

Innovative Networks Accelerate Digitization in Warehouses

Remco Nieuwenbroek | Published: September 25, 2024

[translated from original version in Dutch]



Tom Runhaar (left) and Coert Zachariasse (right)

The increase in robotics and automation on the warehouse floor requires smart buildings and smart infrastructure. These factors make the implementation of new technology much easier and faster. A key element in making these solutions possible is a lightning-fast, stable network connection.

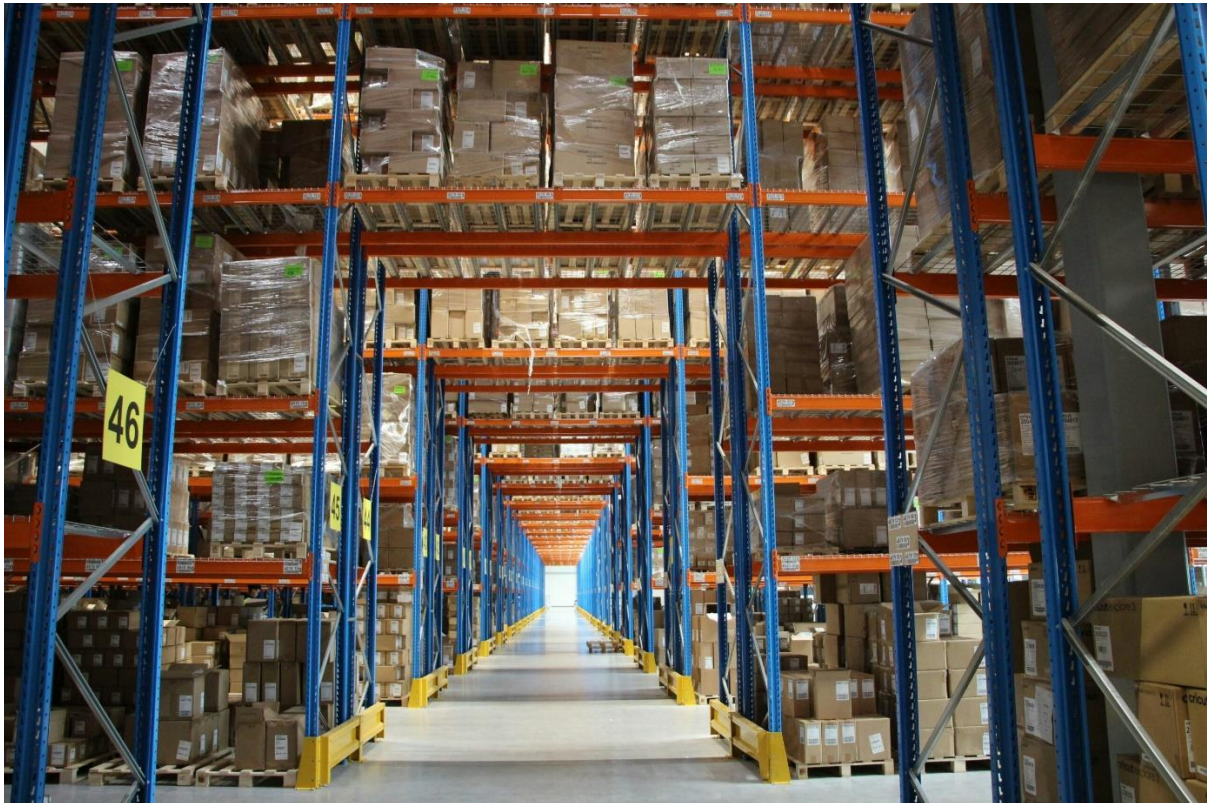
The Hello World project is one of the flagship initiatives at Schiphol TradePark in Hoofddorp. The logistics hub, which was fully operational as of March 2023 by logistics provider Rapid Logistics, spans over 47,000 square meters. Instead of using standard fiber optic cables for data connectivity inside the facility, Delta Development opted for Polymer Optical Fiber (POF).

Tom Runhaar explains that establishing a stable network in such large locations can be challenging. As a specialist in innovations for the logistics real estate sector, he assists companies, including Delta Development, in optimizing logistics properties through sustainability and smart building technology. The Hello World facility in Hoofddorp is an excellent example of how this innovation has been effectively implemented.

Implementing Smart Technology

Delta Development has adopted FiberUnlimited's custom Polymer Optical Fiber (POF) network module as a standard feature in the development of its new logistics locations. This allows buildings to be equipped with an efficient and sustainable network using

light-based infrastructure. A major benefit is that the implementation of other smart technologies in such massive buildings becomes much easier and faster.



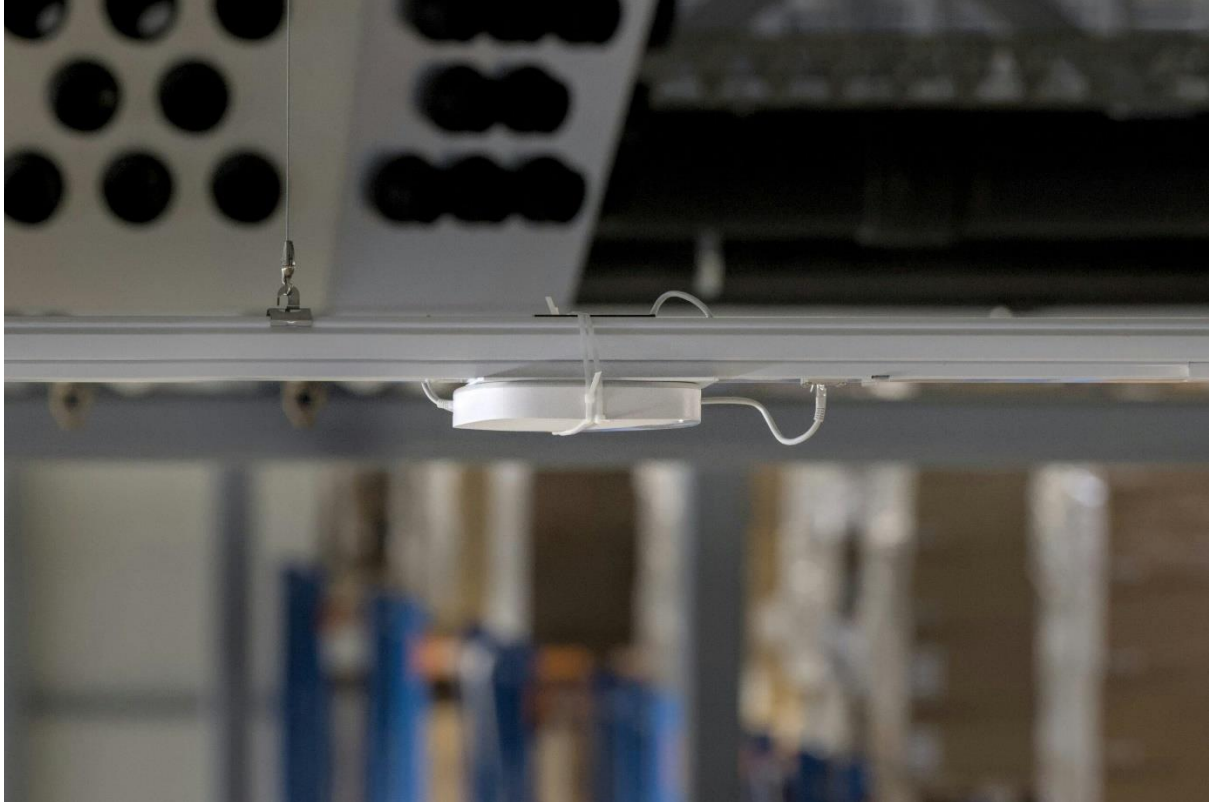
The impressive, modern-looking building covers a total area of 47,000 square meters and can be divided into eight individually rentable units.

The impressive, modern building, covering 47,000 square meters, can be divided into eight individually rentable units. This setup allows for various applications, including Wi-Fi, Bluetooth, scanners, and camera systems. By integrating the network modules, connectivity technology costs are reduced, less material is needed, and new sites can be up and running faster, Runhaar explains. "Delta Development has added an impressive innovation by incorporating data connectivity as a standard technology in their buildings. This enables internet access at any location within the warehouse, meeting any data needs. For example, robots and warehouse automation can be operational within a day, and building information and security systems can be added anywhere without needing additional data infrastructure."

Cheaper and More Sustainable

Polymer Optical Fibers are superior to fiber optic cables due to their flexibility and robustness, eliminating the need for splicing cables. POF solutions are also significantly more cost-effective and sustainable than traditional UTP cabling. Compared to a UTP network, POF solutions require 90% fewer cables and 80% less hardware in the control room.

In March 2023, the Hello World logistics hub was handed over to logistics provider Rapid Logistics by developers Delta Development and VolkerWessels Logistics Development. The building, designed by OPL Architects based on the cradle-to-cradle philosophy, is a sustainable project that uses reusable materials and has achieved a BREEAM Excellent certification. The building is energy-positive, with an energy square that provides its own electricity through solar roofs and carports. According to developers' estimates, the building will fully offset its carbon footprint by 2040.



During the development of the project, Delta Development opted not to use standard fiber optic cables for data connectivity within the halls, but instead chose Polymer Optical Fiber (POF).

Conscious Choice

According to Delta Development's owner, Coert Zachariasse, the choice to use Polymer Optical Fiber network modules was deliberate. In his view, this aligns with the steps taken to make buildings more sustainable by using fewer materials and incorporating reusable solutions. "Typically, you'd tell the tenant to arrange their own network connection. But this system is much more universal and flexible," he explains.

As a developer, Delta Development now chooses to install these systems themselves. "This benefits both us and the tenant. A large building like this requires kilometers of copper cables, resulting in significant cost and environmental savings. Furthermore, the next tenant can continue to use this solution, making it even more appealing and sustainable. Normally, copper cables are removed when a tenant vacates, or new cables are laid alongside the old ones, provided there's space."

Overcoming Conservatism

Although Polymer Optical Fibers aren't new—they've been used for years in the automotive industry to control brake pedals—IT departments often remain cautious. Zachariasse notes, "You often hear, 'Why take the risk? Just go with the familiar solution, and we'll be sure it works.' There's still a lot of conservatism in the sector. While POF technology is proven, its use in industrial and logistics real estate is still new. So, it's necessary to convince people."



Michiel Rodermond, owner of Rapid Logistics, shares that his IT colleagues were initially hesitant about the new solution. "It's different from what they were used to. Something new always seems complicated and requires a different mindset. But we were up and running very quickly, and the hall became fully operational in no time. It all works smoothly, and we don't need to worry about it. "That's a big plus."

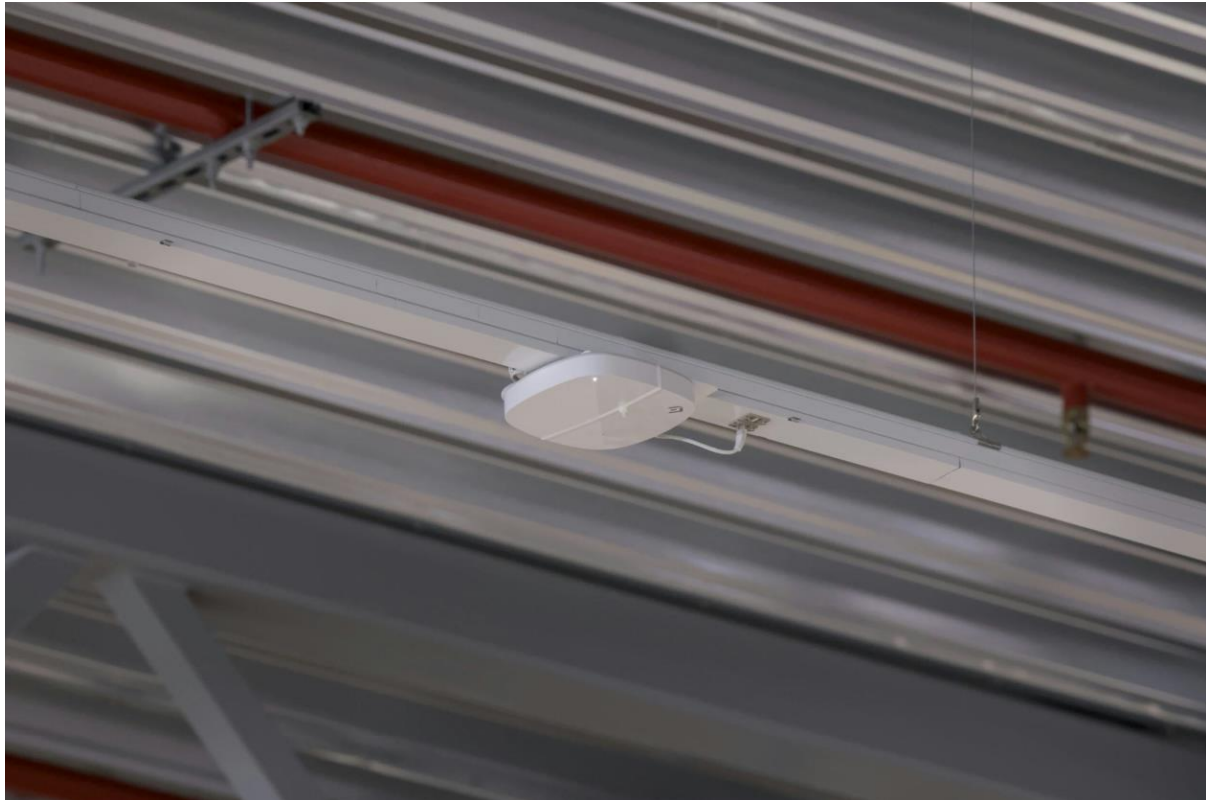
Next Step

Runhaar emphasizes that a good IT infrastructure is essential for implementing new technologies. Beyond ample square footage, it's possibly the most crucial aspect of a building for a logistics provider. "With the POF solution, you can expand your internet capacity wherever needed, without relying on external infrastructure. You no longer have to wait for someone to install extra cables—it's easy to do yourself. Another advantage is the ability to power devices over the internet, simplifying the installation of cameras, sensors, and other technology."



Runhaar: “Think about light sensors that monitor whether someone is walking or driving, or sensors that intelligently adjust to the amount of daylight coming in. If the sun shines brighter, the lights can dim automatically, saving a significant amount on energy costs. But those same sensors can also be used for other analyses, like tracking who is where and at what time. You can even check if all the doors are closed. This eliminates the need for a facility manager to manually inspect everything every night.”

The possibilities are limitless. “For example, you can use sensors to create heatmaps, identifying which aisles have the most forklift traffic. This allows you to design your warehouse more efficiently and make the best possible use of space, as square footage is valuable. You can also tag your forklifts and other moving equipment, so you always know where your internal transport is located. The same applies to your scanners, and really to everything you use. This enables you to optimize your operations and take further steps in automation and robotics, without constantly hitting infrastructure limits.”



Acceleration

Runhaar observes, "We're now seeing a real acceleration. There's a strong investment push into automation, robotics, and digitization. AI will play a much bigger role, and this shift means logistics companies will need significantly more data. Many businesses are unaware of the scale of what's coming. Developers like Coert are pioneers and ideal partners to support this transformation."

Zachariasse adds, "We, as developers, want to offer a 'menu' of options. The tenant can move into the new building without having to make additional investments, which often end up being removed later—something we see as wasteful." He also believes the industry could be more open to this model. "Typically, investors are not fond of this approach. They prefer to leave as much responsibility as possible to the tenant. But if you think from a rental and value development perspective, offering a complete package makes sense. What ultimately makes my tenant happy? That's our main focus."

Focus on Innovation

Zachariasse concludes, "It's a huge advantage for logistics providers to be operational two months earlier because the infrastructure is already in place. Just think of how much rental savings that brings at large locations like this. Ultimately, that's why we do it. We don't want to be just another cookie-cutter developer. You can aim to be the cheapest, but we want to be the best—building sustainable, smart structures that are future-proof, where tenants can innovate and advance in automation and digitization. That's our main goal."

