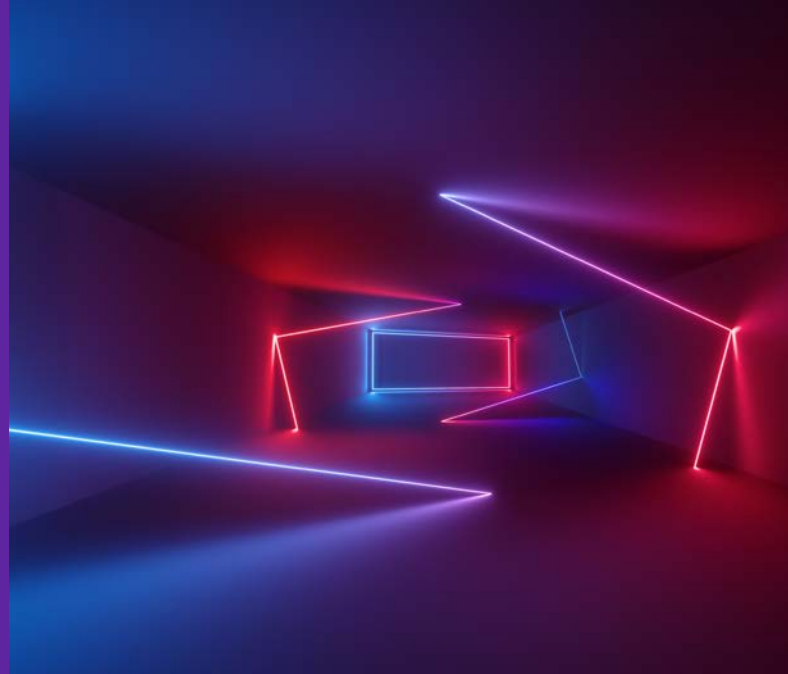


## Production line automation for high-precision optical systems

Case study



Client:

World's largest supplier of photolithography systems for the semiconductor industry

Technologies and tools:

Siemens s7 1500 V15.1

Tia Portal multi user, SCL, FB

iDevices, Profibus

Scout 5.2 Advanced

Pro Agent, Pro Diag

SCADA, WinCC OA



Flexible resource model allowed our engineering team to develop code



Ability to provide highly skilled experts in the required niche technology

## Challenge

Our client is the world's leading machinery manufacturer for production of integrated circuits and at the forefront of the chips production technology progress. Its solutions are based on high precision optical systems developed in partnership with another major manufacturer of optical systems, industrial measurement and medical devices.

The client was looking to automate a very complex assembly line, with special clean room requirements for the metrology of high precision mirrors used for focusing EUV light. The required precision was in the order of picometers thus the complexity of the system was extremely high. The client approached Luxoft to assume ownership of the design, implementation, validation and commissioning in the production of various automation modules for safety, cooling and robot handling.

## Solution

Luxoft provided end-to-end services: Design, implementation, validation, commissioning and documentation. We assembled a flexible mix of off-site and on-site teams to work on the PLC programming side of the command-and-control chain for the assembly line, within one of the world's largest clean room environments.

The Luxoft team designed and implemented the PLC logic, using their expertise in Siemens S7500 PLC programming and advanced knowledge of IEC61131 languages such as structured text, function block diagram and sequential function chart (Siemens S7 Graph). In addition, our on-site team performed the lab validation and commissioning in the client's clean room environment.

# Results

- A flexible resource model allowed our engineering team to develop code nearshore while providing validation and commissioning services on-site, ensuring competitive costs while adhering to a strict policy of high-quality delivery
- The ability to provide highly skilled experts in the required niche technology area helped the client make significant advancements with the project in a much shorter timeframe
- The Luxoft teams added schedule flexibility to development and integration by arranging work shifts to ensure access to critical shared resources
- Enhanced the software system for the new production line by rearchitecting and integrating third-party solutions

# Technologies

- Siemens s7 1500 V15.1 (incl. Safety Advanced)
- Tia Portal Multiuser
- SCL
- FB
- iDevices, Profibus
- Scout 5.2 Advanced
- Pro Agent
- Pro Diag
- Siemens Sinumerik 840D
- SCADA
- WinCC OA

## About Luxoft

Luxoft is the design, data and development arm of DXC Technology, providing bespoke, end-to-end technology solutions for mission-critical systems, products and services. We help create data-fueled organizations, solving complex operational, technological and strategic challenges. Our passion is building resilient businesses, while generating new business channels and revenue streams, exceptional user experiences and modernized operations at scale.

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