

## **SemiWise-Led Consortium Wins £354K Innovate UK Grant to Develop Power Electronic Training Courses Based on Virtual Manufacturing Concepts**

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**Glasgow, United Kingdom, January 31, 2023** – Innovate UK has awarded a grant of £354,982 to a consortium led by SemiWise with the remit to develop and deliver training courses for power electronic devices manufacturing companies in the UK. This funding will accelerate the growth of the power electronics industry by addressing the acute training and recruitment shortage in the semiconductor sector.



The project, called “Virtual Manufacturing Based Power Electronics Design and Manufacturing Training Courses,” was submitted in response to the Innovate UK call, “Driving the Electric Revolution – Building Talent for the Future 2.”

The power electronic industry in the UK is a key element of the Power Electronics, Motors and Drives (PEMD) manufacturing supply chain. The courses to be developed will take on an innovative virtual approach utilizing industry-leading Synopsys Sentaurus™ Technology Computer Aided Design (TCAD) tools and the Synopsys Design Technology Co-Optimization (DTCO) solution for power electronics. This allows hands-on training—including face-to-face, Zoom and on-demand web-based delivery—without prohibitively expensive manufacturing training facilities. The courses will cover silicon (Si), silicon carbide (SiC) and gallium nitride (GaN) power electronics devices, which are all of interest to UK power electronics manufacturers.

The need for such courses has been identified by the National Microelectronics Institute (NMI), a network of Techworkshub Limited, in numerous surveys and meetings with its power electronics manufacturing industry members. As a member of this consortium, NMI will ensure that the courses will meet in full the requirements of the UK power electronics industry. The needs have also been confirmed in discussions with the different Driving the Electrical Revolution (DER) centers in the UK.

## News Release

The leading organization SemiWise will oversee the course development and delivery. The CEO of SemiWise, Professor Asen Asenov, who is also the James Watt Professor of Electrical Engineering at Glasgow University, has more than 40 years of experience in the semiconductor industry and academia. In the last 30 years he has developed and delivered most of the semiconductor and power electronics courses at Glasgow University.

“SemiWise is delighted to play a key role in this project, developing the courses and the virtual manufacturing-based laboratories and delivering the training. The project will strongly benefit from the expertise of Synopsys in this field as well as by the use of the industry-leading Synopsys Sentaurus™ TCAD and DTCO solutions,” said Asenov. . “We believe that this project will deliver significant competitive advantage to the power electronics industry in the UK.”

Jillian Hughes, NMI network director, is delighted to be working with SemiWise, Synopsys and the industry on a course that is welcomed by its members. “This will help address some of the skills issues that we are facing by training new graduates, and by upskilling and reskilling existing employees, in an industry that is finding it difficult to attract new and experienced talent,” said Hughes. “This is a course which is unique and can be tailored to individual needs, as it is not taught in any university program, and I am excited to be part of this.”

This work was funded by Driving the Electric Revolution, an ISCF Challenge delivered by UK Research and Innovation.

**About SemiWise:** SemiWise (<https://www.semiconductorwise.com/>) develops innovative low-power CMOS transistor-level IP that improves performance and variability, and drastically reduces power consumption. SemiWise also offers simulation services and consulting to the semiconductor industry including fables, IEDM and foundry players. The CEO of SemiWise, Professor Asenov was the founder of Gold Standard Simulations (GSS), a 2010 start-up from the University of Glasgow which developed the first TCAD based Design-Technology Co Optimisation (DTCO) tool chain. After the acquisition of GSS by Synopsys in 2016 the TCAD-to-Spice technology originally developed by GSS is now part of the Synopsys TCAD offering in the so called TCAD-to-Spice flow and continues to be developed by the Synopsys R&D division in Glasgow: <https://www.synopsys.com/silicon/tcad.html>.

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**About TechWorks:** Techworkshub Ltd is a not-for-profit industry association consisting of member companies across the UK Deep Tech scene. We build collaborative networks to support the UK Deep Tech Sector, forming adjacent, connected communities which represent major players in technology industries to create vision and scale, driving profitable growth for UK Deeptech business. Originally conceived as the National Microelectronics Institute (NMI) in 1996, Techworks now consists of 270 member companies across four collaborative networks where semiconductor design, IP creation, manufacturing and associated supply chain are represented. NMI, a network of Techworkshub supports the established Semiconductor Manufacturing and supply chain communities with activities that encourage innovation, communication and collaboration

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