



ELISA
Enabling **Linux** in
Safety Applications

WORKSHOP

ELISA Workshop Munich 2025

November 18-20, 2025
Co-hosted with Red Hat



Thank you to our host:



Red Hat

Welcome

- Organizational Overview
 - Antitrust Policy
 - Licensing of Workshop Results
 - Code of Conduct
 - Round Table Introductions
- Schedule
- Project Orientation
 - More in AmA session

Organizational Notes



LF Antitrust Policy Notice

ELISA Project meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal, or foreign antitrust and competition laws.

Examples of types of actions that are prohibited at ELISA Project meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at <http://www.linuxfoundation.org/antitrust-policy>. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrave of the firm of Gesmer Updegrave LLP, which provides legal counsel to the Linux Foundation.

Licensing of Workshop Results

All work created during the workshop is licensed under *Creative Commons Attribution 4.0 International (CC-BY-4.0)* [<https://creativecommons.org/licenses/by/4.0/>] by default, or under another suitable open-source license, e.g., GPL-2.0 for kernel code contributions.

You are free to:

- **Share** — copy and redistribute the material in any medium or format
- **Adapt** — remix, transform, and build upon the material for any purpose, even commercially.

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

Presentation & Recordings

Based on the licensing of the workshop we will share the recordings of the presentations along with the presentation material in public after the workshop unless otherwise requested.

This includes for example:

- Sharing live with virtual attendees.
- Distribution on ELISA YouTube channel after the event
- Storing on Google Drive and ELISA Directory (GitHub)
- Sharing information on Social media (e.g. LinkedIn)

Code of Conduct

All participants are expected to behave in accordance with professional standards, with both the Linux Foundation Code of Conduct as well as their respective employer's policies governing appropriate workplace behavior, and applicable laws.

<https://www.linuxfoundation.org/code-of-conduct/>

Chatham House Rule

Always indicate if you want to run a specific session under Chatham House Rule

- In the past we were asking whether waiving Chatham house rule or not, but this always caused confusion.
- Unless you inform the organizers, the recording of the session and slides will be posted after the event.

Under the **Chatham House Rule**, anyone who comes to a meeting is free to use information from the discussion, but is not allowed to reveal who made any particular comment. It is designed to increase openness of discussion. The rule is a system for holding debates and discussion panels on controversial topics, named after the London headquarters of the [Chatham House](https://en.wikipedia.org/wiki/Chatham_House), where the rule originated in June 1927.

https://en.wikipedia.org/wiki/Chatham_House_Rule

Round Table Introductions

Please briefly share:

- Name
- Affiliation
- What made you come to this workshop

Session Schedule



Day 1 - Tuesday 18th - Afternoon

- 13:00 **Welcome & Introductions**
(Philipp Ahmann, Kate Stewart, Gabriele Paoloni)
- 13:30 **Ask Me Anything - New Contributor Onboarding**
(Philipp Ahmann, Gabriele Paoloni)
- 14:30 *Break*
- 14:45 **Research questions and publication directions of Aerospace WG**
(Martin Halle, Matthew Weber)
- 15:00 **Towards Practical Program Verification for the Linux Kernel**
(Keisuke Nishimura)
- 15:30 **Towards a More Sustainable and Secure Software Tooling in F/LOSS Environments**
(Stefan Tatschner)

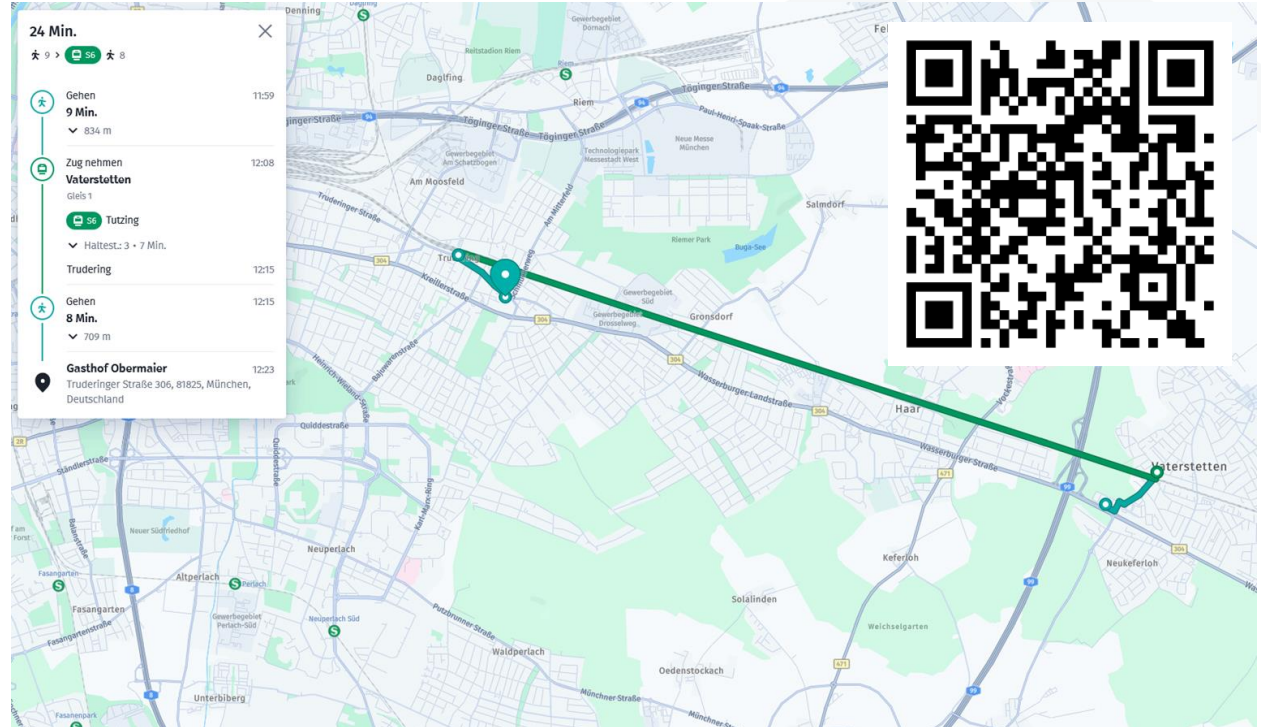
Day 1 - Tuesday 18th - Afternoon

- 16:15 **Introducing SW Requirements in the Linux kernel development process**
(Gabriele Paoloni, Kate Stewart, Chuck Wolber,)
- 17:15 **Exploring possibilities for integrating StrictDoc with ELISA's requirements
template approach for the Linux kernel**
(Tobias Deiminger, Stanislav Pankevich)
- 17:45 **Day 1 wrap-up**
(Philipp Ahmann, Kate Stewart)
- 18:00 Day 1 ends
- 19:00 **Dinner Offsite Gasthof Obermaier**

Dinner Location: Gasthof Obermaier

Gasthof Obermaier
Truderinger Str. 306
81825 München

<https://www.openstreetmap.org/node/279840975>



<https://share.here.com/r/48.10138,11.7581,Red%20Hat/48.12166,11.67011,Gasthof%20Obermaier?a=&m=pt&z=14.24&t=normal>

Day 2 - Wednesday 19th - Morning

8:30

Coffee and Welcome back

09:00

Architectures for Linux in Railway Safety Applications

(Florian Wühr, Daniel Weingaertner)

10:15

Hypervisors are scary, so why use them for enabling Linux for Safety Applications!!

(Aqib Javaid)

10:45

Break

11:00

Open Functional Safety: Safety-Qualified Lifecycle with Sphinx

(Christopher Zimmer)

12:00

Lunch

Day 2 - Wednesday 19th - Afternoon

- 13:00 **AGL SDV SoDeV Insights** (*Naoto Yamaguchi, Harunobu Kurokawa*)
- 13:45 **Best Practices in Open Source and Standards** (*Simone Weiss*)
- 14:45 **Beyond the OS: What else is required for safe automotive applications?** (*Isaac Trefz*)
- 15:15 Break
- 15:45 **BASIL** (*Luigi Pellecchia*)
- 16:15 **Continuous Compliance in Safety-Critical Open Source Projects** (*Rinat Shagisultanov*)
- 16:45 **Safety Level in Aerospace Use Cases** (*Matthew Weber*)
- 17:45 **Day 2 wrap-up** (*Philipp Ahmann, Kate Stewart*)
- 18:00 Day 2 ends

Day 3 - Thursday 20th - Morning

8:30

Coffee and Welcome back

09:00

Linux Virtual Address Space Safety (*Alessandro Carminati*)

10:00

Behind the Scenes: Elisa Yocto meta-layer and the ELISA CI infrastructure (*Sudip Mukherjee*)

10:30

Break

11:00

The SPDX Safety Profile Release Candidate (*Nicole Pappler*)

12:00

Drawing an open source safety-critical landscape (*Philipp Ahmann*)

12:30

Workshop wrap-up (*Kate Stewart, Philipp Ahmann*)

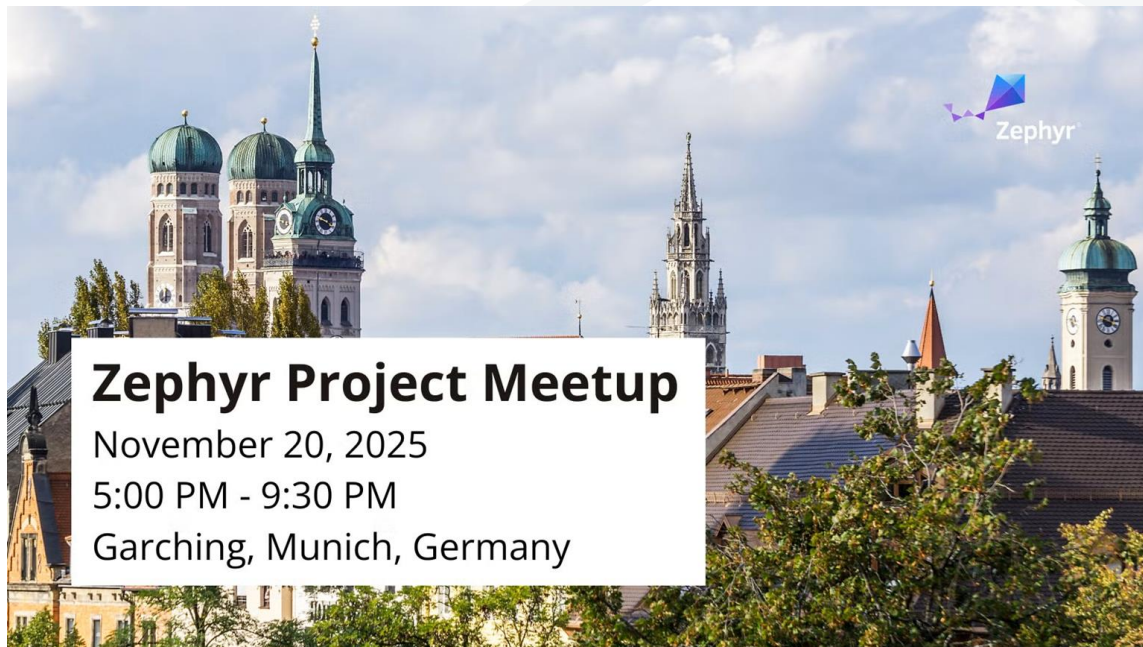
13:00

Lunch and Farewell

Day 3 - Thursday 20th - Afternoon

Fringe Event: Zephyr Meetup

<https://www.zephyrproject.org/event/zephyr-project-meetup-november-20-2025-garching-munich-germany/>



Project Orientation



ELISA Project



- Enabling **Safety-critical applications** with **Linux** (beyond Security)
- Increase **dependability & reliability** for whole Linux ecosystem
- **Various use cases**: Aerospace, Automotive, Medical & Industrial
- Supported by major **industrial grade Linux distributors** known for mission critical operation and various industries representatives
- Close community collaboration with **Xen, Zephyr, SPDX, Yocto & AGL** projects
- **Reproducible system** creation from specification to testing
- SW **elements**, engineering **processes**, development **tools**



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:



Architecture



Processes



Features



Tools



Systems




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Work in Progress - License: CC-BY-4.0



"The mission of the project is to define and maintain a common set of elements, processes and tools that can be incorporated into Linux-based, safety-critical systems amenable to safety certification."

from the [technical charter](#)



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Photo by [Mike Kiev](#) on [Unsplash](#)

Linux in Safety Critical Systems

***“Assessing whether a system is safe,
requires understanding the system sufficiently.”***

- Understand Linux within that system context and how Linux is used in that system.
- Select Linux components and features that can be evaluated for safety.
- Identify gaps that exist where more work is needed to evaluate safety sufficiently.

STOP - Limitations! The collaboration ...

- *cannot* engineer your system to be safe.
- *cannot* ensure that you know how to apply the described process and methods.
- *cannot* create an out-of-tree Linux kernel for safety-critical applications.
(continuous process improvement argument!)
- *cannot* relieve you from your responsibilities, legal obligations and liabilities.

But...

ELISA provides a path forward and peers to collaborate with!

Premier Members



General Members



Associate Members



Industry Support



More during the Ask me anything session



Put on your thinking hats
and get to work!





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Group picture

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