



FOR IMMEDIATE RELEASE

## High Value Manufacturing Catapult: Slash new product costs and time to market with 'Certification by Analysis' standards for simulated testing

- *£950,000 investment in a three-month project to create new standards for digital manufacturing and smart design*
- *Team of experts from industry, academia and certification bodies to develop new framework for certification by analysis*
- *Potential to cut development costs and time to market while ensuring highest safety and performance standards for innovations*

**08.02.23:** The High Value Manufacturing (HVM) Catapult is launching a landmark £950,000 project to cut development costs and time to market for new products, by accelerating the UK's capabilities in certification by analysis.

Certification by analysis is the testing of goods through modern techniques such as computer modelling rather solely relying on the destructive physical stress-testing that has long been standard practice in manufacturing. Digital technologies, simulation and advances in mathematics offer significant opportunities to optimise the use of physical testing, cutting development costs and time to market. However, transitioning to a 'certification by analysis' approach remains a major challenge and one that requires input from industry and certification organisations.

*Towards Product Certification by Analysis* is a collaborative project, led by the HVM Catapult, that aims to identify and take critical early steps to accelerating these capabilities in the UK. At its heart is a team of experts recruited from industry, regulators, academia and the HVM Catapult network, tasked with developing an overall product certification assessment framework the results of which will inform a roadmap.

New manufacturing techniques, increasing product complexity and the ever-present imperative to keep costs and development times competitive, mean new regulatory and certification frameworks and techniques are required – the traditional 'make and test' approach may no longer be the optimum choice. Net zero targets demand we change the way new products are designed and manufactured. Certification is key, as companies and consumers must be confident that the goods they buy meet safety and performance standards.

The certification framework will assess the relative readiness level of individual products to transition to certification by analysis and identify the core challenges. The framework will be tested against industrial use cases with the team producing a more detailed study establishing the first steps towards accelerating certification of composite and steel pressure vessels in multiple current and future applications.

The project team will also collate current 'best practice' from across industrial sectors, delivering case studies where certification by analysis techniques have proven effective, and publishing a final report on research findings.

As part of the project, an engineering IT test environment will be created to enable the team to work with software vendors to evaluate future digital ecosystem needs for certification by analysis.

This three-month seed project also includes an initial skills and training gap assessment - a critical part of ensuring any future framework can be successfully implemented.

**Announcing the project, Katherine Bennett CBE, HVM Catapult CEO, said:**

“It cannot be overstated that customer confidence in the safety, quality and performance of new products is critical to their success. Certification for the net zero world is not simply a case of ‘digitising’ today’s processes – we need to define a new way whereby complex products are validated and regulated. The UK has an opportunity to lead in this area, accelerating pathways to certification by developing new UK standards that encourage the use of analysis techniques.”

## Notes to Editors

*Towards Product Certification by Analysis* is led by the HVM Catapult with the support of the National Composites Centre, University of Sheffield Advanced Manufacturing Research Centre, National Manufacturing Institute Scotland, and the Manufacturing Technology Centre.

The project supports the “Smart Design” approach of the UK Innovation Strategy, driving novel approaches to regulation and establishing a co-creative engineering workforce supported by digital techniques that will maintain the UK’s credibility as an engineering innovation powerhouse.

Companies interested in the project or who wish to provide a ‘best practice’ use case on digital certification, which will be disseminated as part of the project reporting, are encouraged to contact the HVM Catapult. To gather input to the assessment framework from a wide range of stakeholders, the project team will be hosting a series of workshops over the next three months. To submit a use case or participate in a workshop, email: [digitalengineering@nccuk.com](mailto:digitalengineering@nccuk.com)

For further information please contact:

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## About the High Value Manufacturing Catapult

Established and supported by Innovate UK, the High Value Manufacturing Catapult bridges the gap between business and academia, helping to turn great ideas into commercial realities by providing access to world-class research, development facilities and expertise that would otherwise be out of reach for many businesses in the UK. The HVM Catapult prides itself on helping businesses to transform the products they sell, the way they make them and the skills of their workforce to remain competitive in a global marketplace.

The HVM Catapult’s centres are:

- University of Sheffield Advanced Manufacturing Research Centre ([AMRC](#))
- Centre for Process Innovation([CPI](#))
- Manufacturing Technology Centre ([MTC](#))
- National Composites Centre ([NCC](#))
- National Manufacturing Institute Scotland ([NMIS](#))
- Nuclear Advanced Manufacturing Research Centre ([NAMRC](#))
- Warwick Manufacturing Group ([WMG](#))

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