



**silver atena**  
an expleo company

**WIND POWER ENGINEERING**

## YOUR PARTNER FOR FUNCTIONAL SAFETY

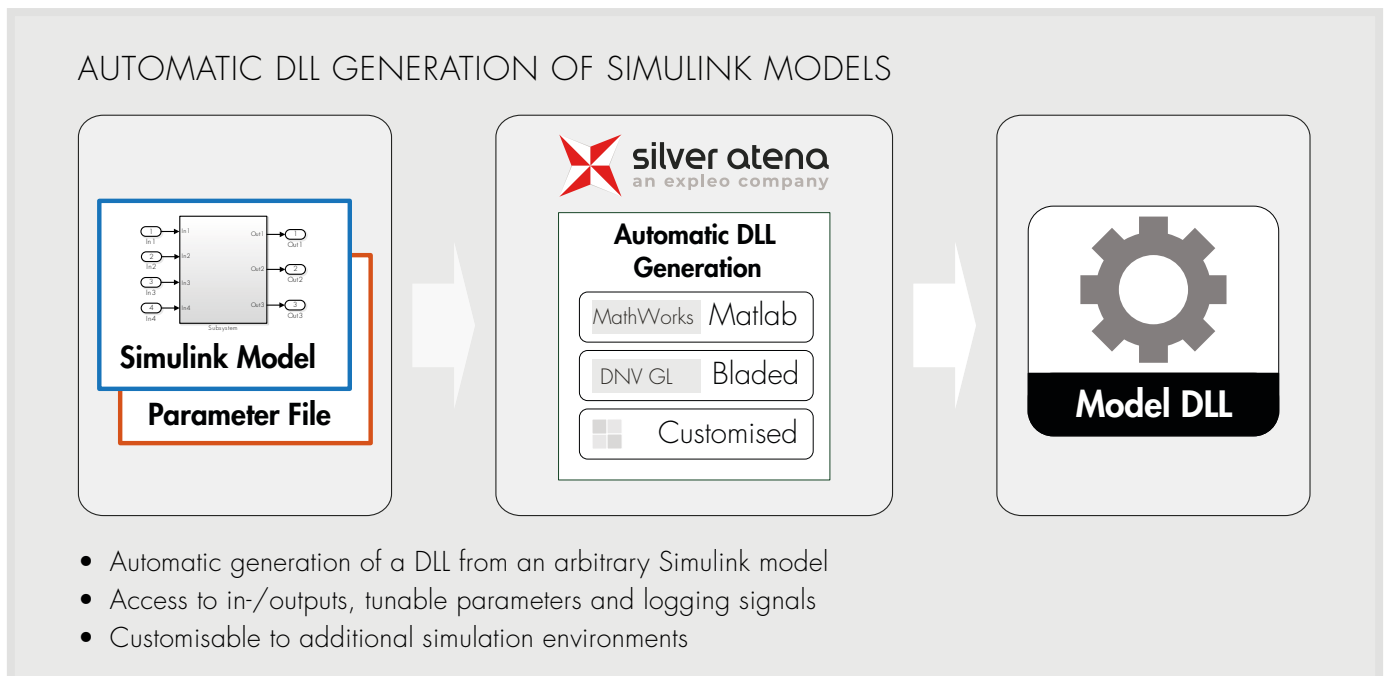
Silver Atena is a supplier for prototypes and small series in the area of safety-relevant systems. As a development partner, we offer first-class development and consulting expertise to ensure the increased requirements for functional safety based on innovative, model-based development processes. Excellent reference projects in the onshore and offshore sector characterize us as a reliable partner.

The Silver Atena multi-domain development for future applications is based on highly traceable design validation

and product verification. Requirement-based processes have been established for designing complex systems.

Applying an aligned process for merging different domains like systems, software, hardware and testing, safety and security serves as a basis for consistent integration of new technologies, resulting in a rapid identification of potential design errors.

This method guarantees improvement in quality and safety.



Silver Atena has developed technologically ambitious products for small-scale series and serial production in various industries.

Silver Atena engineering is tailored to the customer's needs as well as industry-specific requirements.

- Model-Based systems engineering
- Functional safety (software, hardware, test and systems)
- Security engineering (risk assessment, security measure definition and implementation)
- Electronic control units
- Hardware qualification
- Software solutions

Our customer's added value:

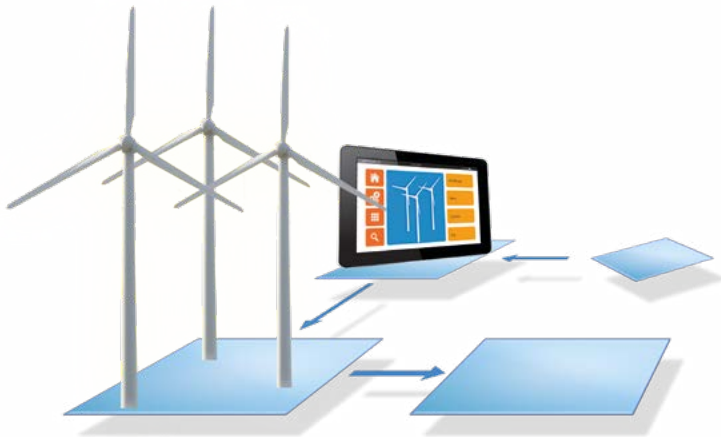
- Development, prototyping and serial production
- System competence
- Safety and security expertise
- Integrated process approach



## OUR ENGINEERING SOLUTIONS

### SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)

- Analysis and evaluation of existing systems
- Solutions for managed systems, visualisation and database infrastructure
- Architecture and interaction design of human machine interfaces
- Usability and user centered design according to applicable standards



### SYSTEM DEVELOPMENT

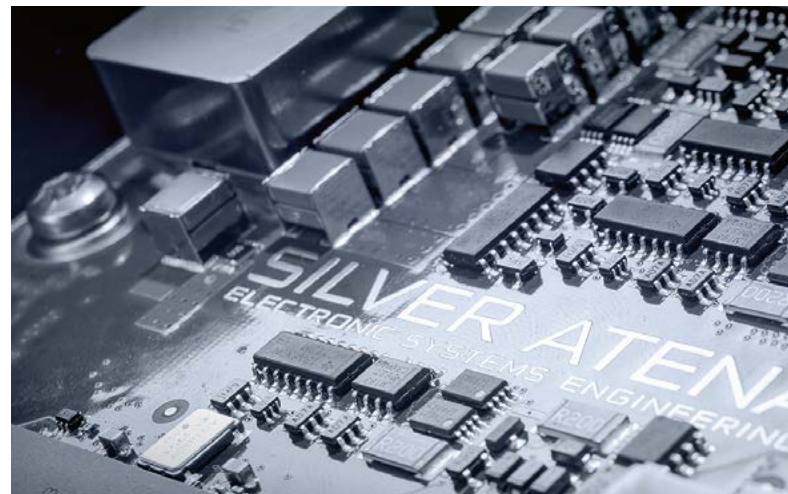
- HW/SW specification, design and development
- Test & validation
- Qualification according to valid standards
- Prototyping and series delivery
- Development of customised test means

### MODEL-BASED DEVELOPMENT AND SIMULATION

- Synergies from various industries
- Development of mechanical and electrical models
- Control algorithm design
- Automatic DLL generation from a model
- Realisation of MBSE development methodology using SysML
- Provide economic key parameters for maintainability and cost analysis & optimization
- Development of SysML-based specifications, use cases, requirements and test models

### SECURITY FOR SAFETY APPLICATIONS

- Basic and advanced security assessment for hazard identification
- Requirements-based security review and test
- Implementation of security measures



# SILVER ATENA

As one of the market leaders in high-integrity engineering Silver Atena is known for professional competence and many years of experience in international development projects. The core competencies of Silver Atena cover the entire spectrum of developing safety-relevant systems, including systems, hardware, software, safety and security engineering. As an independent system supplier Silver Atena develops solutions for complex engineering challenges in the growth markets automotive, aerospace, aero engines, rail, transportation and energy by integrating teams and in tight cooperation with the customer. We produce holistic solutions to complex engineering challenges. Silver Atena offers the development, implementation and maintenance of customer-specific hardware and software applications. Extensive consultancy services in the areas of engineering, process and technology compliment the portfolio.

## PORTFOLIO

- **Engineering:**  
System, Hardware, Software, HMI, Safety, Security, Test
- **Control Units (Fail Safe/Fail Operative):**  
Aircraft Engine Controller, Motor-and Hybrid ECUs, Chassis-ECUs, Power Electronics (Recuperation, Inverter)
- **Test and Simulation:**  
HIL Modular Test System, E-Motor/Generator/Power Supply Simulation, Automatic Model DLL,
- **Development Tools:**  
RBE/MBSE, Bus/Sensor Gateways, Network and Routing Software
- **Consultancy:**  
Safety & Security Consulting, Systems, Technology and Process Consulting, Training

## LOCATIONS

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