

## Manufacturing

# Quality control on a production line

Reduce your quality control time from a few minutes to seconds with edge computing.

### Quality control: one of the biggest stakes for manufacturers

One of the greatest challenges for manufacturers is to guarantee quality in automated production lines.

Manual Visual Inspection is very costly and time-consuming for manufacturers; however, it is a priority to improve efficiency, reliability and safety, customer satisfaction, safeguards your reputation and reduce risks.

Today, most companies all quality control processes are operated by humans.

Processes are facilitated by the implementation of sensors, which let control regain over the production quality.

However, the full potential of data to leverage business isn't accomplished.



# Quality control on a production line

## How can Edge Computer Vision enhance quality control?

### Take advantage of your IoT data for quality control

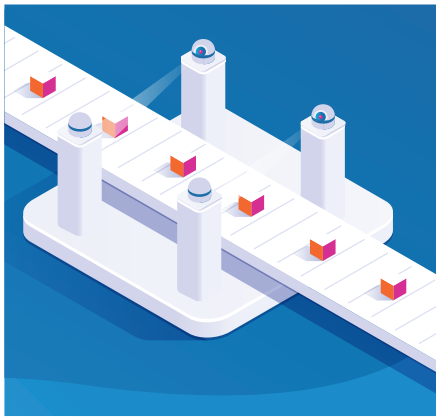
BullSequana Edge offers significant benefits to improve quality control procedures:

- **Analyze high volume video data**

The installation of a camera tunnel requires very high computing power to analyze large volumes of video data in real time. Indeed, cameras scan products at 360 degrees, which produces 1GIGA BITS of data per minute.

This type of analysis from workforce would be extremely costly and time-consuming.

Edge computer vision uses deep learning algorithms to analyze video data flows, using the computing power of the BullSequana Edge.



- **Decide in real time**

Real-time decision speeds up the production process. BullSequana Edge allows you to obtain information on a defective product 22x faster. Here, critical lead times on quality control chains are optimized 24H 7/7.

- **Secure data locally**

Intrusion detection and data encryption systems protect your data from external threats.

- **Reduce costs**

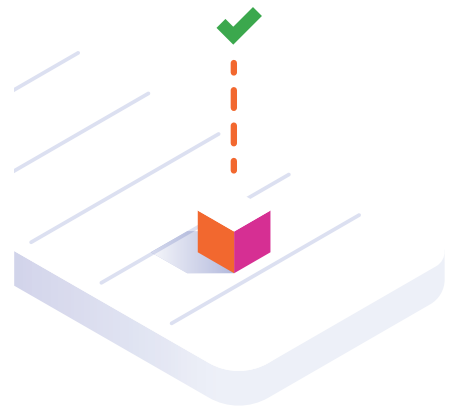
Data storage and analysis cost in the cloud is significant for high volume and complex data. Thanks to local and autonomous storage and analysis, BullSequana Edge allows lower costs. Data is sent to the cloud for mid-long term storage and monitoring.

### Deploy BullSequana Edge in any type of plant environment

To make the best local decisions, you need to have local information. BullSequana Edge is optimized to operate in complex environments (dust, extreme temperatures, unstable grounds, etc.), which makes it possible to analyze video streams from multiple cameras locally. Our product can be safely placed in the middle of the plant. Our server can be placed in rack to ensure physical protection, cooling, early fire detection and power distribution. It offers you the possibility to have a remote and safe data container in the middle of the production line.

## Meet higher customer expectations with BullSequana Edge

To monitor the quality of the production process, such parameters as equipment calibration, machine conditions (speed, vibration, etc.) and environmental conditions (temperature, humidity, etc.) are monitored to identify when they go beyond the normal thresholds. BullSequana Edge enhanced by Edge computer vision alerts product defect in real-time. Powerful deep learning algorithms identify the source and nature of an issue, triggers an alert and recommends a mitigating action to fix or tune the machine and minimize the production of low-quality products. BullSequana Edge ensures real-time production monitoring and helps significantly improve quality, increase yield and minimize downtime incidents.



## Other use cases in Manufacturing



### Improve worker's safety

6.7 injuries per 100 workers in the United States in 2017.

- Ensure compliance with safety standards
- Prevent workplace accidents.



### Maximize production throughput

20-40% of handling costs could be reduced (R. Berger).

- Reduce the overall production time of manufacturing a product
- Increase productivity.



### Maximize equipment downtime

\$10M/year turbine savings from reduced downtime.

- Failure detection
- Reduce downtime
- Increase production.



### Drone inspection

90% of a company's inventory is stationary in the warehouse and many companies carry excess inventory because they don't know what they have or where it's located.

- Able to monitor stocks in bins
- Able to count inventory boxes for reconciliation.