

Expertise: Production Development

Industries: Manufacturing

# Automated bearing production at the heart of a Black Factory



## Overview of the partnership

**Partners:** A global industrial company and Consat Engineering.

**Objective:** To develop a fully automatic assembly machine for roller bearings – a key element in the digitalised production of the future.

Through a close and long-term collaboration, Consat and a global industrial company have taken automated bearing production to the next level. Together, they have developed an advanced assembly machine that forms the heart of the customer's fully automated Black Factory – a facility that now serves as a model for future plants across the group.

The partnership has been ongoing for more than two decades and is built on trust, technical curiosity and a shared commitment to innovation. What began as smaller design assignments has grown into a strategic collaboration in automation and special-purpose machinery.

When the customer wanted to take the next step in its digital production development, the company turned to Consat to design and build a fully automated assembly machine – a solution that would automate the most complex stage of bearing production.

### A pragmatic partner

For many years, Consat has supplied technical services, special-purpose machines and production solutions to the company. The collaboration is defined by a pragmatic approach with frequent reviews, shared responsibility and open communication.

**“When you enjoy working together, you want to keep doing business together. It’s a mutual trust that has developed over many years,”**

**Lars Olsson, Manager Engineering Services at Consat**

The project around the fully automatic assembly machine was managed entirely in-house by Consat. The work included feasibility studies, mechanical and automation development, programming, testing and installation – all carried out in close collaboration with the customer's engineering teams.



## Challenge

To automate the assembly of roller bearings with exceptionally high demands on precision and repeatability.

## Solution

Consat developed a fully automatic assembly machine with up to 80 servos, robotics and vision systems integrated into the customer's digital production flow.

## The challenge

Automating the assembly of roller bearings represents a major technical milestone. The process demands extreme precision – the rollers must be placed exactly without damaging surfaces, and each motion must be perfectly synchronised.

Previously, parts of the assembly had been performed manually, leading to longer cycle times and a risk of variation. The move towards full automation introduced completely new requirements for technology, multidisciplinary expertise and close cooperation between mechanics, robotics and vision technology..

## The solution

Consat developed a fully automated assembly machine in which 60 to 80 servos work in synchrony with robots and vision systems to assemble bearings without any manual intervention. The machine is built on a modular design that combines robustness, precision and reliability.

The development work began with a feasibility study identifying technical risks and critical challenges. This was followed by an extensive engineering phase with regular joint reviews to address challenges quickly and ensure the highest possible quality.

Three complete machines have so far been delivered to the customer's Black Factory – a plant that operates entirely automatically, with every step of the production flow digitally connected from component input to finished product.



## Key outcomes

- Greatly reduced assembly times
- Higher and more consistent quality
- Three fully automated machines in operation at the company's Black Factory

## Summary

- The company wanted to automate the assembly of roller bearings in line with its production strategy
- Consat developed a fully automatic assembly machine
- The project included feasibility studies, mechanical, software and robotics development
- The result is the core of the company's Black Factory – a model for the factories of the future

## The result

The machines now form the core of the company's Black Factory, which is frequently highlighted as an example of modern, automated manufacturing. The automated assembly has significantly reduced cycle times, improved quality and made the process completely independent of manual handling.

**“It’s a facility they often showcase to visitors and the press. They are very proud of it – and we’re proud to have contributed to the result.”**

Lars Olsson, Manager Engineering Services at Consat

## Value-driven innovations

The project demonstrates how long-term partnerships and cross-functional engineering expertise can lead to solutions that move entire industries forward. The company's Black Factory exemplifies how Swedish technology and close collaboration can be turned into world-class production.

“It requires close collaboration. The customer owns the process, and we need to understand and adapt to it. That’s when the results are at their best,” says Lars.

## Contact us

Would you like to learn more about how we can support your operations with value-driven automation and production development? Contact us, we'd be happy to tell you more or arrange a meeting.