R&D IT
Annual report 2014

Contents

Case studies

Welcome to the R&D IT annual report

Accelerate R&D innovation through agile IT engagement

Enable PCIB priority investments

Deliver cost effective, standard, customer focused IT services to support R&D goals

Simplify the IT

Achieve R&D IT leadership & performance

This is a new departure for us; it is designed to provide some reflection on the past year and to help people gain an understanding of the breadth and contribution of our work.

We operate in a challenging environment, supporting over 10,000 R&D users across discovery, clinical, medical and regulatory. In addition to the standard laptops and desktops, we need to support those users day to day with specialist applications. We also need to adhere to high levels of security to protect GSK IP and sensitive data, as well as supporting compliance with medical regulatory authorities around the world.

Above this, we need to develop and extend our IT capabilities to support our world-class R&D and to enable the continuing pipeline of medicines. This means developing and delivering innovative solutions such as OASIS, the industry's first global patient safety system, and Palantir, a leading-edge interactive analytics application to help scientists work with and make sense of huge volumes of information.

Last year was not without its challenges in keeping all these wheels turning. We managed the roll-out of a number of key systems including OASIS, CERPs and Workday – all global systems that create pain for users before we start reaping the benefits of much simpler ways of working in the future. Our path towards collaborative tools is rocky, and we continue to seek ways of improving the user experience.

In this report you will find high level details of our work in 2014, examples of what we achieved as well as areas where we need to improve. We followed and delivered against a strategy of 'must do, can't fail' activities as well as keeping all the wheels turning. Against this backdrop, R&D itself is constantly evolving and changing to maintain its position as a world-leading function.

Do please contact me if you have any questions or comments about our work.

Thank you
Simon Roach -
SVP R&D IT

Highlights

R&D IT developed and delivered 31 new applications, supporting users across all areas of R&D in Europe, the USA and Asia Pacific

Successfully implemented OASIS, the industry's first global adverse event reporting system

Supported the deployment of Gemini into R&D, the streamlined HR processes and Workday, GSK's new cutting-edge people management system

We initiated and deployed 38 rapid proof of concepts using new technologies and approaches that were targeted at challenges faced by R&D

Sharepoint on Prem launched to enable migration of over 7000 legacy Notes applications

The Late Stage Asset service supported 16 key regulatory submissions in 2014, with 'Platinum IT support' to ensure no submission was delayed due to IT

R&D IT successfully completed the migration of all PCs in R&D to Win 7 by investing in extra laptops to enable the 'fast swap' of users' machines

More than 70 old applications were decommissioned, representing an annual saving of £1.75M in support, systems and servers.

1.5 million articles were downloaded from the R&D IT Library service in 2014

We endeavoured to improve collaboration tools by training 800 R&D users, supporting more than 500 meetings through a dedicated concierge service and distributing more than 7000 headsets

R&D IT supported the CERPs roll-out, a critical enabler in standardising and automating financial and commercial processes, systems and data in GSK

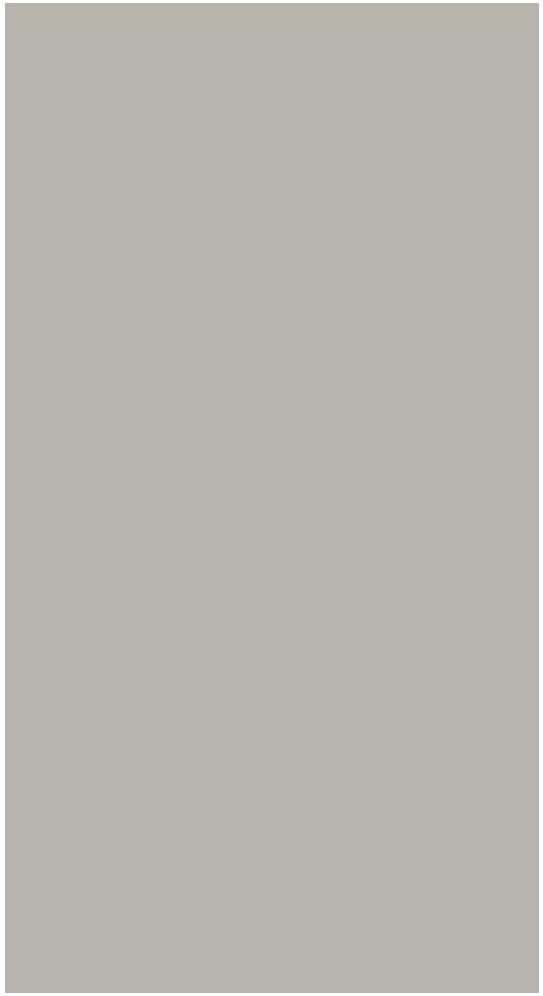
Despite significant challenges, upgraded eLNB to the latest version to save costs, improve compliance and significantly lengthen the lifespan of the system

We identified over £35M in benefits for GSK from new projects initiated in 2014

R&D IT delivered the first phases of CARIO, integrating with existing chemical registration systems and production release for selected Biopharm Discovery users

We upgraded over 40 R&D conference rooms, investing in projectors and conferencing equipment

Financial Matters



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Case study: Text analytics

Google provides a simple but effective search that yields millions of hits in a few microseconds: as long as the information you are looking for is nicely laid out somewhere on the web, Google can find it.

However it's not so good when you are asking a question that has never been asked before, or it isn't on a single page. More work is required to read through thousands of pages to extract, cross-reference and analyse relevant facts and details. The scale of this undertaking would be a modern day task of Hercules for any individual.

We have run a number of exciting proving grounds with Text Analytics, ranging from searching social media such as Twitter for evidence of potential adverse events, through to asking complex scientific question across a huge amount of scientific literature in conjunction with Elsevier.

For example, there are almost 400 scientific publishers, who have 28,000 scientific journals, in some cases going back 50 years. The vast majority of human scientific discovery is embedded in these millions of scientific publications. Although many of the abstracts are publicly available, the full text versions are not. Many of our scientific questions focus on areas such as "materials and methods". We reached an agreement with Elsevier to be able to perform text analytics on all of this data regardless if GSK actually subscribes to the journals.

The proving ground focussed on three questions, one from each of Computational Biology, Safety Assessment, and BioElectronics. The results were returned in a dynamic mindmap, and were successful in all three cases.

As we move into 2015 we are expecting to be running more proving grounds in the integrated analytics area, in mining both clinical investigator brochures, and the electronic lab notebook.

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Case study: OASIS

For GSK, adverse event data is essential for compliance and of huge value in better understanding our products. Over the years we have accumulated a number of IT solutions, systems and processes for managing adverse event reports which were rapidly becoming outdated and incapable of meeting regulatory, compliance and PII requirements.

What we needed was a single, simplified system that could work across the globe with our complete drug portfolio, including R&D, Vaccines and Consumer, that could meet the compliance and reporting needs of all regulatory authorities, including Japan.

The solution chosen was to build the system using a tried and tested core application that could be configured to our needs. The advantage of a COTS (configurable off the shelf) application is that the development costs are reduced and it has a greater chance of being updated over its lifetime. Despite this, it was still a huge undertaking to configure the system for our total portfolio and for every country.

Additionally, the project was faced with the challenge of moving from a 17-year old system and bringing together multiple business units, different ways of working and many different reporting requirements into a single, global process.

Thanks to the tenacity of the team, the excellent support of the Steering Team and the valuable input from the business units, OASIS went live in 2014 over a weekend to every single business unit in every country.

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Case study: Collaboration

Collaboration tools are one of the most visible uses of technology and remain a source of frustration for users. Yet they are essential for our business. Feedback from R&D confirms that these tools are complex to use and not as reliable as they need to be.

R&D IT has put in considerable efforts to improve the collaboration service to R&D in the past two years. In 2014:

- We ran a concierge service to help users with Live Meeting. Over 500 points of contact were made, with a 99.1% satisfaction rating from users

- We offered face to face and virtual training on the use of collaboration tools, with more than 800 participants taking part

- We distributed nearly 8000 headsets to R&D users to improve the audio experience

- We re-equipped 40 meeting rooms with audio and video devices to better support the use of Live Meeting

- CBS rolled out Immersive video across GSK to improve and standardise videoconferencing

We have seen some improvement in the services delivered, but there is more work to do as we still receive VOC about these tools.

We continue to seek improvements and to simplify IT in the eyes of R&D with a keen focus on collaboration. We have a solid plan moving forward that we believe gets at the heart of the issues. We have the full support of the R&D Ops Network & will be leveraging the R&D Ops Exec as our Steering Team. R&D IT is prepared to heavily invest in simplifying the collaborative environment in 2015, including:

- An initiative to simplify the team site environment

- Plans on how best to restore presence awareness

- Support to help R&D migrate off Lotus Notes

- Plans to upgrade office products to Office365

- Bringing collaboration into the IT change Summary for R&D

2300 NA/UK CBS meeting and event venues

c100,000 virtual team meetings every month

c15,000 video conference calls & 88 web broadcasts in 2014 (47,671 total views)

52,000 users on Yammer

24,000 Teamsites & shared documents
122,000 SharePoint users

Over 60,000 shared files, and 130,000 U: Drives

7500 Lotus Notes database still active

147,000 Mailboxes
80,000 mobile devices accessing email

27,500 instant chats daily

1850 external collaboration sites

Partners in innovation

The provision of IT within a large organisation is often built around processes that ensure the business maximises its ROI, captures full requirements, executes them with full compliance and delivers to the highest quality. The delivery of even the smallest project can take months.

Sometimes, we need to experiment. Sometimes, we are not sure of the requirements until we understand the technology. How can we use the technologies to solve business problems?

R&D IT has responded to the need to keep innovating has been by setting up the new integrated analytics team. The approach has been a “seek”, “incubate”, and “industrialize” strategy as the engine of innovation for integrative analytics.

In 2014 we initiated 38 proof of concepts to test out the abilities of integrated analytics and to better understand the scientific challenges faced by R&D. Examples included:

- Contextualization of Real World drug use through social media monitoring
- Detection of financial transaction patterns that are out of compliance with ABAC guidelines
- Generating safety predictions by assessing the risk of potential hazards associated with targets and compounds

The bitter CERPS pill

The ultimate goal for CERPs is to provide GSK with a single, simple way of managing our core business processes – from finance to resource planning – that will enable us to operate efficiently according to our values. The reality over the next few years means that users will have to use a new system (with the inevitable glitches) and will have the pain of dual systems.

2014 saw the first phase of CERPs for all users in the UK and Ireland, including over 3,500 in R&D and a further 600 affected in the US. The scale of CERPs is far reaching – it touches just about everything we do in GSK.

R&D IT had to assess the impact on R&D users, the work and the interaction with other IT systems. For users, there are new ways of managing vendors, raising purchase orders, even doing expenses. All this had to be factored in with other IT changes. There are over 600 R&D cost centres and around 4,500 studies that were affected, with users raising over 1000 purchase orders every month. All these had to be reflected in the relevant IT systems.

8 R&D IT systems had to be modified to cope with CERPs and a further 5 were decommissioned to enable the launch in October 2014.

All this has laid the ground work for the next stages of CERPs as it is rolled out over the next two years. Users across GSK, including R&D, will have to get used to new cost centres, new purchasing processes and the glitches that come with any new system. Worse than that, we will have to use multiple systems in parallel as we migrate to CERPs. R&D IT is doing all it can to reduce the inevitable pain.

Case study: Library

The Library offers GSK employees access to thousands of journals and scientific literature at their desktop and on their mobile devices. In a typical year, about 2M articles are downloaded by 40,000 users across GSK. The service also delivers more than 11,000 documents by request within 48 hours from sources not licensed by GSK.

The Library Service continues to optimise costs, improve access and enhance search capabilities.

In 2014 the service made considerable progress in a number of key areas:

Developing and delivering mobile and tablet access

The mobile access was extended in 2014 with eBooks and Databases added to the 4000 ejournals already available

Working on text analytics to improve searches

We completed a pilot and expect to deliver an enhanced service in 2015

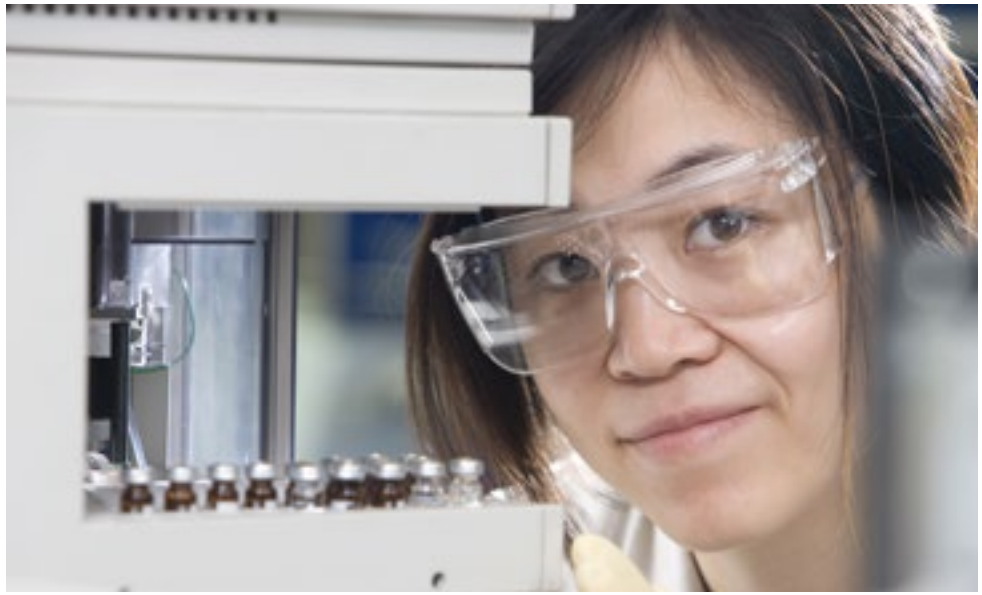
Exploring free sources

In addition to our subscription databases and ejournals we have started to offer open access resources. We plan to expand our open source collection as increasingly credible free sources become available.

The service will continue to develop in these areas over the next five years. By 2020 the aim is to make the Library available to anyone, anywhere, using any device with an improved user experience and with more free sources.

“ Tried the mobile library out this morning on the new public WiFi. Works brilliantly! This will be incredibly useful.”

Asia Pacific



Approximately 10% of R&D employees are based in Japan and China. R&D IT has small collocated teams focused on ensuring they get optimum IT support. These teams partner with their US & UK counterparts to ensure that applications and services effectively meet any local market needs. For example, as OASIS went live it was designed to meet the specific regulatory needs in Japan and the team in China are partnering to extend Discovery solutions for effective management of instrument data.

"We receive excellent assistance from our local IT team; they have a great understanding of our needs and help champion the best solutions from other IT staff. We have seen IT capability continue to improve in Tokyo"

- Kihito Takahashi, VP Development & Medical Affairs Div, RD Japan.

"The team is proactive in reaching out and has good understanding of our business needs, supporting us in an environment of significant business challenge, operation simplification and enhancement of efficiency"

- Xiaoming Guan, VP, Head of Neurodegeneration DPU

Initiative: deliver more value more quickly

Projects are the lifeblood of our business, enabling the delivery of systems and capabilities to the R&D organisation. When listening to our customer and with a continued focus to maintain our alignment to the R&D goals we have taken steps to tune our delivery approach.

Taking industry thinking and looking closely at our portfolio we have focussed the year on improving the speed we deliver value back to R&D whilst maximising the return on investment, increasing business benefit and maintaining a high level of quality.

R&D IT made a commitment in 2014 to ensure our projects deliver more value, more quickly while retaining high customer satisfaction.

Through this initiative, we set ourselves ambitious targets of:

- Doubling project benefits delivered
- Reducing the time to deliver
- Maintaining a high level of customer satisfaction

Despite these challenging targets, we exceeded our expectations and will adjust our goals for 2015 to continue delivering more value, more quickly.

	Target	Actual
Double benefits	100%	120%
Reduce time	60% delivered in 6/9 months	>90% delivered in 6/9 months
Customer satisfaction	50% positive	78% positive

Delivering More Value

When we look at **D**elivering **M**ore **V**alue to R&D the focus has been on **Benefits**. The R&D community had a huge demand for systems and services from IT. This year we have worked with our R&D colleagues to focus delivery on the selection of the right projects to maximise the financial return on investment and deliver maximum benefit with the funds available, “doing more for less”.

Delivering More Quickly

We set the target for projects to deliver bundles of value in chunks of no more 6 or 9 months dependant on tier. We approached this by placing an emphasis on being “execution ready” with a number of elements that help with the planning and preparation leading to gate 2. This enabled us to deliver the right benefits more quickly with increased confidence.

Achieve customer satisfaction

To ensure we are able to hear our customers and respond to their needs we also put a number of measures through the delivery lifecycle that ensured R&D IT monitored the quality of delivery and proactively managed customers’ expectations by continuing to seek VOC and maintain that **High level of Customer satisfaction.**