European
Passive Components
Industry
Association

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FOR IMMEDIATE RELEASE

EPCIA Student Award 2025

Mr Tim Kruse from the Department of Mechanical and Electrical Engineering at the University of Southern Denmark has been awarded the EPCIA Student Award at the 5th Passive Components Networking Symposium (PCNS) on 12 September 2025 in Sevilla, Spain, for his outstanding PhD thesis work.

The EPCIA Student Award Committee assessed the interesting publication of Mr Kruse as an outstanding academic work in the area of electronic passive components. The award is granted with € 5,000. The EPCIA award was granted to Mr Kruse for his thesis which addresses the development of a polymer aluminium electrolytic capacitor with a rated voltage of 1000 V.

This innovation is a big step towards the goal of reaching a rated voltage of 750 V. It describes the high voltage formation of the dielectric oxide, as well as discusses how to build a practical device including packaging. Lastly, it compares and classifies this technology with existing ones such as foil capacitors and liquid electrolyte capacitors. It demonstrates the highest rated voltage for a polymer aluminium electrolytic capacitor ever demonstrated while maintaining reasonable capacitance and Equivalent series resistance (ESR) values.

This innovation not only addresses a critical industry need for capacitor reliability but also promises substantial benefits to consumers, which can contribute to the safe and reliable operation of renewable energy and sustainable transport field such as wind power, railway traction, electric vehicles, etc.

"*The work of Mr Kruse especially contributes to the improvement of reliability of capacitors in power electronic converter by increasing the voltage resistivity of aluminium electrolytic capacitors*", according to the Student Award Committee of EPCIA. The Committee encourages students across all European universities who work in this area to apply for the EPCIA Students Award.

For all future applicants: EPCIA is granting the Student Award annually and is looking forward to receiving more theses or papers related to passive components. All details related to the EPCIA Student Award can be found on the EPCIA website: https://www.eusemiconductors.eu/epcia/epcia-student-award

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Handover of the EPCIA Student Award certificate: Tim Kurse, Winner of the Student Award (left) and Luca Primavesi, Itelcond

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About EPCIA: *The European Passive Component Industry Association (EPCIA) represents and promotes the common interests of the passive component industry active in Europe to ensure an open and transparent market for passive components in Europe as part of the global market place. Passive component manufacturers play a key role in the development of the electronics industry and more globally in the development of the e-society in Europe and the rest of the world. Every new function, every new semiconductor, generates new requirements in volume and performance for passive components. Supported by several large companies, a great number of SMEs (small and medium-sized enterprises), national associations and technological research institutes, the passive component industry has accumulated a considerable competence and know-how over the years.*