

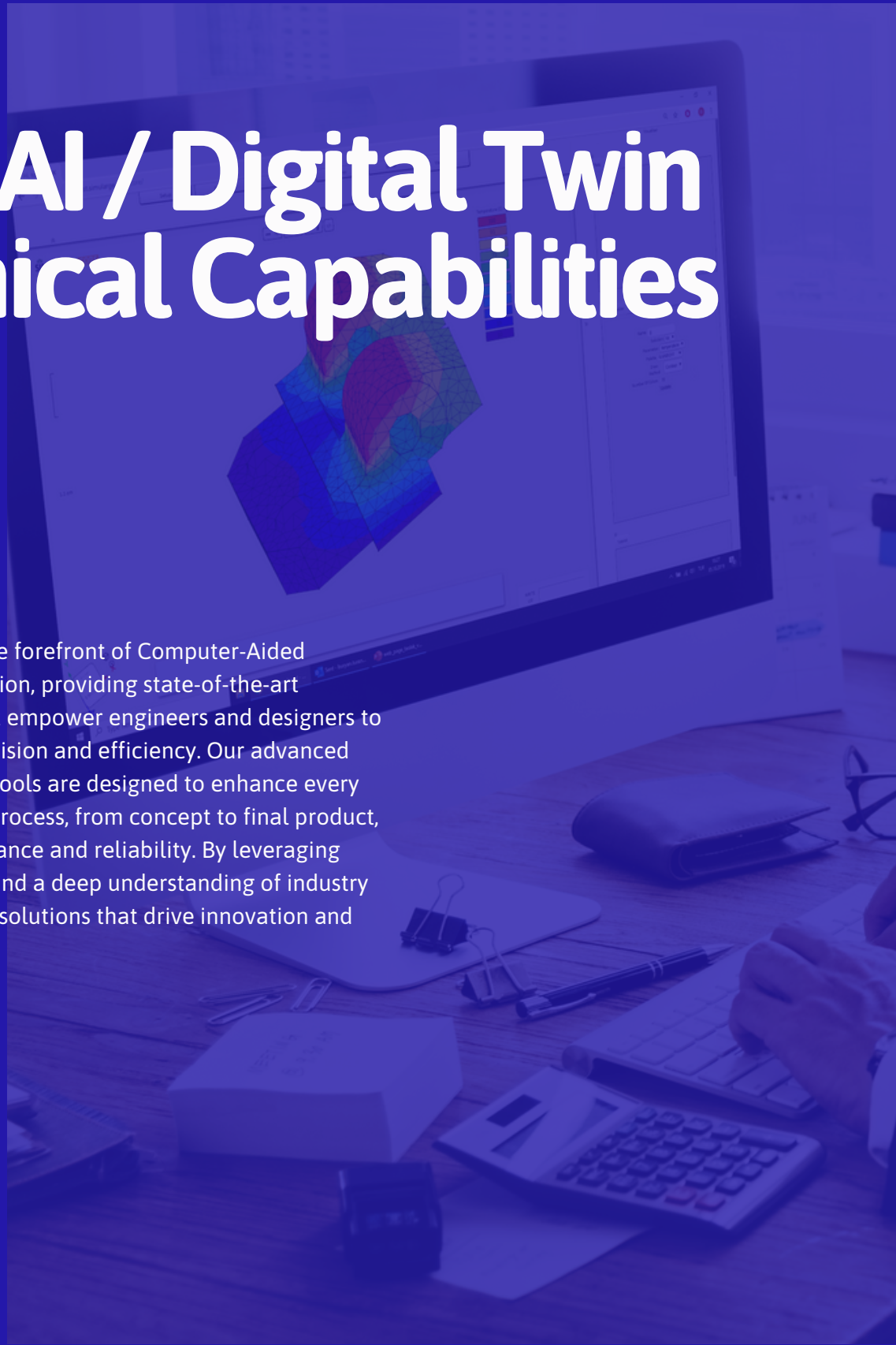
2024



CAE / AI / Digital Twin Technical Capabilities



At Simularge, we are at the forefront of Computer-Aided Engineering (CAE) innovation, providing state-of-the-art modeling capabilities that empower engineers and designers to achieve unparalleled precision and efficiency. Our advanced CAE and Digital Twinning tools are designed to enhance every stage of the engineering process, from concept to final product, ensuring optimal performance and reliability. By leveraging cutting-edge technology and a deep understanding of industry needs, Simularge delivers solutions that drive innovation and excellence in engineering.



Pre-Processing Capabilities

CAD IMPORT

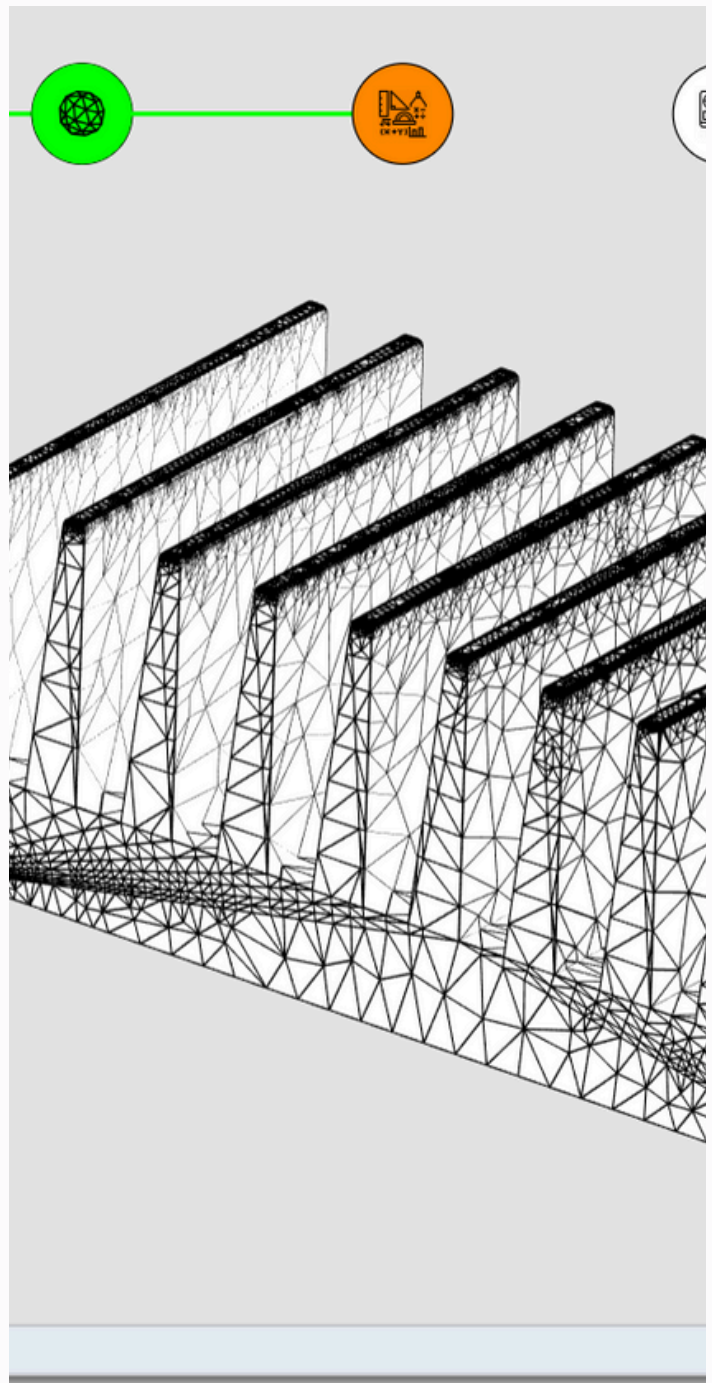
STL	Yes
STEP	Yes
GLTF	Yes

CAD LIBRARY

Basic Shapes	Yes
Engineering Forms	Yes
Model Templates	Yes

MESHER

Structured	Yes
Unstructured	Gmsh, Cfmesh
Inflation Layers	Yes
Mixed	Yes
Mesh Import	Yes*
Mesh Statistics	Yes



Processing Capabilities / Solvers

Post-Processing

GENERAL FEATURES		HEAT TRANSFER	
Model Library	Yes	Steady	Yes
Multicore/CPU	Yes	State/Transient	Yes
Benchmark Models	Yes	2D Structured	Yes
		2D Unstrucured	Yes
		3D Structured	Yes
		3D Unstructured	Yes
		Incompressible Flow	Yes
		Functional BCs	Yes
		SmartStart	Yes
		Conjugate Heat Transfer	Yes
		Turbulelence	RANS
		Compressible Flow	24Q4
		ROM	Yes
STRUCTURAL MECHANICS			
Linear Static	Yes		
Linear Material Models	Yes		
Nonlinear Material Models	Yes		
Thermoelasticity	Yes		
Poroelasticity	Yes		
Contact	CCX		
Explicit Models	CCX, OpenRadioss		
HEAT TRANSFER		POST-PROCESSING	
Conduction	Yes	2D Graphs	Yes
Convection	Yes	3D Plots	Yes
Radiation	Yes	Probes	Yes
Nonlinear Source	Yes	Python Scripting	Yes
Convection Formulas	Yes	Paraview VTK	Yes
Semi-Analytic Models	Yes		
ROM	Yes		

Digital Twinning Capabilities

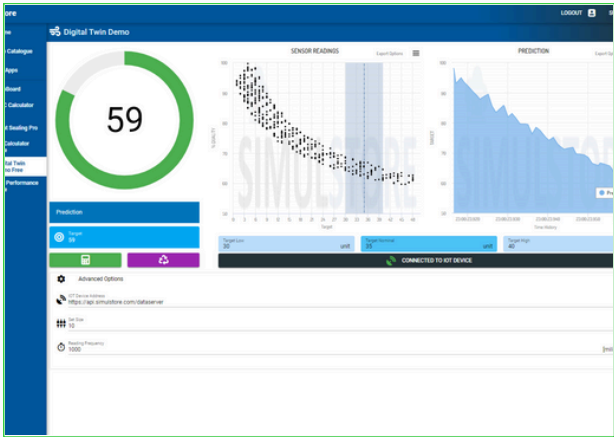
PLATFORM FEATURES	
App Store	Yes
App Builder	Yes
Community Apps	Yes
Model Sharing	Yes
On-Prem	Yes
Private Cloud	Yes
Workflows	Yes
3D visualization	Yes

DEVELOPER INTERFACES	
Python Interface: TwinAPI	Yes
Drag & Drop: TwinDesigner	Yes
Digital Twin App	Yes

AI LIBRARIES	
TensorFlow	Yes
Scikit	Yes
OpenCV	Yes

CONNECTION PROTOCOLS (Live Data Streaming)	
ModBUS	TCP
OPC-DA	Yes
OPC-UA	Yes
MQTT	Yes
TwinCAT	Yes

SPECIAL MODULES	
AutoML	Yes
TwinIDE Components	Yes
Custom Solvers	On-Demand
Ansys Integrations	On-Demand
Abaqus Integration	On-Demand



Deployment Flexibility

Simularge's cutting-edge solutions are designed to be highly adaptable, catering to diverse operational needs and IT preferences. These solutions are cloud-native, allowing for seamless integration with cloud infrastructures, yet they are also fully capable of being deployed on-premises, depending on the specific requirements and policies of the client.

Cloud-Native Benefits



- **Scalability:** Easily scale up or down based on the client's demand without the need for physical hardware adjustments, providing flexibility in resource management.
- **Cost-Effectiveness:** Reduce upfront capital expenditures on hardware and lower ongoing maintenance costs by leveraging the cloud provider's resources.
- **Enhanced Collaboration:** Facilitate better collaboration across different teams and locations through centralized access to applications and data.
- **Automatic Updates and Upgrades:** Ensure that the software is always up-to-date with the latest features and security updates without manual intervention.

On-Premise Benefits



- **Control and Security:** Keep critical data within the client's own IT environment, which can be crucial for meeting stringent regulatory compliance requirements or specific corporate policies.
- **Customization:** More room for customization as the solutions can be tailored more specifically to the client's particular requirements.
- **Performance:** Potentially faster data processing speeds by reducing the latency often associated with data transmission to and from the cloud.
- **Internet Independence:** Reduce dependence on internet connectivity, by leveraging local intranet to ensure that critical applications run smoothly without being affected by external network issues.

Thank you!



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