

WHY YOUR POSTMAN SHOULD HAVE A TECHNOLOGY BACKGROUND

THE IMPACT OF TECHNOLOGY
IN THE LOGISTIC INDUSTRY

Panasonic
BUSINESS

EDITORIAL



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For more than 10 years the logistic industry has shown a steady growth, now being worth over \$300 billion and still growing inexorably. However, this growth has never been easy: The industry has been confronted with new customer expectations, new business models, new market entrants and needs for optimized approaches. And then all of sudden, Covid-19 added an even higher degree of difficulty by demanding elevated performance in an emergency situation and the simultaneous need to prepare for the future even more. A future that requires agility, sustainability and visibility in the supply chain. A future that defines the roles anew. And a future that puts a lot of pressure on every protagonist in the logistic industry — from warehouseman to postman.

While addressing these challenges, it is crucial to understand the impact of technology in logistics — in particular in the areas of supply chain optimization, communication approaches, customer-centricity and the right extent of agility. And how all of these areas benefit from technological progress in IoT, big data, robotics and AI solutions.

Let's have a look at how Panasonic Business technology approaches these areas by supporting businesses to address the future of logistics.



OPTIMIZED SUPPLY CHAIN SOLUTIONS DELIVERED BY TECHNOLOGY

When it comes to optimization in the supply chain, greater efficiency and productivity, higher scalability, and real-time visibility across complex networks are key performance indicators to consider in the logistics industry of the future. Simultaneously, cost management related topics such as high labour costs in combination with labour shortage in particular in peak periods, need to be addressed. In conjunction, there is a strong need for real-time supply chain visibility to mitigate disruptions and improve delivery performance and order fulfilment speed within tighter deadlines.

Panasonic is collaborating with companies such as Zetes to address these customer challenges by providing a full end-to-end portfolio with the ability to mix and match technologies for optimum business value. Software for process optimization — from packaging execution, data capture up to movement of products throughout the supply chain, are only some of the components of this portfolio. Other solutions include intelligent visibility platforms to synchronise physical and digital flows across different data silos, departments and external stakeholders — enabling end-to-end visibility and traceability of orders, products and assets. All of this is combined with strong systems integration expertise and fully managed service provision in CAPEX or OPEX models. The start point of each collaboration is always marked by a no-obligation assessment of challenges on-site to receive recommendations to unlock potential.



PANASONIC BUSINESS & INDUSTRY TECHNOLOGY SOLUTION EXAMPLES:

Visual Sort Assist

Solutions such as “Visual Sort Assist” (VSA) — a combination of detection and projection technology — speeds up the process of sorting parcels on a conveyor belt. The system is designed to be used in sites where the workers pick, relocate, or remove items such as in production facilities, retail warehouses, and sorting and distribution centres. As packages are checked and routed accordingly, sorting operations are improved dramatically. At the same time, the solution enables less staff involvement, more social distancing, reduced time spend on training workforce and reduced errors in processing — great benefits, in particular during a pandemic.



Intelligent Warehouse

Panasonic's Intelligent Warehouse Solution (iWS) — a complete solution which includes surveillance cameras, data, network video recording and tracking software, instant access to visual intelligence on the movement of packages, parcels, parts and assets — monitors the progress of any items through production or delivery processes, identifying losses, damage or interruptions to their progress and provides vital visual information when investigations are required.





TECHNOLOGY SUPPORTING COMMUNICATION IN LOGISTICS

Effective communication is a crucial element in any company. When speed is valued more than ever, there is no room for nontransparent communication such as if information is hoarded and not being passed on sufficiently. Lags in communication can lead to lower efficiency and increased costs — despite the overall demotivation of employees. Timely communication and collaboration possibilities between the different stakeholders in the supply chain — independent from their operational area — are therefore of the utmost importance.

Technology, applicable for the tough logistics environment, can support in addressing this field:

Elitfönster has more than 1,000 employees and produces approximately 550,000 windows per year. After a long period of having all its warehousing information on paper, the company decided to find a digital solution. After trialling

a number of solutions, the decision was finally made to use the TOUGHBOOK G1 tablet. All the trucks in Elitfönster's outbound warehouse have now been equipped with rugged portable TOUGHBOOK G1 tablets. The detachable robust devices, conveniently placed in a docking station near the driver's seat, provide all the information that the truck drivers may need when working at the outbound warehouse. This makes the warehouse more efficient, effective and safer for the drivers. There is no longer any need to leave the trucks to retrieve, update and record warehousing information. Work has been streamlined thanks to this and other features of the TOUGHBOOK units, including their long battery life, suitability for use in all kinds of weather conditions, and capability for glove-enabled use.



Elitfönster



Planzer, the Swiss logistics company has been using 2,000 robust TOUGHBOOK handhelds from Panasonic for the transportation logistics of its entire fleet of vehicles since 2017. Planzer has two key concerns regarding the effectiveness of mobile devices within their transportation process.

1. Digitalisation: The traceability of goods during transport is crucial to productivity for Planzer. Digitalisation plays a decisive role in this area, especially through the use of mobile devices for national cargo and in temperature controlled transport compliant with GDP guidelines, as well as in its parcel and overnight services.

2. Durability: Before changing over to Panasonic TOUGHBOOK handhelds, Planzer was using ordinary consumer smartphones. However, staff soon realised that these were not suited to the rough usage typical of logistics. Planzer decided to introduce hardware better suited to the rough conditions in everyday logistics work. The use of TOUGHBOOK devices has responded to both of these concerns with features that enhance efficiency. The TOUGHBOOK handhelds have provided the Planzer workforce with “full ruggedised” protection while weighing less than 280g for easy carrying. The latest TOUGHBOOK devices are tested up to MIL-STD 810H and can even withstand being dropped from a height of 2.10 metres. In terms of digitalisation, now drivers can use their devices for phone calls, email and navigation. When a shipment is scanned, the drivers receive the order on their device using a specially-developed app. They can view and edit their orders and obtain a digital signature from the customer upon delivery. In those exceptional cases where an item is damaged during collection or delivery, the driver can take a photo on site with the device, attach it to the order and report the problem to the scheduling team.

PLANZER



Technology can support warehouse workers not only in direct communication with others, it can also provide the freedom to operate hands-free via headset and microphone. Voice picking is a popular solution for warehouses and distribution centres. Pickers wear headsets connected to a mobile computing device that runs a voice application telling the pickers where to go and what to do next. The person can then respond or confirm to the application via a microphone and speech recognition technology.

The technology has a number of benefits in speed and accuracy for the business. Firstly, it speeds the process of picking and shipping items. It is a key contributor in the positive measurement of Units Picked Per Hour (UPH). Secondly, it minimises mistakes in items picked and customer orders shipped. Most distribution centres have a triage area where incorrect orders are sent to be fixed. Correcting these mistakes can be time consuming and costly, so the more orders that are accurate the first time, the more efficient business can become. Panasonic is active in this market with its latest voice picking solution combining a Bluetooth headset with its rugged TOUGHBOOK N1 handheld device with a holster or shoulder strap, headset and Omnia custom voice application. In addition, Panasonic cooperates with strong partners such as ProGlove, a leader in ergonomic wearable technology for industry, to further enhance its solutions for the supply chain. As two of the toughest mobile computing solutions on the market, Panasonic TOUGHBOOK and ProGlove combine seamlessly as a stand-alone scanning solution or as essential elements of Panasonic's voice picking solutions for supply chain and warehouse operations.

However, technology is not only essential to optimize the communication processes but also to support if things go wrong such as in cases of accidents in the warehouse. Solutions are required that focus on individual incidents but still consider the bigger scale on-site. Dedicated telecom solutions by Panasonic Communication Solution provide single cell approaches, covering larger scales and ease of installation and incorporating "Hot Dial" call buttons allowing individuals to send out a SOS signal easily.

An example in practice:

In the event of following down, a co-worker can make use of the commonly known "Man Down" - feature by pressing the pre-assigned Hot Dial key and send out an alert to colleagues to reach out for help.

And when it comes to multi cast paging, Panasonic DECT phones can receive emergency paging announcements without the need to handle a phone. Multiple co-workers in the warehouse can be notified simultaneously, conversations between them can be shared, desk phone users can also be included and users can respond to the announcement or hear colleagues' replies — all of this, to secure the fastest communication in times of emergency.



Gemba Process Innovation

CUSTOMER-CENTRICITY ADDRESSED THROUGH GEMBA PROCESS INNOVATION

There is no doubt that customer-centricity is one of the key elements to provide an applicable technology solution that optimizes processes, drives profit and creates competitive advantage for a logistics client. In the end, it all comes back to understanding the demands and requirements of the logistics company and providing the right solutions on-site.

Panasonic's emphasis on a customer-centric approach in logistics is strongly illustrated by the introduction of Gemba Process Innovation. "Gemba" is the physical site where things happen — in Japanese the word literally means "the actual place". In supply chain management, the gemba is where things are made, moved, or sold; the site where value is generated and problems must be confronted. The factory floor, the warehouse, or points-of-sale; these are referred to as the "gemba". Gemba Process Innovation draws on all Panasonic's business, technology and solutions know-how, to help customers innovate their processes on-site.



STRATEGY IN PRACTICE:

When **Post NL**, the largest parcel delivery company in Benelux, wanted to offer customers improved real-time tracking of their deliveries, from sorting centres to delivery address, they turned to Panasonic.

After studying Post NL's requirements, Panasonic recommended a combined software and hardware solution for the business. Working hand-in-hand with Panasonic, Post NL conducted field trials using new Panasonic rugged handhelds and ZetesChronos delivery software to test performance. The electronic proof-of-delivery software helps control and improve collection, delivery and related management processes. It connects drivers, back-office workers and logistics management to provide real-time visibility on goods, vehicles and returnable assets. This ensures perfect delivery, every time, and offers customers visibility on the status of their shipments.

Gemba Process Innovation can provide the ability to sort, schedule, track and monitor the condition of goods using big data and sensor technologies connected via the IoT. But it is not only about the internal know-how and resources that Panasonic utilizes to support the customer on-site:

Globally, more recently, Panasonic has also invested in a 20% stake in **Blue Yonder**, a leading end-to-end supply chain software provider to further strengthening its knowledge base and capabilities for the future. The partnership with Blue Yonder will be essential for realizing the Gemba Process Innovation strategy even more. It will combine Panasonic's expertise acquired through strong hardware and manufacturing experience with Blue Yonder's software to provide customers with total, end-to-end supply chain solutions.



THE NEXT WAVE OF TECHNOLOGICAL INNOVATION



Hiroyuki Nishiuma

Managing Director | Panasonic Business Europe

As European businesses position themselves globally to take advantage of the next wave of technological innovation, Panasonic plans to assist them in achieving their goals by becoming a full service provider focusing on these types of industry solution — and addressing wider challenges. Hiroyuki Nishiuma, Managing Director at Panasonic Business states in this context: “Examples include changing consumer buying habits, rising environmental and ethical awareness and an ageing population reducing the labour pool.

As businesses address these issues with the next wave of technological innovation, Panasonic plans to assist them by becoming a full service provider focusing on industry solutions that transform the gemba — the place where value is created.”

Creating a strong value in the logistics industry — thanks to the right technology and customer-centric approach addressing the future of the segment.

FROM MANUFACTURING TO POSTMAN

The rapid growth of e-commerce in recent years has seen an even bigger upturn due to Covid-19: The Covid-19 lockdown has showed how quickly millions of customers changed their behaviours and got acquainted with online shopping — opting not only for health and safety as avoiding the walk to the supermarket, but also for time-saving and convenience in shopping. Simply by staying at home. A behaviour change that had a strong impact on operational capacities of logistics companies. Edin Osmanovic, Panasonic Head of Sales Logistics Solutions confirmed: “Some of our clients had the forecasted peak season which usually arrives in the weeks before Christmas already taking place in April/May. Whilst established big players somehow coped with that unexpected situation, especially small and medium sized businesses within the logistics industry had to quickly adapt and increase operational capacities in order to benefit as much as possible from this rising demand.”

The demands in the logistics industry changed rapidly towards a re-organized and flexible supply chain that comes with less staff involvement, increased hygiene requirements and safety — all in accordance with data protection. In summary, a versatile logistic solution including logic, agility and security was requested. Let's look at security, and imagine security solutions that support all of these mentioned topics:

For many years, Panasonic Business Security Solutions provided hardware and software to the logistics industry: Security cameras with longevity and reliability for any surrounding including changing light conditions (e.g. gates opening and closing). 360- and multi sensor



Edin Osmanovic

Head of Sales Logistics Solutions | Panasonic Business Europe

cameras providing high image quality for monitoring various perspectives and much more to mitigate theft in warehouse environments. However, this is just the base — here comes the future as there is much more behind a camera:

AI-based analytics allow identification of staff in automated entrance management — even with masks in their faces. Intrusion detection (human or vehicle) provided in combination with automated alarm triggering (e.g. lorries that are parked incorrectly) support in involving less supervision staff on-site. And pixilation in line with GDPR enable addressing data protection regulations. Furthermore, technology solutions for social distancing and occupancy levels in high traffic areas, heat mapping, head-counting and dwell time analysis simplify the monitoring of compliance with hygiene requirements and social distancing in the warehouse — but also enabling to analyse and optimise applicable processes in a short time. A process enhancement that leads to accuracy, higher speed and agility in the supply chain.



AN EXAMPLE IN PRACTICE:



Rhenus Logistics is a logistics company that is active worldwide in the transport, storage and transfer of goods. Due to the strong growth of its activities, Rhenus built a new head office in Tilburg, Netherlands with warehouses for its contract logistics division. In this regards it was key to optimize logistics processes.

Willem Boersbroek, Site Director of Warehouse Solutions Nederland:

“The ability to follow the flow of goods on the site anytime and anywhere was the starting point for our security. A total of 130 cameras have been installed on the site for this purpose. We have an underlying Warehouse Management System (WMS) in which all transactions are recorded. All products, loading pallets and all movements are scanned. Through the WMS we know exactly where a product or pallet is located. We can link camera images to the WMS to analyse any issues that may arise.

For example, if twelve pallets have been loaded and the customer later reports that he has only received eleven, then we can easily check that afterwards via the recorded images.”

Additionally, high emphasis was put on storage of valuable products and access management to these areas. Boersbroek: “The Panasonic cameras record all human actions there. Products can only be removed from the autostore warehouse through an order in the WMS — reducing thefts to zero”. Drivers do not have access to the warehouse and are not allowed to be present when loading or unloading goods but are informed in-time — thanks to a linkage between the cameras and displays, this information is provided automatically to them.



Hermes UK is one of the largest e-commerce logistics companies in Europe, handling over 330 million parcels in the UK alone. As a well-known brand on many individual's doorsteps, the seamless operation of their warehouses is the key to their success. In this context the integrated Panasonic security cameras provided much more than simply security on-site.

If a parcel did arrive, they utilise the barcode information to see when this took place and easily track the parcel journey. As camera reposition automatically according to direction of movements, not only full visibility is ensured but also potential risks are being analysed — raising automatic alerts to individual depot or the police.

Technology in combination with AI and convincing total cost of ownership. Chris Brown, Director of Hoot Fire & Security, the Hermes' integrator of the Panasonic solutions on-site: "The total cost of ownership for the end user is a comfortable ten year cycle, making the system a cost efficient investment for Hermes." And John Ferguson, Hermes' Head of Loss Prevention added: "Overall, the system provides a really good solution from a health and safety perspective, and we have even won business due to the quality of our security systems which impresses our clients. This is as good as it gets for a depot and if we can roll Panasonic cameras out across the entire estate I will be a very happy person."

Process optimizing that by the end naturally has an impact on how fast you get your delivery. As to the utilized technology solutions in the background that influence speed and accuracy — and the on-time delivery by your postman.

PANDEMIC FACED THROUGH AGILITY

Covid-19 has changed the world — caution and social distancing are dominating the everyday life and businesses are requested to provide agile solutions to address the new normal.

Even a simple process of accepting a parcel needs to be re-considered: Are there any non-touchable approaches provided to avoid touching any display or pencil for signing the acceptance / receipt? Can the distance between the recipient and the postman be kept? Are agile processes in place to meet the constantly changing government health and safety Covid-19 guidelines?

And what happens, once the pandemic is over? Will everyone get used to the new approach or will there be another necessity to change as to e.g. a slow down-way trend of e-commerce? Independent of what the future will bring — agility will be key. And most likely it will not be about “re-inventing the wheel” but rather looking for competitive advantage in minor parts that will make a difference. In this regards, Jonathan Tucker, General Manager Solutions & Engineering at Panasonic Business states: “Innovation is not so much focusing just on hardware anymore, it is about selecting ‘fit for purpose’ hardware and combining this with the right software to gain a competitive advantage.”



Jonathan Tucker

General Manager Solutions &
Engineering | Panasonic Business Europe



A great example to underline this direction is provided by the Panasonic TOUGHB00K 3D measurement solution:

Global freight shipments have been on a rapidly rising upward curve over recent years. The growth of online sales — up 22% in 2019 to \$3.3 trillion — is helping to drive the movement of goods and packages in every region around the world. The global parcels market rose to almost \$430bn in 2019, up from just under US\$380bn in 2018. Asia Pacific is the largest regional parcels market by value, accounting for around 42% of the global market. North America and Europe together represent a little over 50% of the market*2. Although this growth is great for business for freight shipping and logistics firms, alongside it comes fierce competition and an ever growing pressure on profit margins.

Like almost all industries, these pressures have been compounded by the impact of the Covid-19 pandemic. With passenger flights grounded and it expected to be a long time before traveller numbers return, many airlines have been looking at the possibility of converting their existing aircraft into cargo carriers.

Necessity is the mother of all invention and with these combined challenges come a fiercer focus on the benefits technological innovations can provide.

With transportation costs being the primary expense for freight organisations, the ability to maximise the cargo on every journey is a natural place to start. A lack of accurate information about the freight size can often make forward planning and packing efficiency as difficult as a game of Tetris. Of course, in the transportation business, any empty space is dead space and that costs money.

Innovation in 3D sensor technology is one area that is already being tested and deployed to address this challenge in the sector. GPC's 3D Freight Measure provides instant measurements with a 3D camera to calculate the volume, width, length and depth to accurately measure cargo, warehousing or postal items.

Using advanced 3D algorithms, the camera on a rugged mobile computing device, such as the Panasonic TOUGHB00K M1 with RealSense for example, can identify the size of any object. The software can provide an instant measurement of an item to enable effective planning for packing, processing, cross charging or stock control. It provides multiple customisable functions including manual and birds eye view measuring. The freight shipping industry has an immediate and vital need for this type of software.



THE RIGHT UTILIZATION OF TECHNOLOGY SOLUTIONS

Applicable technologies simplify the drop off process for goods and simultaneously collect valuable insights through IoT devices. Time is saved with state-of-the-art logistic solutions, reducing the time spent on processing and storing of goods, freeing the staff to focus on the essential. Workforce is enabled to process goods quickly and effortlessly through applicable approaches while risk of goods damage and loss is secured through controlling of the movement of assets in the facility. And smart, innovative delivery methods round up the end to end delivery.

The right utilization of technology solutions addressing the areas of optimizing supply chains, communication, customer-centricity and the right extent of agility can certainly make a difference. And this difference is inevitable for every business as the logistics industry is subject to constant change — such as the rest of the world. Technology is the key enabler to accompany, perform and lead this change — influencing all the protagonists in the logistics industry by the end: From the warehouseman to your postman.