

SimulaX introduction

We provide virtual testing to mitigate product failure risks, returns and costs by solving multiphysics engineering challenges

Mechanics | Fluid dynamics | Electro magnetic
Software automation | Optimization

www.simulaxengineering.com

About our business

Vision

At SimulaX Aps, we're a small, agile, and transparent consultancy dedicated to providing practical multiphysics solutions to engineering challenges using virtual testing.

With 12+ years of experience, we help companies cut costs in designing and physical testing by minimizing turnaround times and prototyping expenses. Our approach mitigates risks early, reducing product failures and costly returns—leading to happier customers and stronger market position.

By fostering clear communication and a responsive approach, we ensure that our clients' needs are met efficiently—free from the delays and complexities often encountered in collaborations with larger firms.

Mission

Our mission is to become the go-to partner for SMEs seeking high-quality simulation services that save time and reduce costs.

We aim to be recognized for our commitment to solving problems, our deep technical expertise, and our ability to offer agile, fast, and transparent solutions.

With a focus on quick turnaround times and daily communication, we ensure our clients are always informed and empowered throughout the entire project, building long-lasting, collaborative relationships.

Problem definition

Product returns

Mitigate risks, preventing product returns, machine malfunctions, and other costly failures by fixing issues early at the lowest costs in concepting.



Fail early

Lack of knowhow

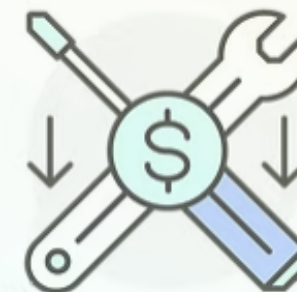
We add in-house knowhow as all provided results are thoroughly discussed and explained and are supplemented with design guidelines.



Development costs

Testing costs

Reduce costs by replacing costly physical test iterations with simulations to refine designs faster.



Testing costs

Time-to-market

Increase revenue by accelerating time to market and delivering highly optimized solutions.



Time-to-market

Our solution

Comprehensive

We provide practical guidelines to help customers improve their products while staying within budget.

Our ability to simulate Multiphysics problems in all dimensions across multi-physics problems makes our offering highly versatile, allowing us to adjust the modeling approach based on accuracy needs and cost constraints.

Tailored

While we provide core FEM simulation services like many of our 20+ competitors, we can differentiate ourselves by offering more tailored solutions, such as:

- Multiphysics simulations (FEM, EM, CFD)
- Software automation solutions
- Tailored trainings

Clear communication

Unlike competitors who deliver generic reports, we provide clear, actionable insights and recommendations.

Our business-friendly communication style ensures that complex engineering concepts remain understandable without losing technical depth. This unique approach is a strong selling point that sets us apart.

Our services

Engineering simulations

Our tailored simulation solutions provide valuable insights across multiple engineering domains.

- Structural mechanics
- Thermal analysis
- Computational fluid dynamics
- Electro-magnetic

- Mathematical modeling of complex problems
- Material testing and modelling
- Design optimization for performance, weight, and cost-efficiency

Smart engineering Apps

We create customized applications that simplify complex engineering processes - no programming skills required.

- User-friendly applications that simplify engineering calculations
- Knowledge sharing across the organization
- Customizable in and outputs

- Automated simulation workflows
- Custom tools for design tasks and optimization problems

Know-how and training

We empower teams to build in-house simulation expertise through customized training programs.

- Introduction to simulation for design engineers
- Advanced training for simulation engineers
- Specialized courses on FEM, CFD, and electromagnetic simulations
- Hands-on guidance to implement simulation workflows in your organization

Sales process

Initial talk

Our sales process start with an initial talk to understand the product, the company and the phase of the development process.



Pilot project

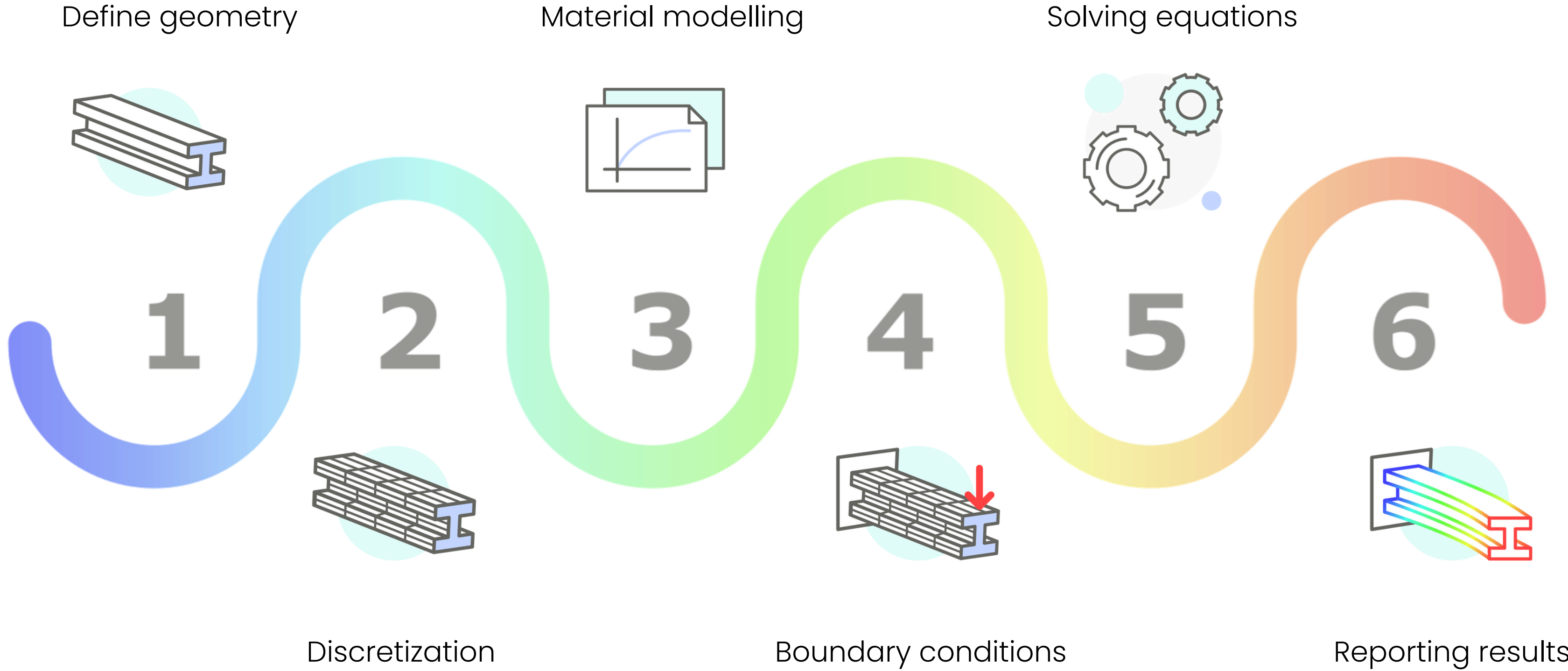
We always start with a pilot project at a discounted price in order to increase your confidence and to make sure you gain value from our services.



Collaboration

We favor long-term partnerships, ensuring the best results by integrating into your team. For that reason, we offer longer cost-efficient partnership deals.

Simulation work-flow



Customers said



"It is a true pleasure to work with Simulax. They quickly understand the complexity of our projects and our need to work extremely solution-oriented. Their in-depth understanding of our systems and simulations has resulted in high-quality modal and thermal performance analysis, as well as excellent suggestions for design improvements. The team's clear communication ensures well-structured presentations and reports, but more importantly, it makes for a very pleasant collaboration."

Dr. Isja de Feijter

Head of sales and marketing



Team



Founder & CEO

Imre Toth

Imre Toth holds a master's degree in mechanical engineering from Aarhus University and is a Dassault Systèmes Certified Simulation Engineer. He has extensive experience in the consumer electronics market, specializing in plastics, contact mechanics, and large deformation problems using explicit FEM simulations.

Imre has previously worked as simulation engineer at companies like Bosch GmbH and GN group.



Founder & CTO

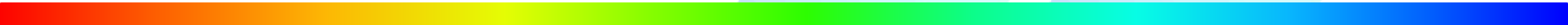
Andrzej Stupakowski

Andrzej holds a master's degree in electro-mechanical engineering from Aalborg University. He has deep expertise in simulating and optimizing electric motors and a strong background in engineering-focused software development. His experience spans across major industries, including wind, automotive, and aerospace.

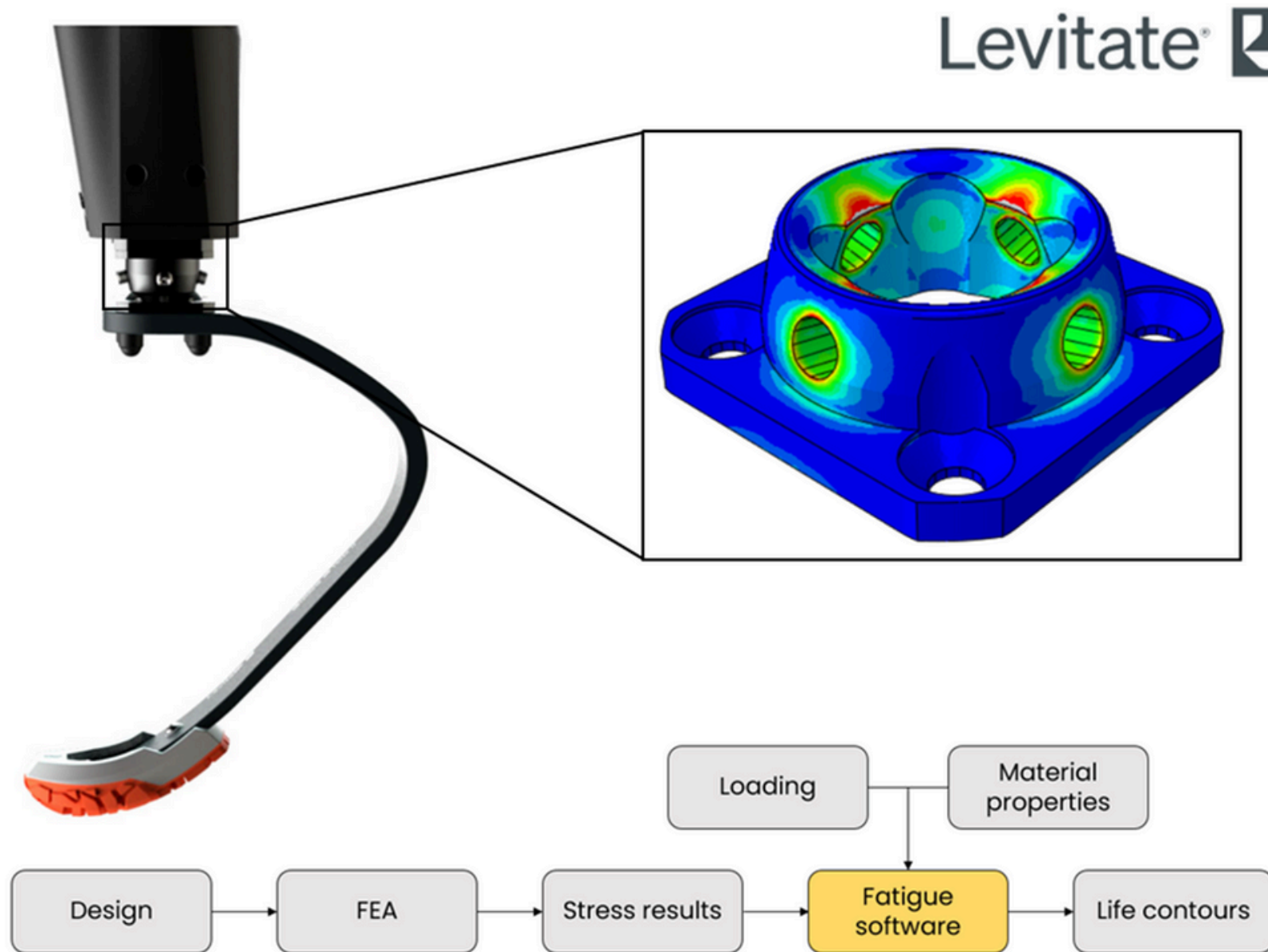
Andrzej has previously worked as simulation/software engineer at companies like Liftra, DIS, Traxial.

Case studies

All of these projects were executed by the team members on behalf of SimulaX engineering Aps.



Life-time analysis of running blade adapter

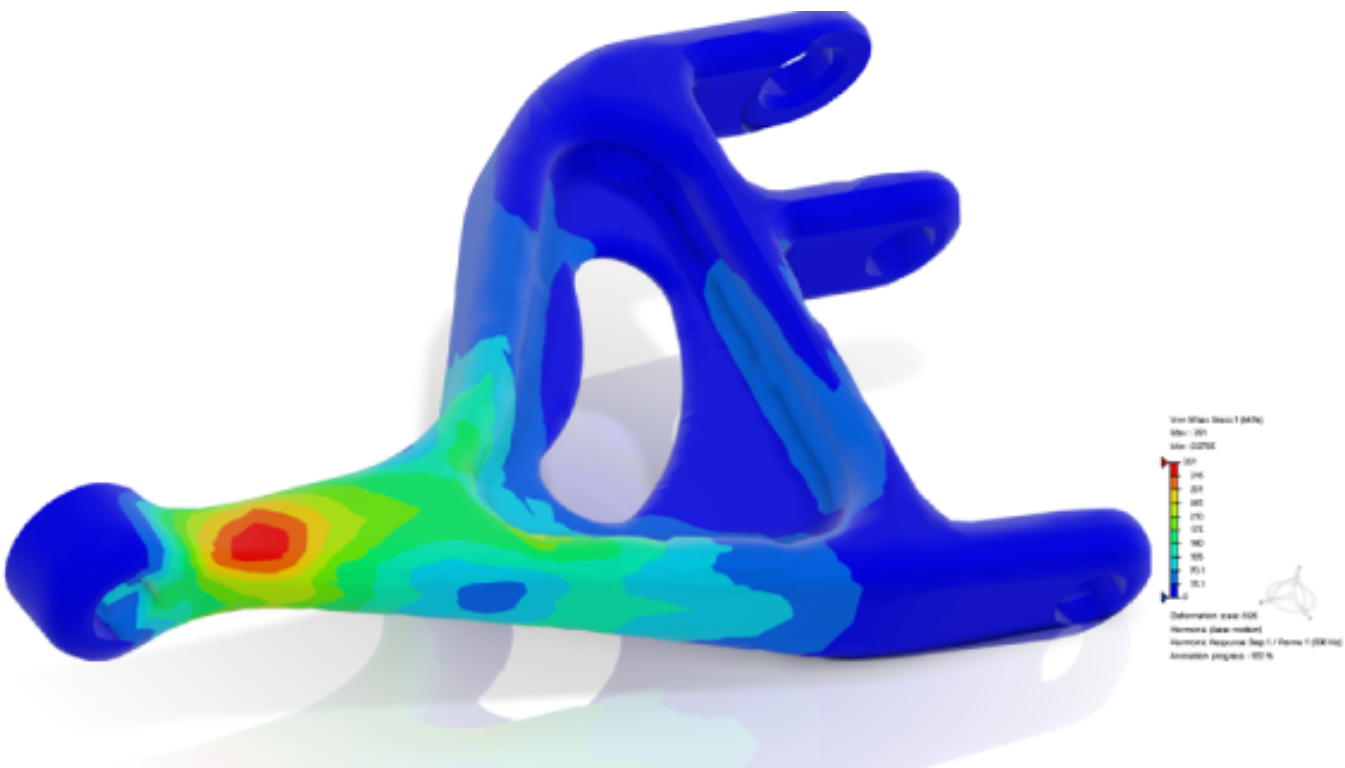


Levitate - Buy Running Blades (letslevitate.com)

Our latest collaboration involved a partnership with a leading running blade manufacturer, focused on revolutionizing the mobility solutions for amputated individuals.

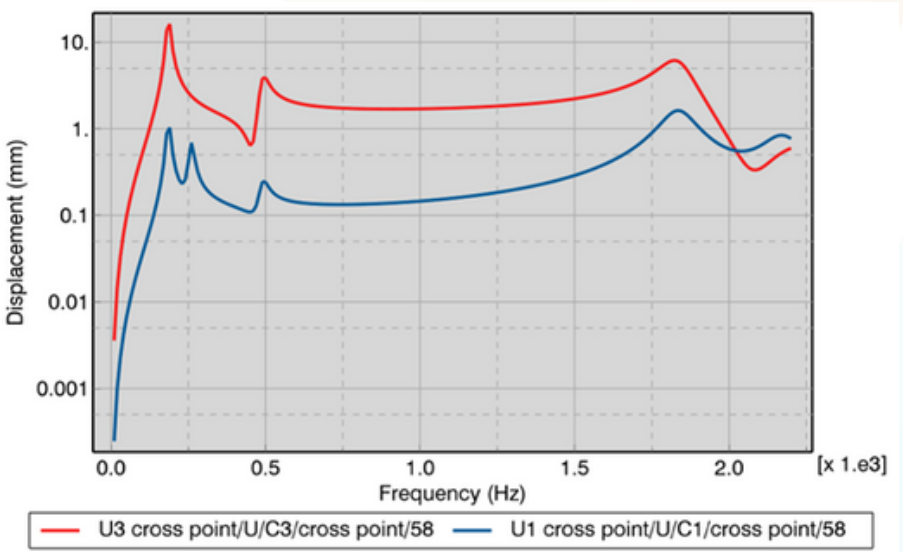
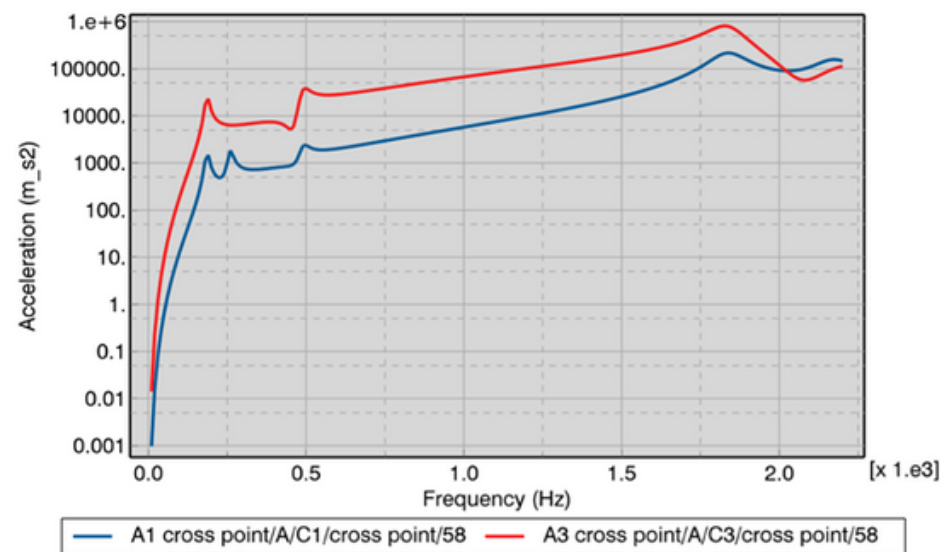
The collaboration was initiated in response to expanding adapters durability, where our goal was to elevate the overall design for enhanced performance and longevity. The running blades, crafted for amputated individuals, demanded a thorough investigation through static structural analysis and a life-time fatigue study to identify and address improvement possibilities.

Harmonic analysis of control arm

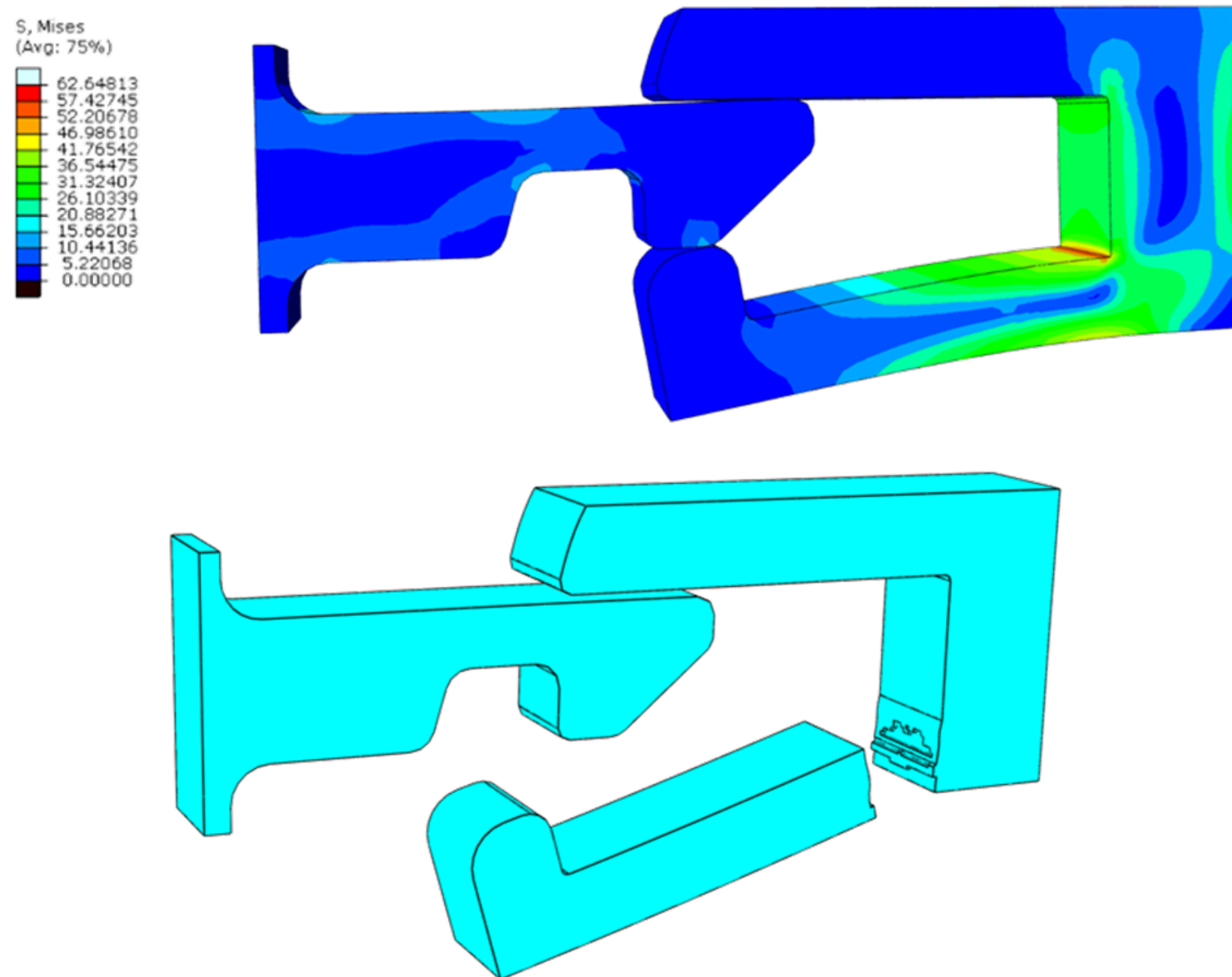


Our client from the automotive industry requested the investigation of their EV car control arm. The movement profile and amplitude was give in the form of base motion in X and Z directions.

Harmonic analysis solves linear dynamic problems with periodic loading by focusing on the steady-state response. Using the modal superposition approach, the system response is calculated by combining modal contributions across a frequency sweep, requiring a prior modal analysis to identify natural frequencies.



Polymer snap-fit evaluation

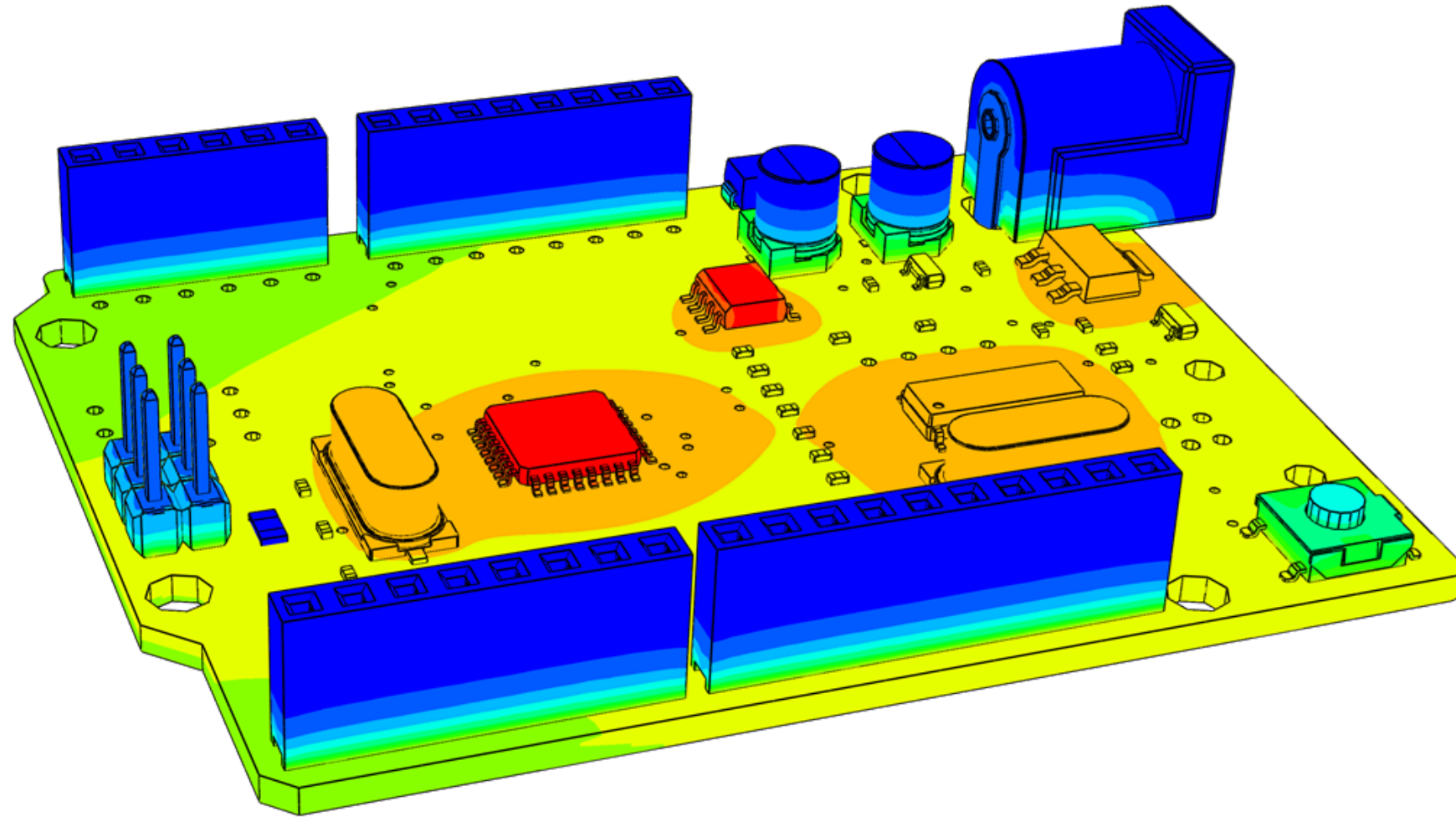


A client in the consumer goods industry sought our expertise to investigate the performance limits of a snap-fit connection. Their key focus was understanding the maximum snap deflection and corresponding reaction forces to ensure the nominal working conditions are within the failure criteria.

Using finite element simulations and polymer failure criteria, we precisely calculated the snap-fit's deflection limits, and the forces required to break the component.

Whether you need to optimize snap-fit connections or address complex mechanical challenges, our simulations deliver the answers you need. Additionally, our simulations can predict other factors like stress relaxation over time, offering deeper insights into long-term durability.

PCB thermal analysis



MEMS sensors, consisting of micron-scale mechanical systems, are highly sensitive to environmental changes. Simulations are used to predict the effects of temperature and deformation on both the sensor package and sensing cores.

Such a device is used in a frequently changing environment. Therefore, requires a transient approach which aims to simulate rapid and frequent heating cooling cycles over time.

These analyses help identify overheating risks and ensure proper heat flow within the device.

