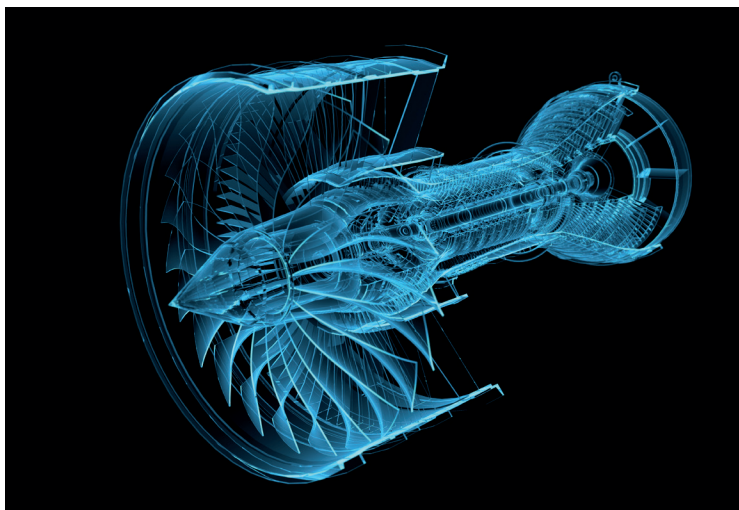


# Powering Gas Turbine Engineering

## Exclusive expertise & world-class performance

Maya HTT supports the most rigorous engineering efforts with our exclusive combination of services and software development.

Our services team enables engineers and companies at the forefront of the gas turbine industry to deliver powerful world-class performance.



### Digital transformation.

Implement and deploy digital twin technology for innovative designs and increased performance.

### Software development.

Discover powerful engineering simulation software fully customized and integrated with your methods and practices.

### Real-world experience.

Gain software insight from a key partner with hands-on industry expertise.

“

***The Maya HTT consultants were extremely knowledgeable. More importantly, they viewed the project as a shared goal.***

***Due to the collaboration between our teams, they delivered the project in six months as opposed to one year, which would be a normal turnaround.***”

– Global Business Systems Manager,  
Chromalloy

# The Maya HTT difference

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Partner with Maya HTT for next-level engineering confidence, efficiency and innovation.

Our solid experience in gas turbine engineering goes far beyond first-stage simulation tools:

- Digital transformation
- PLM implementation and deployment
- Software customization and development
- Auditing current processes and developing best practices for future processes
- Training and mentoring

## Approach

- Scalable and agile practices
- Onsite presence at customers while leveraging the back office
- Simulation process mapping and demonstration
- Global services and support

## Benefits

Don't simply replace old engineering tools with new ones.

- Systematize analysis and create efficient data flows.
- Integrate your intellectual property naturally into new systems.
- Compress your engineering development schedule, save time, reduce costs and boost productivity.
- Push design validation earlier in the cycle with digital twin testing long before physical testing.
- Get valuable support at each stage of the product development cycle, from preliminary concept validation through detailed finite-element-based design and simulation.



# Turbine engine services

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Pair exceptional engineering services with world-leading simulation software development to acquire unparalleled efficiencies and next-level engineering confidence.

## Thermo-mechanical performance engineering

Replace unaffordable siloed engineering with a consistent and complete master whole-engine model. Bring together improved durability, efficiency, and thermal management:

- Dynamic & thermal whole-engine model creation and assembly
- Parametric 3D computer-aided design (CAD)
- Engine clearance optimization and rotor-stator clearance synthesis
- Thermal fatigue
- Analysis of engine life, aeromechanics, modal, and engine dynamics
- End-to-end processes integrated in one system

## Custom software development

Add a customization layer to best-in-class commercial software solutions. Seamlessly integrate and protect your intellectual property and improve efficiency of simulation iterations.

- Audits of custom software, routines and methods
- Engineering process automation and scripting
- Specialized software development
- Solver-level customizations
- Scalable and agile practices
- Joint development or outsourcing
- Roadmaps for Simcenter integration
- Industrialized additive manufacturing
- Training and mentoring

## High-end computational fluid dynamics (CFD)

Benefit from hands-on experience providing thermal simulation for leaders in the gas turbine industry: increase efficiency, improve reliability, and reduce development costs.

- Combustion simulation
- Blade aerodynamic performance
- Reduced cooling air required
- Higher operating temperatures
- Better blade temperature prediction
- Film cooling by conjugate heat transfer (CHT)
- Accurate representation of operating conditions
- Reduced thermal stress
- Fewer costly prototypes
- Less reliance on simple models
- More design variants early in the development process

## Systems performance engineering

- Virtual whole-engine view, including Nacelle anti-ice, lubrication, thermal management, fuel system, accessory gearbox, engine (core) design, bleed, thrust reverser, and fire extinction
- Integration of power plant systems
- Multi-domain system simulation with system models as part of the aircraft mission
- Emissions and thermal management

# Client Spotlight: Airbus

## Power plant integration

### Challenge

Working with a large thermal model and a variety of complex boundary conditions, streamline model development and meet conception-to-certification program needs.

### Results

Implement multi-scale simulations for local-to-global aircraft modeling and deploy integrated thermal analysis solutions and tools transnationally.

“

*The solver capabilities available in Simcenter Thermal solutions provide us the flexibility and customization necessary to manage a wide range of models from local to full aircraft models.* ”

– Thermal Engineer, Airbus operations SAS

Expert  
Partner

Digital Industries Software

SIEMENS

