

NEXONAR WORKING WITH FORVIA FAURECIA TO IMPROVE QUALITY CONTROL AND FLEXIBILITY DURING AUTOMOTIVE SEAT ASSEMBLY



HIGHLIGHTS

Industry

Automotive seat manufacturing

Products

))) nexonar RTLS (real-time location system)

Country

International

Challenges

-))) Minimize the risk of missing tightening screws
-))) Wireless system to increase the flexibility of operation
-))) Precise system to detect screws 10mm from each other
-))) Real-time response to support high duty cycle/leather

Solutions

))) nexonar RTLS integrated with wireless nutrunners

Background

Faurecia, a FORVIA Group company, is at the forefront of automotive seating manufacture and supplies its products to many premium automotive OEMs. Like most Tier 1 suppliers, FORVIA Faurecia is contracted to meet exact quality and safety parameters and is subject to financial penalties if any seat assembly is found to be sub-standard.

For some safety critical applications like airbag or cushion backrest marriage, there are multiple screws that are close to each other. If not managed correctly, one missing screw is a very serious issue at the OEMs, or even turn to be a potential life-threatening accident.

Rigorous quality control during seat assembly not only has a direct impact on the company's profitability and reputation, but also is critical for ensuring driver and passenger safety.

THE CHALLENGE

To improve their manufacturing processes, FORVIA Faurecia initially adopted a solution based on reaction arms with encoders to control the position of the fastening points. However, by 2017, it became clear that this approach was not delivering the accuracy and flexibility required to meet their production goals. The reaction arm was becoming a hindrance on the production line, limiting the movement of the operator and slowing down operations.

Moreover, the mechanical play in the positioning arm made it extremely difficult to detect screws that are close to each other.

With duty cycles of 40-50 seats being produced per hour, any delay in the transmission of positioning data would render the control of the location/position useless.

In order to address these challenges and optimize their operations, FORVIA Faurecia sought out a more advanced and reliable real-time location system (RTLS) solution that could provide them with the precision and agility they needed to improve quality control and enhance their production capabilities.



THE SOLUTION

As the most advanced technology of its kind available, nexonar was introduced to Forvia Faurecia.

The solution uses infra-red (IR) technology and proprietary software to monitor the precise location of assets on the assembly line.

The IR trackers are easily adapted to different types of tools, and operator apparels such as gloves or wristbands. They are monitored wirelessly using IR cameras installed on the line. Seamless integrated within assembly process meaning that it is not possible to progress to the next step unless the parameters at each stage have been met. This reduce the possibility of errors and delivers the best possible quality.

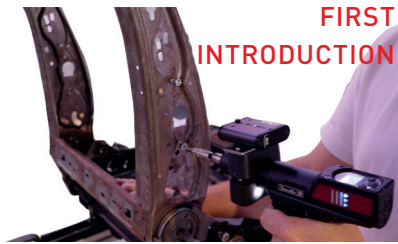
The ultra-high frame rate of up to 163Hz offered by nexonar's real-time location system enables the precise management of location data in real-time, supporting the high duty cycle required in modern production environments.



THE JOURNEY

Trials at several different plants to prove that nexonar would meet its production requirements. The results from the trial were then presented to the company's senior management team for final sanction and received their approval.

nexonar's cutting-edge technology is undeniably impressive, but what truly sets them apart with competition is their unwavering customer focus. With a startup mindset and a relentless drive for innovation, nexonar is dedicated to finding effective solutions that address the unique challenges faced by their clients, such as FORVIA Faurecia. Through continuous improvements to their system, including the use of laser systems for moving lines, higher resolution and wider field-of-view cameras, and seamless integration with nutrunners, nexonar has empowered FORVIA Faurecia to optimize their production processes, enhance their quality control, and achieve greater overall performance.



THE BENEFITS

Using infrared technology means no cumbersome positioning arm to worry about, operators also have greater accessibility to the tightening area. This delivers improved flexibility and means the company can reconfigure its assembly lines far more quickly in response to changes in customer demand.

nexonar's advanced technology excels even in the most challenging applications, such as side airbag assembly, where it can accurately distinguish between screws spaced just 10mm apart.

The on-screen instructions provided by the nexonar system are entirely visual and can be universally understood, which reduces training requirements for any FORVIA Faurecia plant around the world.

Following the successful trial at different plants, the solution has been rolled out to FORVIA Faurecia sites globally. Operators in the US, Portugal, Spain, France, Germany, Eastern Europe and China are now using the same, universal solution to achieve consistent high quality and error-free tightening of the safety-critical joints during seat assembly.



CUSTOMER VOICE



“ The nexonar solution gives our operators the guidance they need to reduce significantly quality issues in our seat assembly operations. Even better, it has provided us with a universal solution that can be deployed quickly and easily; not only within an individual plant, but across our global operations. This gives us the flexibility to respond rapidly to market demand, making optimum use of our plant and our people.

Joel Dias
Process Specialist,
FORVIA Faurecia



“ Our partnership with nexonar dates back to 2017, and since then we have collaborated closely with them to provide added value to our key customers. With a shared customer-centric approach, we have leveraged nexonar’s cutting-edge technology to enhance our Desoutter ecosystem, enabling us to deliver even more comprehensive solutions to our customers. By incorporating nexonar into our group, we can enhance our ability to ensure the success of our customers.

Yohan Verdon
Vice President,
Desoutter

nex)))onar

We can see more!



Speak to our team to
discuss your options

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