

About SpinDrive

SpinDrive is a Finnish cleantech company working in the machinery industry. Our passion is to push energy efficiency to the maximum level and provide containment-free solutions for original equipment manufacturers. SpinDrive commercializes the research conducted at Lappeenranta University of Technology for more than 35 years.

Team



CEO Janne Heikkinen was a project manager in the customer driven projects. He is responsible for most of the business processes and finances. Janne holds a doctoral degree in mechanical engineering. He is experienced in the high-speed drive system design and mechanical analysis.



CTO Alexander Smirnov has a project management experience. He is the developer of the company software tools.

Alexander holds a doctoral degree in control engineering. He is a specialist in electromagnetic design, control and commissioning of AMBs.



COO Nikita Uzhegov is responsible for the customer relations and business development. Nikita holds a doctoral degree in electrical engineering and he was a key electromagnetic designer of five different successfully tested high-speed electrical machines.



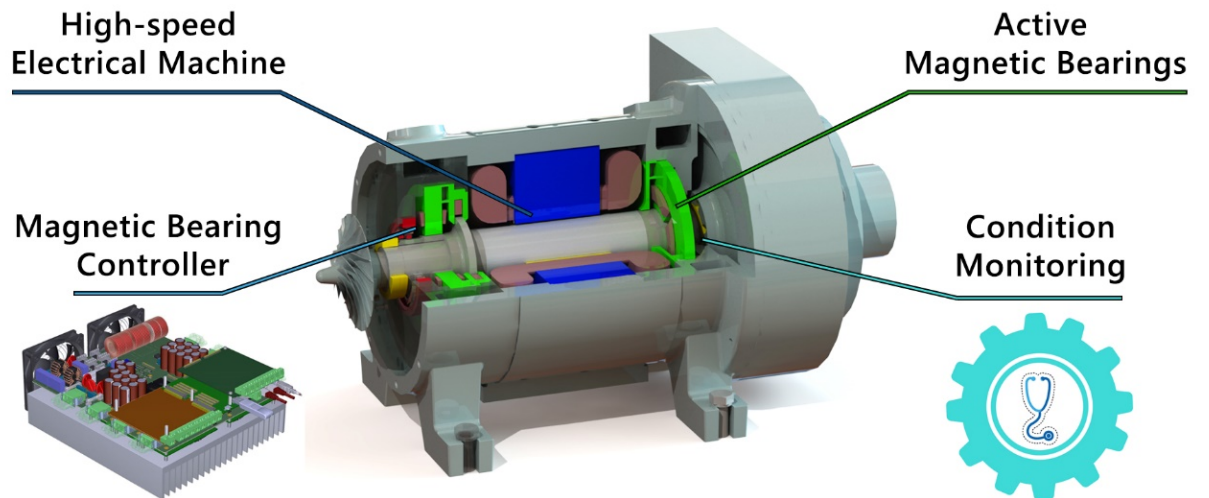
Chief Engineer Teemu Sillanpää has been involved as a key electronics designer and test engineer various projects. He is a specialist in electronics design, sensor technology and system testing. He is responsible for SpinDrive's product development to reduce system costs.

Partners and Sponsors



High-speed machine with active magnetic bearings

SpinDrive solution



SpinDrive provides turn-key high-speed drivetrains with active magnetic bearings (AMB).

We make design and prototyping of the high-speed drivetrains. In serial production,

we outsource drivetrain manufacturing and sell magnetic bearing packages.

SpinDrive typical power range is from **50 kW to 2 MW** and rotational speeds from **10 000 rpm to 100 000 rpm**.

Benefits

- **Energy efficiency.** System efficiency can be increased by 10% due to gearbox elimination, high partial load efficiency and frictionless operation.
- **Maintenance-free operation.** Contactless operation saves at least 15 000 EUR on the maintenance costs per unit annually.
- **Containment-free operation.** No lubricant required, which brings an opportunity to enter the new market, where lubricant-free operation is a compulsory requirement.
- **Predictive maintenance.** Built-in sensors constantly monitor condition of the system and provide reliable operation.
- **Suitable for harsh environment**
- **Low-noise and low-vibration operation**
- **Reduced footprint of the system**
- **High power density**
- **Adjustable control algorithms**

SpinDrive advantages

- **Customized drivetrain design** for the specific needs and challenges
- Own magnetic bearing sensors and controller provide **competitive price**
- **Fast time-to-market** due to own software design tools
- **Retrofit solution option**
- **Experienced team** with 10 manufactured and tested machines
- **Low-cost prototyping**
- **On-the-go control adjustment**

Feedback

"SpinDrive has fulfilled well the Ingersoll Rand expectations. The company is easy to work with, the results have been delivered as agreed and the work has been well documented."



Juha Saari,
Engineering Director

"The key advantages of SpinDrive Oy are the expertise of the team in the field of AMB technology, and their transparent and collaborative design work that is required in high-end applications."



Jaakko Säiläkivi,
CTO

Saving example

For 500 kW machine with 8 000 operating hours/year and Finnish electricity price the total energy consumption savings for 20 years of operation with SpinDrive high-speed drivetrain is 920 000 EUR.

Contact

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