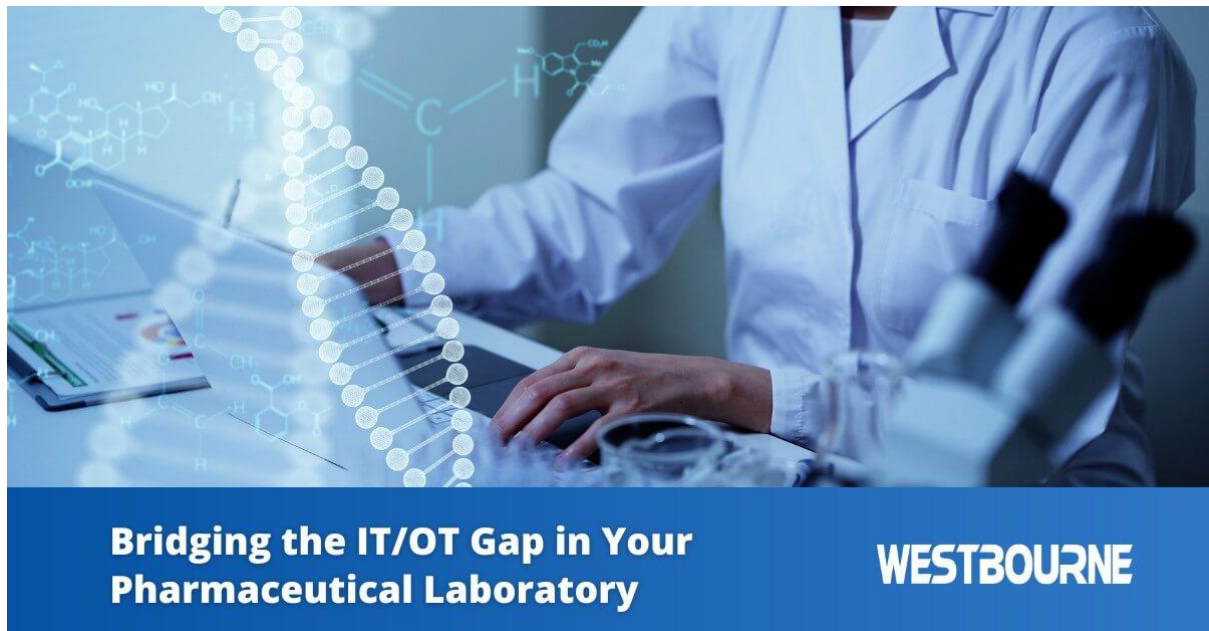# There's an IT/OT Gap in Your Pharmaceutical Laboratory. Here's How to Bridge It

Bridging the IT/OT Gap in Your Pharmaceutical Laboratory

WESTBOURNE

Digital transformation is on the agenda for all pharmaceutical companies as the option of standing still simply isn't viable. Staying competitive, ensuring ongoing compliance, increasing profitability, and delivering on customer/patient expectations all require continuous improvement and modernisation. That means the digital transformation of pharmaceutical companies, including in laboratories, but there is a problem – the IT/OT gap.

The IT/OT gap is a bit of technical jargon that describes a situation that exists in almost all pharmaceutical operations. It's a situation that has real-world consequences that include:

- It is more challenging (and sometimes impossible) to achieve digital transformation goals.
- Modernisation projects and projects to implement new technologies or systems run over budget and take longer than necessary.
- The productivity and efficiency gains that are possible with modern systems, equipment, and technologies are severely restricted.
- Processes for data management, processing, and retrieval remain inefficient with a lack of accuracy and completeness, exposing your organisation to regulatory, legal, commercial, and reputational risks.
- Critical business processes and functions are held back so they can't achieve their full potential, from day-to-day laboratory tasks to supply chain management to product R&D to operational oversight and decision-making.

Let's move on from the consequences of the IT/OT gap to explain what it is, why it exists, and how you can bridge it.

What is IT?

IT stands for information technology. It covers the data management systems and technologies used for business operations. Examples include ERP (enterprise resource planning), CRM (customer relationship management), and SCM (supply chain management) systems.

What is OT?

OT stands for operational technology and includes the systems and equipment used in your manufacturing facility that monitor and control physical processes. Examples include PLCs (programmable logic controllers), SCADA (supervisory control and data acquisition), DCS (distributed control systems), and HMIs (human machine interfaces).

The IT/OT Edge

There is another sub-category of systems that don't fit as neatly into the above definitions, so are often described as being at the edge of IT and OT. Lab examples include LIMS (laboratory information management systems) and CDS (chromatography data systems), while MES (manufacturing execution system) is a plant-level example.

These systems bring the IT/OT gap into sharp focus while also helping to bridge it.

What is the IT/OT Gap?

Traditionally, IT and OT systems existed and operated independently. The tech-speak we like to use is siloed. These IT and OT siloes are usually managed by different teams and there is minimal, if any, connection. That worked okay for many years and decades, but new technologies, best practice standards, regulations, and commercial expectations are making siloed IT and OT operations increasingly inefficient and, often, both restrictive and ineffective.

As a result, there is a need for (jargon alert!) IT/OT convergence. IT/OT convergence is where IT and OT systems are integrated, breaking down IT/OT siloes and narrowing the IT/OT gap. Data is at the centre of IT/OT convergence, where data can flow between IT and OT systems.

How Do You Bridge the IT/OT Gap in Your Pharma Lab?

There is no one-size-fits-all solution to bridging the IT/OT gap, but central components include:

- Defining your objectives and how you will measure success.
- Integrating equipment and systems.
- Making decisions on your software stack based on IT/OT convergence considerations.
- [Establishing robust data integrity standards](#) and protocols.
- Standardising communication by adopting a common and open protocol.
- Harmonising processes to improve productivity.
- Upskilling and reskilling staff to enhance in-house digital capabilities.
- Ensuring ongoing data and system security with robust cybersecurity controls.

The Bridge

A crucial component of bridging the IT/OT gap is working with the right partners. In fact, the right partner can even become the bridge between IT and OT in your organisation, especially in terms of technical support and project implementation.

At Westbourne IT, we have specific experience in bridging the IT/OT gap in pharmaceutical laboratories because of our unique combination of [general IT skills](#) and pharmaceutical technology skills and capabilities. We are equally at home working on projects and providing support for LIMS and CDS platforms as we are on cybersecurity, IT network, or ERP optimisation projects.

The digital transformation of your pharmaceutical laboratory, including bridging the IT/OT gap, is a process over time. Get in touch with us today to discuss how we can support your next steps.