

The many benefits of lab automation technology

Author: Inez Cornell | Date: Oct 25, 2016



The pressure to produce your results while often juggling your time between projects and dealing with budgetary constraints can make labs a stressful place to work!

But it doesn't have to be that way because nowadays technology can help ease the pressure, so you can enjoy the pleasurable side of lab work.

Here are just some of the benefits you can get from lab automation technology:

Increased productivity

Let's face it, lab work can involve some tedious tasks which can detract from the more stimulating ones that got you excited about science in the first place.

Luckily, lab technology like robotics and automation software, can help you automate manual tasks and free up time for you to focus on your other priorities. You might even finally be able to read those papers that have been stacking up!

Robots can automate repetitive tasks like hand labelling and microplate handling, while liquid handling can be automated using motorised pipettes and syringes.

Lab automation software can also save time by enabling you to standardise and control your work flow easily. It allows you to put together your experimental set up just once, then reuse the same schedule for subsequent experiments.

Automating tasks means you can program machines to carry out tasks while you are away from the lab. So you won't have to dash into the lab at the weekend just to keep things ticking over, or worry about down-time every time you're away.

You can also make more effective use of your time by multi-tasking, since you'll be able to run several experiments at once. You'll also have more flexibility to work around your day's schedule, so you won't have to miss meetings because you're tied to your lab bench.

Working collaboratively with others who are using the same software will be simpler too because you'll be able to share your results easily. In some cases, you'll even get your results in real-time.

More reliable results

Ever been excited by a result, only to realise you can't repeat it because it was probably down to an error? It's frustrating but we've all been there! That's why being able to improve the repeatability and consistency of your results can make lab automation technology an invaluable addition to your lab.

You'll be able to precisely control the conditions and setup of each of your experiments, so there'll be less room for human error and you can have more confidence in your results.

As your whole process will be easier, you'll have more time to run several experiments to test and verify your results. Data collection will be simpler because you won't have to record everything manually. The software will do it automatically and to a greater degree of detail, so you'll have a wealth of data at your disposal. The software will even make the analysis easier by presenting the data in a visual format, so it's easier to interpret and share.

Safer working conditions

Lab automation software can minimise the risk of accidents by using a number of innovative features. You can set safety limits for your experiments, so the software automatically steps in to shut down your reaction when these are exceeded.

It can even give off warning alarms when there's risk of an accident. Unlike humans, software won't make dangerous mistakes because of tiredness or stress either!

Saving money and space

Lab automation technology is now very user friendly and requires minimal training, so you don't have to spend money on using a specialist for routine tasks. The time you gain back can be used for the truly skilled work that only you can do.

If all this sounds like an expensive solution, then think of the savings the technology will help you make. You'll be able to save money by cutting down on waste as the technology will help you use your reagents more efficiently. Lab automation technology has also become more affordable in recent years, making it easier for small labs to enjoy the benefits too. You'll find that the software more than pays for itself by the return on investment that you'll receive.

Concerned you don't have enough space? You can choose lab automation software that only takes up the space of a computer screen, so it can easily fit on a benchtop.



Radleys AVA Control Software

Radley's state-of-the-art lab automation software AVA has a number of clever features:

- Control temperature, stirring, external additions, pH control and more
- Automatic tracking of actions, so they're easy to repeat without creating recipes
- Easy schedule setup and the ability to efficiently change features such as the mass, stirrer speed, run time, temperature and number of steps
- Safety features such as audio and visual alarms, safety feedback loops and the ability to set up emergency safety conditions to initiate reaction shutdown when sensor limits are exceeded
- The option to control up to four parallel experiments

Find out more about [Radleys AVA software](#) and read how it has helped others in our [case studies](#).