

## 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.

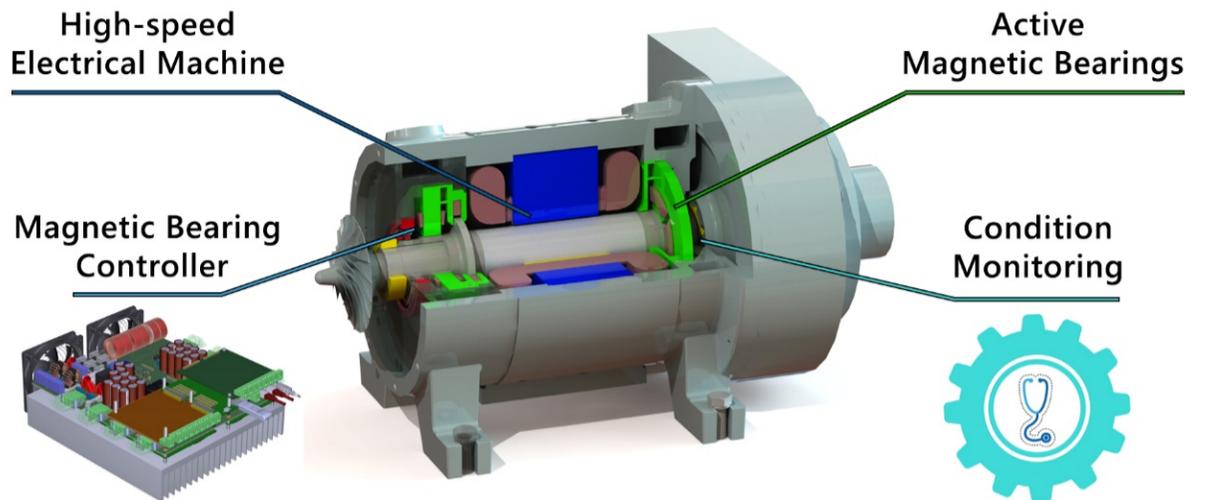


**COO Nikita Uzhegov** is responsible for the customer relations and business development. Nikita holds a doctoral degree in electrical engineering and he was a key electromagnetic designer of five different successfully tested high-speed electrical machines.



**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.

## 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.

## Partners and Sponsors



## Contact

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