

Bernard Controls: raising the standard for actuation excellence

Bernard Controls SN range of actuators for inside containment applications.

Bernard Controls is celebrating its 75th Jubilee this year, a prestigious milestone for a company which has striven to provide products of excellence to a wide range of industries over the decades. Nuclear Exchange travelled to the company's headquarters near Paris, France to learn about its activities in the nuclear market and how it is carefully developing actuators that surpass even the strict requirements of the nuclear industry. Present were Chairman & CEO Mr. Etienne Bernard, Company Secretary Ms Christine Bernard, Quality Manager Mr. Bernard Barbot, Executive Vice President for Sales Mr. Jean-Yves Pinvidic, Executive Vice President for Marketing Mr. Fabien Lemaitre and Business Development Manager for Western Europe & Mediterranean Mr. Alan Rochery.

By Joanne McIntyre

Bernard Controls is one of the world's leading manufacturers of electric actuation and has an unbeatable reputation in the nuclear market. Three-quarters of a century of

continuous experience and know-how in delivering quality solutions for industry valve automation have seen the company expand beyond its home-base near Paris and today 70% of its sales are outside

of France. While the company has been around for many decades, some readers may remember it by its original name: L. Bernard. The change in name to Bernard Controls which took place last





year was designed to strengthen the company's global brand and strengthen the link between the mother company and its subsidiaries around the globe. "The new name is a more refined technical, industrial and modern reference for a brand which is used in many fields of activity," explains Ms Christine Bernard. "The name represented a new start and new momentum for the company. We believe it's the right moment to reassert some of our key values which have been core to our activities for many years: relationships, expertise, loyalty, innovation and dedication. These values are directly linked to our activities in our different markets. In the nuclear sector we have built up strong relationships with major

players over the years thanks to 40 years of continuous experience and expertise. Moreover, our innovation strategy has enabled us to propose key solutions to handle the safety requirements of the nuclear sector."

"Safety has always been a key concern in the nuclear industry and this is all the more important since the recent events in Japan. Bernard Controls addresses these requirements through a controlled innovation policy. This is possible thanks to both our decades of experience and the central role of our Quality Department, which is deeply involved in the production process. The result is product design which actually goes well beyond the latest safety requirements." continues Ms Bernard. "Our values are perfectly in-line with the issue of safety in the nuclear industry. Today, Bernard Controls is an international leader in the nuclear field so we are very proud that our values conform exactly with the sector."

Four decades of nuclear experience

"Bernard Controls has always been an innovator," explains Mr. Pinvidic. "Many actuator manufacturers build up new specifications according to engineering requests. However we are able to capitalize on our 40 years of continuous experience in the sector to invest in new developments that will serve the whole nuclear industry. Our aim is to influence the key specifications requested by end users and engineering companies through carefully controlled innovation. This means that we actually play a role as a driving force behind key specifications." Bernard Controls has been active in the French nuclear program since it began in the early 1970s with 900Mw reactors. Today 100% of nuclear power stations in France – 58 reactors – use its actuators. "We're also very active in the Chinese nuclear program which is the fastest growing in the world," continues Mr. Pinvidic. "The Chinese initially based their program on the French reactor designs with which we are very familiar. Today our long history in that industry means that Bernard Controls actuators have been delivered in more than 100 nuclear power reactors around the globe." "It's important to keep in mind that the experience we have gained has been

continuous," adds Mr. Rochery. "This has ensured continuity in the company of know-how, staff, nuclear culture, and production tools. Today that experience is continuing to grow through our involvement with the EPRs. In Flamanville, France, all the actuators (both nuclear and conventional islands) are supplied by Bernard Controls. At Olkiluoto 3 in Finland, our actuators will play a major role in the ventilation system of the nuclear island. In the Chinese Taishan EPR, Bernard Controls is equipping the whole nuclear island. Our products are thus installed in key nuclear projects worldwide."

"An added advantage which customers such as EDF are well aware of is that we have the ongoing experience of working on a 'standardized' installed base. Each new reactor type has evolved from previous designs, and we've been involved with them all. By remaining active in the industry over the years we have retained all of our valuable experienced staff and know-how, and have been able to engage in a constant development process with every types of pressurized water reactor in use."

Controlled, quality innovation

The Quality Department is integral to the company's activities and plays a major role in product development for nuclear applications. It is headed by Mr. Bernard Barbot, who has over 22 years of experience in the company. "The Quality Department is the backbone of the company and is driven directly by the head management. The role of my department is to guarantee that the standards for nuclear production are respected at every step by defining the rules and specifications," he explains. "One of the department's most important roles is overseeing safety-oriented innovation. The Quality Department is involved in every step of the production process, from the design of a product right through to installation on-site, and beyond. We are making continuous improvements based on expertise gained in the field and our own many years of experience. However innovation is strictly controlled and is designed to surpass current requirements."

An example of this is the company's SN range of fully waterproof, inside



containment electric actuators which can withstand immersion to a depth of 60 meters, explains Mr. Etienne Bernard. "Our seismic qualifications also exceed the levels demanded by today's standards.

Furthermore, several years before the Fukushima incident, we were already working on a failsafe design for product that can be used in hydrogen explosion prevention. These innovations are driven by experience. Over the years we have developed a real expertise for nuclear issues, particularly in regard to safety. Bernard Controls is ahead of the curve in meeting the increased safety specifications which will emerge in the future."

"This strong commitment supports our presence in many nuclear reactors worldwide – both for new generation reactors such as in China, Finland or France and for the retrofitting of existing plants" continues Mr. Bernard. "Thus,

“Our values are perfectly in-line with the issue of safety in the nuclear industry”

Bernard Controls product developments for Generation 3 plants bring automatic upgrades for Generation 2 plants. For our customers of course, in addition to

safety, the desire to develop designs which are able to shorten outage maintenance is very important. In this respect the modular design of our actuators

offers several clear advantages. Modular, actuators designs allow quick intervention and decrease the amount of maintenance required on the actuator itself. In return, this leads to diminished exposure time for on-site personnel and users, an important safety consideration at every plant."

Global expansion, global knowledge

As the market share of Bernard Controls has grown over the years in the power generation, water, industry and oil and gas markets it has steadily expanded its global presence, explains Mr. Lemaitre.



Bernard Controls Failsafe actuator – with automatic spring return in case of emergency signal.

"Today the company has seven subsidiaries operating in China, Europe and the United States. In addition, sales offices operate in four locations outside of France in Bangkok, Dubai, Moscow and Shanghai. In addition to our own locations we work closely with over fifty agents and distributors across all continents." One of the key assets within Bernard Controls remains the knowledge and

Excellence in innovation; a word from Etienne Bernard, Chairman & CEO

Bernard Controls has always been an innovator in the nuclear market, and its range of SN actuators is the latest example. So where does the inspiration for these innovations come from?

"The design of our SN range of nuclear actuators, which were qualified four years ago, emerged from the close relationships we have developed with all major nuclear companies. Drawing on our 40 years of continuous experience and knowledge exchange with these key players, we were convinced that nuclear energy will remain necessary in both industrialized and developing countries, with the key condition being a high level of security," explains Mr. Bernard. "Secondly, given the development of new techniques appearing in the nuclear technologies such as the EPR, AP1000 and new generation reactors, we felt we had to design and manufacture products which bring together all the latest technological evolutions. Three key innovative features were integrated into the design:

- Strengthened watertightness with the possibility of this to be checked at any moment;
- Modular design for easy maintenance, and especially the necessity to reduce exposure of on-site personnel within the reactor containment;
- The latest modulating technology, since electric modulating is more reliable and performs better than pneumatic modulating.

These features mean that the SN range not only meets but actually surpasses today's stringent requirements for the nuclear industry. In this way Bernard Controls continues to raise the bar for excellence and improve safety across the industry".



VIDEO INTERVIEW
with Mr Etienne Bernard

See the exclusive video interview with the President of Bernard Controls at www.nuclear-exchange.com/BernardControls





Bernard Controls, reliable partner of the most challenging markets.

experience of its staff around the globe. Mr. Bernard Barbot continues: "As a company we feel proud because we see that our older, more experienced personnel are continually passing on their decades of knowledge to the younger generation. Knowledge transfer across the generations can be a concern in industries such as nuclear, particularly for after-sales departments who are required to pass on their expertise to the customer. It's essential for staff to have a very thorough understanding of both the field and the product, and that they have a high level of technical skill in order to be able to understand the requirements of a product. In this respect our long-standing presence in the French market is an enormous asset; we have very good relationships with all the French players in the field which secured us a strong introduction into the Chinese market. This enabled us to open a subsidiary in Beijing a few years ago and quickly reach an agreement directly with our Chinese customers. We've built up strong relationships and have a very high level of confidence with our Chinese partners. Evidence of this is the fact that most of the new build Chinese nuclear power plants will contain Bernard Controls actuators. Of course it required a lot of close cooperation and hard work between our technical department in France and our Chinese partners to reach this point. It was a long process to

gain approval but our commitment to the five cornerstones of our business philosophy: relationship, expertise, loyalty, innovation and dedication, have taken us to the top of the market with our partners around the world and will continue to pave the road ahead for future successes."



For any further information related to Marketing & Communication, please contact Alexandra Fontaine – BERNARD CONTROLS Group, Marketing & Communication Support. news@bernardcontrols.com

Facts & Figures

Name:	Bernard Controls
Headquarters:	Gonesse, France (Paris area)
Manufacturing sites:	Asia – Beijing (China), Europe – Gonesse (Paris, France) & Grandvilliers (Oise, France)
Subsidiaries & Sales offices:	in Asia (China), Europe (Belgium, France, Germany, Italy, Spain) and the United States. Sales Offices in Asia (Bangkok & Shanghai), the Middle-East (Dubai) and Russia (Moscow)
Agents & Distributors:	More than 50 over the world, including Brazil and Republic of Korea
Products:	Electric actuators (quarter-turn, multiturn, failsafe, modulating, nuclear and special design) and associated controls (intelligent controls INTELLI+ and fieldbus solutions – Master Station)
Quality certifications:	ISO 9001-2000, ABS, ATEX, CE, CSA, GOST-R, GGTN, NEMA ...
Nuclear certifications:	IEEE, RCC-E, KTA
Main applications:	Power generation, Water, Building automation, Industries, Marine, Oil & Gas
NPP equipped:	over 100 nuclear reactors equipped worldwide
Main clients:	End users, engineering companies, valve manufacturers, systems integrators
Turnover:	40M € in 2010
Employees:	350
Website:	www.bernardcontrols.com

