Success Story

Volkswagen AG

Transport management specialist: one IT solution for 1.6 million shipments a year to 36 sites

Fotos: © Volkswagen AG

Volkswagen plant in Wolfsburg: AEB's logistics software runs in the VW data center here.

Transport management specialist

From scrap and containers to umbrellas, marketing materials, structural components, and prototype parts: To manage the shipments and transport of mass-produced and non-mass-produced materials, the Volkswagen Group relies on standardized, end-to-end software from AEB – sending out over 1.6 million shipments each year from 36 sites. The result is efficiency across all modes of transport, all fully integrated into the complex IT environment. And this volume could soon increase dramatically when a new online shop goes live.

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Powerful IT solutions are at the heart of virtually everything we depend on today. A reliable IT backbone is especially critical for large enterprises like the Volkswagen Group, which has nearly 600,000 employees worldwide and ships more than 10 million vehicles to its customers each year. VW relies on a complex system environment consisting of many different applications that perform a broad spectrum of tasks. AEB's ASSIST4 standard software, customized to meet VW's unique needs, has become the go-to solution for the company's logistics operations. The automaker refers to its ASSIST4 installation as the Shipping and Transport System and uses it to support various logistical processes in its shipping operations.

Air freight, road, rail, and parcel services

The auto giant uses ASSIST4 to ship everything from structural components to holiday gifts, annual reports, bicycles, umbrellas, measuring equipment, prototype parts, trade show booths – even empty containers and scrap. "Basically, anything that anyone needs to ship that is not part of our logistics system for finished automobiles – defective mobile phones that need to be returned to the manufacturer, for example," says Dennis Hanitsch, the Project Manager responsible for shipping, IT, and supply and transport logistics at Volkswagen AG in Wolfsburg. Last year, the employees used the Shipping and Transport System to manage more than 1.6 million shipments by truck, railcar, parcel services, and air freight. For ocean freight, the system supports such elements as preliminary transport and hazardous goods management. It is deployed throughout Europe at 36 sites. The Shipping and Transport System can accommodate 281 users working simultaneously across all sites. "A total of 6,000 people are authorized to use.

Employees use this interface to enter shipping order data – to send part of a prototype to a testing facility in the United States, for example. When the data is entered, ASSIST4 creates all the necessary transport papers: the waybill, the load securing papers, the hazardous goods documents, etc. The system also provides greater legal protections – especially, but not exclusively, for international shipping orders. The solution works in the background of every transaction, checking all ship-to addresses against global restricted party lists. This is especially important when sending non-mass-produced materials, since the company may not know the recipients or destinations – when shipping donated goods to West Africa for a school in Burkina Faso, for example.

From empty containers to scrap disposal: ASSIST4 does it all

Volkswagen also uses the Shipping and Transport System to control the movement of its containers around the world. The company needs to have empty containers such as crates and plastic bins available in its own plants and those of its suppliers so that they can be filled with parts and sent to assembly lines. Once the production workers have removed the materials, they return the empties to circulation. The AEB software also generates the appropriate transport documents – not only CMR waybills but also export declarations for shipping empty containers to Switzerland or Turkey, for example. ASSIST4 draws all the information about the empties from the container management system. Once the delivery note data has been entered there, it is shared with ASSIST4. The ASSIST4 user then generates the necessary waybills to ship the materials. The loaded truck or railcars with the empty containers are then sent on their way.

"The plant-to-plant shipments through which our sites supply one another with the materials they need work in a similar way," says Hanitsch. The stamping plant in Wolfsburg, for example, which manufactures shells for the Golf, functions as a supplier for the plant in Zwickau, where VW Saxony also builds the company's top-selling model. Transport management is largely automated, and once the data has been captured, it can be used and re-used without the danger of errors being introduced. "The upstream logistics system transmits the delivery note data through an interface to the Shipping and Transport System," Hanitsch adds.

Streamlined freight cost management with self-billing

VW also uses shipping data to bill its carriers. One of the tools VW has at its disposal here is the self-billing procedure. What this means is that instead of the logistics service provider calculating the costs of the shipments it has provided and issuing an invoice, VW calculates the freight costs and issues a credit to the carrier. Then it is the accuracy of the credit. The benefit to VW: much lower administrative overhead for its freight billing. ASSIST4 provides support for this process as well, supplying the necessary delivery note and consignment data to the company's "computerized transport data evaluation" billing system in the form of a customer record. This record is compared to the carrier's electronic transport record in VW's billing system: If the contents of both records match, a credit can be issued.

More than just standard …

Volkswagen mostly relies on the standard functionality of AEB's ASSIST4 software. Only three percent of the Shipping and Transport System has been customized. The reason: This makes it easier to install updates at any time. But if an individualized solution does prove necessary now and then, VW first checks for potential conflicts with other systems or current features before implementing any customization. "There are certain areas we don't even want to touch, such as hazardous goods or export law, which are subject to strict regulations," says Hanitsch.

Shipping

Order processing, consignment & transport consolidation
Packing stations, including picking
Air freight shipments
Over 100 documents
Compliance screening

Export/hazardous goods

Documents
Electronic export
Carnets
Intrastat report
Yearly hazardous goods report

Freight cost management

Quote management (parcel services)
Freight information (parcel services)
Air freight invoice verification
Freight calculator

Communications

Data import, EDI messages
Data export, SAP® IDocs
MQSeries, e-mail

Key features of the Shipping and Transport System at a glance

A look inside the VW production plant in Wolfsburg: ASSIST4 also supports other processes important to production, such as shipments of empty containers or scrap disposal.

In 2009, for example, Germany made it obligatory to submit customs declarations electronically by connecting through an interface to the government's internal customs processing system. If the standard software does not address a particular need, AEB gets to work creating a solution. "AEB's ASSIST4 suite does not have an option to handle railcars the way we currently use them to dispose of scrap from our plants," Hanitsch explains. The conversion required a major adjustment, "but AEB implemented the change without a hitch," he recalls.

Today, VW uses ASSIST4 at its Wolfsburg headquarters to send steel scrap by train to steel plants or dealers: up to 900 metric tons in 30 railcars a day. What sounds like a secondary process is a critical factor in day-to-day operations. Space is precious in the plants, and only very limited storage capacities are set aside for scrap, so if the scrap disposal process runs into problems, it can bring production to a standstill. That's why disposal cycles are tied closely to production cycles and must run smoothly.

VW's procurement department, which sells the scrap, is the start of the scrap shipping chain. The next step is a contract created in SAP® and specifying, for example, that a buyer has purchased 40,000 tons. SAP® sends this information to ASSIST4. One practical feature is that before the shipment goes out, ASSIST4 first checks whether the customer can actually pay for the goods from the credit it has with VW. If not, the order is stopped. If so, the loaded and weighed trucks or railcars are cleared. The weight receipts serve as an order to generate a shipment in ASSIST4 and book the goods issue. Once that is complete, ASSIST4 returns the data to the SAP® system, which uses it to generate the invoice. "We simply have fewer errors thanks to these automated processes," says Hanitsch with satisfaction.

New tasks, new regions

And the role of the Shipping and Transport System continues to expand. In 2014, the solution replaced a legacy air freight system and now handles all such shipments. One major advantage is that ASSIST4 can map entire transport chains. The system can be used to define not only the consignee but also intermediate consignees such as the departure or arrival airport. The solution also automatically assembles the various freight documents, so the relevant documents are sent to every service provider involved in the supply chain.

VW sometimes has relatively minor wishes to expand the functionality of ASSIST4, however, such as adding a new field to the truck data sheet to accommodate a transport ID.

AEB does not always need to develop completely new solutions in such situations. It can also fall back on modifications already developed for other customers. "We're glad we have such a good relationship with our project developer in Soest," says Hanitsch. "He knows what makes VW

tick." Meanwhile, AEB also benefits from developments at VW.
The list of tasks is expanding not only functionally but regionally as well.VW is currently looking to connect a new Audi plant in Mexico. "We need all the interfaces in Spanish, which is not yet available in the standard package," explains Hanitsch. AEB will provide this as well.

Fully integrated – yet simple

In addition to the comprehensive functionality, Hanitsch praises the communication features of ASSIST4, which recognizes all standard formats such as SAP® IDocs and EDIFACT, making it easy to set up new interfaces. "This makes data import simple," he says. All key documents for exports or hazardous goods are stored in the Shipping and Transport System. The tool can even be used to compose a yearly hazardous goods report, and VW uses it to manage its Intrastat reports – a feature supported in the AEB ASSIST4 standard software.
The nerve center of the Shipping and Transport System is in the Wolfsburg data center. It provides data to all the plants in Europe, and will soon do so worldwide, and checks whether a specific change will have any impact on other sites. The system is generally very stable, and AEB and VW work as a team to implement regular improvements.
The solution is also well integrated into the automaker's complex IT environment. A large enterprise like VW, where many processes have evolved over the years into a tapestry of different systems, is a world unto itself. Old systems are still in use – that's a reality that must be dealt with. "AEB is very good at that," says Hanitsch in conclusion.

Ready for the online crowds

And so it is not surprising that VW is planning to roll out ASSIST4 to more of its plants and more areas within the company. The company plans to link a new plant in Poland soon, for example. There are also imminent plans to connect the new VW employee webshop. From the first day of the rollout, company employees will be able to order some 4,500 different items, including model cars, jackets, ballpoint pens, and bicycles – with ASSIST4 organizing the shipping. The potential shipping volume is unknown, since it is not yet possible to predict how popular the new webshop will be. For the Shipping and Transport System, this could mean anywhere from 100 to 6,000 additional shipments per day. The sheer number of registered users – 115,000 eligible VW employees – puts the online shop in a league with many commercial providers.

Long-standing partnership

VW and AEB can look back on a long era of partnership. The automaker introduced its Shipping and Transport System back in 1999. Back then it was ASSIST4 version 2.0 – now they're running version 6.0. "Developing our own system would've been difficult, since we lacked the expertise," recalls Christian Buhr, Head of Shipping Control, who at the time was responsible for choosing the AEB solution. "It was actually a very good idea to do this with AEB," says VW's IT Project Manager Dennis Hanitsch, even though it was not yet clear at the time that the partnership would develop so well over the years. "Today, we have close ties to the AEB office in Soest and an open line to our regular contact, who is constantly working with us to further develop the system."

As the system has evolved over the years, so too has the partnership. In the old days, Hanitsch and his team wrote 50-page product requirements documents. AEB implemented them and sent the update to VW – sometimes only to realize that the needs had shifted. "Today, we go to Soest eight times a year for two-day meetings," explains Hanitsch. Each time, VW brings along the complete wish list that has accumulated since the last visit. "Key users, above all Michael Figas and Barbara Heer from the Wolfsburg site, submit their ideas, suggestions, and requirements. Barbara Heer and I have been jointly responsible for ASSIST4 since 1999. She was even involved in the original decision back then."

They discuss ideas and needs together in Soest and spend two days developing solutions together with AEB. The result: VW goes back home with a finished solution addressing actual needs – often with a few extra niceties thrown in by AEB. The personal contact and direct feedback have proven to be the most practical solution, notes Hanitsch with satisfaction. And for the VW Group, which uses a multitude of software solutions from many different providers, this experience is truly unique.

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At a glance

Customer

- Name: Volkswagen AG
- Industry: Automotive
- Employees: Nearly 600,000
- Revenues in 2014: €202.5 billion

Challenge

- Transport management for 36 sites around the world
- Broad spectrum of shipping processes in various departments
- Transport management with various modes of transport: truck, rail, air

Solution

- Transport management system for mass-produced and non-mass-produced materials
- Support of sanctions list screening and customs processes through additional ASSIST4 modules
- Seamless integration into complex IT environment of VW
- Joint collaboration between AEB and VW to expand system to new sites, new areas of VW, new functionalities

Result

- End-to-end system support with integrated management of hazardous goods and exports to optimize shipping processes
- Transparent management of all transport types in a single system
- Transparency across entire supply chain and shipment statuses
- Faster order processing
- Less need to duplicate data entry
- Reliable processes through standardized workflows and test routines
- Integration into system environment, availability of qualified data for all downstream processes

AEB