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



.No 2.2024 {

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New business models for IT companies, **9**;

Green logistics: From freestyle via duty to standard, **10**;

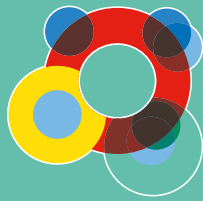
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open logistics
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All issues of the Open Logistics Magazine are available online as e-papers. Register and we will be happy to send you the latest issue and all subsequent ones via e-mail or as a printed version.

Welcome



In today's connected world, software development is no longer just about the code: For the sustainable success of an open source project, a strong and long-lasting community is at least as important as the technical output. The community, and therefore the “chemistry” between the people working on and in a project, is crucial for the sustainability of new developments.

The Open Logistics Foundation develops open source solutions in a network. As a neutral community organisation, we offer our members a protected space for the open exchange of problems and ideas. For us, trust is the key to developing these successful open source solutions. A cooperative mindset is strengthened by focusing on a common vision, defining shared goals, principles, and a clear governance model. A collaborative process forms the basis for the success of open source projects: learning from each other and understanding different ways of thinking. All of this creates a solid base for long-term collaboration, quality and longevity of projects.

In our Innovation Community and its projects, we make decisions that are not only based on technical considerations but also take into account the needs, opinions, and well-being of all those involved – regardless of company size.

At the Head Office, we consider it an essential task to connect people and projects and put them in relation to

each other. By strategically networking representatives of companies and organisations based on shared interests and expertise, we create a strong base for cooperation, personal relationships, and long-lasting projects.

We are delighted to have welcomed numerous new members who share our mission in recent weeks and months – including start-ups, SMEs and corporates. In

the Open Logistics Foundation, they all have the opportunity to develop user-friendly, practice-oriented solutions and actively help shape industry standards regardless of their size.

We also expanded and consolidated our contacts with institutions and associations from the logistics and open source world with new network partnerships. Every single company, every project, and every developer benefits from this lively, rapidly growing ecosystem.

Developing together, growing together: The energy of the community determines the pulse of our network. Let's use the power of cooperation for a better and more connected future of logistics and supply chain management.

Carina Tüllmann

COO at the Open Logistics Foundation



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11 3.5 times more

12 than they currently do,
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14 without open source.

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17 84 per cent of the additional
18 costs would be incurred for the
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20 languages alone, i.e. C, Java,
21 JavaScript, Python, Typescript
22 and Go.

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33 *Source: "The Value of Open Source Software", Hoffmann, Nagle, Zhou, 2024*

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40 The increase in code contributions

41 to open source projects via the
42 GitHub portal in a country by

43 1 per cent leads to 0.2 to 0.4

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45 companies in general and 0.03 to

46 0.1 per cent more new open source
47 companies.

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58 *Source: "Open source software and global entrepreneurship", Wright, Nagle, Greenstein, 2021*

What open source software is worth



Despite open source software's growing importance for the economy, measuring its value has been difficult until now. **Dr. Manuel Hoffmann** from Harvard Business School explains the approach he and his fellow researchers have developed that closes the gaps in calculating **the value of open source software** and provides companies with important key figures.

// Open Logistics Foundation

OPEN SOURCE SOFTWARE IS SYSTEMICALLY RELEVANT AND NEEDS GREATER SOCIAL SUPPORT.

■ In 2011, US software developer and entrepreneur Mark Andreessen argued that “software is eating the world”. A good ten years later, Joseph Jacks, founder of the OSS Capital, a venture capitalist exclusively supporting commercial open source software start-ups, replied that “open source is eating up software faster than software is eating up the world”. The trend towards open source software is unmistakable and irreversible worldwide – even though the value of open source software has long been undeterminable.

Public property as an economic concept

The open source concept is one of the most successful modern examples of the medieval economic form of the “commons”, an alternative to private property: at that time, farmers cultivated meadows and forests that belonged to them collectively. At the end of the 1960s, the US evolutionary biologist Garrett Hardin linked the idea of the commons against the backdrop of overpopulation with the demand to consider and tackle problems not only as individuals but also as a community. The “tragedy of the commons”,

or the reason for the failure of the concept, is that individuals always try to capitalise on their own advantages.

However, when the political scientist Elinor Ostrom, who researched the commons in the 1970s, turned her attention to the question of the conditions under which commons can be organised, it became clear that the concept can indeed work. Ostrom was awarded the Nobel Prize in 2009 for her research into user organisations’ successful management of common property.

The study “The Value of Open Source” by Harvard Business School, published in early 2024, is a decisive step towards determining the value of the digital commons, where the medieval commons once failed.

In economics, the value (v) created by a good or service is traditionally measured by multiplying the price (p) by the quantity sold (q). In the case of open source software, however, not only is the price usually zero, but the quantity sold is also unknown, as the source code is publicly accessible, and its use does not have to be disclosed. In the past, there have been several studies in which researchers have approximated values for price and quantity. For example, labour costs that would have been required to rewrite existing open source software were assumed for the price.

This is a very good way of estimating what it would cost to replace all existing open source software if it were to disappear tomorrow. However, the problem of quantity could not be solved.

Other research has focused on web servers that are publicly available on the Internet and, therefore, easily measurable. Using data from the United States, the resulting estimates showed a value of 2 billion dollars for the OSS Apache web server in 2012 and a combined value of 4.5 billion dollars for Apache and the increasingly

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Today, open source software forms the basis for cutting-edge technology in various areas such as artificial intelligence, quantum computing, big data and analytics.
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Dr. Manuel Hoffmann
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77 per cent
  is the proportion of open source software
  compared to proprietary software in the codes
  of all codebases worldwide.
96 per cent of all codebases worldwide – and
  therefore practically all of them – contain
  at least one open source component.
  The average number of open source components
  in an application is 526.
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Source: 2024 OSSRA Report, Synopsys

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4.15 billion dollars
  is the value of OSS on the supply side, i.e.
  this is the amount companies would have to
  spend on the theoretical new development of
  the most commonly used open source software
  products today.
The value of open source on the demand side
  is 8.8 trillion dollars, i.e. this is the
  amount that companies using open source
  software would have to spend if they had to
  buy or develop the systems themselves.
The figure is around 8 billion dollars for the
  logistics sector (transport and storage). Of
  the 20 sectors analysed, logistics is in 15th
  place: the potential for using open source
  software is, therefore, still high.
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Source: "The Value of Open Source Software", Hoffmann, Nagle, Zhou, 2024

COMPANIES THAT USE OPEN SOURCE SOFTWARE SHOULD ALSO ACTIVELY PARTICIPATE IN ITS MAINTENANCE.

popular OSS web server nginx in 2018. However, although web servers are an important part of the open source software ecosystem, they only make up a small part of it.

Value measurement in width and depth

The approach developed at Harvard Business School in recent years now looks at the value of open source software in both width and depth:

- The study follows the literature mentioned above and uses the labour replacement value to estimate the price (p).
- For the quantity (q), the researchers use two data sources, which together form the most complete measurement of the use of open source software to date: the 'Census II of Free and Open Source Software – Application Libraries' and the 'BuiltWith' dataset.

The two datasets complement each other: the first focuses on open source software integrated into the software sold by a company, and the second on open source software integrated into a company's website.

This means that the approach takes into account not only the price of creating open source software—the supply side—but also, to an unprecedented extent, the usage or demand side. In addition, the value of the open source software used in companies is explicitly quantified.

The study also shows that users' active participation in maintaining the open source software they use is crucial for the success and growth of the ecosystem. Companies should realise that contributions to the design of open source software only account for a fraction of the costs they would incur if open source software did not exist. </>

About the author

Dr. Manuel Hoffmann is a Postdoctoral Fellow at the Laboratory for Innovation Science at Harvard. His research focuses on social and behavioural aspects around open source software and artificial intelligence under the broader theme of innovation and technology management, with the aim of better understanding strategic aspects for large, medium-sized, and entrepreneurial firms. He further collaborates with the Center for Population Health Science at Stanford University and the University of Heidelberg. He obtained his doctorate in economics from Texas A&M University. In early 2024, Dr. Manuel Hoffmann and his colleagues Frank Nagle and Yanuo Zhou published the Harvard Business School working paper "The Value of Open Source", which is the basis for this article.

New business also for IT companies

■ **For logistics service providers, the advantages of open source are obvious:** the collaborative development of software saves costs, the software increases the user-friendliness of physical logistics and improves efficiency. Logistics IT partners, on the other hand, often fear for their market. However, open source developments offer them numerous opportunities to expand their business, retain existing customers and acquire new ones. “Today, open source and proprietary solutions can merge with, reinforce and inspire each other,” explains Dr. Michael Schmidt, Logistics & SCM Advisor of the Open Logistics Foundation. Ulrich Buhrmann, Executive Director at the technology and software company *iteratec*, a member of the Open Logistics Foundation, agrees: “We are convinced that our customers gain a competitive advantage when our work is based on open source. It also strengthens our relationship with our customers.”

Expand intelligently

One of the most important and best-known business models is the open-core model: companies can develop extensions or add-ons around the open core of open source software that are particularly valuable for their existing or potential new customers. These include, for example, use-case-specific functionalities or collaboration tools. They can offer then this new closed-source software to their customers as a commercial package with the open source solution, i.e. for a fee. Dr. Michael Schmidt: “The software can either run under two licences – the Open Logistics Foundation License for the open source part and a proprietary licence for the extensions – or can also be placed under a new licence as a package. The Open Logistics Foundation License explicitly allows this.” The open-core model also offers



// istock

From consulting to hosting: open source creates new business models for IT companies.

start-ups, in particular, the opportunity to position themselves on the market and scale more quickly.

Better advised

IT companies can also host open source applications for logistics service providers and combine this with software-as-a-service or infrastructure offerings. They can also offer logistics services for implementing open source software in their company and training or technical support during operation. “Logistics companies that want to integrate open source software into their IT landscape can make good use of support from specialised providers,” says Dr. Michael Schmidt. Ulrich Buhrmann from *iteratec* sees clear added value for his company in participating in developing open source software in the Foundation from the outset: “We are pleased to be working with industry leaders on several projects to develop new standards that solve the most pressing challenges in logistics.” </>

In 2022, 78 per cent of freight transport in the European Union was handled by road. Rail accounted for 17 per cent and inland waterway transport for five per cent.
Source: Federal Statistical Office of Germany



Green logistics: From freestyle via duty to standard

Zero-emission logistics is the logistics of the future. Open source solutions can help **make logistics more efficient faster**, thus contributing to achieving climate targets.



According to the International Transport Forum, demand for freight transport is expected to almost triple by 2050. Freight transport and logistics already account for eight to ten per cent of global greenhouse gas emissions. Even before the Paris Climate Agreement of 2015, which aims to limit global warming to well below two degrees Celsius and preferably 1.5 degrees Celsius, logistics companies have increasingly committed themselves to reducing their CO2 emissions and promoting sustainability. “We all want to become greener”, says Justin Lemmens, Manager for Safety, Health, Environment and Quality (SHEQ) at LKW WALTER, summarising the mood in the industry. “We’ve been talking about sustainability in logistics for years. But now, in the last few months, it’s really becoming concrete. You can feel that the industry as a whole – finally – wants to take a step forward.” With the establishment of the Working Group “Enabling Logistics Decarbonisation” in August of this year, the members of the Open Logistics Foundation, including LKW WALTER, have now also set an example for more sustainability in the industry (see interview with Andreas Nettsträter, CEO of the Open Logistics Foundation, p. 15).

Sustainability with tradition

LKW WALTER, one of the leading transport organisations in European full truckload transport, has a long tradition of reducing emissions. As early as the 1950s, it was standard practice at the Austrian company to schedule vehicles exclusively “on a round trip” – avoiding empty runs. In 1984, LKW WALTER began shifting transport from road to rail to reduce pollutant emissions. A comprehensive environmental management system was developed in the 1990s. External environmental audits have recognised the company’s activities as exemplary in the transport

sector. Justin Lemmens: “Emissions reporting is now an important factor in tenders for logistics services. Customers are increasingly making it mandatory.”

From the top down

However, regulatory measures have also increased in recent years: With Directive 2022/2464 of the European Parliament and Council – the so-called “Corporate Sustainability Reporting Directive”, or CSRD for short – from December 2022, the European Commission has already obliged companies to publish and externally verify information on the sustainability of their business activities. On paper, the measures only affect so-called public interest entities (PIEs). These “public interest entities” included listed companies in particular, as well as credit institutions and insurance companies. From next year, the directive will be applied to large PIE companies with a net turnover of more than 50 million euros, for example, and from 2026, also to medium and small PIE companies.



EMISSIONS IN LOGISTICS ARE INCREASING, BUT SOLUTIONS ARE IN REACH. NOW, WE NEED TO BRING TOGETHER THE RIGHT PARTNERS.

Rik Arends, Smart Freight Centre



However, because PIE companies must prove that sustainable standards are followed throughout their entire value chain, the CSRD also extends to all other companies. Justin Lemmens expects that “the directive will quickly cover most of the market, certainly 90 per cent. So, what was optional yesterday will become mandatory tomorrow. That’s why we at the Open Logistics Foundation are currently working on a standard for data exchange in the context of sustainability reporting.”

“Solutions are within reach”

Smart Freight Centre (SFC) is an important partner in this process: the non-profit organisation based in Amsterdam has been working since 2013 to improve the efficiency of freight transport and reduce transport-related emissions through a wide range of projects at various levels around the world. “Emissions in logistics are increasing, but solutions are within reach: manufacturers in – our wording: shippers – freight forwarders and carriers play a central role in this,” says Rik Arends, Director Sustainable Freight Buyer Alliance of Smart Freight Centre. “Now, we need to bring together the right partners based on our activities, deliver high-quality analyses and operate successful integrated project management. Transparency and trust are crucial here.” SFC recently became a network partner of the Open Logistics Foundation. Thus, the two organisations form an alliance in the field of zero-emission logistics, to which SFC contributes its sustainability expertise and the Foundation, the perspective of the logistics industry.

With the GLEC programme, short for Global Logistics Emissions Council (GLEC), Smart Freight Centre began to promote a broad, transparent and consistent calculation and reporting of logistics greenhouse gas emissions in 2015. The



Emissions Data Exchange

As part of the project, the iLEAP data model developed by Smart Freight Centre and SINE Foundation for exchanging sustainability data along the supply chain will be validated in various use cases.

Project details

Project start

August 2024

Working Group

Enabling Logistics
Decarbonisation

Members

LKW WALTER (Lead), BLG, Cargo Sign, Contargo, Dachser, DB Schenker, DHL, Fraunhofer IML, iteratec, Rhenus, Transporeon, Zufall; associated partner: Smart Freight Centre (Project iLEAP, a joint project of Smart Freight Centre and SINE Foundation)

Project lead

Justin Lemmens, LKW WALTER



/* Scan for more information */

GLEC framework was the first globally recognised methodology for calculating emissions in logistics according to the Greenhouse Gas Protocol (GHG). The industry guideline offers multinational companies and their suppliers a harmonised, efficient and transparent way of calculating and reporting logistics emissions. It quickly became a

The iLEAP project will produce a data model extension, which builds on and extends the Product Carbon Footprint Data Model developed by the World Business Council for Sustainable Development. Scan QR code for the technical specifications.



/* Scan QR code */

common industry guideline. “LKW WALTER has been collecting its data according to the GLEC since 2019, and of course, many others in the industry are doing the same,” says SHEQ Manager Justin Lemmens.

The ISO 14083 standard “Greenhouse gases- Quantification and reporting of greenhouse gas emissions arising from transport chain operations” is now based on the principles and methodology of GLEC. Published

in March 2023, less than two years later, the standard has been widely accepted in the corporate landscape and is on its way to becoming a global standard. Justin Lemmens: “ISO 14083 is already established in the EU: There is no way around it for companies in Europe!”

Containing uncontrolled growth

However, collecting data is one thing, exchanging data is another: “The path to decarbonisation is not a predefined path, which is why decarbonisation is so complex,” explains Violetta Matzoros, Technical Manager at Smart Freight Centre. For the next step after the successful application of the GLEC framework and the associated ISO standard, Smart Freight Centre launched the iLEAP project, short for Integrating Logistics Emissions and PCFs, together with the SINE Foundation in 2023. In the project, SFC seeks to “overcome the challenges of data exchange” together with companies, as Violetta Matzoros says: “The more comparable data we make available and then analyse, the closer we get to reporting real values - and our goal of zero-emission logistics by 2050 at the latest.”

LKW WALTER has been involved in iLEAP right from the start. In the project, which will run until the beginning of next year, the members first determined the form in which transport data should be recorded so that it can be compared. Because: “There are actually thousands of ways to exchange the data. However, if everyone did it the way they wanted, this would lead to a lack of transparency and prevent comparability,” says Justin Lemmens. “That’s why in iLEAP, we looked at the question of the units in which the values specified by GLEC and the ISO standard should be recorded and digitised.”

While clarifying these questions, the group has already developed a data model specification, which is published as open source on GitHub, and can be used as a basis for a standard API Interface. This work is driven by the software engineers of the SINE Foundation. Justin Lemmens: “We have presented a technical solution that is as simple as possible. If every transport company uses this API, we will all make our lives easier!”



EMISSIONS REPORTING IS A CLASSIC COMMODITY: AS A LOGISTICS SERVICE PROVIDER, WE CANNOT DIFFERENTIATE OURSELVES.

Justin Lemmens, LKW WALTER



OPEN SOURCE SOLUTIONS ARE INDISPENSABLE FOR GREATER SUSTAINABILITY IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT.

“Open Source is the key”

3 questions to Andreas Nettsträter, CEO of the Open Logistics Foundation, on sustainability in logistics.

The companies in the Open Logistics Foundation founded the Working Group “Enabling Logistics Decarbonisation” this summer – with what goal?

Making logistics sustainable is essential in overcoming environmental, economic and social challenges and ensuring a future worth living. Sustainability helps companies to remain fit for the future by minimising risks and creating new opportunities. This includes adapting to changing market conditions and ensuring the availability of resources for future generations. The first Project, “Emissions Data Exchange”, is already helping companies to take a very concrete approach.

The companies hope that this project will create a new standard for exchanging sustainability data along the supply chain. Why is the Open Logistics Foundation needed for this?

Suppose a component for data exchange, such as the iLEAP interface, is openly acces-

sible as an open source implementation. In that case, this enormously lowers the hurdle for trying out, implementing and operational use. The Open Logistics Foundation offers companies an environment – a “safe space” in which the industry’s heavyweights, who are competitors, as well as platform providers and start-ups, can talk openly with each other. I am convinced that the industry will benefit greatly from a joint reference implementation.



ANDREAS NETTSTRÄTER

What fundamental contribution does open source make to increase sustainability?

Open source promises equal opportunities for all, stands for transparency and ensures trust among companies along the supply chain that exchange data with each other. Against this backdrop, it is clear that open source solutions are also indispensable for greater sustainability in logistics: open source is the key.

A leap into practice

However, one question remained unanswered at first: How will the interface find the necessary distribution? Violetta Matzoros from Smart Freight Centre: "In our experience, manufacturers are generally more willing to decarbonise transport. On the one hand, they are subject to

With the publication "Treibhausgasemissionen im Transportsektor" ("Greenhouse gas emissions in the transport sector"), the Umweltbundesamt, the central environmental protection agency of Germany and the Federal Ass. For Freight Forwarding and Logistics Germany (DSLVL), provide an up-to-date guide to ISO 10483. 68 pages, March 2024.



/* Scan the QR code for the download (only available in German) */

more regulatory requirements than many of the logistics companies. On the other hand, their customers - the end consumers - demand sustainable products, especially when it comes to consumer goods. However, this does not mean logistics service providers are not committed to decarbonisation."

On the contrary: in the iLEAP project in particular, logistics has become the number one driver of sustainable logistics. "We logisticians know our data best and know how to handle it: That's why it makes sense for us to be particularly active here," explains

Justin Lemmens from LKW WALTER. "What we want to offer our customers, the manufacturers and shippers, are not abstract values but real levers that they can use to make their products more sustainable. We aim to start a dialogue about how transport can become greener - and this idea unites us all!"

Software companies, in particular, strongly support the implementation of iLEAP: "Many manufacturers will outsource the calculation of emissions and creation of emissions reports to software providers. For them, interoperability is the key to a new business model," observes Violetta Matzoros.

Promising use cases

Logistics service providers are now taking the lead in spreading the iLEAP interface to gain allies and supporters - with and within the Open

Logistics Foundation. As part of the Foundation's new Working Group "Enabling Logistics Decarbonisation", they have launched the Project "Emissions Reporting" (see info box p. 13). The aim is to carry out several identical use cases with different partners this year in order to see how the component can be integrated into the IT landscapes of different companies and which specifications make sense. By testing the data model, companies can also validate business models: Does the interface create more transparency than in the past - and how will my company be supported in decarbonisation? In addition to the actual component, the corresponding reference implementation will be available in the Open Logistics Foundation Repository.

"Many companies can only be convinced by tangible results. That's why we support the Working Group as an associated partner," says Rik Arends from Smart Freight Centre. Violetta Matzoros adds: "In recent weeks, we have already been able to convince several shippers to test the iLEAP interface. This is certainly due to the fact that the results of our project are spreading. But also because the collaboration with the Open Logistics Foundation is propagating our reach." Or, as Justin Lemmens from LKW WALTER puts it: "The Open Logistics Foundation offers a great environment for making the iLEAP interface the standard. This is exactly the rocket fuel we need right now!" </>



THE WORKING GROUP IS WHAT LEADING BY EXAMPLE LOOKS LIKE. IT IS TIME FOR MORE MEMBERS TO JOIN THE COMMUNITY & STEP UP THEIR EFFORTS TO MATERIALISE SEAMLESS EMISSIONS DATA EXCHANGE.

Violetta Matzoros, Smart Freight Centre



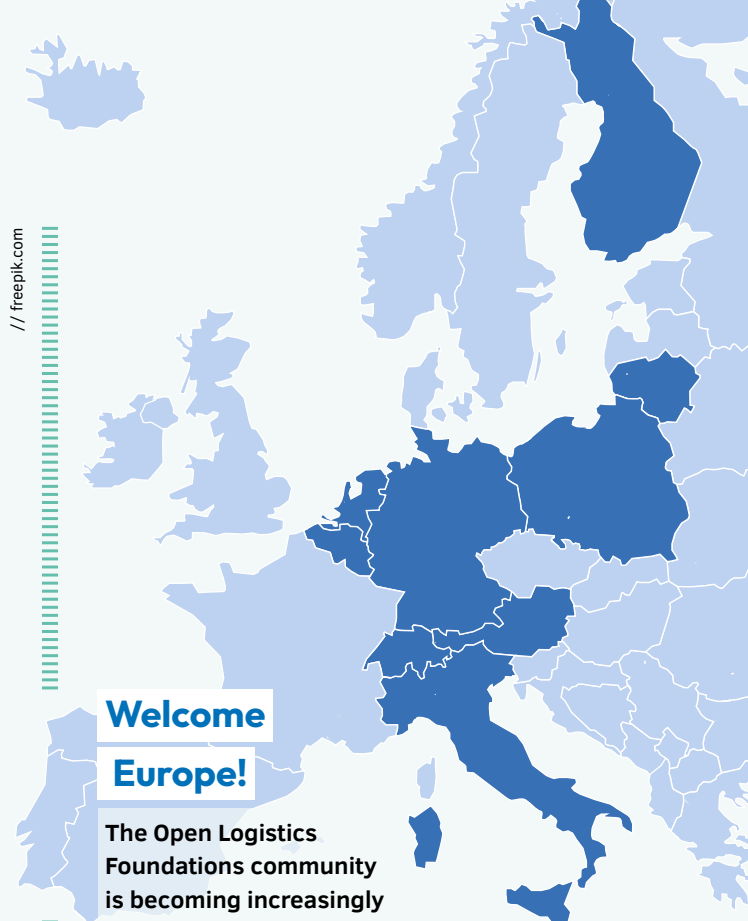
Open Logistics Foundation expands network

With the Finish Centre for Open Systems and Solutions (COSS) and Smart Freight Centre, the Open Logistics Foundation has expanded its network to include two well-known organisations.

Smart Freight Centre (SFC), a globally active non-profit organisation for climate protection in the freight transport sector, aims to support the global logistics ecosystem in measuring and calculating greenhouse gas (GHG) emissions. The two organisations jointly want to advance zero-emissions logistics in the future. Rik Arends, Director Sustainable Freight Buyers Alliance at Smart Freight Centre: “Smart Freight Centre supports the logistics ecosystem worldwide intracking and reducing emissions to meet the 1.5-degree climate target. However, sustainability can only succeed if companies work together. This requires transparency and trust, which is what the Open Logistics Foundation stands for, a drive to ensure a standardised adoption of open source standards with multinational organisations who want change. We look forward to partnering with the Open Logistics Foundation and driving decarbonisation and standardisation of logistics emissions together.”

The Finnish Centre for Open Systems and Solutions (COSS) is a non-profit and commonbenefit association that promotes open source, open data, open standards and APIs. Internationally known as one of the oldest and most active centres for openness, COSS operates based on extensive cooperation, communication and networking. “COSS and the Open Logistics Foundation share the belief that open source software and open standards are of crucial importance to various sectors, including the logistics industry and the public sector. This cooperation is a significant step forward in fostering innovation and transparency on an international level”, says Timo Väliharju, Executive Director at COSS.

// freepik.com



Welcome Europe!

The Open Logistics Foundations community is becoming increasingly international. Through its member companies and network partners, the Foundation is now represented in nine European Countries.

Where you can meet us

We offer a bi-monthly online meeting **Open Consultation Hour**, lasting approximately one hour, in which the Foundation introduces itself and provides an overview of current projects. We also organise **OS Meetups** at companies and organisations throughout Europe to discuss current challenges in logistics and supply chain management – and which of them can be solved through cross-company collaboration. 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 data */



One for all

Licence questions are a stumbling block for companies' use of open source software. The **Open Logistics Foundation License** makes topics transparent that are only indirectly addressed in other licences. The more precise a licence is, the **less room for interpretation** there is – and the **greater the certainty**.

The Open Logistics Foundation License (OLFL-1.3) is a so-called permissive licence, which places only minimal restrictions on the use of the software because: “The Open Logistics Foundation has great interest in our software being widely used and logistics processes being standardised as a result,” explains Andreas Nettsträter, CEO of the Open Logistics Foundation. “The Open Logistics Foundation License – modelled after the US Apache 2.0 License – therefore explicitly permits any use of the source code in a commercial environment.” This means the software may be used, copied, distributed and modified, regardless of the intended use.

This is also made possible by the members of the Open Logistics Foundation, who jointly develop and implement software in the Open Logistics Foundation projects. Each company transfers the usage rights for its respective lines of code to the Open Logistics Foundation under a Contributor License Agreement. The copyright to the individual contributions remains with the individual developers or – depending on the constellation – also with the companies in which the developers work.

Companies can use the source code in hardware and software environments as well as in databases, data networks, and online services. Furthermore, they can modify, interpret, edit or redesign the source code they use. They can use the software modules from the Open Logistics Repository for internal purposes and to provide services to third parties. An example would be integrating the eCMR components into commercial transport management software. The companies do not have to report the use or contribute modifications back into the Open Logistics Repository. Dependencies on other open source software components are checked for compatibility with the Open Logistics Foundation License. The Open Logistics Foundation maintains a white list of compatible licenses, and adherence to compliance will be supported by special tools in future.

In the legal departments of companies, new or adapted licences are often seen as a poten-

tial risk. “As an open source community with European roots, it was important to us that our licence follows the European legal understanding with formulations on warranty and liability,” said Marius Brehler, Open Source Advisor at the Open Logistics Foundation, explaining the background to the creation of a separate licence. This means that liability is explicitly limited to intent or gross negligence. In addition, the Open Source Initiative (OSI) has confirmed in a licence review process that the Open Logistics Foundation License meets the definition of an open source licence. </>

The OLFL-1.3 at a glance

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Cyber Security:

The responsibility of companies is increasing



With the **Cyber Resilience Act (CRA)**, the European Union wants to improve the quality and security standards of digital products. In an interview, **Miriam Seyffarth**, Head of Political Communications at the **Open Source Business Alliance**, explains what the regulation means for companies and what role open source software plays.

Digitalisation has increased the risk of cyber-attacks in all areas of the economy and everyday life. How does the EU intend to improve e-product safety?

The Cyber Resilience Act (CRA) introduces EU-wide cybersecurity requirements for the design, development, production and deployment of hardware and software products on the market. The regulation aims to reduce the vulnerability of digital products and to ensure protection against unauthorised access – throughout the entire life cycle of a product. Specifically, this means, for example, that when purchasing a smartphone or a washing machine with a WI-FI connection, consumers must receive information on how long the manufacturer will provide security updates for the product. The minimum period here is five years. Products that comply with the CRA also receive the already-established CE marking.



their final product or finished software but also the entire supply chain. This is because software vendors bear responsibility for all components that they embed in their software as soon as they launch or sell the product.

In its final version, which has already passed the EU Parliament, the CRA also takes into account the special nature of the open source ecosystem. The Open Source Business Alliance has strongly advocated for this. Why were you in favour of distinguishing between proprietary and open source software?

The development and distribution models of open source software differ considerably, in some cases, from the development and distribution models of proprietary software due to the open and cooperative approach and the freedoms granted by open source software licences. In particular, it is not so easy to distinguish between commercial and non-commercial players in the open source sector. A more differentiated categorisation is required here. We have therefore explicitly welcomed the European Commission’s decision to recognise the complex web of the open source ecosystem by distinguishing between producers of open source software – the manufacturers – and the developers and administrators of basic open source software components – the stewards.

The CRA applies to products with digital components, such as smartphones or washing machines, and it also covers software as an independent product. What requirements does the regulation place on software?

The CRA focuses on the principle “security by design”, i.e., integrating security aspects into all phases of software development. This approach increases the resilience of hardware and software against attacks. Companies must also carry out comprehensive risk analyses and establish processes to identify and assess the cyber security risks of their products. Additionally, they have to take measures to address problems should they occur and publish information about the cyber security of their products commercially.

What does this mean for the Open Logistics Foundation and its member companies?

Organisations such as the Open Logistics Foundation will fall into the category of stewards.

Which companies are affected by this?

All companies that launch and sell digital products in the course of commercial activity, i.e. hardware and software, on the market – regardless of whether they have developed 100 per cent of the digital components or whether they buy or integrate third-party components. Companies, therefore, have to consider not only

THE CYBER RESILIENCE ACT CALLS ON COMPANIES TO MAKE SOFTWARE DEVELOPMENT PROCESSES MORE SECURE AND TO KEEP AN EYE ON THE SUPPLY CHAIN.

Miriam Seyffarth, Open Source Business Alliance



The requirements for stewards are less strict, and the member companies are not responsible for the software development in the Foundation's projects, as this is the responsibility of the Foundation as long as it only concerns standards and basic components. However, as the member companies themselves want to use and distribute the software they have developed in a business environment, they then bear the full responsibility for the commercial product they sell as a manufacturer; therefore, they will be keen to develop the software to be CRA-compliant from the outset. The entire logistics sector – i.e. all companies that subsequently use the software – will eventually benefit from the collaboration under the umbrella of the Foundation.

When the General Data Protection Regulation came into force in May 2018, many companies struggled with the changes, often making them at the last minute. What can they do better with the CRA?

Let's be better prepared this time! Companies should find out now what they need to do and how they can fulfil the requirements of the CRA. This could include looking into existing security processes within the company and the business partners in the supply chain, as well as a detailed list of all the components of their software solutions, the so-called Software Bills of Material. Admittedly, the text of the regulation is long, unwieldy and abstract. However, the EU is currently developing concrete standards and a clear catalogue of criteria and is also planning to publish a guide for small and medium-sized enterprises in particular. </>

About the OSBA

The Open Source Business Alliance (OSBA) – Bundesverband for digitale Souveränität e. V. represents over 220 member companies in the open source industry in Germany. The Berlin-based organisation is committed to establishing open source as the standard of public procurement, research, and business development. The Open Source Business Alliance works together with the Open Logistics Foundation. The two organisations have signed a Memorandum of Understanding to this end. The common goal is to promote the exchange of information on digital sovereignty and open source – as well as to be in close contact with other business and industry organisations.



/* Scan the QR code for more information on the cooperation */

About the CRA

The European Parliament adopted the regulation in March 2024. The Council of the European Union must also approve the CRA before it enters into force. Companies must then apply the regulation 36 months after it comes into force, which is expected to be the case in 2027.



Appeal to companies: Miriam Seyffarth at the Open Source Innovation Days 2024 organised by the Open Logistics Foundation.

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