

Industry Report

The data dividend: What you should really expect from your lab equipment service companies

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A leading exponent of the Internet of Things and digitisation attended the September meeting of the GAMBICA After Sales Group to explain how to adapt to the 4th Industrial Revolution and substantially improve services to clients. He offered simple steps, using simple connectivity to produce dramatically better outcomes.



With the a global research and advisory firm Gartner predicting 20 billion Internet of Things (IoT) enabled devices installed by 2025, information from connected devices is certain to change the way we do business. One of the biggest opportunities already available to users of lab equipment from this 4th industrial revolution is in reducing unplanned downtime of your critical equipment.

“If you can say: We think your car’s going to break down within a week - but if you bring it in, we will fix it before it leaves you stranded beside the motorway - that’s a very powerful message to your customers. Same thing with a blood refrigerator,” said Charles Joel, an independent IoT Business consultant at the last Gambica After Sales Group.

Unfortunately, according to Charles we are currently in ‘The curve of disillusionment’ when it comes to digitisation: we’ve all glimpsed what may be possible, but we’ve also identified how difficult it is to achieve in practice.

Reassuringly, in order to make a big difference to the quality of service offered to clients, lab supply companies can start small and build out.

Very basic telemetry systems are now being routinely installed in equipment which boots up as soon as the machine is turned on and sends the manufacturer key information. The data generated can be surprising, for example indicating that equipment is not installed in the country it was supposedly destined for or is in a very hot or marine environment – with all that this implies for frequency of maintenance or likelihood of a need for replacement.

By adding very minimal monitoring to this basic location information, lab tech companies can identify problems long before they result in breakdown of the equipment. For example, by recording how long equipment is running and running at load, it is possible to identify the most appropriate servicing periods rather than relying on a default 2000 hours or one year yardstick. By adding temperature monitoring you can do more.

“Essentially, if you have a blocked filter, you will be tipped off by a temperature difference, and you can move quickly to address the issue before the equipment breaks down.”

A further refinement is to monitor energy consumption. Even though older equipment is often so robustly made that it will continue to work for many years, its energy use can be very much greater than with newer more efficient models. For some clients this will be a very important consideration.

Clearly by getting the right servicing regime and preventive maintenance in place, lab equipment users can avoid equipment breakdowns impacting on their quality, productivity and efficiency, so many are already demanding these services but there are a few issues to consider.

Who owns the data?

Not everyone buys direct from the manufacturer, and what happens if you have a trusted distributor who you use for all your equipment, but who is being bypassed by information which is going straight back to the Original Equipment Manufacturers (OEMs)? And what if you have already automated or part automated your lab - who

will take responsibility for the interfaces?

It’s becoming very clear that the lawyers will have a big part to play in this 4th Industrial Revolution, but GAMBICA members building-in telemetry are working closely with their distributors to ensure that whoever manages the equipment servicing can provide the best outcome for clients.

Making sure that the data generated is handled appropriately has come right to the top of the agenda in the light of the recent financial penalty being meted out to PriceWaterhouseCooper for a very technical breach of the General Data Protection Regulations. PWC had recorded the wrong justification for the way it handled staff data, and although its processing was perfectly legal, this glitch in the paperwork resulted in a stinging fine for a blue chip company who might have been expected to be good at technical compliance.

So clearly keeping on the right side of these regulations will not be easy, and all the parties will need to be very clear on who owns the data generated by these systems.

You may already be seeing changes to the terms and conditions attached to the purchase of new equipment, as many firms will no longer supply equipment without telemetry. Normally, the data is the property of the client, in its raw form, but if you want it interpreted then this may be offered as a paid-for service by the equipment manufacturers.

“There may also be a role for distributors in monitoring and maintaining whole systems, not just the refrigerators, but the air handling units, filters etc. This will require data analysis skills which will have to be bought in or developed,” says Charles.

It is certainly true that there is projected to be a major shortage of data analysts in the future as firms of all types struggle to get the maximum benefit from their data.

Even GAMBICA members have experienced problems with digitisation. Having put in place a project to digitise some of their offering, one found themselves with so many data options that no-one could agree what was most important. Data analysis became a blockage because they couldn’t deal with all the information they were getting and as a result the potential of the project was not realised.

Charles started his career as an engineer in the air force and has worked on ‘remote’ systems for Severn Trent water, on tracking systems and connectivity in cars and for IBM delivering their Industry 4.0 strategy. He has a refreshingly down to earth appreciation that things that can go wrong, often will.

“Even in new technologies, 0.5-3% will fail in the first year. That means that these connectivity devices, although they are relatively simple and cheap, will also fail, and we need to take that into account when thinking about servicing and maintenance regimes.”

If you work for a lab tech supplier, don’t forget there are many invaluable services available from GAMBICA including meetings such as the one Charles spoke at. You can contact me on Jacqueline.balian@gambica.org.uk