day.**

“The **benefits** of the bot rejecting supplier price increases allow us to **focus** on more **urgent tasks** and alternative queries **without the time consuming process** of trying to get in contact with multiple suppliers. The bot recognises that a supplier hasn’t charged the price that is currently on catalogue and **challenges suppliers on our behalf.**”

Jack Weston, Procurement Specialist, at KFM:



The average time between a purchase order being raised and the goods being received has reduced from 8 to 3 days.

- Daily data extracts

The robot accesses the NHS Supply Chain website to extract data that relates to clinical consumables and equipment that has been delivered to the hospital. KFM requires this information to help it maintain optimal stock levels throughout the supply chain at King’s College Hospital. This data can only be accessed by logging into the NHS Supply Chain website and selecting the data related to a specific day. **The robot saves KFM’s Data Analyst at least 2 hours per week by extracting this data and uploading it into KFM’s database.**

“Chi Tsang, Data Analyst at KFM, said: “RPA has enabled us to spend our time more effectively by eliminating the need to log-in and download transaction reports on a weekly basis. The time saved per week/month allows us to analyse and plan strategically by building better reporting tools, which in turn supports the wider business in making their decisions. This also helps my personal development as it allows me to spend more time on projects for other areas of the business instead of downloading the same report each week.””

- Staff training and rostering reminders

The robot extracts HR data and uses it to remind staff to complete their training and for roster managers to complete their rosters prior to the next shift cycle.

“**Robin Marsden-Knight, HR Business Partner at KFM,** says: “Robert the RPA robot has helped our HR department send around 100 reminder emails each month for our staff who are nearing the expiry of their Mandatory and Statutory Training. Since the launch in February 2021 this automation has meant we have had more time to focus on other areas within the workforce, and also supports staff and managers to ensure that their training requirements are completed. We’re already exploring other possible HR tasks that we can automate and are looking forward to implementing them in the near future.”

In HR it can also be used for new starter and leaver processes. Most businesses have multiple systems they need to interact with throughout their employment. RPA can be used to take details from one form that a new or departing employee can complete and then enter the details of that employee into all the systems they are, or were, required to access.

- Renal equipment parts ordering

Spare parts for renal equipment are now automatically ordered by the robot when they are running low.

“**Farman Syed, Principal Renal Technologist,** says: “RPA is going to help us massively as a busy team whose priority is supporting renal services. This is currently in the trial phase but we have already started to see benefits. Thanks to RPA, ordering of complex kits is now a breeze. It saves a lot of human time in searching for data through several files and systems to obtain relevant details to place orders. Also it’s monitoring of order status keeps users informed. I personally think such a system was long overdue and in future we look forward to implementing its roll out to the rest of our inventory.”

- Closing old POs

The robot was able to work its way through 35,000 aged purchase orders that would have otherwise required manual review and intervention to close. **The robot completed this process in 6 weeks; closing more than 34 purchase orders per hour, 24 hours per day, 7 days per week for the whole 6 weeks!** Not only did the Finance team benefit from not having to complete such a manual, repetitive task but the robot ensured that this process was carried out error-free. The likelihood of human error in processing 35,000 items is very high.

- Outpatient Pharmacy invoice entry

Invoice processing in Pharmacy has been revolutionised. All invoices were previously manually entered onto the system but are now automatically entered by the robot. The Pharmacy department uses an inventory ordering system built on old technology and requires staff to painstakingly enter details one by one from the paper invoice into the system.

By combining RPA with OCR (Optical Character Recognition) KFM has been able to scan these invoices, read the details, and then use those details to update the system. Previously staff were manually processing up to 1,000 invoices per month, going forward this process will be entirely performed by the robot.



Future Vision

KFM intends to continue expanding RPA into the Trust and plans to make considerable improvements for its customers in Finance and Human Resources.

KFM is also expanding beyond KCH and is now in a position to offer services to other NHS Trusts and private hospitals.

WHAT IS RPA?

Robotic process automation is a form of business process automation technology based on metaphorical software robots or on artificial intelligence /digital workers. It is sometimes referred to as software robotics.



“One of the main benefits of automation is that machines don’t get bored, so we can keep giving them the boring, repetitive work and, as a result I don’t have to deal with any moaning! Since using RPA we have seen an improvement in staff morale, especially in the Outpatient Pharmacy. We will definitely continue to improve tasks by using RPA, wherever possible.”

Delita Dunkley, Senior Financial Accountant

