

Guiding mechanical product development from concept to shipping for user-centered product solutions

Senior mechanical engineer, strategic decision-maker, leading innovative product development via project management, team leadership, and mentoring; building and motivating cross-functional teams at all levels of the organization and supply chain.

- Good natured, collaborative, honest. Known for creating an atmosphere of respect, adept at building consensus and moving beyond conflict. Passionate for instilling creative process into all phases of product development.
- A hands-on designer adept at staying true to product requirements while constantly distilling designs to their simplest solution, facilitating collaborative design breakthroughs. Enthusiastic teacher and learner. Relentless curiosity in all elements of building quality products.

Areas of Expertise

Disciplined project management: Customer-facing exploration, product specification/validation planning, budgeting/proposals, team building, strategic process development, organizational structuring

Detailed mechanical design: Injection molded, high precision machined, optical packaging, aerospace, oceanographic; all using Solidworks, FMEA, DFM, GD&T, lab and field validation.

Relevant Accomplishments

- Faced with losing orders from a flagship brand; developed an accelerated field-testing process which reduced a 2-year development schedule by 6 months, providing over \$1M sales one year earlier than projected and adding three patents to the company's portfolio.
- A flow cytometer instrument that did not maintain optical alignment prevented an instrument from commercial release; devised a new (patent pending) mechanical architecture, and mentored a team of young engineers to develop and validate the new design, resulting in a robust released product forming the foundation of a new company.
- An arbitrary product development process, resulting in high scrap rate, delayed deliveries and redesigns; led a multifunctional team authoring a LEAN product development process and certifying the \$25M company for ISO9000, improving moral, reducing costs, and reducing development times.
- A disjointed information management system, communication breakdowns in-house and with Asia; spearheaded product development database which connected all departments, allowing for project tracking, resource projections, Asian tooling management, reduced re-work.
- A Navy undersea network project at a standstill due to broken relationships between principal investigators at different institutions; negotiated reconciliation, rebuilt multi-functional engineering teams and successfully managed the \$1M research experiment to completion.
- A spaceflight instrument unable to maintain optical alignment through a rocket launch; re-designed the package to have 60% fewer parts utilizing a novel light capturing method, resulting in a robust mechanical system that functions flawlessly in orbit.
- Facing a delivery commitment of 6 months for a new 3 dimensional undersea imaging system; managed multi-functional team and led mechanical design of simplified vehicle structure that eliminated rework and reduced fabrication time.

Product Development Experience

2011 - 2014: **Lead Project Engineer**, Boa Technology Inc., Denver, CO - Boa designs closure systems for performance footwear & medical bracing. Managed product developments from concept to completion, leading design, engineering, and offshore manufacturing teams to bring high volume injection molded products to market.

“As a project manager, Chris naturally takes the lead on developing efficient and effective product development processes for the organization as he has an incredible eye for uncovering inefficiencies.”

2011: **Principal Mechanical Engineer**, InDevR Inc., Boulder, CO – InDevR is a global leader in bioscience instrumentation and flu assay development. Managed mechanical product developments, and optimized optical packaging for flow cytometers.

“Chris is a self-starter who can be relied on to initiate new ideas and dive into areas that need improvement. I highly recommend him as a mechanical engineer and project manager.”

2005 - 2007: **Mechanical Engineer**, Laboratory for Atmospheric and Space Physics (LASP), University of Colorado, Boulder, CO - LASP develops spaceflight instrumentation for solar research. Designed and built complex thermal, optical, and mechanical systems for Solar Dynamics Observatory, a NASA satellite.

“Chris has a knack for designing products with complex functionality to be incredibly simple and elegant.”

2001 - 2003: **Staff Mechanical Engineer - Ocean Division**, Teledyne/Benthos Inc., North Falmouth, MA - Benthos, Inc. builds oceanographic instrumentation for the geophysical and Navy markets. Managed engineering personnel, led multi-disciplinary product developments, and managed Remotely Operated Vehicle product line.

“Chris is a self-starter, very intelligent and capable, with a good sense of humor, and a pleasure to work with. He is highly recommended for mechanical system design.”

1992 - present: **Owner**, Converse Design Engineering, Boulder, CO – Private consultancy providing mechanical design and project management services to research and industry clients including: Woods Hole Oceanographic Institution, Lockheed Martin, IDEO, Design Continuum, Fiberspar, Baby Jogger, and Polar Bottle. conversedesignengineering.com

Trainings

<i>Design Thinking; David Kelly, IDEO</i>	<i>Illustration & Rendering; Rhode Island School of Design</i>
<i>GD&T Y 14.5M Certification, Boulder, CO</i>	<i>Developing Products in Half the Time; Preston Smith</i>

Personal

Skier, sailor, cyclist, windsurfer, surfer, swimmer, beekeeper, radio controlled hobbyist, husband, parent

Education

Bachelor of Science Mechanical Engineering, University of Vermont, Burlington, VT