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ProGlove: Scan for success

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How an idea to save time on BMW's assembly line became a global leader for wearable technology

In July 2014, Paul Günther was pursuing a PhD in product planning at the Technical University of Munich at the Bayerische Motorwerke – BMW to the rest of the world – when he saw an announcement for the Intel “Make It Wearable Challenge”. It was a Friday, and the deadline was the following Monday. Together with three friends - Thomas Kirchner, Jonas Girardet, and Alexander Grots – Günther submitted a video, on time, for the idea of a smart glove, which he named “ProGlove”.

Two weeks later, the group put together a pitch with a prototype that was little more than an iPod glued to the back of a work glove from a Do-It-Yourself store. The vision was a miniaturised barcode scanner attached to a glove, and used in automobile assembly lines.

To make ends meet as a student, Kirchner had conducted guided tours through original equipment manufacturers’ (OEM) production facilities in Munich. He noticed that nearly every production line workers wore gloves, and every individual part needed to be scanned before assembly. For example, barcodes were pasted on the back of each part of a car cockpit and scanned before it was assembled. Workers thus used scanning pistols to scan the cars and parts hundreds of times throughout the day. Günther saw the opportunity and wondered, “How could the gloves be connected with scanners so that workers would no longer have to struggle with clunky scanner pistols?”

That idea was one of the top ten idea selected, and the team flew to San Francisco for the finals in November. Günther’s idea won, landing the team a cheque for US\$250,000. Two months later at the Consumer Electronics Show (CES) in Las Vegas, many of the major automotive and logistics companies expressed interest in the team’s idea, convincing the founders that their product had enormous market potential.

BUILDING, AND SELLING, THE GLOVE

The team proceeded to launch ten pilot projects with BMW, upon which conclusion ProGlove’s first product, a wearable barcode scanner called “MARK”, was launched in mid-2015. By August 2016, their first Smart IoT Glove was delivered to BMW.

The magnitude of this time saving was enormous. BMW, like many other large car manufacturers, produced approximately 1,000 cars per plant in a day. Assembling a car required scanning the parts at various points of the production process. Hence, if 1000 scans were needed per car, with 1000 cars per day at a plant, saving four seconds per scan would result in four million seconds saved per day. If one second was worth a dollar, this would translate to a financial gain of four million dollars per day and per plant.

The use of ProGlove's technology went far beyond the automobile industry. ProGlove's industry wearables could deliver significant benefits wherever barcode scanning played an important role. This included manufacturing, logistics and warehousing, retail and e-commerce.

Sporting equipment rental company Intersport Pregoner found ProGlove and initiated a test run to handle demand spikes for ski season. The pilot exercise had an inventory of 3,700 pairs of skis, 2,500 pairs of boots and 250 toboggans. Each item was recorded in the rental department via a barcode and individually assigned to the customer.

The smart technology from ProGlove was applied in the rental and return areas as well as at the checkout counter. The pilot had immediately demonstrated the product's ergonomic strengths. With the glove, employees had their hands free and could serve customers much faster, for instance, handing the bulky equipment to the customer, adjusting a boot binding, fitting helmets, and so on.

LOOKING AHEAD

In December 2018, ProGlove hired former TeamViewer CEO Andreas Koenig to be the Chief Executive. Koenig had been hired by ProGlove's founders to scale the company and bring it to the next level. He would have to take the hardware solution and build upon the potential of data collection and analytics.

With pressure from their investors to expand ProGlove's market quickly and avoid the threat of lower-cost solutions, Koenig needed to not only continue the company's success in high volume assembly and warehousing, but also to identify new industries which could benefit from ProGlove's entire hardware and software capabilities.

ProGlove's very first Intel pitch in 2014 had not only focused on the glove and scanner, but also on the potential exploitation of software in an industry wearable. The founders decided against developing more complex software solutions, which had been envisioned in the beginning. Koenig saw the potential of building on the existing hardware base and developing the full potential of the software capability.

ProGlove launched the ProGlove Insight in 2021, which was an advanced analytics platform for use with the ProGlove products. The Insight was described as "a one-stop-shop to improve workflows and processes by leveraging device data and time motion studies". Among other things, it contextualised barcode content, barcode symbols, device configurations, time stamps, scan duration, worker steps since the previous scan, temperature readings, battery health and other raw data.

Koenig knew the ProGlove Insight was the right next step for the company and would allow their client companies to capture data from their production and logistics easily, directly and in real-time, thereby providing real-time visibility and useful analyses for process optimisation and management. He was excited to see how the new Insight would be applied in different industries.

The potential for ProGlove's solutions to make effective and immediate impact in the drive for digital transformation was already proven.

At this point, he believed Insight would bring ProGlove to the next level. But how could Insight be applied to more industrial settings?

This is an adapted version of the SMU Case, "[ProGlove Smart Gloves: Let's Save Four Million Dollars A Day!](https://cmp.smu.edu.sg/case/5386)". To see the full case, please click on the following link: <https://cmp.smu.edu.sg/case/5386>.