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► Integrated planning concept for DHL Sorting Center GmbH



Customer Report DHL Sorting Center GmbH

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Planning efficiency for high-tech DHL parcel centers

Parcel numbers delivered by German companies have been rising for years. In 2020 alone, DHL, Germany's largest logistics corporation, delivered 1.6 billion parcels – a new record. The Bonn-based company has been building new parcel distribution centers, on average one per year, to ensure customers continue to get quick delivery of their parcels despite the growth in volume. Responsible for the task is the subsidiary DHL Sorting Center GmbH, which was founded in 2014 specifically for this purpose. "The parcel centers we are currently planning and building are highly efficient and technologically very advanced. They sort and distribute around 50,000 packages every hour," says Frank Fisser, Managing Director of DHL Sorting Center GmbH. The DHL subsidiary has been working with CIDEON since 2014 on digitalizing planning processes and increasing efficiency. The two companies have now jointly developed and implemented a concept on further digitalizing planning.



Die DHL Sorting Center GmbH sortiert und verteilt an den einzelnen Paketzentren etwa 50.00 Packstücke pro Stunde.

Identifying potential and determining ROI in Discovery Workshops

CIDEON initially began working with the DHL subsidiary when it implemented Autodesk packages into DHL's system. "These represented key steps towards making processes more digital and achieving genuine workflow consistency. But there was so much potential for more efficiency, especially in the complex, interdisciplinary planning processes," says Christof Ott, Principal Solution Manager at CIDEON. Frank Fisser also saw the need and was open to options. But return on investments (ROI) were needed before going ahead with any investment in large-scale software and digitalization changes.

CIDEON therefore provided Discovery Workshops. The first step here was to take stock of where the company currently stood, what could be optimized, and the monetary value of any optimization. "It was about identifying the potential for efficiency gains through digital transformation and applying new methods. We went through the individual points in the process, and could say, for example, 'We can reduce workloads by half by using automation and highly efficient tools'. We were then able to determine the savings we would get from the solutions and how much we could then invest."



DHL Sorting Center GmbH

DHL Sorting Center GmbH was founded in 2014 as a technology start-up by Deutsche Post DHL Group. DHL Sorting Center GmbH is headquartered in Bonn, Germany, and is highly dynamic in developing and building innovative new parcel sorting centers. The company employs proven technical and IT specialists to design and implement forward-looking, complex and innovative system solutions.

Discussions and close attention to detail are key

As the main areas with optimization potential, CIDEON and DHL personnel identified planning efficiency and supplier connectivity. To build parcel distribution centers, DHL works with up to 20 suppliers, such as steel constructors and conveyor equipment providers. The distribution centers are built under major time pressure so everyone needs to work together in parallel on their part of the project. Factory and plant modeling therefore requires coordination and management by DHL. "Sending the models and drawings of detailed components individually by mail to suppliers doesn't work here," Fisser states. "We therefore required a central communication platform through which models, plans, changes and info could be quickly communicated to our partners. Automating and systematizing that was a major goal."

Another key issue in planning concerns the required high level of precision. Since parcel centers are primarily needed in urban areas where space for warehouses is limited, planning has to be extremely precise. Approximately 40,000 m² of space is available in a parcel center. "This is a big challenge because we won't just be putting one or two machines in there. Sorting centers have an extremely high concentration of equipment. We have to work to the nearest centimeter within the building's structure. This requires extremely close coordination with all suppliers," explains Fisser. "Steel construction, conveyor equipment, sprinkler systems, lighting all need to be smoothly integrated with everything also being approved for safety."

Integrated, sustainable planning concept rather than just software

To meet the requirements, CIDEON developed an integrated, sustainable planning concept: "It wasn't about just installing software. The aim was to achieve optimum coordination between the various areas, with a consistent database, structured and automated tasks, and significantly faster planning times," Ott explains. The concept involved CAD conversion and optimization, implementation

of an internal data management system, and connecting the data management system to a cloud-based Common Data Environment (CDE), which acts as an information exchange platform for suppliers.

Challenges: Digitize planning processes and more efficient, increase planning efficiency and improve supplier networking, introduce Product Data Management System (PDM) to merge data pools, automate manual processes and reduce and reduce the possibility of errors

Approach: Introduction of the PDM software solution Autodesk Vault, migration of data to the new system, CAD conversion, Relocation of communication with external partners and suppliers to the cloud with BIM 360, extension of the Vault standard with additional functions of the CIDEON Vault Toolbox

CIDEON Solution: AutoCAD Architecture, Autodesk Inventor, Autodesk Navisworks Manage, Autodesk Vault, Autodesk Factory Design Utilities, Autodesk BIM 360

CIDEON service: process consulting, installation, configuration, support with data migration and tests, customizing, training and support

Result: Successful consolidation of the data sets, improvement of data quality, uniform internal and external data management and and external data management, and automated processes reduce errors and save time and costs

„It was not about simply implementing software to implement. The aim was to achieve optimum interaction of the various areas should be created.“

Christof Ott, Principal Solution Manager
CIDEON Software & Services GmbH & Co. KG

Optimized layout planning thanks to CAD conversion

Planning in DHL is based on CAD. CIDEON therefore implemented the Factory Design concept with Inventor and Navisworks. Navisworks is an especially practical, intuitive tool for merging and visualizing CAD files. "We often have large files. Displaying these requires a computer with a lot of power. Navisworks is however able to reduce the power needed and has a high-performance viewer. This means viewing can then be done with a simple laptop," Fisser explains.

Uncomplicated cloud sharing via BIM 360

Communications with external partners and suppliers was moved to the cloud using BIM 360. The platform enables each supplier to get their own directory where they can upload and manage documents. Authorized users then have access to the latest files, regardless of time and location. The Large Model Viewer is integrated into the platform, which both DHL employees and suppliers can use to view 3D models without having to install anything else. "This has made coordination and communications with suppliers much easier and faster," says Fisser. Fault tracking and task assignment can also be performed via BIM 360. "You can practically walk through the plant

with your tablet and, if you spot any problems, you just take a photo and send them to the supplier via the cloud instead of writing emails. You can also assign the task of rectifying the problem to a specific person or group. The entire process is then recorded and trackable centrally via the platform."

Internal data management consistency using Vault and the CIDEON Toolbox

CIDEON implemented Autodesk Vault as another tool. Vault not only optimizes internal data management, but is also linked to BIM 360. This means that internal as well as external files are always synchronized. For example, when a DHL employee creates CAD planning data in Vault, it is synchronized with a defined revision status with the cloud and automatically made available to suppliers in BIM 360. "This is where CIDEON is providing us with really good advice. Currently, for example, we are looking at how to improve the programming and automation of certain functions. It's an ongoing project where the solution is also constantly undergoing adjustments to meet our needs," says Fisser. CIDEON also expanded the Vault Standard using the CIDEON Vault Toolbox. This includes a collection of add-ons that automate routine tasks, such as the organization, management and documentation of process data. This has accelerated the planning process.

Three implementation phases

Implementing and connecting the individual software packages took place in three phases:

PHASE 1

CIDEON determined the processes required and rolled them out in the CIDEON environment as a test system. This involved configuring the software and determining and working with DHL to define workflows and structures.

PHASE 2

The test system was transferred to DHL's system. This involved CIDEON extending the basic configuration with configuration packages and tools to optimize workflows. Inventory data from the current "Berlin-Ludwigsfelde" project was also migrated to the new environment. The goal of this phase was to bring the system environment into a productive state so that DHL employees could immediately use it to perform all planning tasks.

PHASE 3

CIDEON provided training and instruction to enable DHL employees and suppliers to use the new planning approach. "Time pressure meant that training sessions took place on ongoing projects, so we were able to instantly apply the knowledge," says Fisser.

Benefits of the planning concept in ongoing operations

The planning concept, Autodesk solutions and the addition of CIDEON tools have enabled DHL to achieve the desired improvements in efficiency and supplier communications. "It wouldn't have been possible without digital tools. We now have user friendly, intuitive software and simpler processes. The data is available centrally to all participants and I can directly assign tasks. This is a huge plus," says the DHL Sorting Center Managing Director. Planning also benefits from being able to perform detailed planning earlier in the process and detect problems at an early stage. "When I get the model for a piece of equipment from a supplier, the safety engineer can look at it and immediately determine whether it meets construction and safety specifications. This means, for example, that you won't first install a railing before realizing that it needs moving by another 20 cm. What previously was talked about on the construction site, we already now do in the

Frank Fisser
Managing Director of
DHL Sorting Center GmbH

“The cooperation is simply uncomplicated and very customer-oriented. I don't have the impression that something is being sold to you, but rather that the contact persons at CIDEON are primarily interested in the solution. interested in the solution.”

planning phase. It also makes everything faster," says Fisser. "This of course requires that all involved work together."

Digitalization as an ongoing project

Despite many improvements already having been achieved in current projects, digitalization is for Frank Fisser a work in progress. "We are still having ideas and I am certain that we'll be able to get a lot more out of the solutions. We are working with CIDEON and Autodesk to see how the software can be further developed. VR and spare parts management are two exciting topics for us, which will enable us to further enhance digital models. Vault is also to be expanded with more functions and additional programming." All this will continue to be done with CIDEON. "Working together is straightforward and focused on customer needs. I don't get the impression of just being sold a product. CIDEON's contact persons are also mainly interested in the solution," Fisser concludes.





Added value for DHL Sorting Center GmbH

- 1. Highly efficient collaboration with suppliers:** Using one cloud platform that provides everyone with access to the latest data – easily via a web browser without the need for any extra installations. Everyone involved in the project gets access to up-to-date data, any time and any place in the world.
- 2. Optimized internal data management:** Using the Vault PDM system and the customized CIDEON Vault Toolbox to automate routine tasks and develop workflows.
- 3. Greater efficiency in planning and processes / Faster planning times:** The planning concept links different software solutions thereby reducing routine tasks and errors and speeding up coordination processes.
- 4. Centralized, trackable management:** Using BIM360 and Vault by versioning, defect tracking and task management.



Von Bonn in alle Welt – die Deutsche Post DHL Group ist der weltweit führende Post- und Logistikkonzern.



About CIDEON

CIDEON advises and supports companies in optimizing their product development processes – from the initial concept through to engineering, production and services. CIDEON's innovative solutions ensure continuous data flow along process chains making data accessible and cost-effective throughout the company. In this way, CIDEON's customers can fully exploit the potential of digitalization to benefit themselves and their clients.

CIDEON employs more than 300 staff at 14 locations in Germany and Austria. It is part of the Friedhelm Loh Group, a globally successful Group with more than 12 production facilities and over 90 subsidiaries.

Further information can be found at www.cideon.com and www.friedhelm-loh-group.com

CIDEON

take the value perspective.

- Process consulting
- Engineering Software
- Implementation
- Global support

We would be pleased to advise you!

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