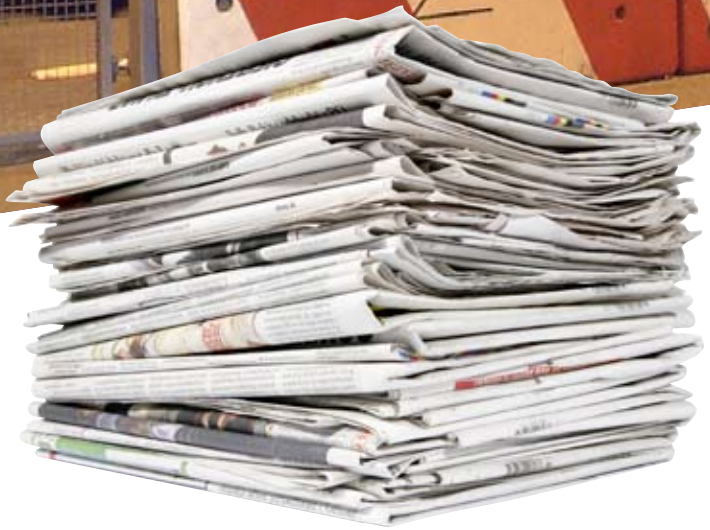
ENERGAIR CASE STUDY



HS FACILITIES
NEWSPRINT SITE

HS Facilities employs an integ system to manage compressed air one of the UK's largest newsprint s

Industry specialist HS Facilities Management is responsible for the entire mechanical and electrical maintenance requirement at one of the UK's largest and oldest newsprint facilities, managing and reporting 24/7 on a site that produces over 20 million copies per week. An essential element in delivering this service is access to clear real-time visualisation, feedback alarms and constant performance monitoring of the extensive compressed air system, provided by a bespoke EnergAir compressed air management system.

In all, the facilities team are responsible for over a megawatt in generating power and have used the EnergAir system to maximise efficiency and establish detailed reporting on the 24hr printing operation. The compressed air management system is used in the daily management of the site to control and synchronise eight compressors in two locations using wireless comms and four variable speed drives, it has also been used to minimise downtime during system overhauls, maintenance and repair.

Mr. Eddie Warren, Senior Facilities Manager on site for HS Facilities comments, 'this is large-scale print production site and the facility has to be run both efficiently and effectively; to this end we provide a 24hr continuous facilities management service and over the last five years have also managed three major upgrades to the compressed air generation system, with the aim of ensuring seamless production on demand.'

'The upgrades were carried out in three phases - starting with the installation of the first retrofit variable speed drive alongside the first EnergAir compressor management controller and stage one of the PC visualisation software. After that we soon realised that the EnergAir software provided us with the perfect tool for effectively tracking and monitoring the complete upgrade process, not only that, but it would go on to form the basis of our day-to-day management procedures for the compressed air generation and distribution system.'

The air demand on this site is substantial as many of the paper printing, folding and insertion processes involve the use of compressed air to power automation equipment or manipulate the papers. It also fluctuates greatly as individual print runs start and finish frequently throughout the day and night.

One set of air compressors that had reached the end of their service life used comparatively rudimentary control equipment simply geared to maintaining system pressure and we knew this needed replacing. Subsequent upgrades included the installation of four new CompAir L250 compressors, a corresponding number of external variable speed drives (VSDs) and two fixed speed CompAir L160s to help manage the base load. The new equipment also provided the opportunity to roll out an effective control and monitoring system, able to match air generation closely to demand and run the system as efficiently as possible.

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Eddie Warren, 'As the new equipment came online we were able to iron-out any teething troubles quickly and easily without it impacting on the plant; a classic example was a warning to tell us that one of the new compressors appeared to be operating at full load and not delivering any air – an efficiency warning – we inspected the machine only to find out that there was a fault on a solenoid valve. Without the monitoring capability on site it could have been a month before the inefficiency problem was recognised, and then there would be a long list of possible causes to check before it was narrowed down even to one compressor.'

The compressors are installed in two separate locations supplying a single ring main at one site-wide system pressure. The more remote compressor house has a wireless data connection to HS Facilities Control Room where the monitoring and management takes place, the compressors and VSDs are hardwired to EnergAir SX management controllers via EnergAir I/O and Comms boxes. EnergAir equipment is also used to monitor the air dryers.

The data is fed back to the site facilities offices where it is recorded and processed, a complete live picture of the compressed air system can be called up by several of the site managers on their own PC workstations. There are also a range of individually tailored alarm messages triggered by the system operating outside of set performance parameters; they range from fundamentals such as overall system pressure fluctuations and compressor availability to dips in generating efficiency and service intervals for compressors and dryers.

Eddie Warren, 'our responsibility is to ensure continued plant uptime and efficient operation, in order to deliver that the facilities team has to act before a potential problem becomes an actual problem, it shouldn't have to happen for us to know about it. Because the data is updated every few seconds and the information we see on the screen is virtually live, the visualisation and alarm system allows us to identify an issue immediately and act upon it - fault finding on an old and complex site such as this can be a daunting task if you haven't got the item already pinpointed, so when an issue is flagged up and we can go straight to it, it makes the plant far easier to manage and allows us to deliver a fault-free service.'

EnergAir Regional Manager Pete Tomlins comments, 'The complete compressed air system, from compressor, through to the dryers and out across the plant is represented visually on screen in a Windows XP environment, with key indicators such as system pressure and efficiency displayed clearly on screen as analogue style dials. Through a series of SCADA style screens, the operators can drill down and check on the performance if individual compressors, set threshold alarms for performance variables, schedule servicing and maintenance tasks and crucially see the effect any changes made have on the system immediately. Using EnerSoft – Analysis data manager any of the Key Performance Indicators (KPIs) can also be tracked over time and reported on at fixed intervals.'

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