compound management

When insourcing becomes more cost efficient and more flexible than outsourcing

Introduction

Outsourcing has, for a long while, been thought to be cost effective allowing a company to focus on the things it is best at but more recently there has been a shift in opinion on this.

A recent 2014 survey reported that although 32% of Biopharma companies plan to outsource a business process or function in the next 12 months, 17% are planning to insource previously outsourced work, which is more than the average across all other industries (PwC 17th Annual Global CEO Survey 2014). GSK and Eli Lily are two pharmaceutical companies that have invested in insourcing and have proved this to be a more efficient strategy. GSK report that insourcing has simplified the supply chains, made more efficient use of their facilities and created better control over all processes.

One of the reasons insourcing has become a more viable and cost effective option for a company is advancing technology including automation systems that require less dedicated personnel to run them. In the case of compound management, automated storage systems linked to highly accurate liquid handling robots and sophisticated tracking and sample management systems can create a leaner business model without the need to outsource!

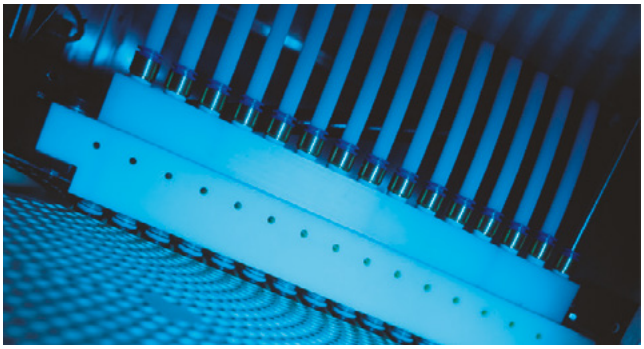
Here we present an example of how SPT Labtech's automated robotic equipment has helped Lundbeck, one of the biggest pharmaceutical companies in Denmark, specialising in brain diseases, to insource their primary and liquid stores of compounds and become more cost effective and flexible in the process.

Novel ways to create a leaner business

Lundbeck set out to increase organisational efficiency and promote a high-performance culture. The original business model was based onoutsourcing primary and temporary liquid stores to CROs in the USA and China. These would store and dispense the compounds and manage the delivery of screening plates. Although this appeared to be a good business model, several challenges were experienced that included communication issues, access to QC data, lack of flexibility, no backup of stocks and high costs. There were also logistical limitations with liquids being stored in the US with most being shipped to customers in Denmark and China along with the difference in time zones. The aim was to simplify the current operations, reduce delivery times and cost, and increase output and quality with no increase in personnel. The two key processes to consider were delivery of compounds and creating plates of less than 45,000 compounds (low technical support) and more than 45,000 (high technical support) as well as storage of the main liquid collection.

key points

- Insourcing creates a successful leaner business model
- Efficient automated processes are essential to make insourcing cost effective
- Selecting the correct company with reputable customer service and support can make all the difference.



Inside comPOUND: Pneumatic technology is used to store and distribute samples via unique high density carousels

Key considerations for change in strategy

Time, money and quality are three aspects that are essential to consider in providing a leaner business model. A faster turnover time in several geographical locations with different time zones can be logistically difficult and needed to be addressed. It was also important to remain in control of operations such that quality and consistency was maintained. In addition the best use of IT and personnel resources was considered. Appropriate training must be provided and management of workload considered increasing the motivation of staff.

A hybrid operating model

Various scenarios were considered that involved various percentages of outsourcing to CRO's. A hybrid-operating model was chosen that insourced about 50% of its processes including all the primary liquid storage of compounds. A CRO remained in China that would create large data sets (more than 45,000 compounds) from mother plates, deliver to the Asian biology partners and serve as back up for the liquid collections outside of Denmark. The second research site of Lundbeck in Paramus, NJ, USA remained as temporary liquid store for the US research projects only (Fig 1).

Automated workflow the SPT Labtech way

SPT Labtech was able to provide Lundbeck the complete solution to managing the large numbers of primary liquid compounds in-house. Not only were the compounds stored in several linked comPOUND repositories but also access to these compounds was managed using SPT Labtech's robots that decapped and recapped microtubes and the mosquito HTS liquid handler which dispensed the compound from mother plates (Fig 1). The choice of mosquito has enabled Lundbeck to deliver fast replication of the mother plates using nanolitre dispensing. Assay-ready plates are delivered with positive and negative controls incorporated into the screening plate using the same replication protocol."comPOUND has been an integral part of our successful restructuring aided by the incredible support that the engineers and sales staff of SPT Labtech have provided to Lundbeck. We installed all equipment and were up and running within 48 hours", remarked Ludovic Otterbein, Head of Compound Management and Analytical Chemistry, Lundbeck, Denmark.

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The impact of change

SPT Labtech's automated workflow system has proved to be successful in creating a leaner business model for Lundbeck. This model has reduced picking and pilot screening times by fivefold and the initial investment will be cost neutral in four years and generate savings thereafter. Automation has also provided an accurate method to miniaturise compound collection and thereby saving compound while increasing the diversity of our output with no increase of FTE.

Lundbeck, Denmark – primary liquid and solid store

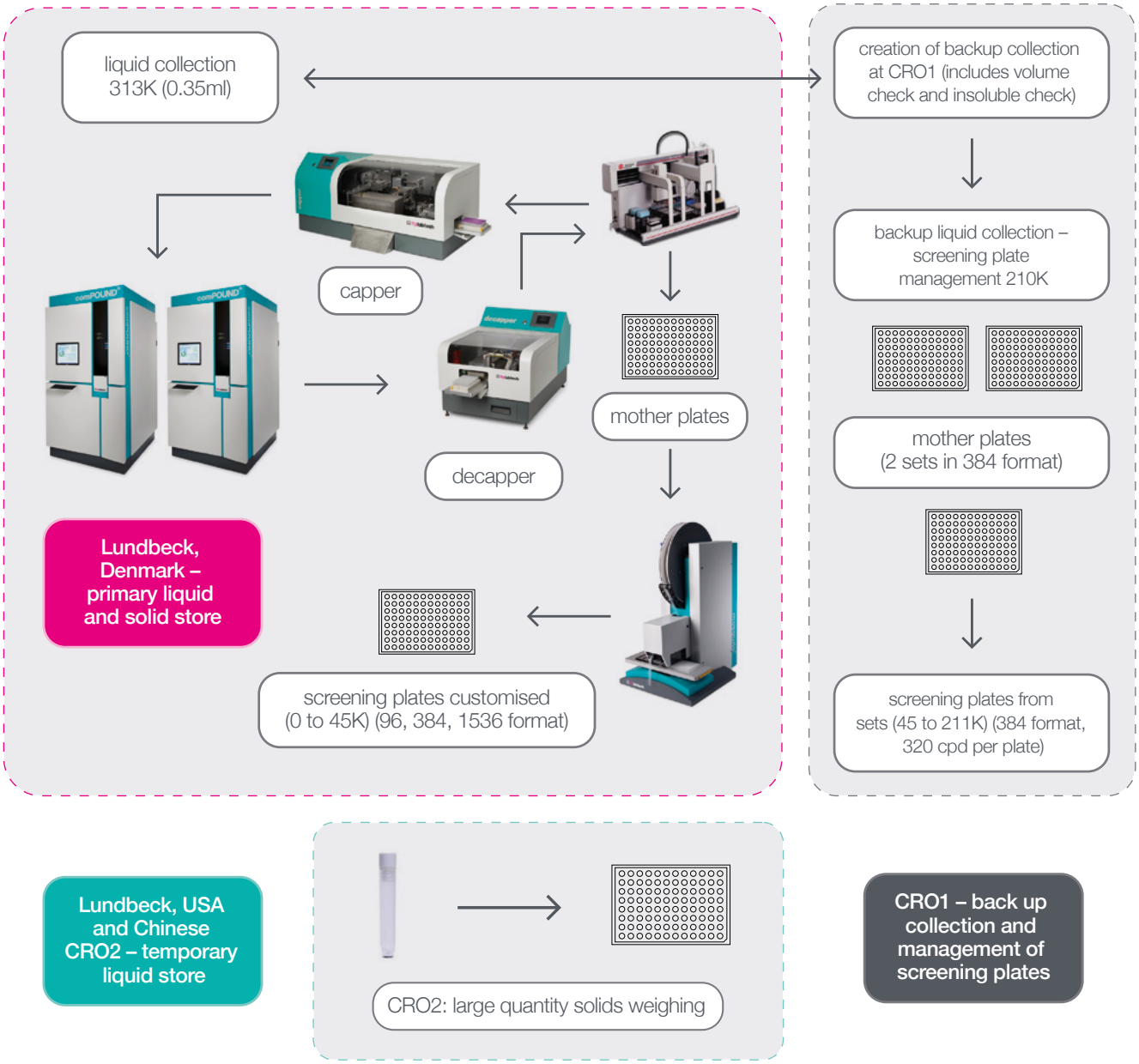

Fig 1 Lundbeck's compound management workflow incorporating SPT Labtech's comPOUND -20°C automated freezers for storing the compounds, decapper/capper* for processing the sample vials and mosquito HTS for dispensing the sample compounds (illustration provided by Lundbeck).

*The capper/decapper shown here are legacy instruments, with alternatives available in the market, including the SPT Labtech AutoCap for workflows using screw caps.

get in touch

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