Accelerating the delivery of more powerful design systems

BACKGROUND
Frazer-Nash is a founder member of CFMS Ltd, an independent, not-for-profit organisation committed to accelerating the delivery of more powerful and intuitive simulation-based design systems. Established in 2008, the organisation was formed by a number of leading engineering companies who combine their expertise to advance the development of the next generation of integrated design tools.

CFMS provides a robust framework to maximise opportunities through collaborative research, knowledge sharing and influencing technology developments. Its activities are structured around:

- Transforming the design experience
- Enhancing the use of knowledge and data
- Developing and using smarter design systems

In its first 3 years, CFMS successfully delivered over £20m of collaborative research involving over 30 organisations. CFMS has now built on this success by creating the infrastructure to widen its engagement and deliver opportunities to all companies who are interested in using simulation to improve their performance.

OUR INVOLVEMENT
Frazer-Nash has been involved in CFMS from the outset. We were part of the team that defined the structure of the organisation and helped shape the technical objectives of the £17m Core Programme of research, undertaken to better integrate simulation into the engineering design process.

As well as providing the Project Office function for CFMS to help coordinate, manage and disseminate the Core Programme, we also led a package of technical work which focused on marine applications of simulation. For example, we developed tools to automatically define and optimize hull-forms for fast boats based on their operating environment and performance requirements (see Figure 1). Addressing the complex technical challenges at the heart of the project, we managed to integrate optimisation, automation, and flow simulation capabilities to deliver a faster, more robust method of designing hull-forms. This work has dramatically reduced the timescales to perform modelling analyses by up to fifteen times. We have already exploited these capabilities on a number of live projects in the marine industry and beyond.

Today, we continue to play an active role in shaping the vision and strategy of CFMS. We form part of the CFMS Technical Committee and have recently been contracted to help set up CFMS’ new £6.4m Advanced Simulation Research Centre (ASRC). We are currently helping the company to develop an effective strategy to widen its engagement and identify future research themes to ensure CFMS continues to deliver real benefits to the UK simulation community.

For more information, please contact customercontact@fnc.co.uk or visit www.fnc.co.uk

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