

Autoliv and Webstep partner to achieve significant savings and improve safety with AI-powered app

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In December 2021, Autoliv's Chief Data Officer (CDO) requested a dedicated group of data scientists for a new project starting on January 1st, just a month away. Autoliv needed to act quickly to find the right partners to help the new team grow and deliver on time. After comparing various consulting firms, it became clear that Webstep was the one that could deliver the required quality regarding solutions for component manufacturing while ensuring the project's deadlines were met. Autoliv engaged Webstep to help build its data science team and achieve its goals.

Challenge: Achieving the impossible

Autoliv has a clear vision – to save more lives and prevent serious injuries. That pursuit boils down to the quality of their components and their manufacturing process as the world's leading automobile part supplier.

Besides the key challenge of achieving higher quality in their production, Autoliv also wanted to find new innovative ways to drive efficiency while testing components, with the goal of cost reduction. All this needed to be done while adhering to the industry's rigorous safety standards.

After initial meetings together with Webstep, it became evident that an automated process in the production line was the way forward with the goal to increase efficiency and minimize manual labor.

These were the main challenges in building a custom solution together with Autoliv:

- 1 Wrong installation of automobile parts in a early stage can halt production speed
- 2 Assembling a large team of data scientists, frontend and backend developers in less than one month

- 3 Developing an AI model that could identify specific components serial numbers, batches and other automobile parts
- 4 Developing an app that could be used by employees in a simple way, right in the production line for testing and verification
- 5 Implementing new technologies across the entire product line after successful tests



Honestly, I thought it would be impossible to meet our demands. But the extremely competent team that Webstep put together (and so quickly too) delivered POC, finished prototypes with a demo and an app already in an early stage. That was enough for me – it gave me complete confidence in their team, says Magnus Magnusson, Head of Advanced Analytics at Autoliv Global

Solution: Autoliv Service App-- transforming the Auto Industry

Webstep worked together with Autoliv to create, Service App, a tailored technical solution for their business needs. To meet these needs we combined our experience in data and custom development by creating an expert team consisting of data scientists, data engineers, frontend developers and machine learning engineers, all working closely with Autoliv using an agile methodology during the entire project.

How Webstep helped Autoliv:

Together with Autoliv, Webstep built a complete app solution for iOS, Android, and Windows smartphones that was integrated with an advanced computer vision algorithm. The purpose of the solution was to identify a serial number based on the picture and, with the machine learning algorithm, validate the status of the component on the picture. Personnel could receive guidance through the application to validate the status of different components.



Our AI model - more than meets the (human) eye

At the heart of the solution lies a truly unique object detection model with powerful AI. This model was built during tedious testing cases, a long training period, thorough analysis, as well as field testing. The result? A model with a whopping 99-100% accuracy (!).

Webstep's and Autolive's AI-model can find the exact location of the components during production. And with its hyper sensitive technology, it also acts as a smart supervisor - even detecting what the human eye cannot.



The app solution Webstep created for Autoliv is a game changer for the whole industry, says Magnus Magnusson, Head of Advanced Analytics at Autoliv Global.

Cross-device & platform app, powered by AI

App development was adapted to Autolivs work flows and tailored to their devices used for scanning in the production line. Opting for a service-in-the-cloud-alternative seamlessly allowed the integration of the AI-model on all devices, operating systems and in Autolive's distributions systems. The app interface offers an easy-to-use work experience for Autolive's personnel, acting as a guide, both regarding training and following safety protocol.



The team we've had onboard has been excellent. They've delivered on time and even ahead of schedule. Throughout the entire process from start to finish, their expertise has been top-notch. It's been reassuring to have such competence and good project management on our side, says Magnus Magnusson, Head of Advanced Analytics at Autoliv Global

Results: Achieving higher quality and significant cost reduction

After a successful testing period, Autoliv released Webstep's app solution to over 4 000 employees in North America. Autoliv personnel now have the comfort of using a handheld device that easily detects serial number and accurate location of components directly in production. Webstep provided testing, and further development all the way to app release (including ongoing support) to ensure the highest success rate possible.

Key business results:

- 1 Significant savings.** Websteps' solution has already resulted in significant savings for Autoliv, a figure that continues to grow by the day. Return and replacements of automobile parts and components saw a dramatic decrease once Autoliv started using Websteps Service App in their service centers.
- 2 Quality assurance and technological leap.** Autoliv has achieved a quality assurance close to 100% in their service centers, heightening their reputation as the world's leading and safest automobile part supplier. At the same time, the Autoliv has also taken a massive technological leap within the company, laying the foundation for future solutions.
- 3 A cost effective solution.** Working with Webstep in creating a custom solution proved to be extremely cost effective and profitable, greatly exceeding estimates made during POC and project planning.



I would not hesitate for a second to recommend Webstep to any large industrial companies that may need various solutions. Moreover, Webstep has become so well-known internally at Autoliv that our American colleagues constantly ask for and recommend their services in different projects, says Magnus Magnusson, Head of Advanced Analytics at Autoliv Global.

About Autoliv

Autoliv, a Fortune 500 company based in Stockholm, Sweden, is a leading Tier 1 automotive supplier that specializes in the development, manufacturing, and marketing of airbags, seatbelts, steering wheels, and passive safety electronics. With over 67K employees in 27 countries, Autoliv has 14 technical centers globally, including 19 test tracks, making it the largest automotive safety supplier worldwide. Moreover, the company invests significantly in research, development, and engineering, with 5700 employees dedicated to these activities.