

**VELUX®**



**COMPANY**

VELUX

**INDUSTRY**

Skylights & Roof Windows

**COUNTRY**

Hørsholm,  
Denmark

**EMPLOYEES**

11,700

**WEBSITE**

velux.com

For over 80 years, VELUX has built an exceptionally loyal customer base, mostly working without external partnerships. However, as evolving technologies pushed the pace in their industry, VELUX arrived at a crossroads. How could they bring their newly conceived control pad solution to market quickly?

VELUX needed to outsource their electronics manufacturing expertise to innovate and streamline their product offerings. This led them to Jabil, a fully integrated company with expertise in design for manufacturing, global supply chain, and industrialization.

This is the story of how two industry leaders came together to unlock **new possibilities** and achieve **remarkable results**.

## CHALLENGES

- **Establishing Credibility and Trust:** The company required electronics manufacturing expertise to innovate and streamline their product offerings. Outsourcing product design was an entirely new venture for them.
- **New Technologies:** Customer specifications for an electronic ink display interface in a portable unit required engineering solutions that would ensure more efficient and sustainable power consumption performance.
- **War in Ukraine:** Manufacturing lines within Ukraine were exposed to potential disruptions and instability resulting from Russia's aggression against Ukraine, placing enormous pressure on employees, their families, and supply chains.

## SOLUTIONS

- **Process Improvements:** Existing manufacturing lines were optimized through automation, process improvements, and by localizing the supply chain. This approach reduced costs without compromising quality and reliability.
- **Design for Manufacturability:** Guided the company through design cycles, fostering confidence in industry-leading design transfer and manufacturing capabilities, ensuring a smooth transition of the product from concept to market.
- **Performance and Resilience:** Met delivery deadlines and manufacturing development timetable with resilience and dedication despite geopolitical instability, earning respect, admiration, and trust for future partnership.

## BENEFITS

- **Validates Outsourcing Model:** Jabil's exceptional performance validates for VELUX — as well as other firms traditionally reliant on internal resources — the benefits of a comprehensive manufacturing partnership.
- **Relieves VELUX Capacity Constraints:** Jabil's successful installation and scaling of high-volume, automated manufacturing lines frees VELUX for other priorities.
- **Strengthens Partnership:** The successful collaboration establishes Jabil as a preferred partner for future projects as VELUX explores new technology opportunities





“VELUX had been so accustomed to doing everything themselves but recognized that with limited resources it made more sense to stay focused on their specialty, building and designing windows and skylights, not on the electronics.”

**JERRY HARMER**

Senior Business Unit Director,  
Jabil

## Design Transfer Project for Control Pad Product Refresh is a First for Historically Self-Reliant VELUX

### How Process Optimization, Supply Chain Localization, and Operational Resilience Established a Lasting Partnership Built on Trust

VELUX enjoys a dominant position in the global market for roof windows, skylights, and sun tunnels. For over 80 years, the family-owned, Danish company has built an exceptionally loyal customer base, and they have done so mostly working without external partnerships. New products, historically, have been developed internally, including any requirements for electronics and related systems. In recent years, as evolving smart home technologies have increasingly pushed the pace in their industry, VELUX had arrived at a crossroads.

Electronics are now a critical part of the company's overall product portfolio, requiring expertise that lies outside VELUX core

competencies – making elegant window solutions. Over the last 20 years, initial steps towards a more outsourced manufacturing model have begun to slowly change the culture, with recognition that their in-house resources might actually benefit from synergies with external capabilities. What would it be like to open up to more substantial partnerships for new product development?

By early 2020, VELUX had identified an opportunity that would put that question to the test. Could an external company take the functional design specifications of VELUX for a critical new product idea and shepherd the project from concept through prototype, manufacturing, and then to finished product?



## LEGACY CONTROL PAD UPDATED FOR EASE OF USE AND IMPROVED FUNCTIONALITY

VELUX motor-driven shutters, skylights, and windows are managed by electronic control devices, like wall switches. Voice of customer research pointed to a want for easier interaction with a single control device, particularly in rooms with multiple products. The solution — a more modern, easy to use, single control pad that would not only simplify VELUX portfolio of products, but in time set up a more seamless transition to further smart home functionality..

VELUX reached out to Jabil to help them bring their newly conceived control pad solution to market. An external partnership of this nature was uncharted territory for VELUX, but the time was right, particularly with an eye towards accelerating and enabling innovation. The resulting product, sold today, is called **VELUX Touch** — a simple user interface control pad, differentiated in the market with a power efficient, sustainable e-ink display. Per the project's specifications, the interface's short delivery paths make navigating through the menus intuitive and efficient. The device itself delivers versatility, allowing it to be placed upon a table, or on the wall... wherever the consumer finds most convenient.

Jabil's expertise in design for manufacturing, global supply chain, and industrialization were among the competitive advantages that led ultimately to Jabil's selection for the project. Additionally, VELUX was attracted to Jabil being a fully integrated company, with the expertise and scale to facilitate solutions not only for current production, but also for development of new products.

Jabil and VELUX had a solid foundation to work from, as well. The relationship between the two companies had begun, on a more limited scale, four years earlier with Jabil providing PCBAs and box builds out of Jabil's Uzhgorod manufacturing facility in Ukraine.

## MANUFACTURING LINE OPTIMIZATIONS AND SUPPLY CHAIN LOCALIZATION LOWER VELUX COSTS

From the start of this initial collaboration, VELUX and Jabil built an exceptionally cohesive working dynamic despite the occasional surfacing of very different working styles. What began as a simple outsourcing relationship in time shifted into more of an advisory role with Jabil guiding VELUX through additional process improvements for evolving their legacy products with modern technology.

This included ramping PCBA line automation in the Uzhgorod facility to nearly 80% as well as automating more technically challenging mechatronics processes, such as screwing, within the manufacturing process. Particularly well received was Jabil's introduction of a new, automated, conformal coating process providing better protection against component degradation and increasing lifetime for VELUX products exposed to the elements. Jabil also substantially lowered bill of materials (BOM) costs through localization, where appropriate, of VELUX prior supply lines.

It was clear to VELUX that they had found a partner in Jabil that they could trust to help transform innovative ideas into fully commercialized, modern, cutting-edge products that would continue to delight their customers.

**“ It was quite a demanding project for both Jabil and VELUX, not only were there a lot of technical requirements, but it was also one of the first times that VELUX was co-collaborating with an external company on the full development of a product that would be manufactured with our logo on the back. ”**

### JESUS VILLALBA

Senior Director, Global Category Management,  
VELUX

“ Design to manufacturing is really Jabil’s unique differentiator; it is our expertise. When we design, we make sure we design to manufacturability, design to supply chain continuity, and design to the reliability in the field so that we have a sustainable product for our customer. ”

#### CINDY HOUSE

Sr. Engineering Services  
Director, Jabil

## ENGINEERING IMPROVED POWER CONSUMPTION FOR A MORE SUSTAINABLE PRODUCT

Karsten Åkjær Sørensen is the Senior Director, Mechatronics & Digital Modules at VELUX, based at the company’s corporate headquarters in Denmark. Improving ease of use and mechatronics’ performance of VELUX products is top of mind for Karsten and his team. So too is the emerging legislation around the world geared towards improving sustainability.

When an estimated 40% of the energy consumption in the home environment comes from heating or cooling, it is a winning strategy to help make controlling windows, shutters, and blinds easier for the people using them. Developing a power control unit with reduced power consumption is even better.

From the outset of the Control Pad project, Karsten’s team at VELUX engaged Jabil with a clear understanding of the use case scenarios for the product. Portability was a must have; the stationary wall units were falling short of meeting customer expectations for convenience. But portability drives its own unique requirements for power. Display interfaces, like the LCDs in early-gen VELUX controllers, typically consume a lot of power. Plus, the technology in VELUX legacy controllers was almost a dozen years old. Jabil’s engineering team – based at corporate headquarters in Saint Petersburg, Florida – made preserving battery life their top priority.

## JABIL’S GLOBAL TEAM DELIVERS TO SPECIFICATION

With power consumption front and center, Jabil’s lead designer on the project additionally challenged the team to design and develop a solution that would answer the VELUX ask for a differentiated product in the marketplace – one utilizing electronic ink for the display. This technology is standard practice for e-reading devices and tablets, but typically requires frequent, sometimes daily, charging.

Could they make the control pad battery stay powered for up to a year or longer without a charge or replacement?

Together with support from the system architect, based in Belgium, and an execution team in Taiwan, Jabil worked through a range of challenges, from engineering to component sourcing, as well as optimizing supply chain execution. Extending beyond their normal scope of work, the design team also worked up each of the user-interaction graphics that are delivered by e-ink technology to the screen.

The combined iterations of Jabil’s development team along with ongoing collaboration with VELUX resulted in an innovative e-ink display customer interface with low power requirements. It took a lot of time and focus to lower the power consumption, but VELUX Touch delivers approximately 16 months performance on a single charge.

The final VELUX Touch device – a small, 3” by 3” square plastic housing with an e-Ink display at the center – enables quick and easy access to frequently used features with a simple grouping of products, while intuitive controls simplify the setting of comfort modes for ventilation and light management. Sleep mode is managed by sensors calibrated to deliver the most power consumption efficiency. And even though VELUX Touch functions by itself without Wi-Fi, users are also able to manage all their VELUX smart home products through an app on their phones.

While the transition from design to manufacturing and industrialization was a smooth process, saving VELUX a lot of effort internally, Jabil offered the additional assurance of a three-year agreement to provide maintenance and sustaining services for the control pad product. Should VELUX identify a latency problem or other product performance issues reported by customers, Jabil will be responsible for fixing these issues.

## IN EXCESS OF 3 MILLION UNITS MANUFACTURED WITH RESILIENCE IN UKRAINE

As war erupted in Ukraine's eastern flank in March 2022, concerns were immediately raised over the safety of Jabil employees and their extended families across the country. Despite the extraordinary circumstance in the region, work continued successfully without much impact. Throughout the war, the VELUX team has been in constant contact to ensure that Jabil's people feel supported and unburdened in any way that can be provided.

VELUX Touch was released to market in spring of 2023. On the back of the unit, the device sticker includes the words: "Made in Ukraine for VELUX." It is the company's first product completely manufactured in Ukraine. Jesus Villalba reinforces how important this accomplishment is to VELUX – that from the outset of Russia's invasion of Ukraine VELUX was committed to staying firm with their plans to continue developing business in the region.

Villalba marvels that Jabil's manufacturing team in Uzhgorod has not missed a delivery throughout the entire run. "It's an amazing team, resilient, and so ably supporting us all along the way." Further demonstration of the deep appreciation of VELUX for their Jabil colleagues in Uzhgorod came in November of 2023, when Jabil Ukraine was recognized by VELUX as Supplier of the Year.

The scene at VELUX offices on that day was impressive. When the award honoring the work and dedication of the team back in Uzhgorod was presented to Jabil's team, the entire room filled with more than 300 grateful VELUX employees, cheered, and gave a standing ovation.



Attending that special moment, Jerry Harmer, Jabil's Senior Business Unit Director, provided this additional context, "It was such a positive emotional experience – that the people felt like they had achieved something in the most difficult situation that you can imagine."

Strong bonds are often forged amidst crises. For both Jabil and VELUX, coming together and solving shared challenges together, there is the additional pride knowing that customers across the world will see the "Made in Ukraine" label on VELUX Touch, and perhaps, other companies will follow the VELUX example to establish and maintain manufacturing in Ukraine.

The VELUX-Jabil partnership exemplifies the power of synergy between industry leaders. By embracing change, and innovation and nurturing give-and-take collaboration, companies can unlock new possibilities and achieve remarkable results. This has been a journey built upon mutual trust and respect and an enlightened way to fulfill the VELUX vision.

For additional information, visit  
[jabil.com](http://jabil.com)

### About Jabil

At Jabil (NYSE: JBL), we are proud to be a trusted partner for the world's top brands, offering comprehensive engineering, manufacturing, and supply chain solutions. With over 50 years of experience across industries and a vast network of over 100 sites worldwide, Jabil combines global reach with local expertise to deliver both scalable and customized solutions. Our commitment extends beyond business success as we strive to build sustainable processes that minimize environmental impact and foster vibrant and diverse communities around the globe. Discover more at [www.jabil.com](http://www.jabil.com).