CSols Ltd

Improving laboratory efficiency

CSols Ltd produces software that improves efficiency in analytical laboratories (especially in and around data). In particular, their expertise is with laboratory resources (instruments, robots and data systems) and how to optimise their effectiveness within the wider lab environment. The Runcorn-based company’s KTP has resulted in software entities, called nDrites, which allow a dramatic improvement in the cost of producing software applications that will revolutionise laboratory efficiency.

“We have a really good understanding of the process of conducting developmental projects in collaboration with industry. KTP provides an excellent mechanism for supporting such collaboration.”

Professor Frans Coenen, Academic Supervisor, University of Liverpool

“The CSols KTP has been great for the company, helping it expand its product line and business; great for the University, where our applied work has made a huge contribution to our REF impact – and great for our Associate, who has gained first class experience of transferring knowledge from academia into a business.”

Professor Katie Atkinson, Lead Academic, University of Liverpool

Overview

CSols works in the business sector of analytical laboratories that test everything from coffee and water to drugs and blood. They produce software that improves the efficiency of such labs.

Much of the work in these organisations is performed by laboratory resources such as intelligent instruments, robots and data systems. However, what is clearly high tech laboratory equipment frequently operates without connectivity and interoperability and this is hugely damaging to overall efficiency. Managing Director Phil Goddard links this situation to how other organizations were being impacted by the computer age.

Accessing and extracting value from laboratory data creates the opportunity for CSols’ Laboratory Software Applications – or LabApps, for short.

“The value of lab-based data is worth an estimated $1tr a year. That is the prize. If we get only 0.0001% of that, there’s some incredible value. We knew it was complex – not just technically, but in terms of business and organisational complexity.”

Phil Goddard, Managing Director, CSols Ltd.
The global laboratory market is huge – the value of its data output is estimated at $1 trillion every year – but is hampered by data being generated inefficiently, and the value extracted from it poorly. This is largely due to a lack of appropriate lab apps, which are traditionally too expensive to create at the required level of functionality. CSols’ managing director, Phil Goddard, says ‘it was obvious to all of us that the level of software utility and penetration apparent in other industries isn’t available in labs.’

CSols’ KTP challenge was to develop the technology to allow LabApps to interact with laboratory resources, regardless of manufacturer or type, so that – instead of operating in isolation – they could operate optimally in the wider lab – producing dramatic operational and financial benefits. Its vision was of laboratory resources fitted and shipped with this new software technology thereby allowing each piece of equipment to network via a ready-to-use interface, connecting it with the wider world.

During the KTP project, CSols has – alongside academics from the University – built entities it now calls nDrites, which act as software wrappers for a variety of pieces of equipment found in labs, including analytical instruments and lab resources like robots and data systems. nDrites are LabApp enhancers and perform two real time functions for lab resources – firstly extracting any data from the laboratory resource, and secondly facilitating any control instructions that might be necessary.

In developing nDrite technology, the KTP has also optimised the ability of existing and new CSols LabApps to work with nDrites, increasing the market for them. Alongside CSols’ own potential to create and monetise LapApps, it will encourage other companies to develop them, selling more nDrites and maximising incomes streams, while broadening the ‘virtuous cycle’ of improvement in the industry.

As a result of the KTP, CSols is working across multiple initiatives, having successfully illustrated the commercial logic of nDrite- powered LabApps. It has improved the performance of its existing LabApps by using nDrite Technology, made LabApps cheaper than they would otherwise have been, and developed new apps which will be significant sellers over the next decade.

As a result of the KTP, CSols has also set up several other companies working on LapApps (Dendrite Labs and CSols Labs) and a company (XLabs) that is focussed on providing software and services to LabApp companies.

Each LabApp requires at least one nDrite to operate; so each time a LabApp is sold the nDrite market grows a little bit further. CSols already has significant (more than £1M) sales of nDrites and associated nDrite-enabled LabApps. However the real value in these are in their lifetime earning potential. So for example, ten key LabApps in development or in current plans will have a lifetime IP value of £1bn+. There are hundreds and perhaps thousands of commercially compelling LabApps that become possible as a result of nDrites.

For the academics working with CSols, the success of the KTP has been marked; developing the impact arising from their research, contributing to the wider impact agenda and helping them shape impact case studies ahead of REF (Research Excellence Framework) 2021.

CSols has sold more than £500,000 of nDrites and nDrite enabled LabApps as a result of the KTP, forecasting a further £2,255,000 in the next three years through selling new LabApps, nDrites and IP, alongside increased sales of existing LabApps.