



Background

Since moving into its iconic home on the South Bank of the river Thames in 1976, the National Theatre has been one of London's major cultural hubs. The instantly recognisable building, designed by Sir Denys Lasdun, houses three of the capital's most important auditoriums: the 1100-seat Oliver, the 900-seat Lyttelton and the 450-seat Dorfman. They are cocooned in a labyrinth of public spaces - foyers, terraces, restaurants, bars and educational venues as well as backstage areas including dressing-rooms, production workshops and administrative offices.

The educational venues are an important part of the recent 'NT Future' refurbishment, and the production workshops enable the theatre to produce the majority of on-stage items such as props, scenery, costumes, firearms etc in-house.

The building and theatres are open to the public between 0930 and 2300 Monday to Saturday, and whilst the theatres are closed to the public on a Sunday, the commercial ventures are open 1200-1800 on Sundays.

The theatre also has outposts nearby at The NT Studio, used for rehearsals and development. The NT Studio is located next door to The Old Vic Theatre, where The National Theatre began. Further afield in Brixton, the costume and props hire store can be found.

It is a challenging environment for the facilities management team, who are responsible for keeping the estate operating practically around the clock, whilst reacting as quickly as possible to any events which might disrupt operations – particularly anything likely to affect performances.

The National Theatre has an in-house team of maintenance engineers to carry out PPMs, daily routines and reactive maintenance, with a duty rota ensuring that there is always a mechanical and an electrical engineer on-site to cover operations outside conventional office hours.

Traditionally, PPM was largely paper-based, with tasks grouped on a monthly basis and handed out to engineers on docket. But by 2009, the focus had become more reactive, with efforts dedicated to keeping the building running rather than being based on a strategy of clear recording and management. PPMs had started to fall by the wayside.

Sebastian Powderham-Rattan, Facilities Assets and Projects Co-ordinator, joined the theatre's facilities team in the same year. The drive for change first emerged in 2011 when, as part of the theatre's Environmental Masterplan, a new boiler room complete with a combined heat and power unit was commissioned, and it became clear that a fresh approach was required to take back control of PPMs and, as Sebastian says, "Bring the archaic paper systems into the 21st century."

This turned out to be a long process, which eventually led to the decision to invest in a CAFM system capable of supporting what he calls the "mammoth task" of bringing the theatre's facilities and asset management strategy up to date - including the mobilisation of the engineers.

After a six-month tendering and selection process, the choice came down to two suppliers. In March 2015, FSI's Concept Evolution was selected because of the supplier's flexibility on pricing, which freed up vital budget for additional work on data gathering.

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"It meant we were able to put more into working on PPMs for the entire building - and ultimately get more out of the system we were investing in," says Sebastian. "Both systems met every one of our requirements but as a registered charity, cost is something we always need to address. The selection process took a long time but ultimately, the effort we put into choosing the right system has been rewarded."

The Challenge

The first three months of the project were spent collecting data for PPMs – effectively, starting from scratch – before handing it over for populating Evolution in June. After training and acceptance testing, the system was implemented in October 2015.

"Data collection was a challenge for us," says Sebastian. "We wanted to make sure we were only inputting good data. At the same time, the main issue that concerned me was end-user take-up. Our engineers had been using paper since day dot and were understandably set in their ways. Working with tablets and being mobile was a significant new thing."

To soften the challenge of change, the engineers were heavily involved throughout the data gathering and implementation phases. Workshops gave them the chance to spot changes that would make the system more comfortable for them to use.

"Their participation in the continuous running and testing of the system was a main factor in its successful implementation," Sebastian explains. "I was really surprised by how quickly they took it up and accepted changes to their processes that were alien to them. The role they played in helping me to get the project through each stage was outstanding. I think the important thing is that they don't see Evolution as a system imposed by management. It's been developed with them and for them, so now it's just like another spanner in their tool bag."

Business benefits

The National Theatre initially purchased Concept Evolution and the mobile platform FSI GO out of the box. To begin with, Sebastian decided to run the system on a reactive basis so that the engineers could get used to it and provide feedback on any issues, which were then handed back to FSI for action.

"Because we're an in-house team, we don't work to SLAs, so the early benefits emerged in terms of specific information gathered from the management of reactive calls to the help desk," says Sebastian.

"For example, we already knew we had an issue with blocked toilets - the last thing you want in a public building of this scale. So we ran some reports on Evolution between October and December 2015 and were able to identify the extent to which paper and hand towels were causing the problem, and what it was costing us in terms of contractor call-outs. That information led us to finding a supplier of products which contain an enzyme that breaks the paper down in water and helps prevent blockages."

Within a month, reactive blocked toilet calls were reduced by half, cutting contractor costs and freeing engineers to focus on other tasks.

Gradually the PPM module was rolled out across the theatre, drip-fed to the engineers so they were not overwhelmed by a sudden addition to the reactive workload. 1,400 PPMs are currently in place, distributed via tablet alongside reactive and ad hoc tasks.

The Projects module was added. Its management and control features suit the theatre's 'do it in-house' approach that is applied as much as possible across the estates management function.

Another key benefit has come from the partnership between the theatre's facilities team and FSI itself, which has enabled a quick response to requests for system changes, and demonstrated the vendor's ability to qualify requirements.

"They know how the system works in a real-life facilities environment, and that each one is unique," says Sebastian. "They can respond to our individual requirements rather than imposing a universal model. Their focus is on getting the system running to see if anticipated requirements are even necessary - or if there is a function already in place that can solve the problem. They see the reality for us as a customer, rather than just the pound signs of the sale."

The future

Work continues on the theatre's roll-out of Concept Evolution and FSI GO, and adjustments to workflow and email notifications alerting stakeholders to rejected tasks have already been made. Thanks to engineer feedback, the team is also making some changes to work processes, allowing end-users to attach documents and streamline the communication trail around each task.

"We are also testing Concept Reach [FSI's light, web-based interface for non-technical users] on our commercial operations team with the aim of allowing them to self-manage maintenance requests rather than having to put them through the Help Desk," says Sebastian.

"We are now looking at managing our contractors through Concept Connect (FSI's portal to Concept Evolution), and that will be the next leap forward," Sebastian adds.

"The complexity of the theatre, with variable performance running times and opening hours, means that contractors can turn up to deal with tasks at times when we can't accommodate them. Using the system to correct this, via an 'authority to work' permits scheme we have devised, will improve efficiency for everyone.

"Other areas of the theatre's operation are interested in the system's ability to help with budget control, particularly when it comes to asset replacement costs – whether a basic part replacement will avoid a wholesale revamp, for example. Technical departments have stage assets that get relocated, for example. They can reside within the main Concept database, but with selective visibility only to those who manage them.

"I'm confident that having got this far, we'll be adding more modules in the future. We're letting the system grow with us, and not running before we can walk. But already, it has entirely changed the way we work."

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