

PAC Vendor Landscapes

IOT & EDGE COMPUTING 2025

Eurotech: a Top Contributor to Community-driven, Open Source Projects in IoT & Edge Computing

Arnold Vogt, Head of Digital & IoT, PAC
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PAC Vendor
Landscapes

Open Source –
IoT & Edge Computing

TOP CONTRIBUTOR

Eurotech
2025

 eurotech

Research approach

Starting point **The economic value of open source software (OSS)**

Thanks to the open source movement, businesses around the globe gain access to software code that is freely available for inspection, use, and modification. The economic impact of open source on the IT industry is staggering. [A 2024 study by Harvard Business School](#) estimates its worth at a remarkable \$8.8 trillion. Without open source, the report suggests, companies would face software costs 3.5 times higher than they do today. **In fact, some commercial software products are composed of up to 99.9% freely available open source code.**

Step 1 **Transparency on leading open source projects in the context of IoT & edge computing**

The analysis mentioned above prompted us to identify today's most relevant open source projects in IoT and edge computing. While the contribution of open source projects to this space is certainly undeniable, the market lacks transparency on the most relevant projects from a user (developer) perspective. PAC did a broad market screening and identified **nearly 100 open source projects** focused on IoT and edge computing. We conducted the market screening with an open-minded approach, i.e., without taking into account any OSS licensing options (e.g., Apache License, Eclipse Public License, GNU GPL), and used GitHub as the central research source. The outcome at this stage was a ranked list of IoT and edge computing-related OSS projects, based on the number of GitHub stars they had earned.

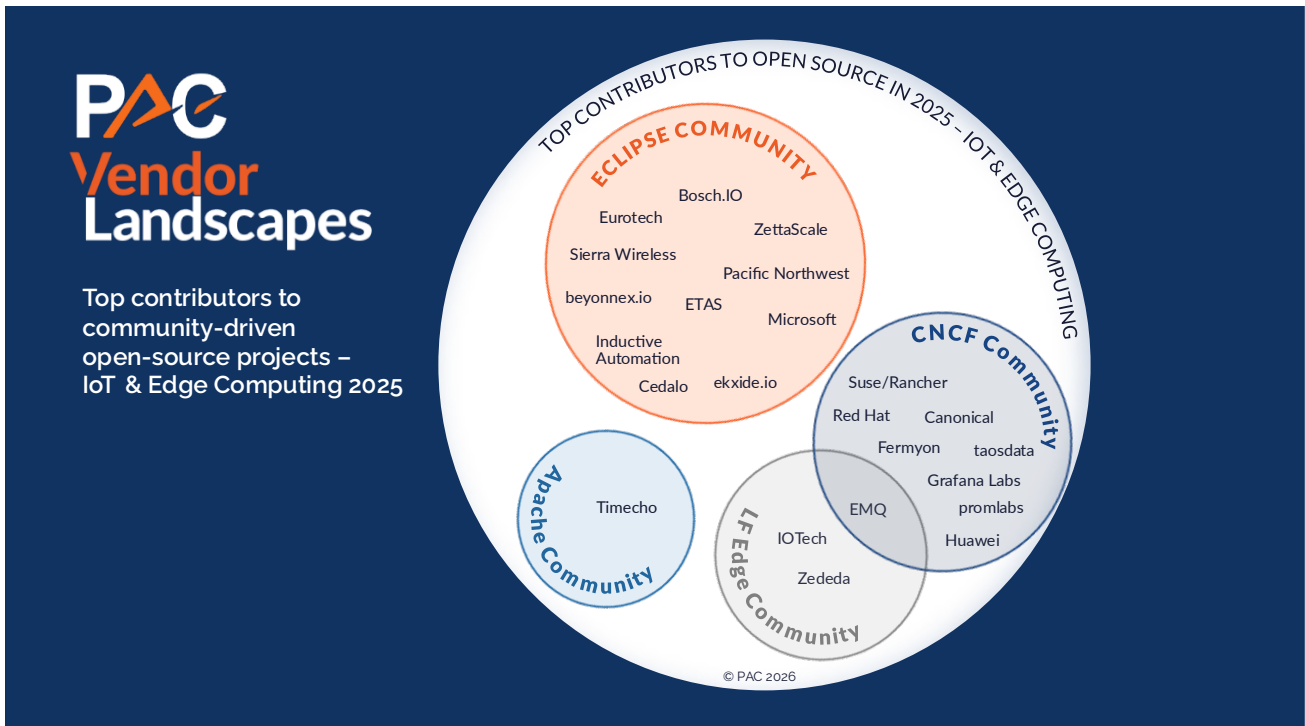
Step 2 **Transparency on the top contributors to community-driven, open source projects around IoT & edge computing**

PAC initiated a deep-dive analysis to identify the top contributors to relevant open source projects during a 12-month period (January–December 2024). We focused on IoT and edge computing projects grounded in well-known open source foundations (Linux Foundation, Apache Software Foundation, Cloud Native Computing Foundation, Eclipse Foundation). PAC considers foundations to be fundamental to the prosperity of OSS. This is based on the fact that only these foundations can enable neutral, structured environments that foster collaboration, sustainability, and legal security in software projects. They provide solid frameworks for vendor-neutral governance, community-driven development, and peer reviews. Foundations also act as neutral entities that manage the intellectual property (IP) of a project, which helps avoid a sudden switch to a more restrictive or proprietary license. It is important to mention that some 'open source' approaches are restrictive from the outset. In extreme cases, code may be viewable, yet completely prohibited from modification, contribution, or commercial use.

For this analysis, PAC selected the top 30 projects from the ranked list of projects as described above (in Step 1). Each of the top 30 projects had been awarded at least 500 GitHub stars at the time of this analysis (January 2025).

Top contributors to leading open source projects in IoT & edge computing

The following graph illustrates the top contributing vendors behind the leading community-driven, open source projects in the IoT and edge computing context. PAC considers these companies to be leaders in the further progress of open source and fair-play champions. Thanks to their leadership and contribution, the idea of open source can further prosper.



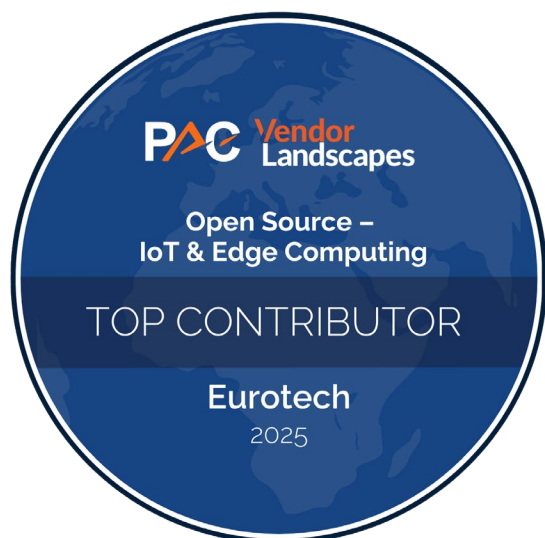
Key insights from this research project

- Relevant open source projects in IoT and edge computing are largely centred around the following topics:
 - Time series and streaming databases for IoT workloads
 - Extending Kubernetes to edge computing and IoT devices
 - Data management, conversion, and harmonisation at the industrial edge, including edge AI, cloud integration, device management, and security
 - Real-time operating systems for IoT devices
 - MQTT message broker
 - Support for OPC UA and other field protocols
- Open source projects, even large ones, are often strongly supported by one dedicated company. Thanks to open source foundations, this happens in a community-controlled environment.
- The strong presence of open source projects in the IoT space helps understand why well-known vendors like Google, SAP, and IBM failed to make their proprietary IoT platform offerings commercially successful and left the market. Thanks to a strong open source community, the IoT field is dominated by open source software (OSS) today.

“More than ever, OSS is an important element for companies and public institutions to maintain their sovereignty and remain capable of acting. To enable this, we need players who contribute to OSS rather than abusing the system to their advantage. We need more OSS fair-play champions like Eurotech.”

Arnold Vogt, Head of Digital & IoT, PAC

Eurotech – a driving force in the Eclipse IoT Working Group



Company background in OSS: Eurotech is a provider of IoT and edge computing hardware and embedded solutions. This includes very compact High-Performance Embedded Computers (HPECs), edge servers, and IoT gateways, plus an integrated IoT software framework for edge and distributed computing, fully based on open source. Customers include companies like ABB, Fresenius Medical Care, and Deutsche Bahn. Eurotech was one of the founding members of the IoT Working Group within the Eclipse Foundation back in 2012. Before that, Eurotech had been co-developing MQTT (a lightweight IoT messaging protocol) with and for IBM, which led to one of the initial contributions to Eclipse IoT, the Paho project, a very widely leveraged MQTT client implementation.

Relevance of the Eclipse IoT Working Group: PAC considers the Eclipse Foundation, including the Eclipse IoT Working Group (<https://iot.eclipse.org/>), the leading open source community around IoT today.

“For many years, Eurotech has embraced the concepts of sustainability and circular economy, not only as aspects of natural environment protection, but also as part of social and economic responsibility and open sharing of intellectual property. The latter evolved into a substantial commitment to the concept of open source in general and the Eclipse Foundation IoT Working Group in particular.”

Robert Andres, Head of Partner Ecosystem at Eurotech, and Eurotech’s representative in the Steering Committee of the Eclipse IoT Working Group

While the Eclipse project started 25 years ago, the IoT Working Group has existed for 15 years.

No other community is driving more open source-based IoT projects simultaneously – a portfolio of around 45 projects. Equally remarkable is the fact that the Eclipse Foundation moved its headquarters from North America to Brussels, Belgium (as an AISBL non-profit association), in 2021. This reflects a strong commitment to the European market and its associated values, such as Europe’s strong privacy and security standards.

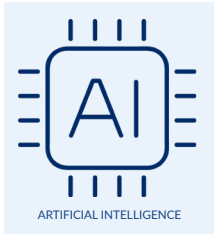
Eurotech, a strategic member of the Eclipse IoT Working Group: Since the launch of the Eclipse IoT Working Group, Eurotech has been a strategic member; it is still active in the Steering Committee. Eurotech contributed the Eclipse Kura project to the Eclipse Foundation in 2014 and remains a top contributor to it. Eclipse Kura, available today as version 5.6, is an open source-based IoT edge framework designed to simplify the development, deployment, and management of Analytics & IoT applications at the edge (IoT gateways, edge servers, smart field devices). As part of the Eclipse IoT Working Group, Eclipse Kura provides a robust and flexible environment to build IoT solutions that require edge computing (including Edge AI), field protocol integration, data normalisation, no-code programming, device abstraction, device management, and multi-cloud integration. In addition, Eurotech is one of the driving forces behind the Eclipse Kapua project (today available as version 1.6). The Eclipse Kapua project provides open source, enterprise-grade IoT platform capabilities at the back end (in the cloud and on-premises), including the management of devices and data. Both Eclipse projects, [Eclipse Kura](#) and [Eclipse Kapua](#), are the basis for commercially supported offerings from Eurotech, branded Everyware Software Framework (ESF) and Everyware Cloud (EC), which add, besides commercial support, features such as advanced logging and security, support for Eurotech devices, device diagnostics, and additional field protocols.

“Eurotech’s long-term commitment to open source-based IoT is remarkable. It reminds us that small and medium-sized companies often form the backbone of relevant open-source initiatives.”

Arnold Vogt,
Head of Digital & IoT, PAC

Outlook

PAC has identified several trend topics at the intersection of OSS, edge computing, and IoT that will shape the European market in the coming years.



Edge AI conquers the factory floor and starts moving towards smart spaces.

To overcome latency and cloud connectivity issues, AI inference will increasingly run at the edge, and we will see more and more industries investing in real-time, data-driven operations.

One front-runner use case in this context is AI-based visual inspection in manufacturing. In PAC's view, the use of high-definition cameras to capture visual data, combined with AI algorithms for real-time anomaly detection, is a real "killer application" at the industrial edge (factory shop-floor operations). This is based on the fact that the use case is well-suited to many brownfield scenarios (it can be implemented simply on top of existing production lines); various implementations at digital lighthouse factories around the world underline a well-proven ROI. In addition, computer vision is deployed in factories for safety reasons. The Chinese companies Huayi New Materials and Contemporary Amperex Technology reported a decrease in production safety incidents by 100% thanks to AI-enabled safety management. Unilever introduced a machine-vision supervision platform for people safety and food safety compliance in one of its factories in China and reduced the level of unsafe behaviour by 78%. In line with these examples, PAC's CxO Investment Survey confirms that 44% of manufacturing companies plan further heavy investments in this technology. PAC expects to see increasing adoption of this technology beyond factories and warehouses. Smart places are a good example in this context: they represent infrastructure environments, such as airports, train stations, tunnels, and construction sites, that can be equipped with cameras and other sensors to collect data. Similar to factory operations, the aim is to optimise large-scale operations around smart places by improving efficiency, sustainability, and safety. The Eclipse IoT Working Group has a clear focus on edge AI and seeks to provide an open source framework for building, deploying, and managing intelligent applications directly on edge devices and gateways. Key initiatives like Eclipse Kura and Aidge support secure data acquisition, real-time analytics, and AI inference at the edge. As an example, Eclipse Kura provides capabilities to interface with [NVIDIA® Triton server](#), one of the most used and well recognized inference service software to deploy trained

AI models to edge infrastructure. NVIDIA Triton is open source as well creating a strong open source stack for Edge AI where Eclipse Kura provides orchestration and model security to the NVIDIA Triton model execution layer.



Geopolitical tensions demand more digital sovereignty – OSS can be part of the solution.

The aim of digital sovereignty is not autarky but rather gaining greater control and digital resilience. This requires transparency on digital dependencies, the consideration of potential alternatives in advance, and strategic planning for implementation.

This plan should include switching options, multi-vendor strategies, and even building your own capabilities in some areas. Additional complexity arises from the different dimensions of digital systems, especially in large enterprises; for example, companies must take into account dependencies related to their IT infrastructure, operations, data, and the software they use. In this context, OSS foundations can be a core component of the solution as they foster transparency, security, and trust through open source code, collaboration options, and the freedom of use, modification, and distribution.



The EU Cyber Resilience Act (CRA) increases the security level across Europe, and the Eclipse Kura project fully supports this ambition.

Increasing cyber threats underscore the need for the upcoming

EU Cyber Resilience Act (CRA) to ensure cybersecure connected products across the EU market. SBOMs (software bills of materials), software update capabilities, vulnerabilities, and security incident reporting are key aspects of the regulation. The CRA will be gradually implemented over the coming years and will affect a wide range of consumer products, software, and industrial systems that can be connected to other devices or networks. As IoT-related, commercial OSS also falls under this legislation, Eurotech and other contributors to the Eclipse Kura project are already working on this topic. Based on this work, Eclipse Kura will soon be CRA-ready and help customers to simplify the generation of SBOMs. In combination with Eurotech's hardware, ESF (Eurotech offering based on Eclipse Kura) already provides several cybersecurity-related certificates, including PSA Level 1 for secure IoT

and edge devices; RED-DA for cybersecure radio equipment; and IEC 62443-4-2 for cybersecure industrial automation and control systems. IEC 62443-4-2 is especially relevant for compliance with the CRA because it provides the technical framework, such as authentication, authorisation, and data confidentiality. The next major release, Eclipse Kura 6, which will introduce major architectural changes and upgrades, will also make the project compatible with the overall requirements for interacting with standard SBOM-generation plugins. SBOMs are critical elements of cybersecurity. They provide a detailed, structured inventory of all components, libraries, and dependencies within software. They enable organisations to rapidly identify, track, and mitigate vulnerabilities in the software supply chain.

On top of this, the Everyware Cloud platform, Eurotech's commercial offering based on Eclipse Kapua, provides many additional cybersecurity capabilities, including relevant certifications like ISO/IEC 27001:2013, ISO/IEC 27017:2015, CSA STAR Level 2, AICPA SOC 2 Type 2, and GDPR.



The Digital Product Passport is designed to build a more sustainable and circular economy across Europe. The Eclipse Mnestix project is relevant in this context.

The purpose of the EU Ecodesign for Sustainable Products Regulation (ESPR) is to promote sustainable products and a

circular economy. It entered into force in 2024 and sets mandatory design requirements for a wide range of products to reduce environmental impacts throughout their lifecycle by focusing on durability, reparability, and recyclability. A core element of the ESPR is the Digital Product Passport (DPP), a product-related data repository for compliance with the ESPR. It contains digitally accessible, product-specific data, including technical details, material composition, sustainability metrics, reparability information, end-of-life instructions, and proof of conformity (CE label). From an EU perspective, the ESPR is of course instrumental in increasing transparency on the environmental impact of physical products and achieving EU-wide sustainability and net zero targets. In addition, the ESPR also plays a strategic role, as the EU has limited raw material resources and imports many goods from abroad.

Due diligence is essential for the EU and all European companies to increase their resilience to external shocks, such as conflicts with trading partners.

The ESPR can be considered a step in this direction, as the DPP supports EU-wide transparency on product-related repair and recycling aspects, which helps reduce dependence on imports. A circular economy is not just more environmentally friendly; it is also more sovereign. Eclipse Mnestix is an interesting new Eclipse project in this context (in incubation status today) – an open source tool designed to create, manage, and visualise DPPs by using the Asset Administration Shell (AAS) standard. It can also import IoT-based data into the DPP. PAC predicts that a DPP vendor landscape with dedicated offerings will emerge during 2026.

“AI, digital sovereignty, cybersecurity, sustainability, and a circular economy are the driving forces of the European economy today. OSS, IoT, and edge computing can support all these topics. While edge computing allows for AI workloads to run in real time, OSS supports digital sovereignty, and IoT helps to improve cyber resilience.”

Arnold Vogt,
Head of Digital & IoT, PAC

About Eurotech



Eurotech (ETH.IM) is a multinational company that designs, develops, and supplies Edge Computers and Internet of Things (IoT) solutions – complete with services, software, and hardware – to system integrators and enterprises. By adopting Eurotech solutions, customers have access to IoT building blocks and software platforms, to Edge Gateways to enable asset monitoring, and to High-Performance Edge Computers (HPEC) created for Artificial Intelligence (AI) applications. To offer increasingly comprehensive solutions, Eurotech has partnered with leading companies in their field of action, with a view of creating "best in class" solutions for the Industrial Internet of Things.

More on www.eurotech.com

About PAC



We are a content-based company with a consulting DNA. PAC is the leading European consulting and analyst firm supporting software & IT service vendors worldwide. Since 1976, we have helped our clients to understand market dynamics, grow their revenue and raise their profile. Our unrivalled understanding of European markets, and deep research coverage help key market players to define their strategy, optimise their go-to-market and increase market share. PAC is an analyst-led consultancy with a team of over 100 experts across Europe. We provide market research and analysis on more than 30 countries worldwide, delivered through our portfolio pillars, Guidance, Insights, and Visibility, and our renowned SITSI® research platform.

More on www.pacanalyst.com

Contact:

Arnold Vogt
Head of Digital & IoT
a.vogt@pacanalyst.com
+49 1718651184

PAC Germany
Holzstr. 26,
80469 Munich
www.pacanalyst.com
www.sitsi.pacanalyst.com