ABB Power Density Startup Challenge 2023

Excel in power density and energy management for Integrated Motor/Drive

Go to website

I'm a startup, why should I join?

Paid MVP project. The two winning startups, one for each track, are awarded up to $30,000 each for a collaboration with ABB Motion to solve the challenge.

SynerLeap Special Membership.
A 6-month membership at ABB's startup accelerator SynerLeap will boost your growth and visibility with ABB, our industrial partners and amongst our customers as well.
Value $10,000.

Networking. Get attention – and stay in touch with people holding key roles in ABB.

Customers. Chance to get your solution posted for ABB global customer base.

Gain ABB insight. Interact with coaches from ABB Divisions and SynerLeap to gain knowledge about products, customers and industrial domains as well as support in business development.

Marketing. Opportunity to promote your solution throughout ABB, as well as across key ABB channels and in external media.

Access to state-of-the-art technology.
Get access to ABB unique tools, infrastructure and industrial data.

The finalists will attend the Final Pitching Event in US, December 7-8, in front of an executive panel. Meet, pitch and collaborate with ABB experts and leaders.

Apply now.
We process applications continuously during the application period.

2 challenges
2 awards, up to $30,000 each*

* Up to $30,000 for a collaboration with ABB Motion to develop a Minimum Viable Product (MVP) that can be productized and offered to ABB customers.

The Journey

Apply now

Oct 9 – Nov 21
Onboarding. Pre-coaching. 10 day challenge. Finalist selection event.

December 7-8
Final pitching event and award ceremony.

Jan-June 2024
Continued development and collaboration with ABB for the winners.

2024 Q3
Joint commercialization plan together with ABB.

Our 2 challenges

Innovative solutions for Electronics Packaging and Integration

Presented by Harri Mustonen

ABB Motion Drive Products Challenge

Innovative solutions for Thermal Management to achieve power density

Presented by Michael Offik

ABB Motion NEMA Motors Challenge

Hosted by:

ABB | SynerLeap Powered by ABB

ABB Motion Drive Products Challenge

Innovative solutions for Electronics Packaging and Integration

Revolutionizing Integrated Motor and Variable Frequency Drive Technology!

Presented by Harri Mustonen
Head of Business Development & Strategy

Are you passionate about Electronics Packaging and Integration? If so, we have an exciting opportunity for you to showcase your innovative ideas and make a significant impact in the world of motor and Variable Frequency Drive (VFD) technology. Welcome to the Power Density Challenge, where we invite you to reimagine the integration of VFD electronics into industrial motors while preserving or enhancing performance factors.

With a rich history of over 45 years in designing and manufacturing VFDs, the ABB Drive Products Division has established itself as a leader in innovation. By controlling the speed and torque of motors, we not only benefit the environment but also provide our customers with reduced energy consumption of up to 25% or more, along with extended equipment lifespan through minimized wear and tear. Delivering these advantages to our customers and making an impact on the environment is the driving force behind our passion. Now, we aspire to take it a step further by integrating VFD electronics directly into the motor, making all these benefits an integral part of the machine.

To achieve seamless integration of the drive into the motor...
...we need to explore disruptive approaches to packaging and integrating electronics without compromising their suitability for the industrial environment or their ability to meet high-reliability requirements (including temperature, vibration, and electromagnetic compatibility). Overcoming this challenge requires delving into higher efficiency and temperature-capable power electronics, reducing thermal interfaces, increasing electronics integration, ensuring the reliability of new devices, and implementing advanced thermal management methods. Success can come from individual solutions to these challenges, or by combining several solutions in a brilliant way.

We invite you to join us in innovating solutions for this integration challenge. Take part in our Power Density challenge on this website and embark on an exciting journey to transform the future of motor and VFD technology.

About ABB Motion Drive Products
ABB Drives is a global technology leader serving industries, infrastructure and machine builders with world-class drives, drive systems and packages. We help our customers, partners and equipment manufacturers to improve energy efficiency, asset reliability, productivity, safety and performance.

View challenge

ABB Motion NEMA Motors Challenge

Presented by Michael Offik
Director of Packaged Solutions

Innovative solutions for Thermal Management to achieve power density

Re-thinking thermal management in electric motors and drives to reduce overall size while maintaining industrial performance (durability, vibration, electromagnetics) and market competitiveness.

The ABB NEMA motors division is the #1 market leader in low voltage NEMA electric motors globally and has over 100 years of experience in designing, manufacturing and marketing industrial electric motors. Our motors are used to power manufacturing equipment and processes around the world. Almost half of the world's electricity is connected to electric motors, and packaging motors with drives can reduce energy consumption by up to 30%, providing a significant benefit for our customers and the environment. Our goal is to integrate the drive's electronics seamlessly into the motor, making it easy for our customers to adopt an energy-saving solution.

Better thermal management for integrated solutions is key.
Thermal management is a limiting factor in integrating motors and drives. We are looking for new ways to remove the thermal losses of a motor to aid in increasing power density while successfully packaging and integrating the drive and motor. The solution needs to operate in an industrial environment with varying temperature, vibration and other harsh conditions (humid, dusty, etc.). To overcome the challenge, we hope to receive a sustainable, simple and cost-effective solution that can be applied across a wide range of product ratings, applications and industries.

Please join me and my colleagues at ABB to innovate solutions for this integration.

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View challenge