

## **The nuclear option for power transmission**

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**With the global shift to low carbon sources, nuclear power is very much back on the energy agenda. These complex, high value installations require equipment that attains the utmost quality standards to ensure reliable operation. This equipment often needs innovative power transmission solutions – a specialty of Altra Industrial Motion Corp.**

### **Back on the agenda**

As of 2021, 439 nuclear reactors were operational worldwide<sup>1</sup>, providing around 10% of the world's electricity<sup>2</sup>. Until recently it was a sector in slow decline, but the global drive to reduce carbon emissions and ensure a diverse energy mix has spurred a multitude of new nuclear projects utilising the latest reactor technologies.

Furthermore, governments and operators are extending the design life of existing sites in response to increasingly volatile energy markets. Obsolete equipment at these facilities is now being replaced by new. Another factor is decommissioning. Once a plant reaches the end of its useful life, the recovery and storage of radioactive materials is labour intensive over the long-term.

This rejuvenation of the sector means demand for cranes, pumps and drives for nuclear applications is increasing. From construction to operation to decommissioning, nuclear projects require the very best power transmission products.

### **Pressures on suppliers**

Nuclear power generation is one of the most demanding industrial sectors to provide equipment for. Supplier accreditation, rigorous quality control, total traceability and extensive documentation are the minimum standards. Reliability and security of operations are paramount in all areas of the facility, especially in the handling of radioactive materials. Operators and contractors are looking for suppliers who can provide the ultimate in quality, redundancy and custom engineering capability.

The high upfront costs, long lead times, great complexity and tight schedules of nuclear projects put pressure on suppliers too. Consequently, contractors prefer suppliers who can provide turnkey solutions, local support from experienced personnel and excellent product availability. Failing to deliver equipment on time can delay the schedule and risk the project going over budget, so local responsiveness and capacity is key.

### **A nuclear family**

Leading brands of Altra Industrial Motion Corp. including Ameridrives, Bibby Turboflex, Formsprag Clutch, Nuttall Gear and Stromag are all proven suppliers of innovative power transmission solutions for the nuclear industry. Providing brakes, gearing, couplings, drives, power units and monitoring systems to new power stations, lifetime extension and decommissioning projects worldwide – these brands are experts in demanding nuclear applications. Altra products are utilised in reactor buildings, fuel storage and waste handling cranes, all types of pumps, cooling fans, generators and other rotating equipment. These brands are experienced in working closely with operators, contractors and OEMs to deliver specialised solutions.

For example, Nuttall provides speed increasers for Westinghouse pressurized water reactors, while Stromag installs EDF C3 approved

crane braking systems for use in advanced pressurised water reactor buildings. Formsprag was instrumental in the development of long-life Anti-Rotation Devices (ARDs) for reactor coolant pumps in pressure water reactors, while Ameridrives and Bibby regularly provide high performance couplings for cranes, generator sets and boiler feed pumps.

### **Familiar with the industry**

As established power transmission OEMs, each brand has the production capacity and stock availability to meet the supply demands of large-scale projects. Furthermore, each has the custom engineering capability to deliver assemblies and components to the required quality and redundancy standard.

This is evidenced by the familiarity of each brand with the requirements of the industry. Experience providing the correct quality documentation, traceability and product testing assures customers that power transmission equipment will perform as reliably in even the most demanding applications.

### **The nuclear option**

The global reach of Altra also ensures that brands offer localised support to nuclear facilities worldwide. This includes new power stations in Europe, lifetime plant extensions in the U.S.A and beyond. Altra's single-supplier, localised approach helps to simplify procurement and expedite project schedules. Additionally, expert personnel are ready to respond to any on-site requirement.

With Altra's engineering capability, industry experience and high service level throughout the product lifecycle, new power station, lifetime facility extension and decommissioning projects have comprehensive, turnkey power transmission support. This helps to ensure reliability across all

operations, improving return on investment (ROI) for these high value undertakings that represent the pinnacle of engineering.

<sup>1</sup>[\[https://www.iea.org/fuels-and-technologies/nuclear\]](https://www.iea.org/fuels-and-technologies/nuclear)

<sup>2</sup>[\[https://world-nuclear.org/information-library/current-and-future-generation/nuclear-power-in-the-world-today.aspx\]](https://world-nuclear.org/information-library/current-and-future-generation/nuclear-power-in-the-world-today.aspx)

**Image captions:**



**Image 1:** Brands of Altra Industrial Motion including Ameridrives, Bibby Turboflex, Formsprag Clutch, Nuttall Gear and Stromag are all proven suppliers of innovative power transmission solutions for the nuclear industry. (Image Source: iStock – 000027400809)

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## About Altra Industrial Motion Corporation

Altra Industrial Motion Corp. is a premier industrial manufacturer of highly engineered power transmission, motion control and engine braking systems and components. Altra's portfolio consists of 27 well-respected brands including Bauer Gear Motor, Boston Gear, Kollmorgen, Portescap, Stieber, Stromag, Svendborg Brakes, TB Wood's, Twiflex, Thomson and Warner Electric. Headquartered in Braintree, Massachusetts, Altra has approximately 9,100 employees and over 48 production facilities in 17 countries around the world.

For more information, visit [www.altramotion.com](http://www.altramotion.com)

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