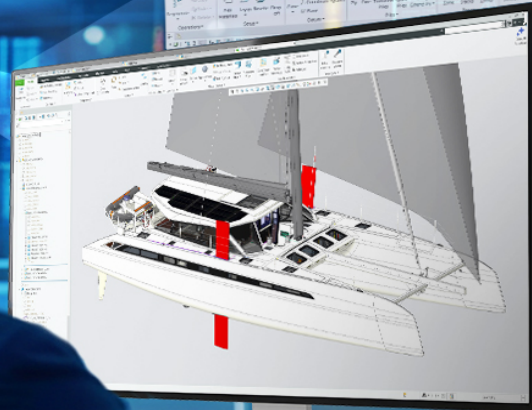


# The Creo Advantage: Real-World Results from Design Leaders



RETRIEVING LEGACY FILES



ACCESSING DIGITAL THREAD



# The Creo Advantage:

## Real-World Results from Design Leaders

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Engineering and manufacturing leaders are being asked to do more with less: deliver smarter, more complex products on shorter timelines, without sacrificing quality or margin. Yet many organizations are still designing in CAD environments that weren't built for today's pace of innovation.

To stay competitive, it's not enough to add another point tool or incremental extension. You need a modern CAD platform that connects design, simulation, and manufacturing in a single, model-based environment so your teams can move faster, reduce rework, and make better decisions earlier in the process.

**Creo** is PTC's parametric 3D CAD system built for this reality. It delivers innovative technologies including AI, productivity tools, and fully integrated design, simulation, and manufacturing capabilities that help teams deliver their best designs in less time.

PTC customers show what that looks like in practice. Discover the key Creo capabilities that help leading organizations modernize product development, strengthen their digital thread, and achieve measurable improvements in speed, quality, and profitability.

# Customer Case Highlights

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**Additive Manufacturing:**  
Tel Aviv Medical Center

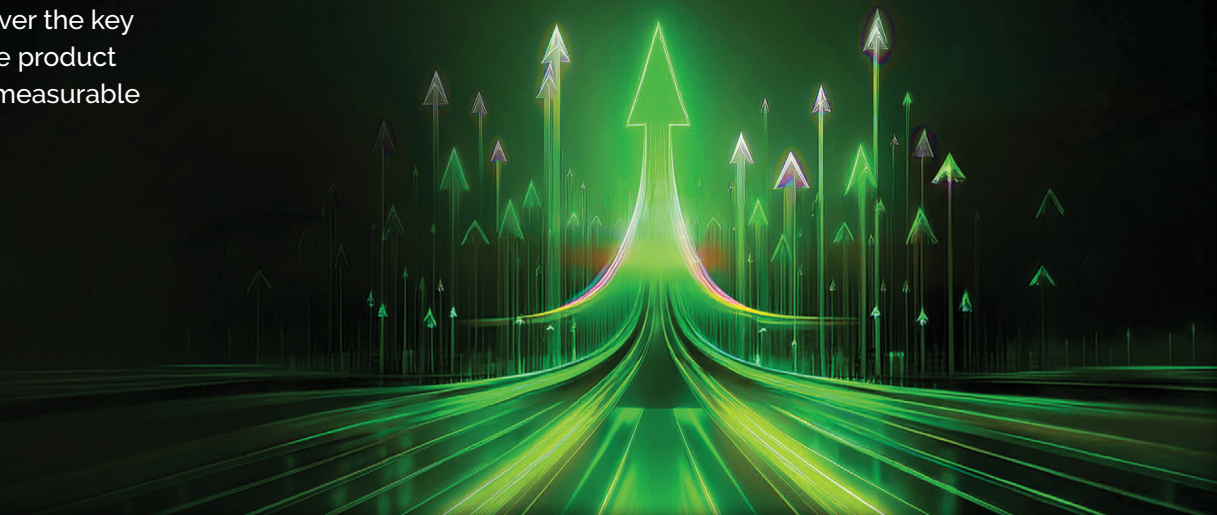
**Model-Based Definition:** Gunboat

**Simulation:** Ryvid

**Generative Design:** Zeiss

**Windchill PLM Integration:**  
Hill Helicopters

**Sustainability + Integrated Capabilities:**  
Cummins



## WHY CREO?

Selecting a CAD platform is a strategic decision. It shapes how your organization innovates, collaborates, and brings products to market.

Creo is designed to be that foundation. From the start, it has been fully associative: design, simulation, and manufacturing are all driven from a single 3D model, so every change is propagated automatically across the product development process. This reduces disconnects between teams, cuts down on rework, and helps keep programs on time and on budget.

Unlike fragmented toolchains, Creo provides deeply integrated capabilities—enabling engineers to simulate performance, validate manufacturability, and prepare production-ready outputs without breaking the digital thread or relying on fragile manual handoffs. Robust APIs and deployment options support both on-premise and SaaS (Creo+) strategies. It's also open and flexible, enabling teams to operate efficiently in a multi-CAD environment.

Let's see how leading organizations are turning these strengths into tangible outcomes—using Creo to replace legacy CAD systems and workflows, unlock new capabilities, and drive meaningful gains in speed, quality, and innovation.



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## CUSTOMER STORIES

Leading companies are leveraging PTC Creo's suite of capabilities to deliver new and innovative designs, improve product quality, and bring products to market faster than ever before.



### Additive Manufacturing

Tel Aviv Medical Center, PTC, and Hexagon collaborated to create a fully personalized scapula implant designed and manufactured specifically for a young cancer patient.

## CHALLENGES

- Create a truly one-of-one shoulder blade implant for a patient.
- Balance complex anatomical, engineering, and manufacturing constraints, requiring immense precision.
- Ensure manufacturability while reducing print trials of the implant.

## SOLUTION

- Leverage Creo's design for metal additive manufacturing capabilities to minimize supports and distortion in the implant.
- Utilization of advanced mechanical simulations to verify the load-bearing capacity of the implant for shoulder and arm movements.
- Verify successful print quality, leveraging VGSTUDIO MAX to process the CT scan data.

## RESULTS

Read Tel Aviv Medical Center's full story or watch the [webinar](#) with Dr. Solomon Dadia to learn how the team achieved a successful surgery and helped redefine personalized medicine with help from Creo.



[Learn More >](#)

"The development of complex implantable printed materials, together with powerful additive manufacturing and simulation software, enables us to introduce smart implants to the surgical world. These implants interact with tissues to optimize their survival in the body, ensuring a perfect fit and promoting tissue growth. These advancements mark a new era in personalized medicine."

—Dr. Solomon Dadia  
Head of the Surgical Innovation and 3D Printing Unit at  
Tel Aviv Sourasky Medical Center



## CUSTOMER STORIES



### Model-Based Definition

Gunboat, in collaboration with 4CAD Group, streamlined processes and enhanced performance by implementing a model-based approach with PTC Creo for advanced CAD capabilities and Windchill solutions.

### CHALLENGES

- Yachts were customized to client-specific features.
- Old workflows couldn't reduce manual design errors while managing large assemblies.
- Disconnected data couldn't support collaboration within and with external partners.
- Staying competitive with manufacturing trends required a modern approach.

## SOLUTION

- Enabled real-time data sharing across teams, ensuring that all stakeholders worked with accurate, up-to-date information.
- Creo's parametric, composite, and surface modeling capabilities equipped Gunboat's designers to create complex, aerodynamic hulls and finely detailed yacht components.
- Managing complex assemblies became significantly more efficient with Creo's skeleton modeling and advanced change-tracking features.

## RESULTS

Read Gunboat's full story to learn how their team leveraged Creo for fewer late-stage errors, faster timelines, improved collaboration, and reduced costs.

[Learn More >](#)



## CUSTOMER STORIES



### Simulation

Ryvid serves urban riders who fall between the e-bike and full-size motorcycle segments. Their customers seek stylish, low-maintenance transportation.

### CHALLENGES

- Needed an integrated CAD and simulation environment to validate structural performance early without relying on costly physical prototypes or disconnected tools.
- Required rapid iteration and lightweight modeling workflows to design a modular, manufacturable electric motorcycle chassis under extreme resource and time constraints.
- Faced risk of rework and design bottlenecks due to the limitations of basic CAD tools lacking advanced surfacing, simulation, and analysis capabilities.

## SOLUTION

- Adopted a simulation-driven design workflow inside Creo, enabling the team to run structural, load, and performance analyses without leaving the CAD environment.
- Used Creo's advanced surfacing and parametric modeling tools to quickly iterate the motorcycle's lightweight chassis and bodywork while maintaining design intent across changes.
- Leveraged Creo as a single integrated platform to streamline collaboration between mechanical, electrical, and software teams, eliminating the inefficiencies of disconnected tools.

## RESULTS

Read Ryvid's full story to learn how they leveraged Creo for accelerated time to market, improved design validation, higher customer satisfaction, better decision making, and increased speed and accuracy.



[Learn More >](#)

"It [Creo] also supports fast iteration and simulation, which is critical for our lean development model. Creo isn't just a design tool for us. It's a strategic enabler that accelerates our development, improves design quality, and supports our lean, innovation-driven product lifecycle. This simulation-driven approach was a game changer."

—Dong Tran, Co-founder and CEO, Ryvid Inc.



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## CUSTOMER STORIES



### Generative Design

Zeiss is a global leader in optical technologies. Their high-precision lenses and optical systems serve various sectors, including medical technology, industrial measurement, and semiconductor production.

### CHALLENGES

- Needed to optimize high-precision optical components while reducing material usage, weight, and manufacturing cost—goals that exceeded the capabilities of traditional CAD workflows.
- Required rapid evaluation of multiple design iterations without lengthy manual modeling cycles or external optimization tools.
- Faced difficulty converting conceptual lightweight designs into production-ready geometry using their legacy toolchain.

## SOLUTION

- **Adopted Creo Generative Topology Optimization (GTO)** to define loads, constraints, objectives, and design space, enabling automated exploration of lightweight structural options.
- **Used Creo's built-in B-rep conversion tools** to transform optimized lattice and organic geometries into accurate, editable, manufacturing-ready models.
- **Leveraged Creo's integrated simulation environment** to validate performance and stiffness targets directly within the CAD model.

## RESULTS

Read Zeiss' full story to learn how the manufacturer reduced weight and material usage, accelerated design, and improved engineering efficiency with Creo.



[Learn More >](#)

"Unlike other generative topology optimization solutions, which either took longer or produced overweight parts, Creo GTO provided Zeiss with very fast and accurate results."

—Uwe Wolf, System Designer, Zeiss



## CUSTOMER STORIES



### Windchill PLM Integration

Hill Helicopters is an aircraft manufacturer founded with the vision of building high-performance, modern helicopters produced at scale to the tightest aerospace standards on earth.

#### CHALLENGES

- Managing large, complex CAD models that earlier design tools could not support.
- Establishing rigorous change control, approvals, and BOMs to meet aircraft certification standards.
- Reducing technical risk and costly rework during development.
- Keeping costs manageable as a startup through flexible software licensing.

## SOLUTIONS

#### Using Creo:

- Enabled design of large, complex helicopter assemblies that go beyond simple drafting to true engineering.
- Supported advanced surfacing and service design while converting design intent into usable engineering data.
- Allowed early-stage simulation through Ansys integration to improve confidence and reduce downstream testing costs.

#### Using Windchill:

- Provided seamless management of CAD data once multiple users were involved.
- Locked down product data, change control, and approvals required for certified aircraft manufacturing.
- Supported model-based definition across the digital thread, from material intake through production.

## RESULTS

Watch the Hill Helicopters video to learn how their team used Creo and Windchill to increase confidence in design decisions, lower risk, and create a scalable digital foundation.



[Learn More >](#)

"Our CAD system, Creo linked up to Windchill—our PLM system—really gives us complete control over everything we do."

—Craig Jones, Lead Mechanical Engineer, Hill Helicopters

## CUSTOMER STORIES



### Sustainability + Integrated Capabilities

Cummins is the world's largest independent diesel and gas engine designer and manufacturer and a leading supplier of electrification systems.

### CHALLENGES

- Reduce material usage and environmental impact without compromising durability, quality, or performance across heavy-duty engine components.
- Required earlier design optimization and validation than their traditional CAD workflow could support, creating risk of late-stage rework and costly physical testing cycles.
- Struggled to evaluate lightweighting opportunities efficiently due to manual modeling processes and limited integration between design and simulation tools.

## SOLUTION

- Applied generative design to optimize parts for strength and stiffness using less material.
- Enabled engineers to explore and iterate on design concepts faster with integrated simulation tools.
- Reduced back and forth between designers and analysts through earlier design validation.
- Supported a more systematic approach to designing for sustainability across product lifecycles.

## RESULTS

Read Cummins' full story to learn how the manufacturer used Creo to reduce materials usage, increase engineer productivity, and make progress toward their PLANET 2050 sustainability goals.

[Learn More >](#)



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Teams that modernize with Creo design faster, make better decisions earlier, and deliver higher performing products with greater confidence. Whether through simulation-driven workflows, generative design, model-based definition, or a stronger digital thread, Creo gives engineering organizations the capabilities their legacy CAD tools can't match.

If your product strategy demands greater speed, innovation, or scalability, now is the time to evaluate whether your current CAD system is holding you back.

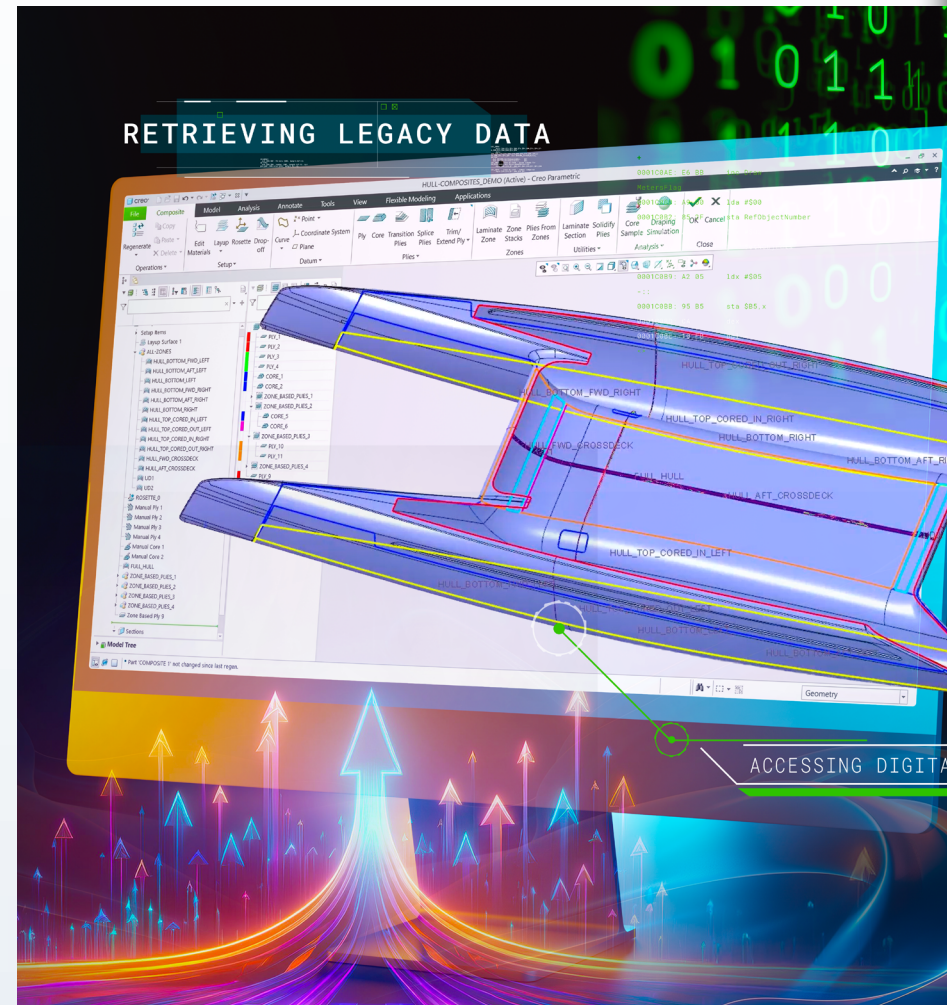
### Try Creo Free

Experience Creo's modern, integrated design environment firsthand.

### Talk to Us

Thinking of switching or consolidating you CAD platform? Our experts can help chart the best path forward.

**Build your next breakthrough with Creo.**





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