



The Reliability Game

Atlantic Bearing Services focuses on experience, ingenuity and investment

Matthew Jaster, Senior Editor

The test bench for wind turbine gearboxes at the ABS Wind Brazil workshop is the largest capacity in LATAM dedicated exclusively to supporting the wind industry.

Call it destiny, divine intervention or good ole-fashioned fate, speaking with Alejandro Pardiñas, CEO of Atlantic Bearing Services (ABS) and ABS Wind, one gets the impression he had no choice other than to become a mechanical engineer. This was evident way back when his great-grandfather became a mining engineer for Rio Tinto.

“He was assigned to a copper mine in Cuba in the 1850s. And as a mining engineer that was when the saga of mechanical engineer in my family started. After that, I don’t know, there was probably a traditional song, genetics, whatever the case may be, nearly everyone in my family before me; my wife and now, my two my kids, have been involved in mechanical engineering,” Pardiñas said.

It’s no surprise the industry recently celebrated Pardiñas—and his engineering legacy—by presenting him with The Ponce de León Executive of the Year Award. Under Pardiñas’ leadership, ABS has transformed into one of the fastest-growing startups in the U.S. becoming a global leader in engineering solutions for heavy industry and the renewable energy sector.

ABS has expanded its portfolio with brands such as MGS Gears, ACB Custom Bearings, AEC Engineering Chains, and ABS Wind, a division specializing in services for the wind industry that has become a global reference in spare parts supply, repair and maintenance for major turbine manufacturers and wind farm operators.

A History in Manufacturing

ABS, strategically based in Miami, specializes in the design and manufacturing of custom-made industrial bearings, gearboxes, engineering chains, and special mechanical parts. These solutions are tailored to meet the specific needs of clients and crafted with a strong focus on pre-

cision engineering to support high-performance applications across various industries.

Since 1999, ABS has established itself as a trusted partner in industries like steel, cement, mining, sugar, renewable energy and more.

In Cuba, Pardiñas was responsible for taking care of industries such as mining, jewelry, steel mills and other local industries as a sales engineer. He then escaped the country and pursued a career in bearings and power transmission here in the United States.

“I started my career here in 1998 as a sales engineer in bearing and power transmission business. We opened ABS in 1999. This was a unique opportunity given that most bearing and power transmission distributors relied on the engineers from the OEM to support the end users. It was clear to me that ABS could be successful in the bearing and power transmission markets,” Pardiñas said.

A Proactive Member of the Engineering Community

Pardiñas used AGMA and ABMA documents and standards for his career project during school and later joined both associations through ABS. MGS Gears, one of the first three companies in Italy to join AGMA, further solidified this connection. As a board member of ABMA, Pardiñas actively supports the growth and competitiveness of the North American industry. His role on the National Industrial Advisory Board at Florida International University’s College of Engineering and Computing further underscores his dedication to educational excellence and fostering the next generation of engineering talent.

He has a unique origin story about being introduced to AGMA in college when two of his college professors in Cuba were allowed to access AGMA standards without a membership.

“My professors were the only instructors in the country that had a connection with AGMA and access to all aspects of gear design and gear science. It was a spectacular opportunity for us,” Pardiñas said. “In fact, one of my college professors, José Martínez Escanaverino from Cuba, has been working 14+ years at ABS as a scientific director.”

Escanaverino was recently honored with AGMA's prestigious annual publication award for his contributions to the ANSI/AGMA 6008-B24 standard, “Specifications for Powder Metallurgy Gears.” He became an Academic Member of AGMA in 1993 and actively participated in the Helical Gear Rating Committee (HGRC), earning recognition as an Associate Member for his work on the ANSI/AGMA 2001-D04 Standard, published in 2004. One of his most notable contributions was a paper presented at the 1999 FTM in Denver, titled “Failures of Bevel-Helical Gear Units on Traveling Bridge Cranes (99FTM13).” The paper addressed a longstanding debate between crane and gear manufacturers regarding service factors for gear unit selection and provided clear recommendations to both manufacturers and end-users, resolving the controversy. Due to restrictions imposed by the Cuban government, he was unable to attend the event. However, AGMA executives arranged for a designated presenter, and the paper's significance led to its full publication in the November/December 2000 issue of *Gear Technology*, where it was praised as highly relevant and impactful for its audience.

Reliability Focused

This magazine has frequently covered gearbox and bearing reliability. It remains one of the most challenging aspects of mechanical power transmission to date and an area in which Pardiñas has invested heavily at ABS.

“Everybody's struggling on the reliability side. And we've invested heavily in it since the very beginning,” Pardiñas said. “We are designing gears, gearboxes and bearings every month, because 80 percent of our revenue is a custom-made power transmission component, designed by us and produced internally.”

ABS acquired a gearbox repair facility for the wind industry in Costa Rica nearly 15 years ago, followed by a second facility in Mexico in 2017. This expansion continued with the establishment of ABS Wind Mexico, with locations in Puebla and Oaxaca; ABS Wind Brazil; the ABS Wind US workshop in Big Spring, TX; MGS Gears in Milan, Italy; and a facility in Dalian, China. These strategically located facilities have enabled ABS to localize its services. Today, ABS provides engineering, reverse engineering, repair, field services, and more, serving clients across the USA and in over 20 countries worldwide.

The company prides itself on adapting to the changing dynamics of the mechanical power transmission markets and analyzing the impact they may have on the industry.

“We typically compete with major industry-leading organizations in our field. Our flexibility and ingenuity are areas that allow us to adapt to our customer's requests,” Pardiñas added.

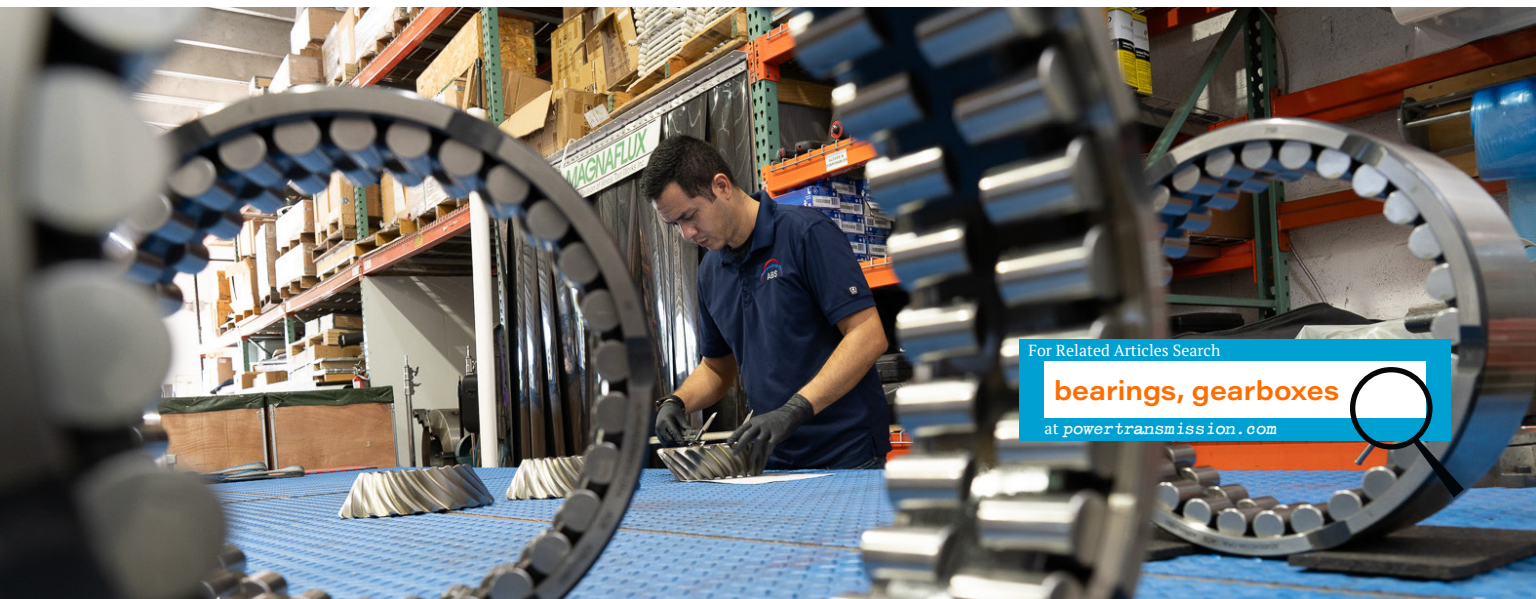
MGS Gears, led by Maurizio Stucchi and backed by a team with 30+ years' experience is synonymous with precision and Italian design. ABS Wind, a global company specialized in multi-brand maintenance and repair solutions for wind turbines, and ZF Wind Power, a world leader in the manufacturing of wind turbine announced a strategic collaboration at the Cleanpower congress for the repair of their gearboxes in the North American market in early 2024.

This partnership designates ABS Wind as the authorized and exclusive partner for the repair of gearboxes and components from ZF Wind Power in America. It also enables Thrive, ZF Wind Power's service concept, to strengthen the efficiency to regional partners.

The hub of this operation will be located at ABS Wind's expansive facilities in Big Spring, TX, a strategic location equipped with qualified personnel and the necessary technology, including an advanced test bench for wind turbine gearboxes. This setup ensures compliance with the stringent quality standards demanded by the technological giant.

“This partnership with ZF shows our global customers that we are key players in gearbox repair and reflects our growth as their exclusive partner in the United States,” Pardiñas said.

Marco Partidas, ABS Quality Engineer, working on ACB bevel gears, which are key components in gearboxes.



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Award-Winning Leadership

At the Chamber's 44th Anniversary Gala in 2024, the Spain-US Chamber of Commerce in Florida honored Pardiñas with the 'Executive of the Year' award and recognized Avangrid-Iberdrola, a leading energy and technology giant, as 'Company of the Year' for their remarkable contributions to the energy sector.



Monica Vázquez, president of the Spain-U.S. Chamber of Commerce, presents the Ponce de León Award to Alejandro Pardiñas, CEO of ABS.

Reflecting on the award, Pardiñas commented: "For an American entrepreneur, born in Cuba, who maintains strong personal and business ties with Spain and whose business extends and creates value across various Ibero-American countries, receiving this recognition from the Spain-U.S. Chamber of Commerce as a testament to my professional journey is both an honor and a source of deep pride. I share this achievement with my founding partners, who believed in this venture, as well as with all the members of the ABS and ABS Wind teams."

The award surprised Pardiñas in a good way. "It was great just to be nominated by the Spain-US Chamber of Commerce in Florida and I was humbled to receive the award. We rarely get the opportunity to stop and look

back at what we're capable of achieving. It means a lot to our organization as well as the Cuban American community. We are successful in music and banking, but rarely do we get recognition in the engineering sciences," Pardiñas said.

Future Insights

ABS is planning to establish its first roller bearing factory by the end of 2025. "We are doing everything on our own and will be operational by September. This will give us an advantage in the market because we are going to be a local manufacturing facility," Pardiñas stated.

The company also aims to consolidate its presence in certain niche market segments, including areas affected by upcoming tariffs. Furthermore, ABS is gaining recognition as a strong player in the U.S. steel and renewable energy sectors, which now constitute a significant portion of its business activity.

To further enhance its expertise in renewable energy, ABS is launching ABS Power Conversion, focusing on systems for wind, solar, electric vehicles (EV), and battery energy storage systems (BESS). These initiatives underscore ABS's dedication to advancing the energy transition with innovative and sustainable solutions.

ABS is also investing heavily in research, exploring advanced repair techniques, bearing housings, and solutions for heavy load challenges, among other areas. "There's no large research venture in the repair and replace business—not in gears, but more on the big components," Pardiñas added.

Finding and retaining top-tier engineering talent remains another challenge the company fully embraces.

"When you're lucky enough to find the level of skill you need in our business, you need to be a magician to keep it inside the organization. Every single member of my team has plenty of opportunities outside of ABS. We need to be aware of this and we need to make ABS the best place to work for everyone and keep them invested in our organization," Pardiñas added.

The main challenge on the human resource side is trying to find the right engineers in the right location to grow the business while keeping sustainability and energy efficiency in mind.

Pardiñas said meeting the needs of the local industrial markets will be key to ABS now and in the future—a future that will certainly involve other members of the Pardiñas family joining the ranks of mechanical engineers—fate will certainly play a role in this.

For Pardiñas, he appreciates the chance to work side-by-side with his family.

"This is important for me, because you can imagine working 70 hours a week for 25 years, traveling +120 days/year you have compromised your time with your family, so at least you try to have quality time with them. I'm extremely grateful for the work/family balance this company has provided."

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