Digitalization and the E-BDN®

Vortex Development Group

What is digitalization, why is it necessary and how can suppliers and shipowners benefit?

Digitalization in the marine environment is the systematized transference of data using software, sensors, and the Internet of Things (IoT) instead of traditional pen and paper documentation that's typically scanned and entered manually into Enterprise Resource Planning (ERP) / Customer Relationship Management (CRM) systems. From Port State Control authorities to whom an Electronic Bunker Delivery Note (E-BDN) is sent, to consumption reporting, insurance documentation, maintenance schedules, oil record and garbage disposal logbooks, crew manifests, the digital era is well underway for ship owners and time-charterers.

With heightened awareness towards alternative fuels, decarbonization, net zero consumption goals, carbon trading credits and offsets, ship owners are looking for competitive advantages and efficiencies of scale to reduce their operating and compliance costs. Suppliers can benefit by actively engaging in digitalization and reap the rewards of increased paperwork efficiency, accuracy on delivered volumes, shortening the elapsed time on *every* fueling operation, the cost of financed products by a closer alignment with the banks, and in the process, improve investment rate of return.

For fuel suppliers, the time is now to bring delivery operations out of the pen and paper paradigm and onto a cell phone or tablet. From a fuel delivery perspective, the traditional handwriting of Ship Safety declarations, sample bottle labels, the Bunker Delivery Note (BDN) and the required scanning / emailing of completed paperwork back to the office is the norm for maritime fuel transactions. A Digital Bunker transaction is instantaneous, much more secure, precise, and beneficial to all stakeholders.

Surprisingly, errors from sloppy penmanship and incorrect calculations based on old tables from 1980 is the status quo today. Typical responses for not instituting a digital roadmap include: "It's too complex," "We've always done it this way," "We'll do it ourselves," or a personal favorite, "It's too expensive." It's even more expensive *not* to use a precision system. Those sentiments would all be accurate ten years ago, but today there isn't a person in the industry from a mariner on his first assignment to a CEO, that doesn't own a cell phone, has searched the internet, or answered a text or email. Everyone is qualified to use an App to make a fuel or lubricant delivery.

Vortex is digitalization for bunkering—an easy-to-use, App-based, database-driven forms engine for the creation and delivery of required delivery documentation. Once downloaded from Apple's App Store and or Google Play, a password is required to use the software and forms are administered based on an individual's job responsibilities. Office staff use the E-STEM®, Scheduling and Invoicing forms. Truck drivers, Tankermen, and Terminal Operators use the Ship Safety, Sample Bottle, COQ and E-BDN forms. We also have an E-BDN for LNG deliveries and can quickly adapt Digital Bunker for any alternative fuel.

Digital Bunker E-BDN's are Marpol Annex VI compliant and include API 2004 temperature-corrected, volumetric calculations for the conversion of liters, gallons, or barrels to metric tons. The ship stamp and receiving party signatures are captured digitally. Digital Bunker securely connects to other systems via an Application Protocol Interface (API) and can link to websites, send texts, and populate or reference external databases. Digital Bunker E-BDN's are output in PDF format and sent via email to all stakeholders simultaneously. E-BDNs are tailored to look like each company's existing paper based BDN with the addition of timestamped GPS coordinate over a signed, photographed ship stamp, eliminating the concept of original vs copy. If you have questions regarding the validity and worldwide conformance to Marpol Annex VI regarding Digital Bunker E-BDNs, reach out to our legal partner, Stephen Simms of Simms Showers LLC. at: https://www.simmsshowerslaw.com/

Vortex technology also includes sending sales order data directly into ERP / Accounting systems such as SAGE, SAP, Oracle, or Microsoft Dynamics with distribution into document management systems like DocLink. We've developed and trademarked E-BDN® in the United States, Benelux, and Singapore. Respected as the document of record, the largest suppliers, trading houses and shipowners, including Exxon Mobil, Chevron, Castrol, Bunker Holdings, Peninsula Petroleum, World Fuel Services, Dan Bunkering, Monjasa, Integr8, Maersk, Toyota Tsusho, Hapag-Lloyd, CMA-CGM, Oldendorff and Fratelli Cosulitch are paying invoices for fuel based on Vortex E-BDNs and Marine Delivery Tickets (for lubricants) created with Digital Bunker.

Amongst current projects, we're working with voyage planning BunkerMetric and bunker buying platform ClearLynx (now a ZeroNorth company) to integrate our technologies. As an example, an order placed in ClearLynx can 'Task' an iPad with pre-filled data fields to make a delivery anywhere in the world. Upon completion of that delivery, an E-BDN is emailed to the buyer, the receiving vessel and the delivery barge, truck, or terminal. Simultaneously, specific data fields are sent back into ERP / CRM systems for invoicing and payment, streamlining the entire process. We can work with any platform for the transference of data before and after a delivery.

A recent addition to the bunkering landscape is the **Marine Fuels Alliance** (MFA), an organization dedicated to uniting suppliers with tools and resources while providing buyers with the knowledge that these suppliers adhere to a code of conduct and can assist each other in ports they don't physically serve. MFA members can avail themselves of legal resources, sanctions checking and a discount on Vortex's Software as a Service (SaaS) fees for Digital Bunker. Register at the MFA website: https://www.marinefuelsalliance.com/

Vortex is offering MFA members a 30-day, no cost, fully functional, customized trial of Digital Bunker. The software includes E-STEM®, our module for 'Tasking' required forms; E-BDN, Declaration of Inspection (DOI) and Sample Bottle label to a barge, truck, or terminal location. Once a PDF is received back in the office, an Invoice can also be generated directly from Digital Bunker and can be sent to the buyer within minutes of a delivery completion.

We invite you to help define the digital future of bunkering. Let your voice be heard by stepping into the 21st century by using the software, participating and suggesting enhancements. As a supplier, use Digital Bunker to a competitive advantage. As a buyer, request it of your suppliers. For those that still believe the tried-and-true method of pen, paper and scanner is the most efficient method for your operation, we'll be here if you decide to change your mind.

For more information, reach out to Jeff Mildner at: jeff@vortexdevelopmentgroup.com