FROST & SULLIVAN

ProGlove

2022
NEW PRODUCT INNOVATION

European Wearable Barcode Scanner Industry

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Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. ProGlove excels in many of the criteria in the wearable barcode scanner space.

AWARD CRITERIA

New Product Attributes	Customer Impact
Match to Needs	Price/Performance Value
Reliability	Customer Purchase Experience
Quality	Customer Ownership Experience
Positioning	Customer Service Experience
Design	Brand Equity

Growing Need for Paperless Warehouse Processes

The COVID-19 pandemic has fueled the rapidly rising eCommerce trend, increasing investments and take-up activities across Europe. Despite trends indicating significant growth in the warehousing and logistics industry, problems related to order picking, inventory management, and labor continue to challenge this industry. Furthermore, time lost by workers to sorting, lifting, moving, and scanning objects affects the operational efficiency and productivity of a warehouse or the entire chain.

With the exponential increase in online retailing in the last 5 years, the need for a warehouse management system (WMS) that provides complete operational visibility is high. Warehouse automation will support and simplify tasks performed by workers, reducing bottlenecks and maintaining faster throughput. Furthermore, the proliferation of Industry 4.0 across industries drives a paradigm shift toward a more agile and decentralized model. This move will augment the use of technologies such as barcodes and RFID to aid warehouse workers. Customers prefer systems that deliver a faster return on investment with ergonomic and easy-to-use hardware.

Commitment to Innovation and Customer-Centricity

Germany-based ProGlove is an engineering firm offering wearable scanners and a software platform to address warehousing challenges. Founded in 2014, the company combines speed, efficiency, and ergonomics in its solutions. ProGlove uses a unique modular platform-based approach to deliver innovations addressing market needs faster than the competition.

Unlike competing products, all ProGlove scanners weigh less than 50 grams and have a form factor similar to a matchbox, making them the market's thinnest, smallest, and lightest scanners. In 2022, ProGlove introduced three new scanners: LEO, MARK 3, and MARK Display Standard Range (SR).

The uniqueness of the LEO (Lightweight, Expenses eliminated, Over-the-air updates) wearable scanner is its price-performance value. The scanner's list pricing is approximately €499, at least 30% less than its closest competitor. ProGlove has positioned the LEO scanner as an entry-level scanner targeting small and medium-sized businesses that use scanner guns. Post-pandemic, customers have found it challenging to attract the necessary workforce because the strong demand for labor has resulted in higher wage demands. Customers exploring warehouse automation systems to do more with smaller workforces will find ProGlove's scanners and software a great value proposition.

A quantum leap in barcode scanning, the Mark 3 was introduced to provide customers flexibility in their scan range (from 10 centimeters to 6 meters). This unique autofocus feature helps reduce scan time by 5 seconds, translating to considerable time and cost savings for the customer. With an IP65 rating, the scanner is suitable for industrial environments and indoor and outdoor applications. The MARK Display SR is part of the MARK Display product range targeted explicitly at manufacturing applications with a scan range of 6 inches to 3 feet. MARK Display is ProGlove's premium product segment catering to mid and standard-range use cases. The MARK Display product series comes equipped with a unique 1.5-inch display that relays instructions to workers and provides them with the necessary information to enhance workflow and process efficiency. In addition to visual notifications, the MARK Display SR can notify workers haptically and audibly, significantly minimizing the risk of errors.

ProGlove's scanners stand out in the market for their long battery life and rapid charging capability. While competing scanners in the market require a longer time to charge, ProGlove scanners can be fully charged in less than 2 hours using the ProGlove charging station. The long battery life manages to deliver 4,000 (LEO), 6,000 (MARK Display SR), and 12,000 (MARK 3) scans per charge. ProGlove's products are plug-and-play devices and do not require specific worker training before use. ProGlove's extensive integration portfolio of connectors enables seamless integration with customers' enterprise resource planning, WMS, and cloud platforms. Through software development kits, the scanners can be linked to any mobile device, such as Android, iOS, and Windows.

Technologies such as one and two-dimensional barcodes and RFID or real-time location systems have been the backbone of material handling applications. For example, barcode scanning is an integral part of vehicle assembly (from inception to delivery) at the BMW assembly plant in Munich. The time required to scan these components was a crucial challenge in addition to scanning accuracy and verifying barcodes efficiently across all processes. By replacing its handheld barcode scanners with the ProGlove MARK Display scanner, BMW managed to shorten the scan time of each component by 4 seconds. With the Munich plant assembling approximately 1,000 cars a day, the 4-second scan time reduction translated

into significant time savings across shopfloor processes and massive monetary savings for BMW. Frost & Sullivan commends ProGlove for its innovative solutions that emphasize customer value.

Driving Market Adoption through Unmatched Customer Value

ProGlove maintains an interactive relationship with customers, allowing the company to enhance its portfolio continuously. An example of customer feedback translating to product development is its Hand Strap. Introduced in 2022, the Hand Strap optimizes a worker's dexterity while preventing issues like heat and perspiration that lead to errors in specific applications. Designed to support all ProGlove's scanner products, the Hand Strap makes equipping workers of different hand shapes and sizes easy as it is adjustable and can be used for left and right orientation. ProGlove's products also reportedly have a 95% recommendation rating by warehouse workers.[1] Frost & Sullivan lauds ProGlove's ability to deliver an ergonomically superior product and considerably reduce worker fatigue while improving worker productivity and lowering error rates.

An emphasis on customer satisfaction and continual penchant to improve existing product lines has helped ProGlove develop a broad base of elite customers. The company's impressive clientele includes BMW, Kuka Robotics, DHL, Volkswagen, Bosch Thermotechnology, Lufthansa Technik Logistik Services, and GEIS Group. ProGlove has a strong presence in the automotive, retail, and logistics sectors, with more than 500 customers globally. Backed by its robust brand image in Germany and broad customer base, ProGlove is expanding its reach to other parts of Europe and globally as part of its customer acquisition strategy.

ProGlove is shifting from a hardware company to a solution provider. The ProGlove Insight is a one-stop solution that uses embedded device data to deliver actionable insights. By using an API-first approach, which reduces costs and application development time, ProGlove creates modular, reusable application modules for customers. ProGlove Insight's unique capability of capturing metadata (device configurations, timestamps, temperature readings, battery health, and other raw data) in addition to barcode data through the MARK scanner series provides customers with a holistic view of the business. The solution's key functionalities include device management, worker safety, digital twin capabilities, and insight analytics. ProGlove Insight seamlessly connects with customers' manufacturing execution systems, WMS, and business intelligence through Insight APIs.

In 2021, ProGlove established a partnership with Ivanti Wavelink, a provider of supply chain mobility solutions focused on turning legacy warehouse systems into state-of-the-art technology. Through this partnership, businesses can use Ivanti Wavelink's Velocity solutions to implement an off-the-shelf product integrating ProGlove's MARK Display scanners with WMS. In 2021, ProGlove extended its existing partnership with Panasonic Systems Solutions Company to penetrate North America. With complementing portfolios, their bundled solution enhances supply chain operations. Furthermore,

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[1] https://www.proglove.com/general/humans-at-work-ergonomics-on-the-shop-floor/

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>
> *– Ram Ravi,*
> *Industry Principal*

ProGlove's collaboration with Samsung enables it to provide a complete standalone scanning solution for supply chain applications. By integrating its robust and ergonomically designed barcode scanners with the industry-leading Samsung Knox platform, ProGlove can offer customers improved comfort, efficiency, and data security.

In May 2022, Nordic Capital, a leading European private equity investor, made a strategic investment in ProGlove. This investment will enable ProGlove to accelerate its growth plans, expand its customer base, and strengthen its product development focus. Since its inception in 2014, ProGlove has raised funding through angel investors. In 2019, Summit Partners invested $40 million, which ProGlove will use to broaden its global presence. Frost & Sullivan applauds ProGlove for its strategic partnerships and continuous innovations and believes it is poised for robust future growth.

Conclusion

With growing digitalization and a challenging labor market, organizations increasingly seek to invest in technologies to support their workforce while improving operational efficiency. Known for its wearable scanners, ProGlove's MARK Display series and LEO scanners are the industry's thinnest, lightest, and smallest wearable barcode scanners. Targeting different customer tiers has helped diversify ProGlove's customer base. ProGlove continues to innovate and develop products to address unmet customer needs through customer feedback and investor backing. Strategic partnerships further offer the company significant opportunities in the hands-free solutions market. Its robust capabilities and value-added benefits have attracted top-notch brands to adopt ProGlove's solutions.

For its strong overall performance, ProGlove earns Frost & Sullivan's 2022 European New Product Innovation Award in the wearable barcode scanner industry.

What You Need to Know about the New Product Innovation Recognition

Frost & Sullivan's New Product Innovation Award recognizes the company that offers a new product or solution that uniquely addresses key customer challenges.

Best Practices Award Analysis

For the New Product Innovation Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

New Product Attributes

Match to Needs: Customer needs directly influence and inspire product design and positioning

Reliability: Product consistently meets or exceeds customer performance expectations

Quality: Product offers best-in-class quality with a full complement of features and functionality

Positioning: Product serves a unique, unmet need that competitors cannot easily replicate

Design: Product features an innovative design that enhances both visual appeal and ease of use

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

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The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

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Key Impacts:

- **Growth Pipeline:** *Continuous Flow of Growth Opportunities*
- **Growth Strategies:** *Proven Best Practices*
- **Innovation Culture:** *Optimized Customer Experience*
- **ROI & Margin:** *Implementation Excellence*
- **Transformational Growth:** *Industry Leadership*

The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Mega Trend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)