open logistics foundation

Open Logistics Report

[v 1.0]

Exploring the landscape of open source in the field of logistics and supply chain management

Including 19 project profiles

#contributionswelcome

The Open Logistics Report gives interested companies and organisations insight into publicly documented open source logistics and supply chain management projects. The focus is on open source projects and initiatives, primarily in the business sector. Contributions to the efficiency and sustainability of global supply chains through open source, open standards and information on software, licences and standards form the framework. They serve to deepen the understanding of open source in logistics and offer valuable tips on using open source solutions. The Open Logistics Report sees itself - in the spirit of open source - as an offer to the open source communities worldwide to share their projects and receive updates accordingly.

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Germany

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This report is available for download as a PDF on the Open Logistics Foundation's website.

If you want to contribute a project, please send us an e-mail to report@openlogisticsfoundation.org

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Logistics connects locations and businesses in global networks. Virtually the entire value chain in trade, industry, and services is, in one way or another, linked to logistics. This encompasses physical material and goods flow, data exchange within information logistics, financial transactions, and logistical management. Logistics serves as the foundation for free global trade. Generating more than 1 trillion EUR in revenue, supported by hundreds of thousands of companies, it stands as one of Europe's largest economic sectors.

Unlike many other industries, logistics is highly standardised, and several crucial milestones have been realised through this standardisation process (e.g., the Thurn und Taxis postal system in the early 19th century, Henry Ford's establishment of Ford Motor Company in 1903, the invention of containers by Malcom P. McLean, in 1956, the Toyota Production System from the 1960s and data standardisation initiatives like ebXML for electronic business processes by UN/CEFACT and OASIS in 1999). This standardisation makes logistics a prime candidate for the widespread adoption of open source.

However, system incompatibility remains a recurring issue in logistics, as different stakeholders rely on different systems. This diversity often leads to operational inefficiencies and challenges in shared data usage. Open source solutions can address these issues by providing compatibility and flexibility across the entire industry.

Maximising logistics advantages through open source solutions

Resource constraints are a common obstacle, especially for smaller logistics companies lacking the necessary resources to meet compliance requirements and drive innovation. Open source solutions address this by democratising access, enabling companies of all sizes to participate and thrive in the industry.

Addressing logistical challenges through open source solutions can bring a myriad of benefits to logistics companies. Primarily, operational efficiency is improved by standardising systems and streamlining processes. This, in turn, facilitates smoother data exchange among stakeholders, reducing operational bottlenecks and enhancing overall performance.

Moreover, open source solutions offer greater adaptability to evolving techno-

logical landscapes and business models. The logistics industry must constantly evolve to remain competitive, and open source solutions provide companies with the flexibility needed to keep pace with these changes.

In addition to improving efficiency and adaptability, open source solutions offer the advantage of cost savings. Smaller logistics companies, in particular, benefit from reduced costs associated with continuous adjustments to their IT systems.

Finally, open source solutions give logistics companies more influence, irrespective of their size. These solutions promote collaboration and ensure that all stakeholders have a say in shaping the industry's future, fostering a more inclusive and innovative environment.

The logistics industry faces significant challenges, including system incompatibility, technological disruptions, and resource constraints. Open source solutions have the potential to address these problems by providing compatibility, flexibility, cost savings, and integrative capabilities. Adopting open source solutions can enhance the logistics sector's efficiency, adaptability, and influence positioning it for a more innovative, resilient, and future-proof future.

Now, let's explore the landscape of open source in the field of logistics and supply chain management in this report. We will focus on open source projects and initiatives primarily in the business sector. The operator background – central actor, consortium, network or industry, research, individual – and financial orientation or revenue strategy – profit-oriented or non-profit – are not relevant in this context. Companies and project maintainers are cordially invited to contribute missing projects.

A blueprint for resilient business ecosystems: Navigating global challenges through open source and open standards

Current global challenges impose inevitable demands on developing resilient value chains, necessitating a socially, economically, and ecologically sustainable evolution of business and society – both in Germany, Europe and on a global scale.

In this rapidly evolving landscape, technological innovations play a pivotal role, particularly in digitalisation and software development. Their significance goes beyond securing Europe's digital sovereignty; they are crucial for creating modern products and services. The ultimate goal is substantially contributing to “rebalancing the world” (Laguna de la Vera/Ramge 2021).

The scale of these challenges exceeds the capacity of any individual company or nation to handle. Collaboration is imperative, calling for new forms: agility, interdisciplinary approaches, a focus on continuous learning, and a long-term orientation (Forschungsbeirat/acatech 2019b).

In this context, it is consistent that the interest in open source initiatives has significantly increased in the business and public sectors in recent years. Virtually every strategic document, whether it be a policy paper, a coalition agreement, or a research program, now incorporates references to open source. Moreover, an increasing number of companies are defining their positions through open source manifestos.

The indispensability of open source in driving innovation

Innovation without the integration of open source is virtually inconceivable. Nearly all contemporary technology-based products and services incorporate, to varying extents, open source solutions, either embedding, complementing, or transforming them. Open source solutions have become a cornerstone of technological progress and an essential component of the modern economy – spanning from Artificial Intelligence and Machine Learning to mobile robotics, autonomous driving, distributed platform ecosystems, automated negotiation, and real-time communication infrastructure.

Studies indicate that active participation in open source yields positive effects on company performance, employee productivity, and satisfaction. Beyond corporate

boundaries, engagement in open source generates economic benefits. Five years ago, this economic benefit amounted to 65 to 95 billion euros across all 27 EU countries.

Open standards: the key to seamless collaboration and progress in the digital world!

Open standards, indispensable companions to open source, are of paramount importance for achieving seamless collaboration and boundless progress in the digital world. In ICT technology, they play a pivotal role by ensuring interoperability, allowing technologies to connect, integrate, and collaborate effectively.

These standards significantly contribute to innovation by providing an agreed-upon and trustworthy foundation for thriving innovation. End-to-End solutions are essential in a connected ecosystem, where software components from different providers seamlessly work together. Open standards play a crucial role in preventing lock-ins and promoting equal competitive conditions among all providers of ICT services, whether open source or proprietary.

The question now arises: What is the status of open source in logistics and supply chain management? What projects exist, and what issues are being addressed? Starting with an overview of our understanding of open source, we aim to explore these questions.

Software, licences, standards
Understanding open source

Open source software

Open source refers to software whose source code is publicly viewable, can be modified, and utilised. A key characteristic of open source software is the freely accessible source code in a human-readable and understandable form, providing companies or individuals the opportunity to adapt, use, and distribute it. Merely having access to the source code is not sufficient. The Open Source Initiative defines ten criteria to which the Open Logistics Foundation is also committed (https://opensource.org/osd/).

In essence, software is subject to copyright. The mentioned freedoms must be explicitly granted within usage permissions (in this case: open source licences). Definitions of open source software allow for a wide range of licence designs, resulting in a variety of different licences.

Open source licences

Depending on the underlying open source definition, various licences are evaluated as open or free licences. Common licence lists are provided by the Free Software Foundation (https://www.gnu.org/licenses/license-list.html.en), the Open Source Initiative (https://opensource.org/licenses/), or the License List of the SPDX project which is part of the Linux Foundation (https://spdx.org/licenses/).

A crucial characteristic in the typification of licences is the degree of the so-called Copyleft effect. This categorisation includes licences with strict Copyleft clauses, licences with limited Copyleft, licences with choice or no Copyleft, and licences with special rights. Licences with a strict Copyleft effect obligate the licensee to distribute derived works under the conditions of the original licence. The most well-known representatives are the GNU General Public Licenses in various versions.

Licences without Copyleft effects are also known as permissive licences. They grant the licensee, like Copyleft licences, all the freedoms of an open source licence but waive the obligation to publish code modifications. The Open Logistics Foundation License (OLFL-1.3, see https://openlogisticsfoundation.org/licenses/) is a permissive licence. This allows the licensee to use and modify altered versions of the software under any licence conditions, including transitioning into proprietary software (see Figure 1).

Open standards

In defining open standards, we align with the recommendations of the Open Forum Europe. Accordingly, open standards exhibit the following characteristics:

- Collaboration among all interested parties, not limited to individual providers.
- A transparent and published decision-making process subject to expert review.
- A transparent and published feedback and ratification procedure to ensure quality.

Open standards must also:

- Be well-documented, publicly accessible, and freely usable to ensure fair access unless linked to creating innovative solutions.
- Be mature unless related to the development of innovative solutions.
- Be supported by the market to demonstrate independence from platforms, applications, and providers.
- Be released for use with a royalty-free, irrevocable licence unless the terms are violated.
- Be compatible with both open source and proprietary licenced solutions.

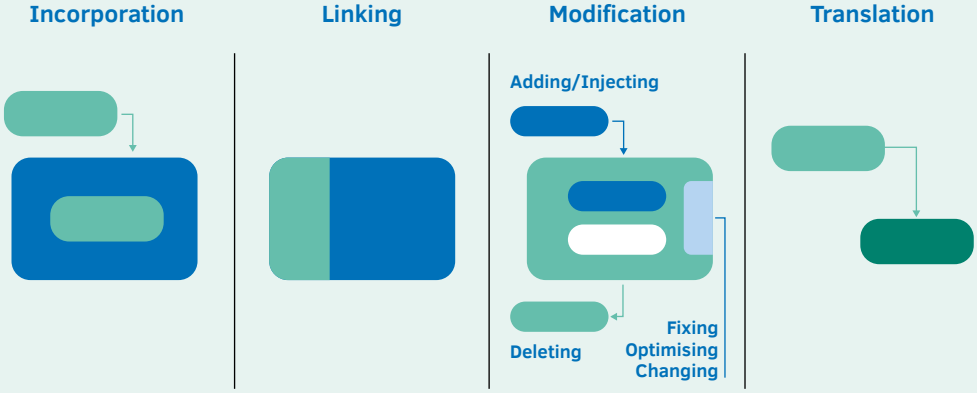

Figure 1: Open Logistics Foundation License

Source: own illustration according to OpenChain 2022

Possibilities and methods
Utilising open source

Open source software often comprises program modules (or components) rather than complete, standalone programs. It can be leveraged in various ways:

- **Incorporation:** Integrating parts of open source software into one's own software, such as inserting code snippets into one's own code.
- **Linking:** Connecting an open source component with a proprietary component, either statically or dynamically, to be part of a program. Linking can also occur through encapsulation (Packaging).
- **Modification:** Adapting or altering the original source code of an open source component, including adding or removing code snippets.
- **Translation:** Converting open source components into other programming languages and compiling them into binary files.

Open source ecosystems and structures

The concept of open source has undergone significant changes in recent years. Previously, the idea of "commons-based peer production" or a "volunteer culture" with "self-governed groups of individuals" predominated, especially in the early 2000s. In logistics, open source is predominantly embraced as a mode of ongoing research and development collaboration. This involves companies deliberately hiring developers to contribute to open source projects or compensating their open source endeavours as an integral aspect of their professional engagement.

Types of open source communities

Communities are critical to the success or failure of any open source software (OSS). Open source communities can be categorised into two main types:

- **Community-driven open source software:** Developed by a community for the community, often with a grassroots, collaborative approach.
- **Vendor-driven open source software:** Developed by a single company in a closed process. Such projects often use Copyleft licences to secure their dominant position and may build a community around the product, allowing external developers to contribute but with rights to adaptations retained by the original company.

In contrast, "true" community-driven open source software is developed by a group of programmers and users in an open governance structure. The software remains owned by the community and can be not only used but also modified and commercially utilised by companies not involved in its development. These

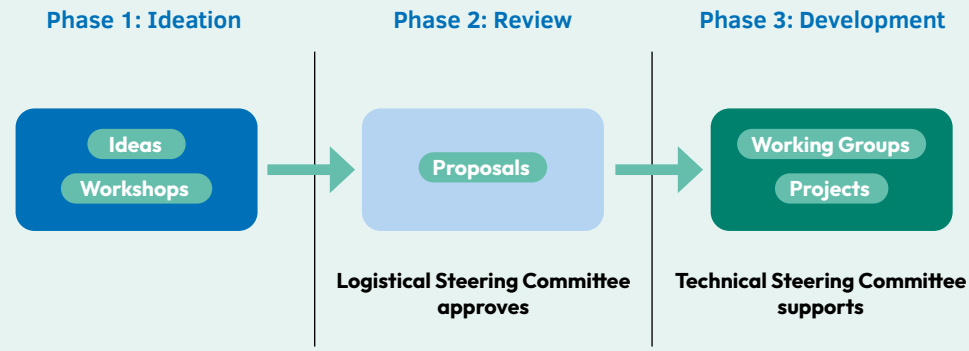

Figure 2: The interaction of the Open Logistics Foundation´s committees
Source: own illustration

communities typically exhibit characteristics such as distributed development resources, decentralised decision-making, transparency in development and decision-making, and a meritocracy where influence is earned through valuable contributions.

Well-known examples of open source communities include Linux (initiated in the early 1990s, with foundation status since 2007), Apache (founded in 1999), and Eclipse (first project in 2001).

Open source governance

The industrial open source software community has developed a collaborative model beyond the traditional understanding of voluntary individual cooperation. This model is characterised by continuous research and development collaboration, with participation dependent on individual interests. Both individuals and organisations contribute only when aligned with their own interests.

Participation in the development process remains dependent on individual interests, and both individuals and organisations contribute only when it aligns with their interests. For this reason, open source software communities generally seek consensus when making decisions and often consider minority opinions.

The rules, customs, and processes determining which contributors have authority are formulated and formalised in governance models. Various governance models have emerged, ranging from open and inclusive structures that operate democratically and consensus-based to closed and centralised models where a single entity plays a dominant role.

Figure 2 depicts the interaction of the Open Logistics Foundation‘s committees. Open and consensus-based mechanisms dominate within Working Groups, aiming for broad collaboration within the logistics and supply chain management application domain.

Open source projects in logistics

Exploring the landscape

This overview is based on field and network research and does not claim to be exhaustive. All project profiles are based on the respective projects‘ presentation.

#contributionswelcome

Is your project missing from this list? Then send us an e-mail to report@openlogisticsfoundation.org.

Apache OFBiz

Apache OFBiz is a tool used in the B2B environment to automate the logistics network. It can handle different data about products, shipping techniques and suppliers to facilitate production levels in an international supply chain. It is a platform that can be tailored to the company‘s needs. The tool is accessible on one‘s own devices.

Logistics application & target group
Business suite (includes various modules such as accounting, CRM, order management, warehousing and inventory, manufacturing and MRP (Apache OFBiz, n.d.).
No explicit target group/industry focus. Focus on small companies and low logistics requirements.

Category
Standalone, server-/cloud-based

Website
https://ofbiz.apache.org/

Repository
https://ofbiz.apache.org/source-repositories.html

Licence
Licence name: Apache License 2.0
SPDX-Tag: Apache-2.0

BORDER

BORDER is an early prototype of a blockchain-based web application. The use of blockchain technology enables the digital handling of customs-related documents, data and processes including the documentation of status and data changes – trustworthy and tamper-proof for all parties involved.

Logistics application & target group
The solution is aimed at companies that offer software in the field of customs applications. It is also targeted at logistics service providers that offer their customers international transportation services. It is part of the open source Working Group “Open Customs Blockchain”.

Category
Preferably integration of software backend into business suites, such as WMS and TMS; limited suitability to run standalone (server-/cloud-based)

Website
https://openlogisticsfoundation.org/project/border/

Repository
https://git.openlogisticsfoundation.org/wg-opencustomsblockchain/border

Licence
Licence name: Open Logistics Foundation License 1.3
SPDX-Tag: OLFL-1.3

Budibase

Budibase is a low-code platform for building internal applications and workflows from any datasource. It is intended to speed up procedures and build personalised tools based on current processes.

Logistics application & target group
No logistics software as such. Currently, three template for logistics purposes are provided: Logistics Request Form, Fleet Management, Inventory App.
No specific industry focus. Suitable for companies that want to develop and integrate smaller applications independently.

Category
Budibase can be used on own infrastructure (self-hosting) or may be started by deploying the budibase platform via their cloud

Website
https://budibase.com/logistics/

Repository
https://github.com/Budibase/budibase

Licence
Licence name: GNU General Public License v3.0 or later
SPDX-Tag: GPL -3.0

Eclipse SUMO

Eclipse SUMO is a traffic simulation suite. It allows modelling of intermodal traffic systems, including road vehicles, public transport, and pedestrians. It comes with various supporting tools that automate core tasks for creating, executing, and evaluating traffic simulations, such as network import, route calculations, visualisation, and emission calculation. SUMO can be enhanced with custom models and provides various APIs for remotely controlling the simulation. The Eclipse SUMO project is led by the openMobility Working Group at the Eclipse Foundation. This project aims to create a common mobility simulation platform for industrial applications and academic research. Other related solutions include Eclipse Mosaic, a simulation framework for mobility, and Eclipse OpenMCx, a simulation middleware.

Logistics application & target group

The SUMO-solution can be used for a variety of urban mobility research problems, i.e. vehicle routing, performance of traffic lights, traffic forecasts, vehicle to vehicle communications, traffic effects of autonomous vehicles, emission calculation (noise and pollutants)

Category
Simulation software, standalone

Website
https://eclipse.dev/sumo/

Repository
https://github.com/eclipse-sumo/sumo

Licence
Licence name: Eclipse Public License 2.0
SPDX-Tag: EPL 2.0

eCMR

Taking into account established templates and international standards, the eCMR software allows companies to uniformly create, edit, save, forward and archive shipping documents in a human- and machine-readable format.

Logistics application & target group
The application falls into the growing area of digital transport document handling. Target groups of the eCMR solution are logistics service providers (3-PL and forwarders) and shippers of all sizes, and IT suppliers of logistics solutions, such as WMS and TMS. It is part of the open source Working Group “Electronic Transport Documents”.

Category
Preferably integration of software backend into business suites, such as WMS and TMS; limited suitability to run standalone (server-/cloud-based)

Website
https://openlogisticsfoundation.org/foundation-projects/working-group-electronic-transport-documents/

Repository
https://git.openlogisticsfoundation.org/wg-electronictransportdocuments/ecmr/ecmr

Licence
Licence name: Open Logistics Foundation License 1.3
SPDX-Tag: OLFL-1.3

ERPNext

ERPNext is a cloud ERP that comes with standard modules such as accounting, CRM, invoicing, HR, payroll, etc. It also includes industry-specific functionality for manufacturing, distribution, education and services.

Logistics application & target group
It is not a logistics dedicated software; instead, logistics functionalities are integrated into the functional areas mentioned above within an ERP framework. It is designed to cater to the needs of small and medium-sized businesses. Logistics functionalities include inventory and multi-site management, functions for planning and operating of logistics shop floor processes and delivery/transport.

Category
Server-based, on premise and cloud; web-based application incl. desktop and mobile

Website
https://erpnext.com/

Repository
https://github.com/erpnext/foundation

Licence
Licence name: MIT license
SPDX-Tag: MIT

GreaterWMS

GreaterWMS is a warehouse management system that provides inventory management solutions. It provides a RESTful API that facilitates integration with other systems. GreaterWMS is supported by a companion mobile app that allows users to access the system. Based on the inventory management system used in APEC for after-sales warehousing in automotive industry.

Logistics application & target group
WMS functionalities, such as multiple warehouse management, supplier and customer management, scanner functionalities, cycle counting, stock control.
Suitable especially for manually operated spare-parts warehouses (self-disclosure).

Category
Cloud-based and mobile apps (iOS, Android)

Website
https://www.56yhz.com/index.html

Repository
https://github.com/GreaterWMS/GreaterWMS

Licence
Licence Name Apache License 2.0 or later
SPDX-Tag: Apache-2.0

Metasfresh

Metasfresh is an ERP & CRM software. Its functionalities ranges from purchasing and sales, to financial accounting, production/logistics planning and delivery.

Logistics application & target group
It is not a specialised logistics software. Logistics functionalities are embedded in the above-mentioned functional areas within an ERP approach. They range from the planning of inventories and order picking, to the options for receiving and shipping, including packing instructions for goods, to modules for planning and controlling tours. Its main focus is on retail companies.

Category
Server-based, on premise and cloud; web-based application incl. desktop and mobile

Website
https://metasfresh.com/

Repository
https://github.com/metasfresh

Licence
Licence name: GNU General Public License v2.0 or later
SPDX-Tag: GPL-2.0

ModernWMS

ModernWMS is a software system that manages warehouse operations. It provides a data model and essential services for inventory management to support the development of a warehouse management system. The software can integrate with various inventory management processes, providing visibility to data. The system can centralise all warehouse operations and information, and handle large-scale warehouse management.

Logistics application & target group
ModernWMS is a warehouse management system designed for small and medium-sized companies with manual warehouses. It offers functionality comparable to that of typical ERP systems, including receiving, shipping, inventory management, and in-warehouse operations. The system supports main processes with mobile devices and barcode scanners.

Category
Server-based, on premise and cloud; web-based application incl. desktop and mobile

Website
https://modernwms.ikeyly.com/

Repository
https://github.com/fjykTec/ModernWMS

Licence
Licence name: Apache License 2.0
SPDX-Tag: Apache-2.0

myWMS

myWMS is a modular framework for warehouse management systems. It provides the underlying data model and basic services for warehouse management that support the creation of a WMS. Development of myWMS began in 2001 at the Fraunhofer IML as a research project funded by the state of NRW.

Logistics application & target group
Wide range of functionalities, especially for manually managed warehouses, from goods receipt to goods issue, as well as master data for managing warehouse locations and interfaces to higher-level, secondary and lower-level systems.

Category
Client-Server-Architecture; client for PC and mobile

Website
https://mywms.org/

Repository
https://github.com/wms2/mywms

Licence
Licence name: GNU General Public License (GPL)
SPDX-Tag: GPL-3.0

NE:ONE

ONE Record server software package, that implements the IATA ONE Record standard. NE:ONE is fully compliant with the IATA ONE Record API description (v2.0) and data model (v3.0.0).

Logistics application & target group
A “data hub” based on the IATA ONE Record standard for air freight. Target groups are companies that are somehow involved in the transport and the related data exchange of (global) air cargo.

Category
Server-based, on premise and cloud

Website
https://openlogisticsfoundation.org/foundation-projects/working-group-digital-air-cargo/

Repository
https://git.openlogisticsfoundation.org/wg-digitalaircargo/ne-one

Licence
Licence name: Open Logistics Foundation License 1.3
SPDX-Tag: OLFL-1.3

Odoo

Odoo is a business suite that covers a variety of business needs, including CRM, eCommerce, accounting, inventory, point of sale, and project management. There are two ways to implement this system in companies: the Community Edition, which is freely accessible and licenced under the GNU Lesser General Public Licence v3, and the Enterprise Edition, which can be accessed by subscription and is charged at a SAAS price.

Logistics application & target group

This cloud-based business suite includes various apps, such as finance, sales, warehouse and ERP, HR, marketing, and productivity. It caters to small and medium-sized companies worldwide and offers basic warehouse management for manually operated warehouses.

Category

Server-based, on premise or cloud; web-based application

Website

https://www.odoo.com/de_DE

Repository

https://github.com/odoo/odoo

Licence

Licence name: LGPLv3 (Lesser General Public License)

SPDX-Tag: LGPL-3.0

OpenBoxes

OpenBoxes is a tool designed for hospitals and medical centers to manage inventory and track the movement of medical equipment and pharmaceuticals. It offers features such as inventory management, order management, reporting, and user management. It is compatible with various operating systems, including Windows, Linux, and macOS.

Logistics application & target group
Inventory management system designed for use in resource-scarce settings, as well as by first responders during catastrophic events.

Category
Standalone, server/cloud, no mobile

Website
https://openboxes.com/

Repository
https://github.com/openboxes/openboxes

Licence
Licence name: Eclipse Public Licenses
SPDX-Tag: EPL 1.0

Open Door Logistics

The ODL Suite consists of three modules (ODL Live for real-time vehicle route optimisation; ODL Studio for non-realtime vehicle routing and rerritory mapping; ODL Connect as a command line interface for ODL Studio). Only ODL Studio is open source. Studio is intended to assist businesses in managing sales areas and improving routes for delivery.

Logistics application & target group
Application for non-realtime vehicle routing and territory mapping/management. Postal/courier service providers, individual service/delivery providers.

Category
Standalone desktop and server-based application

Website
https://www.opendoorlogistics.com/

Repository
https://github.com/PGWelch

Licence
Licence name: Lesser General Public License
SPDX-Tag: LGPL

OpenLMIS

The Electronic Logistics Management Information System is designed to manage health commodity supply chains in low-income developing nations. It is a cloud-based tool that utilises microservices and API features for modification and extension without the need for new programming. Its goal is to enhance the efficiency of supply chains in developing countries, making essential pharmaceuticals accessible when needed. OpenLMIS has various functions, including requisitions, stock management, local fulfillment, reporting and analytics, and vaccine management.

Logistics application & target group

OpenLMIS manages and automates logistics processes across 11 implementations in 9 African countries, spanning over 11,000 health facilities and encompassing major health programs such as vaccines.

Category

Server, mobile

Website

https://openlmis.org/

Repository

https://github.com/OpenLMIS/openlmis-ref-distro

Licence

Licence name: GNU Affero General Public License v3.0 (htt)

SPDX-Tag: AGPL-3.0

openTCS

openTCS is a vendor-independent and flexible control system software for automated guided vehicle systems (AGVs) and other non-continuous conveyors such as electric monorails and mobile assembly platforms. openTCS can serve as a control system for virtually any automated vehicle.

Logistics application & target group
The utilisation and target audience are not restricted to specific industries. Instead, openTCS can serve as a master control system for any type of automated vehicles, making it suitable for intralogistic transports, both indoor and outdoor, depending on the vehicle‘s characteristics.

Category
Server-based; on premise and cloud

Website
https://www.opentcs.org/de/

Repository
https://github.com/openTCS/opentcs

Licence
Licence name: MIT License
SPDX-Tag: MIT

OpenTripModel

OpenTripModel is a data model, used to facilitate the exchange of real-time logistic trip data on the web, and making it easier for shippers, carriers, software vendors, OEMs, and truck manufacturers to create multi-brand application and services.

Logistics application & target group
Target groups are logistics service providers, shippers and IT suppliers that exchange logistics data like scheduling information, truck data (location, type), transport status, weather conditions, traffic information.

Category
Data Model

Website
https://www.opentripmodel.org/

Repository
https://github.com/opentripmodel

Licence
Licence name: Creative Commons Attribution-ShareAlike 4.0 International
SPDX-Tag: CC-BY-SA-4.0

OpenWMS

OpenWMS offers warehouse management solutions that can be integrated and extended by integrators. It is a platform-independent, web-accessible, and micro-service-based system that can function as a standalone application or be integrated with other repository systems. OpenWMS combines functionalities from WMS, MFC, and TMS domains and is not dependent on any specific database or storage technology.

Logistics application & target group

Different services may use different types of data stores, from relational to NoSQL databases. A workflow engine is used to control and change the material flow handling (MFC/WCS) dynamically without interrupts nor downtimes. OpenWMS includes i.a. asset management, event management, task management, and load/drop management, picking and inventory services. OpenWMS equips your workers with RF and RFID portable data terminals (PDTs). According to self-disclosure, both corporations and the public sector use OpenWMS.

Category

Server-based, on premise and cloud

Website

https://openwms.github.io/org.openwms/

Repository

https://github.com/openwms/org.openwms

Licence

Licence name: Apache-2.0 license

SPDX-Tag: Apache-2.0

PartKeepr

PartKeepr is a simple inventory management system that offers search functionality for many fields incl. stock levels, order numbers, manufacturers, distributors, and other information.

Logistics application & target group
PartKeepr is a free self-hosted inventory manager, especially for electronic components wholesale/retail companies (SME), e.g. workshops.

Category
Web-based application incl. desktop and mobile

Website
https://partkeepr.org/

Repository
https://github.com/partkeepr/PartKeepr

Licence
Licence name: GNU General Public License v3.0
SPDX-Tag: GPL -3.0

Open Logistics Foundation

Focusing on commodity services

The Open Logistics Foundation is a non-profit organisation that aims to establish a European open source community to promote digitisation in logistics and supply chain management. Its mission includes standardising logistics processes through de-facto standards. Founded by four major logistics companies—Dachser, DB Schenker, duisport, and Rhenus—the Foundation seeks to enhance collaboration among businesses in the logistics industry and support the development of open source software. Additionally, it organises various events such as Open Consultation Hours and OS Meetups. The Foundation also maintains a repository for open source components contributed by third parties as code donations.

For every company, the question of how or with what it makes money is crucial. The Open Logistics Foundation, however, focuses on what companies do not make money with. These are known in the market as “commodities” – non-differentiating services. Companies develop them either to control their processes better or because their customers expect such services as a matter of course. As a result, the service offers no unique selling proposition. In this context, it makes little sense for companies to invest time, energy, and money in developing such products. This is the idea behind the Open Logistics Foundation.

However, companies have different opinions about which services are not market differentiators, depending on how certain processes are set up and designed. Shedding light on these different perspectives and discussing the various assessments is fundamental for developing any open source solution. After all, if the components are to help all companies ultimately, there must be a common understanding of the processes and a basis on which to work.

The Open Logistics Foundation approach

The Open Logistics Foundation has developed a particular approach: It examines logistics services that are generally suitable for an open source project for their unique characteristics. What are the basic functions that do not allow companies to differentiate themselves or make money? And what are the features that excite companies and win business? The refrigerator is a good example of this process: Freshness technology that keeps vegetables fresh for longer is certainly an exciting

feature and, thus, a market differentiator. On the other hand, the light that comes on when the refrigerator door is opened is not a competitive advantage. Metaphorically speaking, the Open Logistics Foundation focuses on this light.

Open Logistics Foundation License – a licence for commercialisation

The Open Logistics Foundation is committed to enhancing the efficiency and sustainability of European logistics. The OS components developed by the Foundation community are encouraged to be commercialised in proprietary products. The aim is to foster competitiveness in logistics through continuous development, introducing new products, and offering new services. Licencing aspects should not impede these advancements. Consequently, the Open Logistics Foundation has introduced the permissive Open Logistics Foundation License, allowing the utilisation of components in proprietary products without the requirement to disclose the modified source code.

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The importance of open source in logistics and supply chain management is increasing. Against this background, the Open Logistics Foundation has started the Open Logistics Report to explore the worldwide landscape of open source projects and initiatives, primarily in the business sector. In the spirit of open source, the report is intended as an offer to open source communities worldwide to share their projects.

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