

“Quality documentation is critical to the impression our products make. Xerox frees us to focus on our products, safe in the knowledge that the handling and printing of documentation is taken care of.”

– Thorbjørn Hansen, *Head of Global Logistics*
Danfoss Power Electronics



Our Challenge

“We specialise in manufacturing highly customised power control systems for industry, at just-in-time speeds. Our customers can choose the exact configuration they want from millions of options; they can specify everything from software requirements to brand labelling. We manufacture and ship these custom orders within 24-48 hours of order receipt. Nobody else can achieve such high levels of customisation as consistently and quickly as we do.

To match our quality products we need quality product documentation. Every product manual has to be precisely tailored to the customer configuration and their language preferences, and produced just-in-time, with 100% reliability, to match our manufacturing process.”

Our Solution

“Xerox provides us with a complete just-in-time document production service that interfaces perfectly with our manufacturing process. It’s fully automated and runs without fail 24 hours a day. It delivers the right manual from thousands of variants, in any of 30 different languages, in just 20 minutes.

Xerox has been doing this for us for 15 years. In that time our partnership has strengthened as they’ve continually innovated to match all the ways our production has advanced. We know they’ll continue to do so.”

Our Results

“Our success with just-in-time customisation is one of the main reasons we’re Europe’s biggest frequency converter supplier, and in the top four in the world. Xerox is an integral part of that success. They free us to focus on what we do best because we just don’t have to worry about the document side of things. Xerox has consistently overachieved for 15 years.”

- 20-minute turnaround for customised product documentation
- 24-hour operation
- >99% achievement of production SLAs
- Support for >4,500 document variants
- Support for 30 languages

“Xerox is also very good at coming up with new solutions for us; they’re very proactive in that way.”

– Susanne Krag, *Director of Marketing Services*
Danfoss Power Electronics



Just-in-time customisation gives Danfoss the edge

As orders stream into the Danfoss Power Electronics factory in Gråsten, Denmark, the factory has at most two days to manufacture and ship products to customers around the world. What makes this a particular challenge is that the factory isn’t producing standardised items in volume, but a wide range of highly customised frequency converters. They’re made to order, with customers specifying exactly what they want from millions of options.

It’s a challenge that Danfoss Power Electronics, part of the global Danfoss Group, is fully equipped to handle. The company is using IT intelligently to combine just-in-time manufacturing techniques with made-to-order customisation. This innovative manufacturing setup is an important competitive advantage for Danfoss; but it only works because there’s an equally innovative setup for creating made-to-order product manuals.

“Without quality product documentation our customers can’t install or operate their drives,” says Thorbjørn Hansen, the company’s head of global logistics. “With the Xerox service we have a really flexible system for producing up-to-date, customised manuals to order – without compromising on the volume or speed of our production.”

What just-in-time document production looks like

As soon as a drive has been tested at the end of the manufacturing process, a signal is automatically sent to the on-site Xerox control room to tell the Xerox system what variant of

drive is on its way and what language (or languages) the manual is required in.

The Xerox system automatically retrieves the appropriate print files for the customised order – full-colour for the cover and black-and-white for the contents – and assigns the job to one of five print lines. This capacity ensures that Xerox can always meet its commitment to delivering a finished manual within 20 minutes, 24 hours a day.

Through matching barcodes the printed cover and contents file are collated at one of three finishing lines. The whole process is automated, down to different trimming and binding for US and European paper-size requirements.

Once bound, manuals are inspected via video. If approved they’re stored in a pigeonhole, waiting for the correct product to arrive on a conveyer belt. RFID tags on every product package guide the Xerox delivery robots, which pick up the appropriate manual and drop it into the correct product package. The Xerox system then alerts the Danfoss production system that the manual has been delivered and the product is ready for shipment.

What it means for Danfoss

The on-demand system eliminates the need for Danfoss to hold stocks of manuals. They can update their document master files as often as they like and every manual printed will reflect the very latest version. This makes for a much better quality of manual for customers while being highly cost-effective for Danfoss.

Just as Danfoss produces highly customised drives, so Xerox produces highly customised manuals. The system can produce thousands

of different manuals to address different customer product choices, different branding and up to 30 languages.

“We’re a global company,” says Susanne Krag, the company’s director of marketing services. “It’s important for us to communicate with our customers in their language and Xerox lets us do this without effort.”

A growing partnership

Recently Danfoss has asked Xerox to apply its expertise to improve the production of all of Danfoss Power Electronics’ marketing communications material. Xerox has set up a web ordering portal through which Danfoss marketing and sales organisations in 70 countries can order local variants of brochures, leaflets and other materials. Xerox handles the whole supply chain: taking orders, getting the materials printed and delivered, and billing the relevant party.

“Having seen the value that Xerox delivers to our product documentation process, the marketing team wants to benefit from that too,” says Susanne Krag. “Our team’s expertise is in marketing, not managing the document supply chain for the materials we develop. It makes a big difference to our efficiency to be able to outsource all of that to experts like Xerox.”

About Xerox Services. Xerox Corporation is a world leader in business process, information technology and document outsourcing services. Our unique combination of industry expertise and global delivery capabilities helps you reduce costs, streamline operational processes and grow revenue while clearing the way for you to focus on what you do best: your real business. <http://www.consulting.xerox.com/case-studies/>



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