


Ryan Paplow, Principal Consultant | Mechanical Engineering, Product Development & Innovation Strategy

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 [LinkedIn Profile](#)

 [Paplow Consulting, LLC](#)

Principal Consultant Profile

Ryan Paplow is the Founder and Principal Consultant of Paplow Consulting, LLC, providing advanced mechanical engineering, product development, innovation management, and technical leadership services to clients in aerospace, defense, advanced manufacturing, marine, energy, transportation, and emerging technology sectors.

With more than 30 years of engineering and executive leadership experience, Ryan helps organizations solve complex technical challenges, accelerate product development, reduce risk, improve manufacturability, and bring innovative products from concept through production. His background spans mechanical design, systems engineering, model-based engineering, composites, cryogenic systems, aerospace hardware, undersea systems, manufacturing automation, and technology commercialization.

Ryan is recognized for translating complex engineering problems into practical, cost-effective solutions while aligning technical execution with business objectives. He regularly supports clients with strategic engineering initiatives, independent technical assessments, proposal development, product innovation, and multidisciplinary engineering leadership.

Core Consulting Services

Product Development & Mechanical Design

- Concept development and engineering architecture
- Mechanical system design and optimization
- Design for Manufacturing (DFM) and Design for Assembly (DFA)
- CAD modeling and technical documentation
- Prototype development and design validation
- Engineering change management

Engineering Analysis & Verification

- Finite Element Analysis (FEA)
- Thermal analysis
- Structural assessment
- Design trade studies
- Failure analysis and root-cause investigations
- Engineering risk assessments

Innovation & Technology Development

- Technology roadmap development
- R&D strategy and execution
- SBIR/STTR proposal support
- New product ideation and commercialization
- Advanced materials evaluation
- Cryogenic and extreme-environment technology development

Engineering Leadership & Advisory Services

- Fractional engineering leadership
 - Independent technical reviews
 - Engineering organization development
 - Model-Based Engineering (MBE) implementation
 - Engineering process improvement
 - Technical due diligence
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Professional Experience

Principal Consultant & Founder, Paplow Consulting, LLC | 2024–Present

- Founded engineering consulting practice serving aerospace, defense, advanced manufacturing, transportation, and technology clients.
- Provides mechanical engineering, product development, innovation strategy, and technical leadership services.
- Leads multidisciplinary teams supporting product development, engineering analysis, and commercialization efforts.
- Authors technical proposals, white papers, and strategic technology development plans.
- Supports clients with advanced materials, cryogenic systems, manufacturing optimization, and engineering process improvement.

Senior Model-Based Engineer, Pratt & Whitney (Contract) | 2025–Present

- Provides technical leadership for model-based engineering initiatives supporting next-generation propulsion programs.
- Supports configuration governance, product definition, GD&T, and design integration activities.
- Participates in cross-functional design reviews and engineering decision-making processes.
- Mentors engineering personnel and promotes engineering best practices.

Ryan Paplow, Principal Consultant | Mechanical Engineering, Product Development & Innovation Strategy

Director of Innovation, Structural Composites, Inc. | 2021–2024

- Directed company-wide innovation strategy and technology development initiatives.
- Led advanced engineering programs spanning aerospace, transportation, and industrial markets.
- Established innovation governance processes and technology development frameworks.
- Secured new business opportunities through customer engagement and technical proposal leadership.

Staff Mechanical Engineer

Lockheed Martin | 2013–2021

- Led multidisciplinary engineering efforts supporting undersea and space systems.
- Directed mechanical design, systems engineering, testing, and integration activities.
- Conducted engineering trade studies, risk analyses, and product performance improvements.
- Delivered innovative solutions supporting critical national defense programs.

Project Engineer, EDF, Inc. | 2010–2013

- Managed engineering programs supporting DoD and international test facility projects.
- Led proposal development, system design, and engineering execution.
- Supervised multidisciplinary teams performing airflow analysis, testing, and mechanical design.

Technical Expertise

Engineering Disciplines

- Mechanical Design
- Systems Engineering
- Product Development
- Design for Manufacturing (DFM)
- Design for Assembly (DFA)
- Structural Analysis
- Thermal Analysis
- Composites Engineering
- Cryogenic Systems
- Manufacturing Engineering
- Reliability Engineering
- Failure Analysis

Software & Tools

- SolidWorks
 - SolidWorks Simulation
 - SolidWorks Flow Simulation
 - PTC Creo
 - Creo Simulate
 - ANSYS Workbench
 - AutoCAD
 - MATLAB / OCTAVE
 - Mathcad
 - Microsoft Project
 - Microsoft Visio
 - Microsoft Office Suite
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Education

Old Dominion University, Bachelor of Science, Engineering Technology

Minor: Engineering Management

Northwest Iowa Community College, Associate of Science, Engineering Technology

Selected Value Proposition

Paplow Consulting helps organizations accelerate innovation, solve difficult engineering problems, and bring complex products to market through practical engineering leadership, advanced mechanical design expertise, and decades of hands-on experience across aerospace, defense, manufacturing, cryogenics, and emerging technologies.