



# Optimizing Life Science Production:

## Mission Critical Edge Computing for Life Sciences

SOLUTION BRIEF



### Mission Critical Edge Computing for Life Science Production

In the life sciences industry, production processes must meet stringent regulatory requirements and quality standards. Mission critical Edge Computing can help life science companies to optimise their operations and ensure product quality. By incorporating Edge Computing into their production processes, life science companies can improve real-time monitoring, increase process efficiency, and reduce the risk of production disruptions, enabling them to deliver high-quality products and meet their mission-critical production goals.

### Overcoming Challenges

- Compliance
- Integration with legacy systems
- Data management
- Security
- Scalability and flexibility
- Data Governance
- Maintenance and support
- Reliability

### Benefits of Mission Critical Edge Computing

#### Real-time monitoring and control

Edge Computing allows for real-time monitoring of production processes, enabling manufacturers to quickly identify and address any issues that may arise. This can lead to increased efficiency, reduced downtime, and improved product quality.

#### Predictive maintenance

Edge Computing allows for the analysis of sensor data from equipment, predicting when maintenance is needed and preventing equipment failure.

#### Enhanced data security

Edge Computing allows for the processing of sensitive data closer to the source, reducing the risk of data breaches and ensuring that sensitive information remains protected.

#### Increased automation

Edge Computing can enable the automation of many tasks, such as monitoring and control, allowing for greater efficiency and consistency in production.

#### Cost savings

By bringing computing power closer to the source of data, Edge Computing can help reduce the need for expensive and complex data storage and processing infrastructure.

#### Offline processing

Edge Computing allows for offline processing, which can be very useful in case of production systems, as it ensures smooth operation even in case of network outages.



Protecting critical operations at the edge, where speed and efficiency meet.



## Use Cases for Edge Computing

**Real-time monitoring of fermentation processes:** Edge Computing can be used to monitor the conditions of fermentation processes in real-time, such as temperature, pH, and dissolved oxygen levels, enabling manufacturers to optimise conditions and improve product yield.

**Predictive maintenance of equipment:** Edge Computing can be used to analyse sensor data from equipment, such as centrifuges or chromatography systems, to predict when maintenance is needed and prevent equipment failure.

**Real-time monitoring of environmental conditions in cleanrooms:** Edge Computing can be used to monitor environmental conditions, such as temperature, humidity, and air pressure, in cleanrooms, ensuring that conditions are optimal for the production of biologics and other sensitive products.

**Automated quality control:** Edge Computing can be used to analyse sensor data from production processes, such as images or spectra, to automatically identify and flag any products that do not meet quality standards.

**Smart logistics and supply chain management:** Edge Computing can be used to track the location and condition of products as they move through the supply chain, allowing manufacturers to optimise logistics and improve the efficiency of their operations.

**Automated inventory management:** Edge Computing can be used to track inventory levels and reorder products automatically, reducing the risk of stockouts and improving the efficiency of operations.

## Not all Mission Critical Computing Platforms are Equal!

Our secure, rugged, highly automated computing solution delivers redundant virtualised industrial applications quickly and easily, improving productivity and reducing risk.

- Integrated virtualisation and availability
- Redundant server design
- Automated protection and recovery
- Industrial interoperability
- OT maintainability
- Health monitoring and full managed support



## About Stratus

Stratus ensures the continuous availability of business-critical applications for the most demanding environments. For over 40 years, we have provided reliable and redundant zero-touch computing, enabling organisations to turn data securely and remotely into actionable intelligence at the Edge, cloud, and data center – driving uptime and efficiency.

### Our Service offering:

- System design and sizing
- Proof of Concept and testing
- Full solution stack deployment
- Site commissioning
- Education and certifications
- Full managed services and asset management

Expand your knowledge.  
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