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<https://iiakm.org/conference/>

Invited Talk

Pushing the Limits: Supercapacitor Innovation in Motorsport and Beyond

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Abstract

Supercapacitors are emerging as a key enabler of high-performance, high-efficiency energy systems across multiple industries. This talk will introduce the fundamentals of supercapacitor technology—how it works, what makes it unique, and why it matters in the context of modern electrification challenges. We will dive into the world of motorsport, a demanding environment where power density, fast charging, and extreme reliability are non-negotiable. Through real use cases, we will explore how supercapacitors are being deployed for traction systems, torque filling, and auxiliary functions like electric power steering and regenerative braking support. Drawing from Novac’s journey as a deep-tech startup, we will also discuss the role of agile innovation in driving the adoption of supercapacitors in automotive and motorsport applications. Particular focus will be given to the dynamic between startups and established OEMs—how we navigate technology validation, integration, and co-development processes within corporate innovation ecosystems. Whether you are part of a corporate R&D team, a startup founder, or simply curious about the future of energy storage, this talk will provide insight into how supercapacitors are helping shape the next generation of mobility.

About the Speaker

Alessandro Fabbri is the Chief Product Officer and co-founder of Novac, an innovative Italian startup specializing in shapeable supercapacitors. He holds a degree in Vehicle Engineering from the University of Modena and Reggio Emilia (UniMoRe) and brings a robust background in powertrain modeling, engine design, and fluid dynamics simulation. Prior to Novac, Alessandro worked for three years at HPE COXA, where he focused on internal and external engine simulations. At Novac, he leads R&D operations, customer and collaborator management, and product development. His multidisciplinary expertise, developed through years of technical work and refined during multiple acceleration programs, positions him at the intersection of advanced engineering and strategic business development.

