



NHS
AUTOMATION

MAKING TIME MATTER



Making Time Matter

Robots will wipe out humans and take over in 'just a few centuries' warns Royal astronomer

A ROBOT uprising could be closer than ever predicted - according to royal astronomer Sir Martin Rees, who believes machines will replace humanity within a few centuries.

By **SOPIA PETKAR**

PIRISHED: 06:10 Tue Apr 4 2017 | UPDATED: 08:29 Tue Apr 4 2017

Humanoid robots will 'take over the world' and professor warns we won't be able to spot them

Robotics expert Noel Sharkey says androids will soon be completely integrated in society working as shop assistants, bar staff and careworkers

More than 70% of US fears robots taking over our lives, survey finds

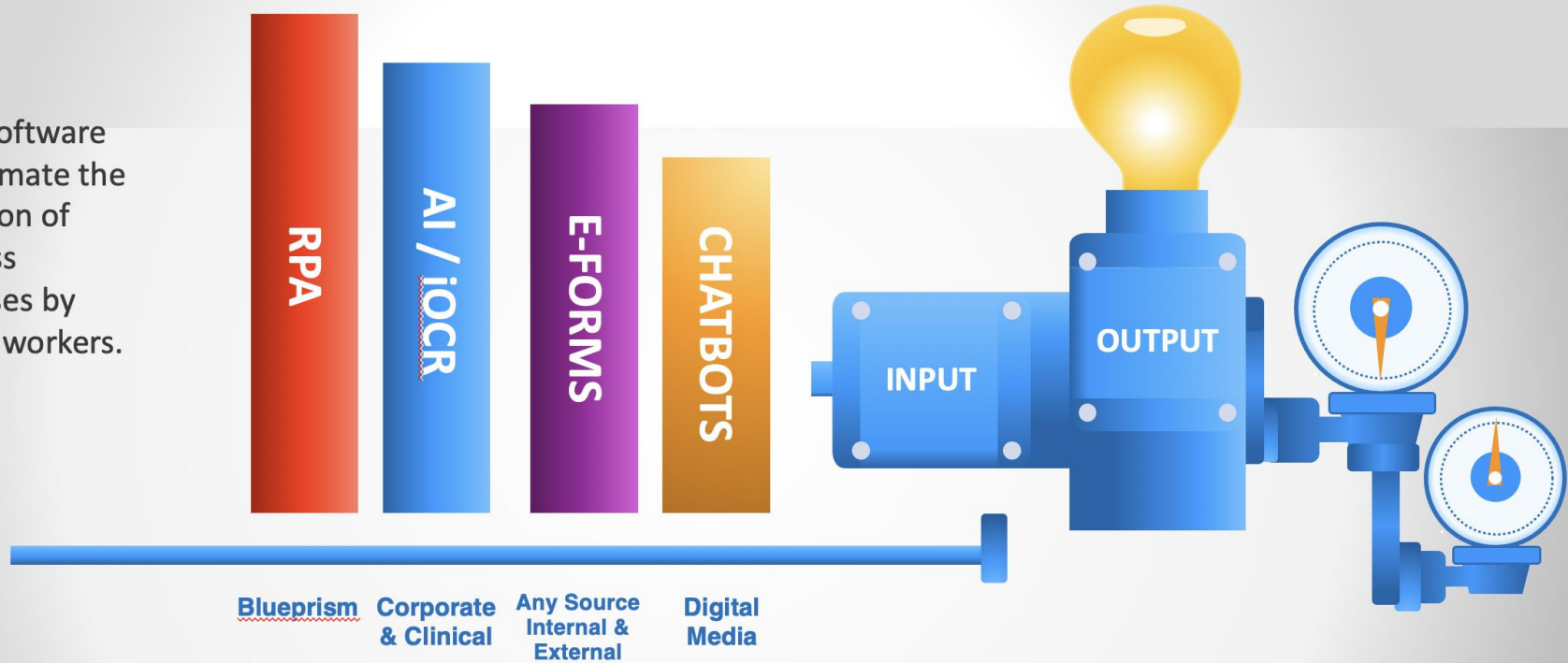
As Silicon Valley heralds progress on self-driving cars and robot carers, much of the rest of the country is worried about machines taking control of human tasks



What is Robotic Process Automation?

Just the starting point...

Using software to automate the execution of business processes by human workers.



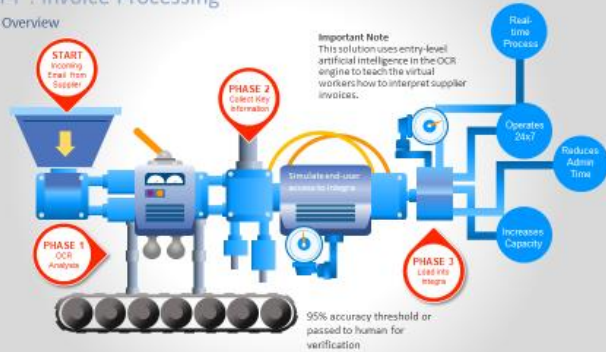
Virtual workers are deployed non-disruptively into business operations, and work by emulating the way people use business systems, the decisions they make, and the processes they follow, in order to augment, replace, or digitise manual work processes.

How are Robots helping us?

90+ Processes, 8 robots – By the NHS for the NHS

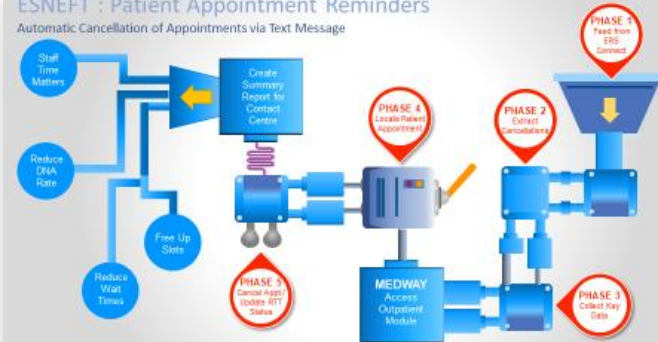
ESNEFT : Invoice Processing

Process Overview



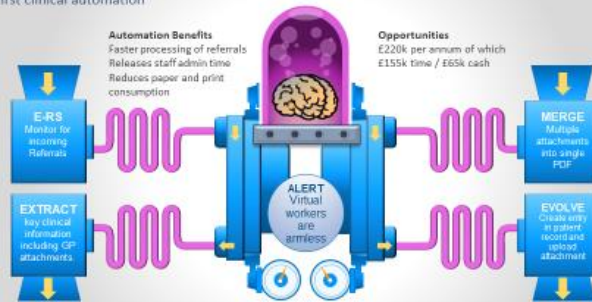
ESNEFT : Patient Appointment Reminders

Automatic Cancellation of Appointments via Text Message



ESNEFT : E-Referrals into Evolve

Our first clinical automation



Designed & Implemented cloud-based virtual smartcard solution linked to user profiles & active directory.

76,844 HOURS

48 FTE

£2.1m+



The RFL Automation Team are the National Leaders

The Royal Free London are the flagship CoE for the NHS in London

The Royal Free Intelligent Automation Team have built process across two leading process automation technologies :



BluePrism Cloud

- | | | |
|--|---|---|
| 1. Populating offer letter template | AP | 31. Registering patients and admitting them into respective areas of ED (A&E) |
| 2. Sending email conditional offer and joining forms | 21. Patient reminders – taking output from our patient reminder service (Chronos), cancelling unwanted appointments on PAS (Medway) and providing a report to outpatient management | 32. Verifying PAS patient telephone numbers against GP records for failed patient reminders |
| 3. New starter joining form completion | 22. Cardio-Respiratory – using medway, analysing unstructured patient data and booking identified diagnostic tests | 33. PAS batch tracing |
| 4. Documentation processing & upload | 23. ESR – one off migration for consolidating staff positions | 34. Antibody testing – Serology |
| 5. Contract issuing | 24. Long listing to short listing on TRAC – using bots to move closed vacancies from long listing to short listing, download applications from NHS jobs and uploading to Trac | 35. NHS Mail allocation – Social Care |
| 6. New starter payroll input, inc. Rotational doctors and staff | 25. Daily reporting for unapproved Establishment Control Forms | 36. Supermarket shopping vouchers to NHS staff |
| 7. Saving of all data and files to desired file share | 26. ERS Accept Referrals | 37. Healthcare record tracking |
| 8. Smart card request to issue | 27. Intranet – accessing staff details on Claromentis, analysing gaps in staff data and downloading from Active Directory. | 38. Cancer MDT outcomes |
| 9. Population of medical offer templates and work schedules | 28. Intranet – updating AD with changes to the employee record on intranet | 39. GP Thyroid |
| 10. Contract changes for Trust staff | 29. Receiving incoming referrals from SystemOne via NHS mail, triaging and queuing for onward processing. | 40. Brexit status into ESR |
| 11. Leavers processing | 30. Uploading A.N.OTHER documents in Kainos Evolve EPR | 41. Insurance for employer's liability |
| 12. Occupational Health Clearance checks | | 42. Patient demographic updates from SPINE to PAS |
| 13. Internal references for staff moves | | 43. Maternity self-referral using patient ports (Zesty / DrDoctor) |
| 14. Verification of employment checks | | 44. Patient record upload to IMMJ medviewer via API |
| 15. Inter authority transfers | | 45. ERS referrals into Cerner including 2WW |
| 16. Informing departments of Rotational doctors | | 46. CrispChat Mental Health talking therapies assistance |
| 17. Internal employment checks | | 47. Urgent Treatment Centre patient flow into ED |
| 18. Update of database for appointments from HEE | | |
| 19. ERS to Kainos Evolve – extracting GP referrals from ERS for importing in Kainos Evolve EPR | | |
| 20. Invoicing processing – receiving invoices via email, into OCR and uploaded into Integra | | |



Microsoft Flow Microsoft Flow

1. Cohort staff immunisation update
2. ESR staff update
3. Antibody testing – multi Trust
4. Redeployment for frontline staff
5. Barts – FFP3 Face Fit testing
6. Teams form integrations
7. Outlook calendar scheduling
8. Native automation of:
 1. Office 365
 2. SharePoint
 3. MS Forms
 4. MS Teams
 5. G Suite
 6. Service Now
 7. Azure
 8. Active Directory

Azure Cognitive Tools

1. Patient Letter language translation
2. Travel insurance underwriting medical reports
3. Sentiment analysis for job references
4. Auto redaction of patient records
5. Key word classification for clinical coding
6. Auto transcription of consultant voice dictations



NHS AUTOMATION



ACCELERATING INTELLIGENT AUTOMATION COVID-19



NHS MAIL FOR CARE HOMES



Over 18,657 applications verified and processed saving over 1500 hours of admin time, improved data quality and faster turnaround times.

ICELAND SHOPPING DELIVERY SLOTS



Over 1m home shopping delivery vouchers were delivered to 27,099 social care organisations across England

NATIONAL AUTOMATIONS



Who we are

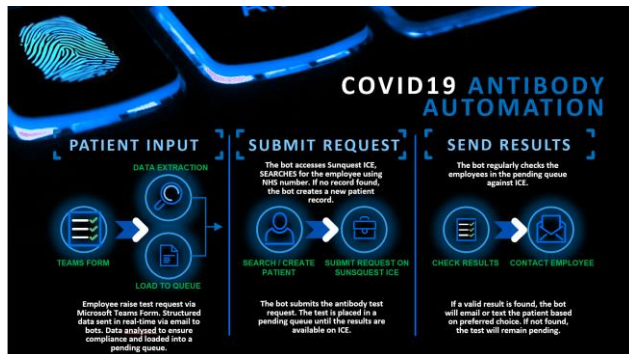
Intelligent automation in Health

Intelligent Automation – by the NHS for the NHS

Appendix

- About the Team
- Case Study – Recruitment
- Case Study – NHS Mail for Social Care
- **Case Study – Antibody Tests**

COVID Serology (Antibody) Testing



Organisations Involved



The context

The UK Government set a directive to all NHS Trusts to conduct staff antibody testing within less than a week, to support a drive for national testing of NHS employees.

The challenge

The challenge was to implement staff testing quickly using existing resources from a Trust that was already under immense strain.

Using automation, the bot received an incoming staff test request, verified incoming data and registered the serology test in Sunquest ICE. On a daily basis the bot would check patient results and where applicable send the results to staff.

20,000+

Serology tests completed



1,100
Admin hours saved

23 Seconds per test



The outcome

The specific outputs from the project were:

- ✓ More than 20,000 tests were processed taking 23 seconds per test.
- ✓ Over 1,100 admin hours saved.
- ✓ Expanded beyond the Acute to include Primary Care, Social Care, Emergency Services and Military personnel.
- ✓ Solution re-purposed and deployed to Norfolk & Norwich Hospital using the NHS Digital Exchange (DX)

Case Study



06/07/2020 | Press releases

Self-service antibody testing system hailed a success

More than 20,000 patients and frontline workers have been checked for COVID-19 antibodies in less than six weeks after East Suffolk and North Essex NHS Foundation Trust (ESNEFT) developed a fast self-service testing system.

The trust, which runs Colchester and Ipswich hospitals as well as a variety of community health services, set up the new system – which manages test requests using software robots – in a matter of days following a Government directive earlier in the spring.

"Our staff worked incredibly hard to set up this fast, secure and effective system within just a matter of days. We're especially pleased that the process is largely managed by our virtual workers, which frees up admin staff and laboratory colleagues to focus on patient care, and that we've been able to support other areas to implement a similar process.

"The results of these tests will help contribute to understanding the prevalence of COVID-19 and the way it spreads within the community. We are pleased to have been able to play such a key role in helping to collect this important information."

1,100+ hours saved 23 secs per test



Darren Atkins

Chief Technology Officer (Artificial Intelligence & Automation)

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Over the last few days [East Suffolk and North Essex NHS Foundation Trust](#) have deployed their antibody testing bots to friends at [Norfolk and Norwich University Hospitals NHS Foundation Trust](#).



Our Fully Digitised, Automated Flu App

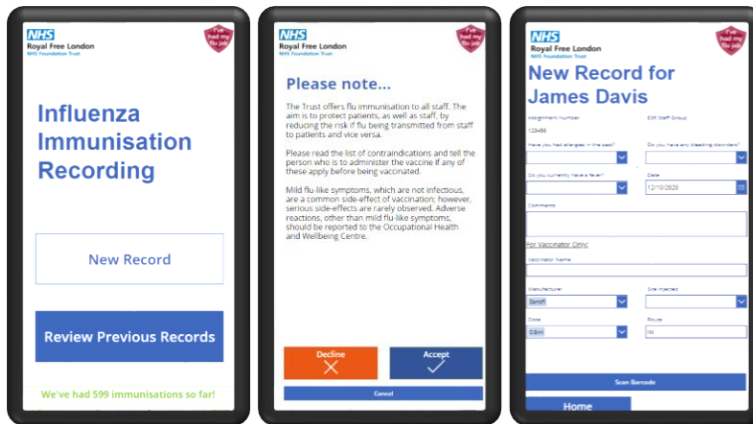
By RFL for RFL

Our in-house Flu App replaces all paper recording and manual admin

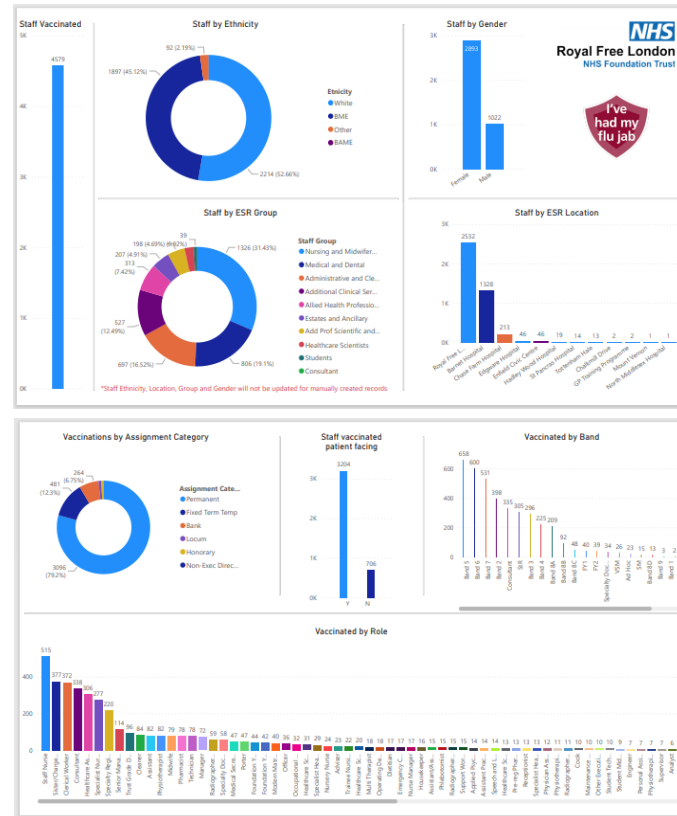
Who we are

Intelligent automation in Health

- Case Study
- Automation areas
- Six Stages of Automation
- **World Class Team**
- Supporting Innovation
- Internal Workstreams
- External Workstreams



Implementing a digitised, automated workflow provides immediate insights and is on course to **save 14 weeks** of administrative time that can now be released for value-add tasks





By the NHS for the NHS

The NHS DX, Consultancy Services – “by the NHS for the NHS”

Who we are

Intelligent automation
in Health

Intelligent Automation
– by the NHS for the
NHS

- The Digital Exchange
- Cost Model

Appendix



The NHS Digital Exchange contains **over 50 artefacts that will accelerate deployment of RPA throughout the NHS.**



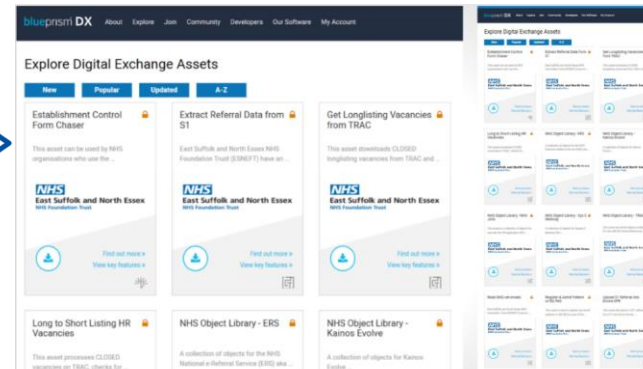
RFL lead the DX and with advanced technical knowledge that can **support NHS organisations** across the UK to re-purpose and deploy the existing library **through consultancy.**



RFL lead and host the **NHS automation leaders forum**, promoting collaboration and offering services from within the RPA community.



For common processes (e.g. GP Referrals in PAS/EPR), a **rapid deployment consultancy model** can be developed that will give organisations the ability to mobilise at **pace.**



Matthew Gould
@matthewsgould

This is a brilliant example of innovation at the NHS frontline, and a determination to share best practice. We will know we are winning when this approach becomes the norm.



Our World Class Team

Continually Improving to Deliver

Our approach to the delivery of Intelligent Automation is based on years of experience from within the NHS, delivering thousands of saved hours back to NHS Trusts.

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Royal Free London
NHS Foundation Trust



NHS Parliamentary Awards



Regional Winner
2019



— FINALIST —



Project of the Year
2018
Global Sourcing
Association



#somethingincredible



NHS
AUTOMATION

MAKING TIME MATTER

