WG & SIG Annual Update 2026
ELISA Project Overview

Feb 11th, 15:00-15:15 UTC

Philipp Ahmann, ETAS GmbH

ELISA
Enabling Linux in Safety Applications

Aerospace · Automotive · Linux Features
OS Engineering Process · Safety Architecture · Systems · Tools
Lighthouse · Space Grade Linux

Photo by Katherine Hood on Unsplash

Agenda may shift slightly in case a session ends early.
(No breaks considered between sessions.)

Agenda

- 15:00 **ELISA Project Overview**
  (Philipp Ahmann, ETAS)
- 15:15 **Open Source Engineering Process**
  (Paul Albertella, Codethink)
- 15:40 **Systems and Automotive**
  (Philipp Ahmann, ETAS)
- 16:05 **Safety Architecture**
  (Gabriele Paoloni, Red Hat)
- 16:30 **Linux Features for Safety-Critical Systems**
  (Alessandro Carminati, NVIDIA)

- 15:00: **Welcome back**
  (Philipp Ahmann, ETAS)
- 15:05: **Aerospace**
  (Matthew Weber, The Boeing Company)
- 15:30: **Space Grade Linux**
  (Ramon Roche, The Linux Foundation)
- 15:55: **BASIL & Tools WG evolution**
  (Luigi Pellecchia, Red Hat)
- 16:20: **Lighthouse SIG**
  (Philipp Ahmann, ETAS)
  16:45: **Closing and final thoughts**
  (Philipp Ahmann, ETAS)

Safety is not Security
(In some languages safety & security are the same word!)

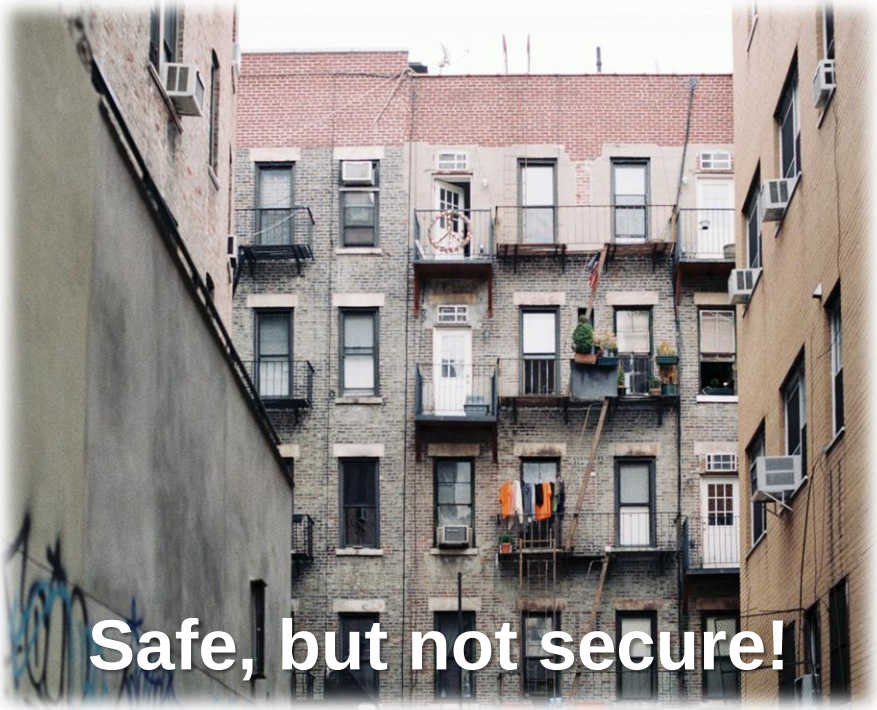

Photo by Annie Spratt on Unsplash

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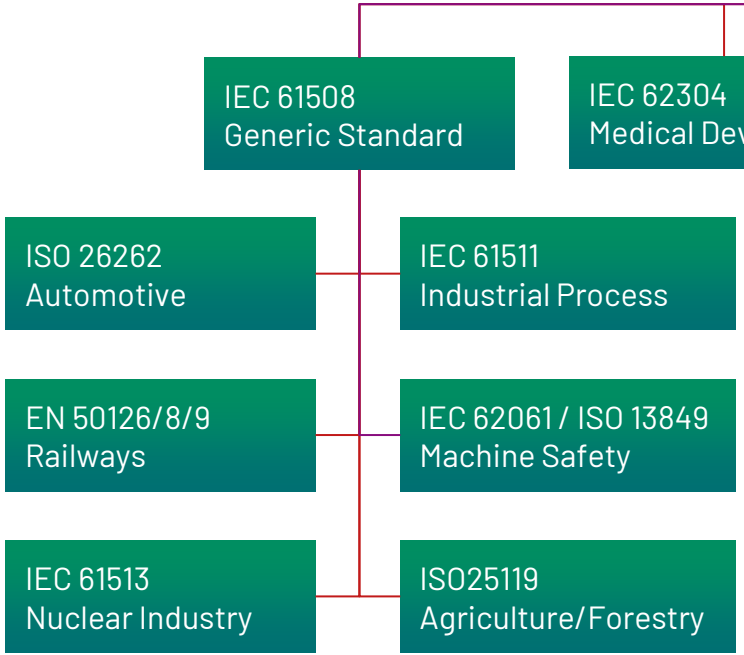
Samples of safety (integrity) standards



- Standards represent industry best practice and recommend to use these practices
- Share similar demands... requirements, documentation, testing
- Rigor on measures/demands may differ
- All system parts need to be known, tested and managed

ELISA Project

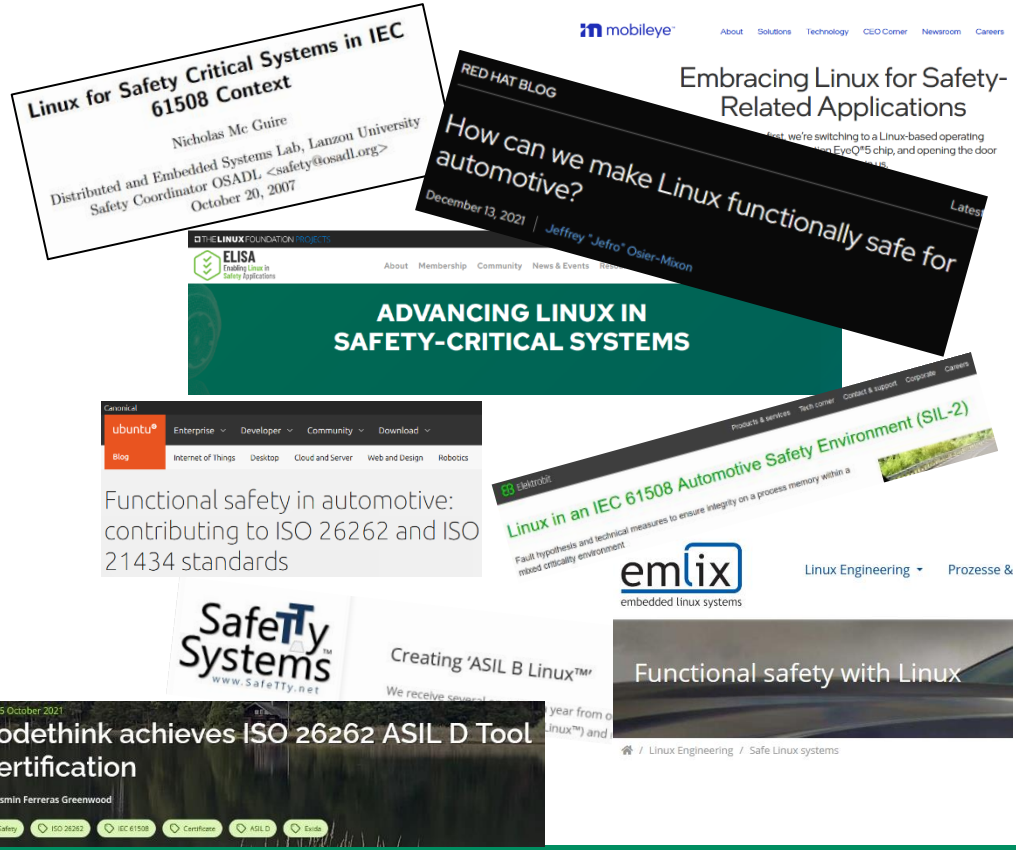
- Enabling **Safety-critical applications** with **Linux** (beyond Security)
- Increase **dependability & reliability** for whole Linux ecosystem
- **Various use cases**: Aerospace, Automotive, Medical & Industrial
- Supported by major **industrial grade Linux distributors** known for mission critical 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**

ELISA : Architecture | Processes | Features | Tools | Systems

The role of Linux

- Open source software superlative.
- Largest community, largest source base.
- Made for flexibility and wide use cases.
- Spread over whole world and in space.
- Several attempts with certification path.
- Gains again momentum for high performance products (e.g. SDV*)
- Prominent open space examples: SIL2LinuxMP and ELISA

SDV: Software-Defined-Vehicle



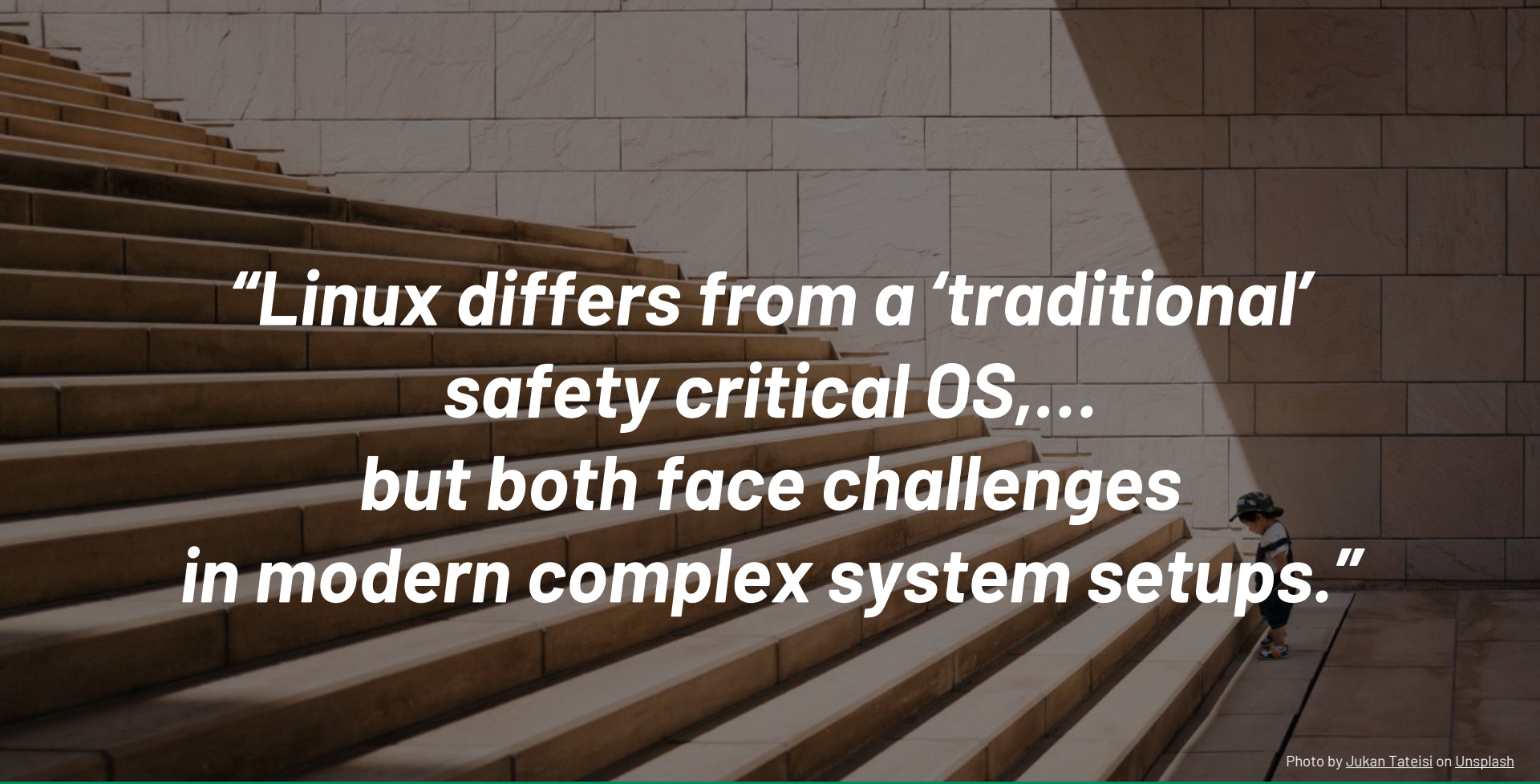


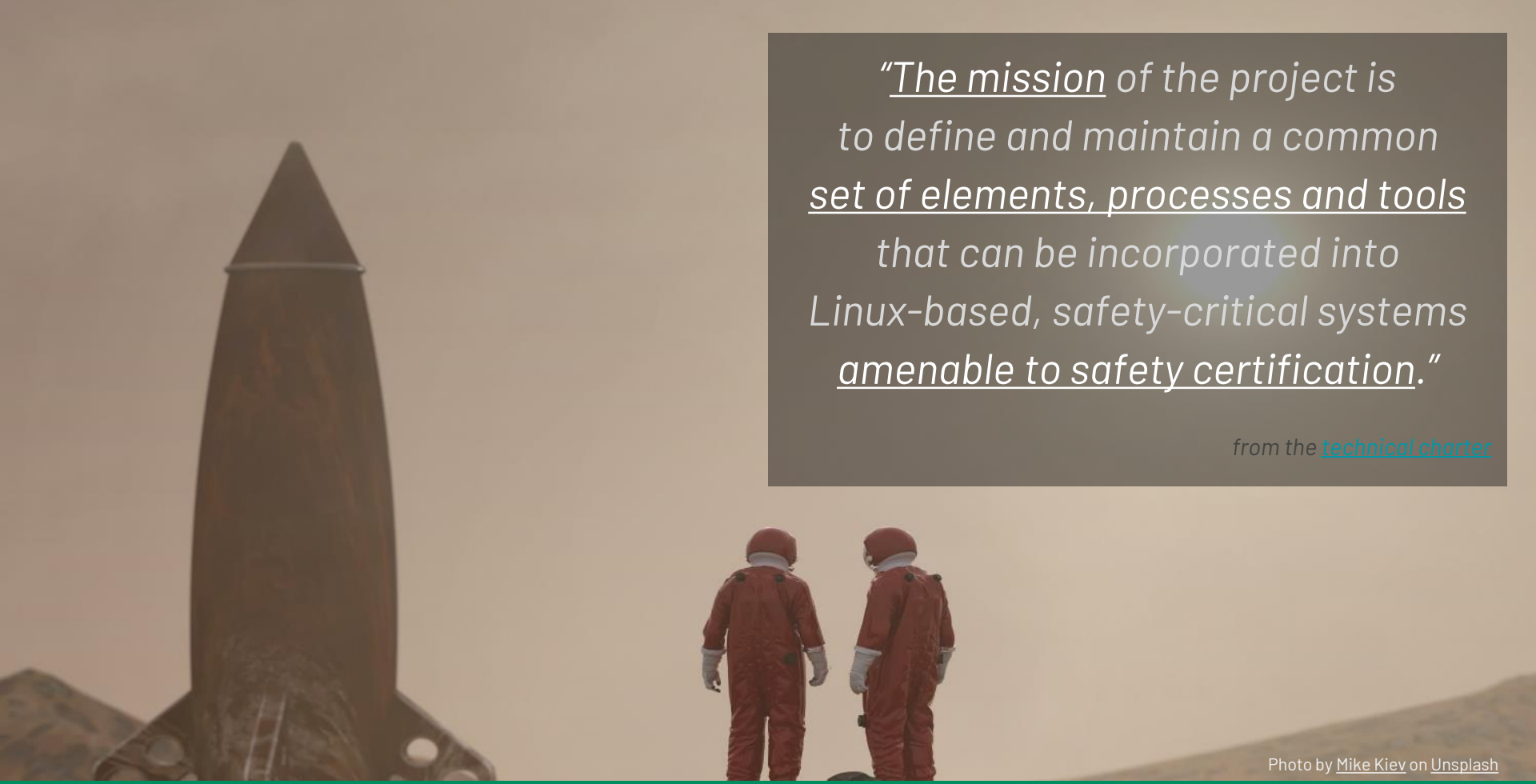
Photo by Jukan Tateisi on Unsplash

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!



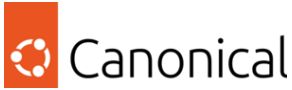
"The mission of the project is to define and maintain a common set of elements, processes and tools that can be incorporated into Linux-based, safety-critical systems amenable to safety certification."

from the technical charter

Photo by Mike Kiev on Unsplash

Premier Members

General Members



Associate Members

Industry Support

Working Groups (WGs) - Horizontal

Safety Architecture

Red Hat

Open Source Engineering Process

CodeThink

Linux Features

NVIDIA

Systems

BOSCH

Tools

Open for new leadership

Photo by Mike Kiev on Unsplash

Working Groups (WGs) - Verticals

Aerospace

BOEING

Automotive

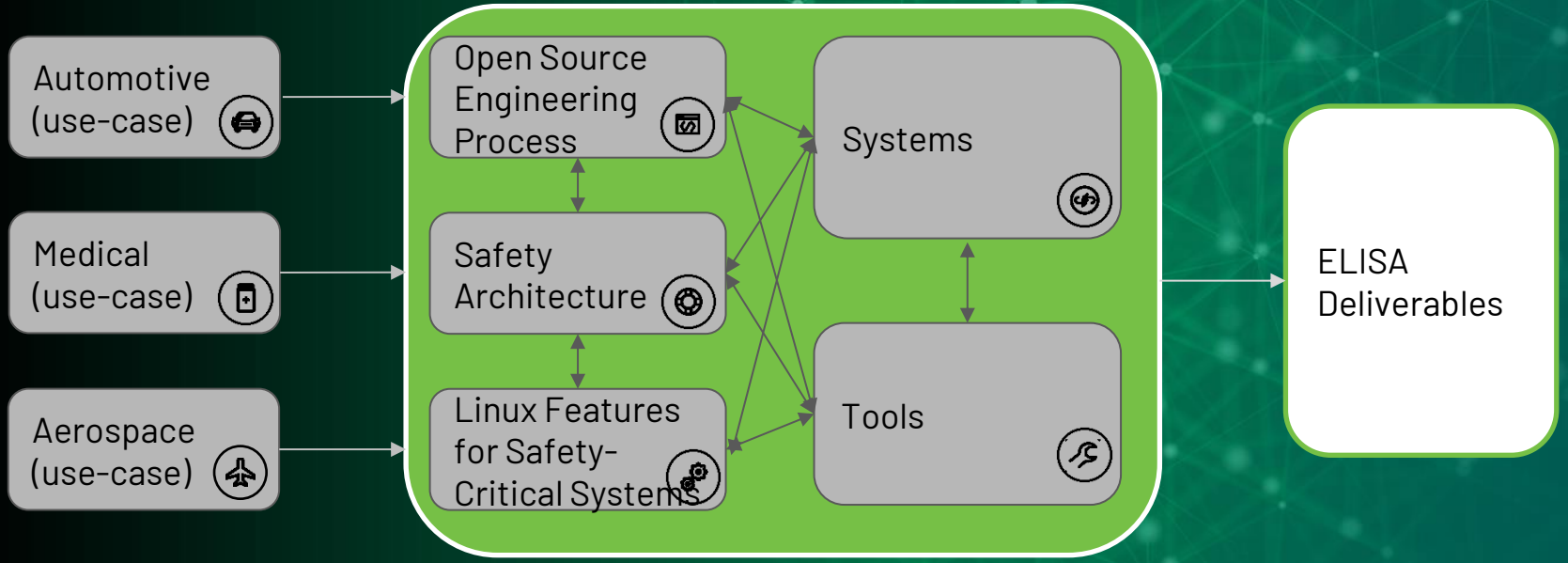
BOSCH

(Open for new leadership)

Medical Devices

Open for new leadership

ELISA
Enabling Linux in Safety Applications



ELISA
Enabling Linux in Safety Applications

2025 Recap

Photo by Michael Skok on Unsplash

Major (cross WG) achievements

- Welcomed new members and project supporters
- Safe Systems with Linux Micro Conference at Linux Plumbers
- Conducted Safety-Critical-Software Summit at Open Source Summit (again)
- Hosted 2 in-person workshops & 3 virtual seminars (next around the corner)
- Populated the „ELISA directory“ as an index for technical content.
- Brought the community into Discord

Thank you ELISA Community!

Get to know the community
and their achievements:
https://elisa.tech/blog/

Photo by Aleksandr Popov on Unsplash

JOIN THE COMMUNITY

ELISA
Enabling Linux in Safety Applications

Our infrastructure and tools are open by default, so jump in and introduce yourself, ask questions and share ideas. Please consider this your invitation to participate.

Subscribe to Mailing Lists

Join Community Meetings

Contribute to Tools and Docs on GitHub

Participate in Working Groups

Attend Events