How **track and trace technology** can improve pharmaceutical profitability

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We have written a lot recently about how track and trace technology can be utilized as a means of fighting pharmaceutical forgers.

We have also covered the underlying reasons behind the rapid acceleration serialization solutions as a way of answering the increasing legislative requirements introduced by governments across the world as a way of combatting these fake medicines.

However, although both of these are vital factors, there is also another major benefit of investing in the latest track and trace technology – it will allow many manufacturing businesses to increase their efficiency margins. This usually correlates to increased profitability – gold dust for all businesses.

It can be easy to shy away from this. After all, it is a bold assertion that the technology we deliver can help the profitability of our clients. Furthermore, although track and trace technology can play such an important role when it comes to the healthy bottom line of a company, it can often be easy for bosses to overlook its potential when having to concentrate on a million other pressing company concerns.

Therefore, let us briefly examine how track and trace technology and the changing face of serialization solutions can present a major opportunity to those companies looking to radically overhaul their systems in the name of profitability.

Operational efficiency

As with all business sectors, pharmaceutical firms are on a constant quest to streamline their operations and increase efficiency. Never has this been so important as today's challenging environment, with companies increasingly having to fight against a fluctuating economy, rocky global financial markets, and a seemingly never-ending cost-of-living crisis.

However, for those firms who are looking to streamline their operations as a direct result of these "bigger picture" pressures, the timing is right to seize the opportunities open to them.

Done correctly, this will allow them to benefit in multiple ways, all based around increasing both efficiency and profitability. These are down to factors including having a high degree of confidence in quality control, reducing lost shipments, increasing customer satisfaction, and enhancing vendor and supplier accountability.

The importance of Industry 4.0.

We are sitting on the cusp of Industry 4.0. – an era that is providing those firms still reliant on old, antiquated systems with a golden opportunity to completely overhaul them.

It is this approach that will enable track and trace to really prove its credentials as a bone fide business streamlining tool.

After all, we already know that Industry 4.0. is changing the pharmaceutical sector almost beyond recognition. Once only possible for international blue-chip corporations, robotics are becoming much more affordable and available to organizations of every size. From picking products at a warehouse to getting them ready to ship, autonomous robots can quickly and safely support manufacturers.

Likewise, we will see distribution centers that will use autonomous cranes and trucks to streamline operations as they accept shipping containers from the ships.

The smart factory has already become a reality – and will establish itself even more as time marches on. As a result of the support of smart machines that keep getting smarter as they get access to more data, the global pharmaceutical sector will need to become much more efficient and less wasteful.

This is where a watertight track and trace system will really shine. It links together the essential components that modern pharmaceutical businesses need to thrive. These components include operational shop floor efficiency, greater warehouse automation, generating more data which will further optimize the supply chain, and creating customer engagement through product identification.

From the center to the edge

Many pharmaceutical companies were, until recently, reliant on a "traditional" computing set-up, one built on a centralized data center.

However, is this good enough for modern times when huge amounts of data need to be sent, 24/7? Arguably, no. Companies have suffered major operational issues resulting from bandwidth limitations, latency issues and unpredictable network disruptions. And, as we all know, downtime usually correlates to a loss of production – which can lead to late delivery, disappointed customers, and business disaster.

This is why we are seeing a move to Edge computing – a distributed IT architecture in which client data is processed at the periphery of the network, as close to the originating source as possible. It shifts the focus from the central data center to the logical edge of the infrastructure -- taking storage and computing resources from the data center and moving those resources to the point where the data is generated.

The principle is straightforward: If you can't get the data closer to the data center, get the data center closer to the data.

The impact of this new-edge technology on the pharmaceutical track-and-trace sector is already huge – and is set to grow even more. It will power automatic, time-sensitive supply chain processes in warehouses, factories, and manufacturing facilities. These processes will lessen the need for human management and create optimal outcomes while eliminating the risk of error due to manual processes.

One way that edge computing will drive the process will see the addition of a scanner with a mobile application supporting the handling of serialized products across the supply chain and within warehouse operations. It will run on commercially available devices deployed at the warehouse, packaging, and other operational facilities.

The product will provide complete visibility across the global supply chain. This, combined with the ability to connect with multiple Enterprise-Level (Level 4) serialization repositories, Warehouse Management Systems (WMS), and Enterprise Resource Planning (ERP) solutions, will complement the valuable investments made within existing solutions.

Furthermore, new-edge technology will sit behind the rise of smart robots that are poised to transform warehouse operations even further. Indeed, Gartner predicts that 75% of large enterprises will have adopted some form of smart robots in their warehouse operations by 2026 as they search for flexible automation.

Intelligent digital maintenance

The most up-to-date serialization solutions incorporate a host of technologies designed to save businesses some of the most common costs in the long run.

As an example, advanco's ARC Shop Floor includes updates that are intelligent and automatic, incorporating predictive maintenance, condition monitoring and remote diagnostics. Such an approach is vital for overall equipment effectiveness because it keeps hardware and software running efficiently and minimises the need for downtime when it comes to uninstalling, and reinstalling, plug-in system "boosters" to keep equipment running perfectly.

Conclusion

Track and trace technology is becoming increasingly high on the agenda for multiple companies.

Yes, for many reasons including the satisfaction of increasingly stringent regulatory requirements for the pharma sector, it needs to be seen as an important topic. However, it can also be a direct enabler of company profitability – something that no CEO or MD will turn away from.

For those who need to learn more about the power of serialization solutions, now is the time to act. With Industry 4.0. presenting a golden opportunity for systems to be overhauled, and with the challenges of fake medicine being ever-present as an issue we must all address, track and trace systems are suddenly becoming a lot more popular – for a multitude of reasons.

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