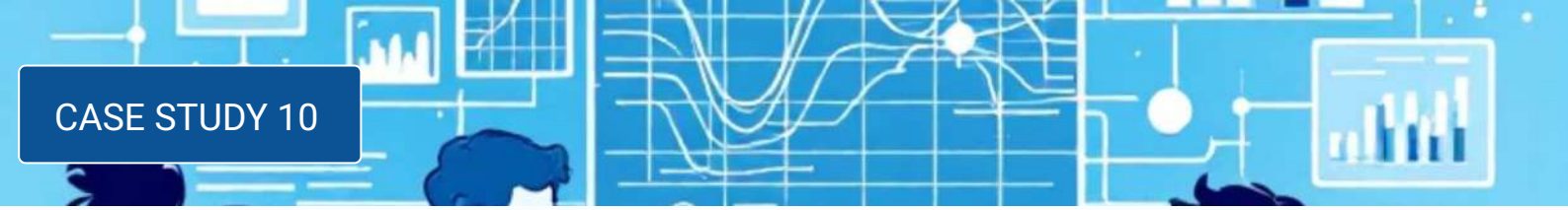

CASE STUDY 10

# Science–Industry Collaboration – Open Source Simulation Software & Usage

## Fostering Collaborative Innovation in Computational Science

### The Challenge

In 2007, the landscape of Open-Source computational science, particularly in advanced engineering simulation domains like fluid dynamics, combustion, and mechanics, faced a significant chasm between academic research and industrial application. The client's mandate was to bridge this gap, enhancing the symbiotic relationship between cutting-edge university research and the tangible R&D needs of industry. Key hurdles included the dissemination of complex open-source tools, the standardisation of best practices, and the establishment of trust and shared objectives between highly specialised academic researchers and industry practitioners. The goal was to accelerate the adoption and refinement of open-source simulation software, thereby driving innovation and efficiency in industrial R&D as well as making engineering simulation tools economically accessible for anyone.

## My Contribution

I took the initiative to design and orchestrate a series of targeted science and industry experts' presentations and expert panels aimed at fostering this crucial collaboration. My role involved meticulously identifying leading figures in the open-source simulation community and key industry R&D engineering entities with expertise and critical needs in fluid dynamics, combustion, and mechanics. I facilitated structured dialogues, curated presentation topics, and organised workshops that showcased the latest academic breakthroughs while directly addressing industry's pressing challenges. Through these platforms, I actively promoted knowledge transfer, best practice sharing, and the co-development of solutions, effectively building a vibrant ecosystem where theoretical advancements could directly inform industrial applications and vice-versa.

## Impact & Outcomes

### Increased Cross-Sector Collaboration

Successfully established new pathways for dialogue and joint projects, increasing the number of active collaborations between academic research groups and industrial R&D teams.

### Enhanced Visibility & Adoption

Boosted the profile and credibility of open-source simulation software within industrial contexts, leading to broader adoption and greater investment in its development and application.

### Accelerated R&D Innovation

The improved collaboration directly contributed to the faster development and deployment of advanced computational models, shortening development cycles and enhancing product performance for industry partners.

### Strengthened Community & Expertise

Fostered a more interconnected and robust open-source simulation community, drawing on diverse perspectives to collectively advance the field and address complex engineering challenges.

CASE STUDY 11

# Engineering Services & Unique Selling Propositions

## Building a Diverse Expert R&D Engineering Team for Competitive Innovation

### The Challenge

The client's objective was to establish a regional engineering team with robust R&D expertise, capable of identifying and securing key accounts. This team needed to support clients in driving R&D engineering and product innovation across critical domains: mechanics, electronics, machinery, and automation. A significant challenge lay in attracting and integrating highly specialized talent while simultaneously developing a compelling service offering that stood out in a competitive market. Furthermore, they needed to demonstrate tangible value to potential clients in nascent R&D phases.

## My Contribution

I led the strategic initiative to cultivate and expand the engineering services division, proactively anticipating future customer needs for competitive innovation. This involved developing and implementing a sustainable R&D engineering methodology designed to deliver cutting-edge solutions. My role encompassed the recruitment and development of a diverse, multidisciplinary team of engineers, ensuring a rich blend of expertise and perspectives. I crafted the division's unique selling propositions, developed strategic engagement models for key accounts, and personally mentored team members to foster a culture of excellence and client-centric innovation.

## Impact & Outcomes

### Clear & Compelling USP Established

Successfully defined and communicated a distinct Unique Selling Proposition for the engineering services, highlighting a unique blend of expertise and a deep understanding of early-stage R&D engineering needs.

### Acquisition of Key Accounts

The strategically assembled team and clearly articulated value proposition enabled the acquisition of several relevant key accounts, significantly expanding the client's R&D footprint in the region.

### Enhanced Diversity & Excellence

Achieved a 30% gender diversity within the team, alongside fostering various other forms of diversity. This rich mix of backgrounds and expertise was leveraged to drive innovative solutions and deliver unparalleled excellence in engineering outputs.

### Sustainable Innovation Pipeline

The developed R&D engineering methodology not only solved immediate client needs but also established a sustainable pipeline for continuous innovation, positioning the client as a leader in advanced engineering services.