

open.logistics. magazine

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// GET INVOLVED: THE FUTURE OF LOGISTICS IS OPEN SOURCE

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16 # -*- coding: utf-8 -*-
17
18 import requests
19 from core.environment_variable_handler import EnvironmentVariableHandler
20 from core.url_builder import UrlBuilder
21
22 class OpenStreetMapConnector():
23     '''
24     Connect to the OpenStreetMap
25     '''
26
27     def __init__(self):
28         self.url_builder = UrlBuilder()
29         self.environment_variable_handler = EnvironmentVariableHandler()
30         self.environment_variable_handler.validate()
31
32         self.headers = {
33             'Accept': 'application/json, application/geo+json, application/gpx'
34         }
35
36     def get_distance_matrix(self, coordinates):
37         url = self.url_builder.create_get_distance_matrix()
38         json = {'locations': coordinates}
39
40         response = requests.post(url=url,
41                                 json=json,
42                                 headers=self.headers)
43
44         if not response.ok:
45             response.raise_for_status()
46
47         return response.text
48
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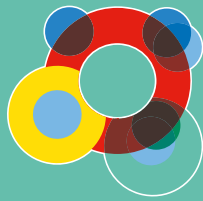
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Imprint

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Welcome

How can many companies and individuals effectively develop open source solutions?

From the beginning, this has been one of the core questions we are dealing with at the Open Logistics Foundation. Open Source thrives on cooperation and collaboration – and this idea of cooperation must, of course, also be reflected in our organisation; more than that, it must be lived. This starts with the agreement of regular deadlines for the work in our Working Groups and projects, extends to the precise documentation of all activities up to a clear, understandable description of the various topics, and, of course, it includes free access to the developed open source components for all market participants. Only if we organise all this properly will we be able to exploit the full potential of our jointly developed solutions.

When we talk about a lively organisation, our extensive community – the community of companies, the people who work together creatively and with joy – is undoubtedly the heart of the Foundation. The Open Logistics Repository – our freely accessible collaboration and development platform for working together – is the brain. This is where work planning, milestones, current discussions, documentation and, of course, the source code of the components developed for our projects can be found – all publicly accessible. By publishing the components on the platform, everyone – including

companies that are not members – can download our developments, integrate them into their systems and further customise them. Contributions can also be made via the repository. Our maintainers accept these, check for quality and fit with our solutions, and then incorporate them into our work. All contributions made – as well as our developments – are placed under the Foundation's open source licence and thus made available to the general public.

The publication of our developments is linked to an explicit call for the broadest possible use and commercialisation. However, for real de-facto standards to emerge from our components and for the collaboration potential to remain for all participants in the market, changes to the basis – the core of the code – must be made together and in one place because it is the basis that enables the different systems to interact effectively with each other. Then, we will significantly improve collaboration throughout the supply chain!

Because what is it all about? Resilient and sustainable global supply chains. That's why we invite all companies to download the components, use them and carry them across country borders.

Andreas Nettsträter

CEO of the Open Logistics Foundation



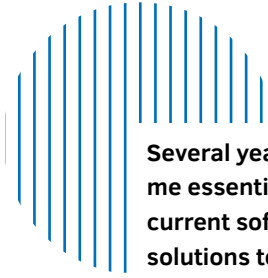
A photograph of Michael ten Hompel, a man with grey hair and glasses, wearing a white shirt. He is smiling and gesturing with his hands as if in a meeting or presentation. The background is bright and out of focus.

*For the logistics
visionary Michael
ten Hompel,
open source is
the foundation of
digital advance-
ment.*

The time of **working alone** is over

In many companies, cost savings are still seen as the most important advantage of open source solutions. However, **Prof. Dr. Dr. h. c. Michael ten Hompel**, Managing Director of the Fraunhofer Institute for Material Flow and Logistics IML, knows that the value of open source goes far beyond this. An interview with the man who paved the way for the Open Logistics Foundation.

THE DEVELOPMENT OF COMMON STANDARDS OR LARGE AI MODELS REQUIRES ACTIVE COLLABORATION IN THE COMMUNITY.



Several years ago, open source software became essential to the modern economy. Almost all current software solutions rely on open source solutions to a lesser or greater extent, embedding, supplementing, or transforming them.

This also applies to companies in the logistics industry. However, the Open Logistics Foundation has taken open source to a new level for the industry: from a pure IT topic to a business model. Professor ten Hompel, a few years ago, you told companies: “The time of working alone in logistics is over”. Has your appeal been fulfilled with the establishment of the Open Logistics Foundation?

At least those involved in the Open Logistics Foundation are no longer alone; that is something new. When we at Fraunhofer IML started to promote the establishment of an organisation in the logistics industry at the beginning of the 2020s, in which companies could jointly develop software and hardware, most companies were still wasting a lot of energy, time and money on programming the same interface for the hundredth time instead of agreeing on a common standard. As a strategic approach, few companies were aware of open source. With the Open Logistics Foundation, we created a framework and an environment where digitalisation can be considered and implemented across companies. I am delighted that the Fraunhofer IML, with the BMDV-funded “Silicon Economy” project, has made a decisive contribution to logistics defining the future together today.

What exactly do you see as the (added) value in open source?

For me, open source is, first and foremost, a cooperation and collaboration model. And it is precisely these forms of joint work that we

need today. The scale of digital transformation exceeds what a single company can achieve. It is now a question of creating common standards and utilising developments in artificial intelligence to survive the platform economy that we call the Silicon Economy. Today, a company must work together with other companies to succeed.

Nevertheless, many companies still have the impression that they are giving away their developments if they make them available to the general public as open source. What do you have to say to these companies?

Today, more than ever, you don't stay the market leader – you become it repeatedly! Look around and see how many established companies face difficulties because they have not recognised the changing times. New products and new markets follow technological developments, and this is happening faster than ever. A company risks being left behind if it does not get involved in open source developments. Companies that actively participate and develop open source software also have the opportunity to set new standards – true to the motto: Those who participate now set the direction and don't have to be mandated in the future.

At the same time, open source contributions to a German foundation such as the Open Logis-

DIGITALISATION IS THE GOAL, AND OPEN SOURCE IS THE KEY TO TAKE ALL COMPANIES WITH US, REGARDLESS OF SIZE AND INDUSTRY.

Prof. Dr. Dr. h. c. Michael ten Hompel



Prof. Dr. Dr. h. c. Michael ten Hompel

holds the Material Handling and Warehousing Chair at the Technical University of Dortmund and is Managing Director of the Fraunhofer Institute of Material Flow and Logistics. He is also a member of the Board of Directors of the Lamarr Institute for Machine Learning and Artificial Intelligence, a member of the National Academy of Science and Engineering, and the main board of the digital association Bitkom, among others. He is also the author and editor of numerous textbooks on logistics and IT and co-editor of *Lecture Notes in Logistics* (Springer).



// Fraunhofer IML

tics Foundation should be tax-deductible. Open source is no universal cure, but it is an opportunity. And it is high time to give the German economy the chance to position itself competitively in a Silicon Economy.

Artificial intelligence is currently emerging as a driver for open source developments ...

In fact, a lot of open source projects are being developed in the field of AI, and I am convinced that this will continue in robotics and large language models. At the Lamarr Institute, for example, we use OpenGPT-X, a European language model with many billion parameters and a language base of over 1 trillion tokens – not the worst basis for building your own chatbot. But if you want to play along, leave the spectator stands and get on the playing field.

A game also needs rules ...

This is why the Open Logistics Foundation has emphasised neutrality in the development participation of all interested parties from the beginning. On the contrary, the German foundation is not backed by a business purpose or a single company that wants to monopolise the market for itself. It is about generating new opportunities for everyone. Utilising these opportunities is, in turn, an individual entrepreneurial decision.

The basic attitude towards open source software is positive in most companies, as many studies and surveys, such as the Open Source Monitor of the digital association Bitkom or the expertise of the German National Academy of Science and Engineering acatech on the topic of open source in Industry 4.0, now show. What do companies still need as tools to shape open source actively?

In many personal conversations, I have found that companies are now aware that joint effort is required and that open source is essential for digitalising and automating logistics. In my opinion, the best starting point is participation in an open source community such as the Open Logistics Foundation. At Fraunhofer IML, however, we have also set up a format that pays particular attention to the open source concept: the new Open Enterprise Labs, in which science and industry – a maximum of five companies per lab – work together on open source solutions and adapt them to a specific use case or new product. We contribute our expertise as a research partner, as well as in managing open source projects. The companies set their own goals. We help with agile development. </>

Carina Tüllmann, COO of the Open Logistics Foundation, asked the questions.

#wearememberdriven: Joint forces, standardised solutions

The **member companies** have the right to propose new open source projects for the Open Logistics Foundation and implement them with the support of the Foundation's office and committees. After all, they know the industry and its challenges best.

■ In the sphere impact pendulum, an office toy popular in the 1980s known as Newton's cradle, the first impulse travels from one sphere to the next. The last sphere of the pendulum finally flies. The rules of physics also apply at the Open Logistics Foundation: the phenomenon can also be applied to the ideas and development process at the Foundation.

The first sphere, the impact momentum, is created when members of the Open Logistics Foundation suggest company and industry-relevant topics for digitalisation projects predestined for the joint development of open source solutions. Each member can contribute topics to the process that are of particular interest to their company. In practice, however, several members usually face the same challenges. This industry-wide relevance is the fundamental

Newton's pendulum principle: In the Open Logistics Foundation, impulses from the Foundation's Innovation Community release energy for open source developments.

prerequisite for any topics to be actively addressed under the umbrella of the Foundation. Topics can be raised at any time and by any member, whether at the Foundation's networking events or simply by sending an e-mail to the Head Office. In addition, the Foundation's Head Office invites its members once a year to an Ideation Workshop, a joint brainstorming session on relevant topics. Participants bring along current problems and discuss possible solutions in small

groups. It is the members themselves who then identify the most promising ideas – and thus initiate the process of setting up a Working Group or project.

This approach enables the Open Logistics Foundation to react to current topics and issues at anytime. Developments do not take place in an empty space but are always concrete, guided by users and their interests.

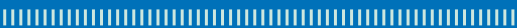
FROM TOPIC TO SOLUTION, FROM THE IDEA TO THE CODE: THIS IS HOW THE TOPICS IN THE OPEN LOGISTICS FOUNDATION ARE REALISED

Phase 1: The Topic.

- What?** Development of ideas for open source solutions
- Where?** Open Logistics Foundation
- Who?** Member companies, Head Office, Logistical Steering Committee

Current challenges facing companies are the starting point of open source developments under the umbrella of the Open Logistics Foundation. The Head Office supports the companies in concretising their topics as part of a structured ideation process based on the design thinking method. This includes market and technology research. In some cases, prototypes are also realised to test initial ideas.

At the end of phase 1, a decision is made by consensus based on a defined evaluation matrix as to whether the topic is suitable for processing within the Foundation or not. The criteria include, for example, the chances of realisation, the members' interest, or the logistical relevance. If a topic is not realised, this is no failure. This is because it is also essential for members to recognise where cooperation is not worthwhile.



Interested companies and organisations can find an overview of the topics for possible open source developments currently being discussed in the Open Logistics

Foundation in the "Idea Collection" in the Open Logistics Repository (GitLab). The topics and their respective processing status are listed there. Members or potential members of the Innovation Community can also submit their suggestions here.

Phase 2: The Working Group.

- What?** Common objectives for open source development
- Where?** Open Logistics Foundation
- Who?** Interested member companies, Head Office, Logistical Steering Committee

As soon as it has been established that an idea has the potential for a Working Group, interested member companies set about assessing the feasibility of the idea. To this end, employees from various functions of the member companies come together with their expertise. This interest group works through a list of requirements, which focuses in particular on the logistical relevance of the topic. The Foundation's Logistical Steering Committee and the Head Office support the questionnaire's preparation. For the Working Group to be established, at least one company in the interest group must be prepared to take the lead.

The next step involves focused work on the framework conditions. Where appropriate, experts are consulted to clarify certain issues and open questions, including legal ones, and reliably. This is because the biggest challenges often lie not in the technical development but in the different structures of the companies involved. On this basis, projects on specific topics can then be set up where the actual development occurs.

Phase 3: The Project.

-
- What?** Realisation of open source development
Where? Open Logistics Foundation
Who? Developer teams from Working Group member companies, Head Office, Technical Steering Committee
-

Now, the work on the open source solutions on a code basis begins, and the developers of the member companies are in demand. The Foundation's Technical Steering Committee supports the process and defines the technical framework conditions for software development. The code is published as open source in the Open Logistics Repository. The teams aim to transfer the solutions to practical tests as early as possible. The lessons learned help the developers continuously improve the solutions.

Phase 4: The Solution.

-
- What?** Individualisation/ Commercialisation
Where? Market
Who? Companies
-

Whether a member of the Open Logistics Foundation or not, every company can now customise the components to its specific business processes and integrate them into its IT landscape. Commercial use is expressly desired. As the work can be downloaded from the repository at any time, each company can decide when the time is right for customisation. Most companies wait until the solutions developed in phase 3 have reached a certain level of maturity. Companies can do this themselves if they have the necessary developer resources or outsource it to IT service providers or R&D partners. Changes to the basis – the core of the code – must be made together and in one place. This is the only way to create the intended de-facto standards and maximise the efficiency potential for everyone.

// istockphoto

How are the topics implemented in the Open Logistics Foundation?

The Open Logistics Foundation spans identifying industry-wide challenges and processing organisational, technical and legal framework conditions for the concrete development of open source solutions. The overarching goal is to create efficient and sustainable global supply chains. The process from the idea to the code is roughly divided into four phases. In terms of implementation, they overlap at many points, and there are areas of permeability. Based on the underlying fair and neutral processes, the participation and neutrality of the work in the Foundation are guaranteed.



Closing loops, improving environmental footprints, setting standards: Smart waste management with the ITCPRO fill level sensor, the blueprint of which has now been published as open source.



The source code to read and process the information of the ITCPRO level sensor and a reference implementation of the corresponding hardware, the so-called Sensing Puck, are available in the Open Logistics Repository.



/* Click here for the level meter tour planning software. */



/* The sensor hardware is located here. */

Smart systems according to plan

Not only software but also hardware is available as open source: The Open Logistics Repository contains the blueprints for an **intelligent fill-level sensor** for recycling containers and an **autonomous transport robot** used in palette handling.

■ **When companies launch innovative products on the market, they usually protect them with patents,** trademarks and copyrights so that other companies, especially competitors, cannot use them. Open source hardware ends this monopoly of utilisation: The blueprints of the products are made available to third parties as open source. “Generally, when designing such products, it is important that they are simple, robust and inexpensive to produce and can therefore be quickly reproduced by other

companies”, says Jens Leveling, Head of Technology from the Open Logistics Foundation and Lead Software Architect at the Fraunhofer Institute for Material Flow and Logistics IML. “Ultimately, both hardware and software are about creating standards in the industry that benefit all market participants.” In addition, companies can also use the blueprints to create their customised solution based on the standard products, which they can then utilise commercially.

HARDWARE IS ALSO PUBLISHED AS OPEN SOURCE IN THE OPEN LOGISTICS REPOSITORY – FROM THE SENSOR TO THE ROBOT.



Intelligent containers

The Rhenus Group and the Fraunhofer Institute for Material Flow and Logistics IML, both members of the Innovation Community of the Open Logistics Foundation, have now also taken this step: They have published the components of an intelligent sensor which can recognise the fill level of recycling containers in the Open Logistics Foundation's Repository. The ITCPRO fill-level sensor has been on the market since 2020. Rhenus Data Office, a subsidiary of the Rhenus Group, developed it together with the Enterprise Lab of the Fraunhofer IML. The company specialises in customised disposal solutions for all types of files and data carriers. The aim was to ensure that files and documents were disposed of per the requirements. Components of the universal hardware platform Sensing Puck were integrated as part of Fraunhofer's Silicon Economy large-scale research project, funded by the Federal Ministry for Digital and Transport.

The sensor does not only recognise the current fill status but also reports when a defined mark is reached and automatically triggers the collection process. This ensures the bin is neither overfilled nor collected when only half full. This innovation makes the security risk of overfilled bins a thing of the past, especially important for confidential data, given the General Data Protection Regulation (GDPR) requirements. Sustainable logistics and economic thinking go hand in hand here: thanks to the ITCPRO, empty runs can be eliminated, and collection runs can be planned more efficiently. The latter are reduced by a total of 30 per cent.

Smart technologies like these also can potentially change waste disposal logistics as a whole. The Rhenus Group now wants other companies

to benefit from this as well: By publishing the ITCPRO level sensor source code for reading and processing the sensor information and the reference implementation of compatible hardware, they will also be given the opportunity to become more sustainable. "The ITCPRO sensor represents a valuable contribution to reducing our CO2 footprint; as an innovative developer, we want to make this resource available to other companies too", says Dr. Stefan Peters, member of the Rhenus Group's Management Board and Chairman of the Open Logistics Foundation. Prof. Dr. Dr. h. c. Michael ten Hompel, Managing Director of the Fraunhofer IML, adds: "This technology will change disposal logistics in the long term. By publishing the components as open source and open hardware, we're increasing its potential effect and, in the end, everybody will benefit from this." This publication enables any interested company to build on the developments achieved, utilise them and develop them further according to their specifications.

A robot for everyone

A transport robot has also been developed as part of the Fraunhofer IML's Silicon Economy project, the blueprint of which has also been published in the Open Logistics Repository. The O³dyn (pronounced O³dyn) is the pioneer of a completely new, highly dynamic class of automated guided vehicles (AGVs) or transport robots. "With O³dyn, we have not only created a transport robot that, unlike many models on the market, can actually operate autonomously",

Intelligent transport robots are flexible transport robots: the O³dyn revolutionises internal and external transport. The concept and design are published as open source.



The O³dyn simulation model is a virtual representation of the actual outdoor robot O³dyn and enables the realistic evaluation of new designs, sensors and algorithms within the simulation.



/* Scan for the concept and design of the robot. */

// Fraunhofer IML

explains Guido Follert, Head of the Machines and Facilities department at Fraunhofer IML. In contrast to most automated guided vehicles on the market, the O³dyn is highly efficient, dynamic, flexible, and designed for indoor and outdoor use. Therefore, the “O” and the superscript “3” in the name also represent the Omnidirectional, Outdoor, and Open source triad.

The O³dyn also uses the libvda5050++ component, an open source implementation of the VDA5050 standard, which was also developed within the Silicon Economy research and published in the Open Logistics Repository. The standard aims to unify the interface of automated guided vehicles from the control system to the individual vehicle.

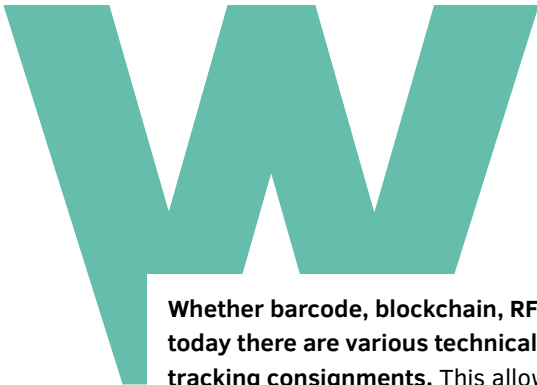
A novelty in the development of the transport robot is the development process: simulation-based artificial intelligence. Modern graphics

cards enable highly complex processes to be simulated in real-time. Using motion capturing, the scientists compare the behaviour in the simulation with that of the actual vehicles and thus optimise the simulation model. The more the difference between model and reality is reduced, the more the robot becomes the cyber-physical twin of the simulation. This approach can massively reduce development times: Prototypes can be tested in digital reality before they are built. In addition, hardware and software development can be decoupled in this way. As a result, the planning and development of logistical robot systems can be accelerated. </>

On the way to a standardised process



Track & Trace solutions are now standard for every (large) logistics service provider. However, the systems differ significantly, even though they often map identical processes. The new **Working Group Track & Trace** of the Open Logistics Foundation aims to standardise the Track & Trace process on an open source basis, ensuring greater transparency in the supply chain.



Whether barcode, blockchain, RFID or RTLS: today there are various technical options for tracking consignments. This allows everyone involved in the supply chain to check the status of a shipment in real-time. Track & Trace helps companies organise their logistics processes more efficiently, ensure the quality of their service and create transparency within the supply chain. “Track & Trace is the epitome of a commodity: a standard service, but not a service companies use to generate revenue,” says Andreas Nettsträter, CEO of the Open Logistics Foundation. Nevertheless, in the past, every company developed its own Track & Trace solution – at considerable cost and time. However, the systems do not speak the same language, making collaboration along the supply chain more difficult.

The idea of standardising Track & Trace solutions through open source was first discussed by the companies in the Open Logistics Foundation’s Innovation Community at an Ideation Workshop, which the Foundation’s office organises regularly. After the logistics service provider DB Schenker agreed to take the lead and the other companies agreed to participate, the Working Group was founded in March 2024. “The high level of interest in our project, not only among the members but also in the logistics industry, symbolises the importance of the topic. There is a need for action!” says Andreas Nettsträter. The

members keep up to date with the progress of the work in regular virtual meetings and meet in person if necessary.

The Challenge

Many different transshipment points and delivery partners make planning logistics transport processes difficult enough. In addition, logistics partners often talk past each other – especially if status terms such as “in transit” are not clearly defined. This usually results in non-transparent processes – especially for logistics service providers who rely on various subcontractors for their deliveries. At best, the status messages

IN THE TRACK & TRACE WORKING GROUP, WE ACT ACCORDING TO THE FOUNDATION’S GUIDING PRINCIPLE: COLLABORATION INSTEAD OF SILO THINKING. WE ARE, THEREFORE, EVEN MORE PLEASED TO WELCOME SO MANY MARKET PLAYERS TO THE WORKING GROUP.

Christa Koenen, CIO/CDO DB Schenker



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for Track & Trace are transmitted digitally but are not labelled in a standardised way. It is then up to the service provider to correctly interpret terms such as “in delivery”. Non-standardised acronyms (special code events) assigned to a transport phase cause additional confusion. An exact forecast, e.g. of the actual delivery time, is often challenging to make: planning becomes obsolete, and the customer only receives vague information about the actual delivery time and different information depending on the service provider. This also means that historical events cannot be processed optimally, for example, for performance analyses for SLA reporting or operational excellence targets.

The Approach

The new „Track & Trace“ Working Group now aims to create a standardised solution with the help of open source. To this end, an event, notification and data model is to be developed on an open source basis. The aim is to achieve de-facto standardisation. The first and most important goal is to create a shared understanding of how transport works based on various events.

The plan is not to create a functional platform but a standardised process and interface designation. A standardised understanding of events and notifications should clarify where a delivery is. At the same time, standardised designations for delivery events will pave the way for easier automation of all communication processes.

The first step of the work focuses on communication with the end customer, i.e., mapping an end-to-end transport process. The focus here is on the following questions:

- How many and which events and notifications are required for collaboration with the customer?
- How can these be described and defined in a standardised way?

The communication between logistics service providers and freight carriers is then analysed in a second step to map the individual transport steps. The questions are similar but relate to a different level. </>

WITH OPEN SOURCE FOR MORE EFFICIENT PROCESSES, BETTER QUALITY AND MORE TRANSPARENCY IN THE SUPPLY CHAIN.



Working Group Track & Trace

In logistics and production, tracking and tracing as part of the Internet of Things (IoT) enables real-time tracking of raw materials, components and fully assembled products within the production chain. The Working Group wants to lay the foundation for a standardised solution in Track & Trace and develop ideas for individual projects.

Start

March 2024

Members

Aventeon, Bohnen Logistik/ dvisport, Dachser, DB Schenker (Lead), Fraunhofer IML, logistics cloud, Rhenus, TradeLink

Lead

Marius Hilb, DB Schenker

Collaboration instead of silo thinking

■ DB Schenker, founding member of the Open Logistics Foundation, leads the new Track & Trace Working Group. Marius Hilb, IoT Product Owner at DB Schenker and Working Group Lead Track & Trace, answers the most important questions.

Track & Trace solutions are one of the classics in logistics management. Why is Track & Trace now on the agenda of the Open Logistics Foundation?

The solutions that are used today have been developed by different IT companies. There is, therefore, not one standard on which they all work but many different ones. As a result, the solutions often do not correspond to the actual operational logistics process and are ultimately only used to a limited extent by the logistics players. With the new Track & Trace Working Group, we now want to harmonise these standards from within the logistics process – and with the right companies. We will publish our work in the Open Logistics Repository – a freely available development platform for cross-company collaboration. Companies that use the components can individualise them, but the basis should always remain the same. In this way, we are laying the foundations for de-facto standardisation and enabling market penetration.

DB Schenker has taken over the Working Group Lead. What drives your company?

We are convinced that efficiency potential in logistics can only be realised with other companies and through standards. This is because the hurdles in Track & Trace, as in many different areas, are no longer technological but organisa-

tional. The Open Logistics Foundation offers us the environment, possibilities, and appropriate development platform in the Open Logistics Repository.

Why is the new solution or interface so crucial for the industry?

Improved consistency between different IT systems and companies fundamentally improves transparency and optimises logistics planning. Standardised event interpretation and the exchange of information optimise the process between suppliers, forwarders and recipients. As a result, the efficiency of the supply chain is increased. The time required for the transport of goods can be reduced.

The Working Group has garnered much support: eight members are already on board at the start ...

We are united by a common challenge: high IT costs, particularly concerning networking with freight forwarders and customers. Considering the already immense cost pressure in the logistics industry, there is an urgent need for action. </>



**THE NEED FOR
TRANSPARENCY IN THE
SUPPLY CHAIN WILL NOT GO
AWAY ON ITS OWN.**

Marius Hilb



#OSID2024

The Open Logistics Foundation invites its Innovation Community to the **Open Source Innovation Days 2024 (#OSID2024)** on June 5th and 6th at Spielfeld, the Digital Hub Berlin. The agenda includes discussions, presentations, workshops on open source topics and networking. Participation is free of charge and open to all employees of the member companies.



/* Scan to register */



// Open Logistics Foundation

Together for more open source: from left Fernando Liesa, François-Régis le Tourneau (both ETP ALICE), Andreas Nettsträter und Thorsten Hülsmann (both Open Logistics Foundation) with the declaration of cooperation.

Network in Europe expanded

The desired de-facto standardisation of digitisation processes in logistics and supply chain management requires as many market participants as possible. Against this background, the Open Logistics Foundation has secured the support of the European technology platform **ALICE (Alliance for Logistics Innovation through Collaboration in Europe)**. The networks want to strengthen their partnership through a „Memorandum of Understanding.“ The two networks emphasise the importance of collaborative open source solutions for Europe’s future competitiveness and give the industry a stronger voice. ETP ALICE brings together more than 160 members from all logistics and supply chain management disciplines.

Where you can meet us

Open Consultation Hour

The Open Logistics Foundation offers bi-monthly online meetings lasting approximately one hour, in which the Foundation introduces itself and provides an overview of current projects.

OS Meetup

We organise OS Meetups at companies and organisations throughout Europe. In small groups, we discuss current challenges in logistics and supply chain management – and which of them can be solved through cross-company collaboration.

Fairs & Congresses

You will regularly find us and many of our network partners at industry-relevant trade fairs and congresses. Please feel free to visit us so that we can talk about individual starting points for cooperation, and you can gain up-to-date insights into the Foundation’s operational work.



/* Scan for current dates */

Where you can hear us

Commodity applications based on open source are the subject of Episode # 14 of the Dachser Podcast NetzWert. The focus is on the digital consignment note eCMR.



/* To the podcast (in German) */