

[Lire en français](#)

On October 10th, 2023, **Vestergaard celebrated 25 years of partnership with its Vietnamese manufacturer, 1010 Textile Company.** The partnership has thrived from its early beginnings to become a state-of-the-art manufacturing facility producing quality vector-control tools. Today, Vestergaard, a B-Corp certified science-based textile company, has manufactured over a billion bed nets. In celebration of this journey, we spoke with some of our longest-serving employees in Vietnam, whose experiences encapsulate the passion, expertise and innovation that define our company and our partnership.

As the one billionth PermaNet bed net rolls off the production line, the Vietnam Vestergaard team begins to produce the next batch of life-saving vector control tools. They know that time is precious in the race to defeat malaria, and every PermaNet bed net will protect a life from the disease.

“Bed nets may seem deceptively simple, but the manufacturing process is highly complex,” explains Van Nguyen, Operations Manager at Vestergaard. “The long-lasting insecticidal nets (LLINs) we produce are a combination of a textile garment and a public health tool. We impregnate the net with chemical insecticides using very high-tech equipment that must meet our demanding quality standards.”

Van oversees Vestergaard Vietnam operations, monitoring the company’s two manufacturing sites and coordinating with local sub-contractors. Aligning global operating standards, local regulations, and customer requirements is vital. “Even when speaking the same language, it’s essential to ensure that everyone is on the same page when it comes to delivering product requirements and upholding our industry-defining quality standards,” Van says.



“Bed nets may seem deceptively simple, but the manufacturing process is highly complex,” explains Van Nguyen, Operations Manager at Vestergaard.

The set-up in Hanoi is comprehensive and includes procurement and planning, logistics, laboratory testing, quality assurance and testing, technology development, administration and responsible supply chain/environmental health and safety (RSC/EHS)

The Vestergaard Quality Control Labs (VQCL) is the cornerstone of the company’s operations. Linh Vu, the dedicated Quality Assurance Manager at Vestergaard explains: “We’re involved from the very early stages of R&D to understand any new product development, making sure that quality assurance is built in long before it reaches the production line.”

VCQL ensures process and product quality control are integrated throughout the manufacturing journey. Linh’s team meticulously verifies the quality of PermaNet LLINs at every stage of production - ensuring all nets are “Fit for Purpose”. “Being involved from the

inception of a product means we can set the critical parameters for the production process, ensuring that quality is an inherent component and not an afterthought,” Linh says.



Linh Vu, the dedicated Quality Assurance Manager at Vestergaard explains: “We’re involved from the very early stages of R&D to understand any new product development, making sure that quality assurance is built in long before it reaches the production line.”

The complexity of this task is evident in the multifaceted nature of their work. “We must visually inspect the nets for any physical imperfections, assessing for holes and defects, as well as looking at physical strength parameters. Simultaneously, we assess the chemical content and properties, as ensuring precise chemical composition is essential. Our role is to ensure that our nets are effective against the mosquito vector.”

The VCQL is the endpoint for all batches of manufactured products before they are released for delivery.

Since opening in 2002, VQCL's expansion has been driven by a dedicated team of specialists. With chemical and textile labs located in both Vestergaard's manufacturing sites, they ensure the efficient production and distribution of effective LLINs. Meticulous attention to detail ensures every bed net provides vital protection.



Meticulous attention to detail ensures every bed net provides vital protection.

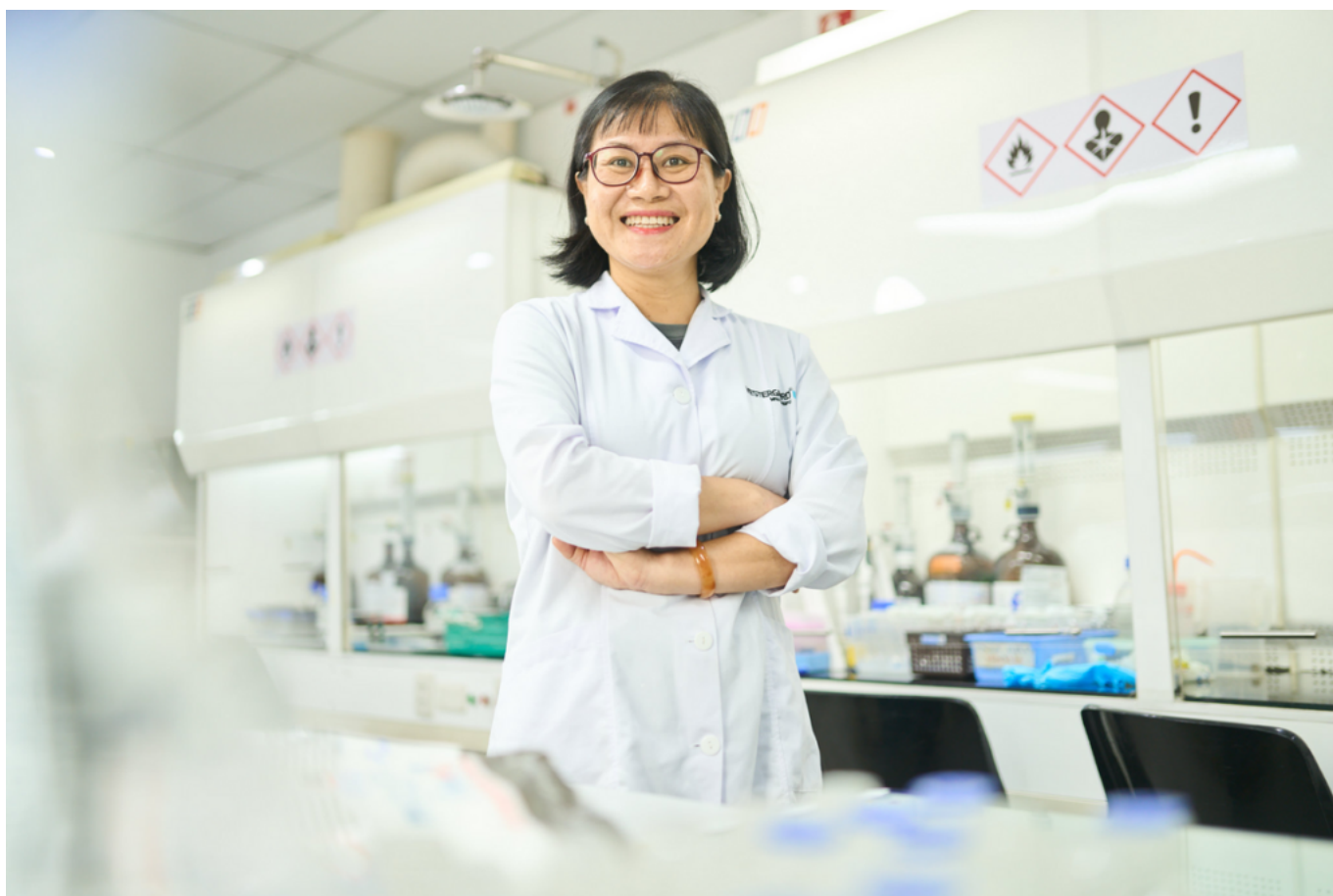
Van collaborates closely with external supply chain partners and subcontractors, nurturing longstanding relationships with manufacturers.

"It's incredible to see how far we've come," says Van. "We started with just one product and were only producing a small number of nets. Today, we have the most comprehensive range products and have manufactured over a billion nets, meaning that countless young children and families worldwide can sleep safely at night. Knowing that our products have equipped and protected them is a source of immense pride and satisfaction."

A vital link in the chain

Nam Le, Laboratory Manager was one of the VCQL's first team members. "When I joined Vestergaard, the lab was in its infancy," Nam explains. "We essentially started from scratch, operating with just two employees. Now, we have 17 employees in the lab, including technologists specialising in chemistry and textiles."

Nam has played an ongoing role in the lab's expansion over two decades, including securing the ISO17025 certification for the VQCL—evidence of the lab's capacity to deliver unwaveringly dependable results. "Compliance with this international standard verifies the lab's focus on continuous improvement in quality," Nam explains. "It is one of my proudest accomplishments because it demonstrates and reflects the professionalism and competence of our employees in contributing to the lab's success."



Nam Le, Laboratory Manager was one of the VCQL's first team members, "We essentially

started from scratch, operating with just two employees. Now, we have 17 employees in the lab, including technologists specialising in chemistry and textiles.”

Vestergaard played a pivotal role in the transformative shift from traditional treated nets to LLINs and from LLINs to piperonyl-butoxide (PBO) LLINs. Today, the company manufactures the most complete portfolio of bed nets on the market.

The range expansion has inevitably added complexities to a highly technical process, integrating new technologies, new formulations, processes, and quality control measures with each product iteration. This requires adaptability and a laser focus on quality to ensure each new iteration meets its performance targets.

“PermaNet Dual is our first dual-active ingredient net, which is an important evolution of the bed net, to tackle the increasing concerns about resistant mosquitos,” says Ngoc Nguyen, Procurement and Planning Manager at Vestergaard. “It has a unique formulation requiring a new process -which in turn means new procurement and production planning. We work closely with our partners to scale-up the process for this new generation of bed nets.”

To source raw materials, Ngoc needs to navigate the different lead times for ingredients shipped from all corners of the world. Lead times for one material could be six months, while others can be one week.



“Every net we produce and ship will protect people’s lives. It inspires me to know I am contributing to a global effort, and I am proud to be one small part of that,” Ngoc Nguyen, Procurement and Planning Manager

“We are like conductors for all the raw material suppliers,” says Ngoc. “It’s a constant challenge to synchronise all the incoming shipments to meet production timelines - making sure we don’t have excess inventory and we do have sufficient ingredients for production. Long-term visibility and foresight are crucial for meeting delivery deadlines.”

Motivation, however, is in plentiful supply. “Malaria is an unnecessary tragedy for the whole world, and every net we produce, and ship will protect someone’s life,” Ngoc reflects. “It inspires me to know I am contributing to a global effort, and I am proud to be one small part of that.”

Adapting for the future

The changing landscape of malaria and the evolution of mosquito vectors provide a constant test for the VQCL, bringing with it new product requirements, regulations and compliance.

“Our challenge for the future is to maintain competitiveness, adapt to the changing factors affecting malaria-transmitting mosquitoes, continue to meet customer expectations for quality and delivery, and also ensure the sustainability development including environmental, social and governance (ESG)”, Van says.

“It is our mission to ensure compliance of our product so that the best quality is established for all laboratories. I am currently focused on optimising the allocation of resources across the lab, setting goals to encourage lab members to be proactive and to contribute their unique value to the success of Vestergaard now and in the future.”

The billionth net is a testament to the unwavering dedication of Van, Linh, Nam, Ngoc, and their colleagues in Vietnam.

Their attention to detail, rigorous quality control, and proactive approach have been instrumental in achieving that milestone.

Each net produced is not just a number; it represents the triumph of innovation, science, and collaboration over a formidable adversary. It’s a testament that, in this global endeavour to eliminate malaria, quality is not just a standard to meet, but a lifeline for millions worldwide.