ELISA

Enabling **Linux** in **Safety** Applications

Elements ▪ Processes ▪ Tools ▪ Documentation

ELISA, an open source project under The Linux Foundation, aims 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 – systems whose failure could result in loss of human life, significant property or environmental damage.

Find out more about the ELISA Project: https://elisa.tech

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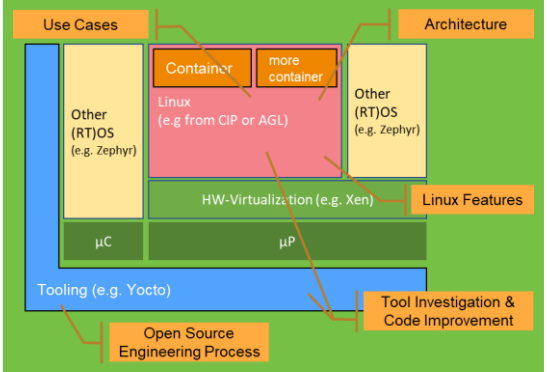
"Assessing whether a system is safe, requires understanding the system sufficiently."

Horizontal Working Groups

- **Architecture**
- **Tool Investigation & Code Improvement**
- **Linux Features**
- **Open Source Engineering Process**
- **Systems**

Exemplary reference architecture

from ELISA's Systems WG

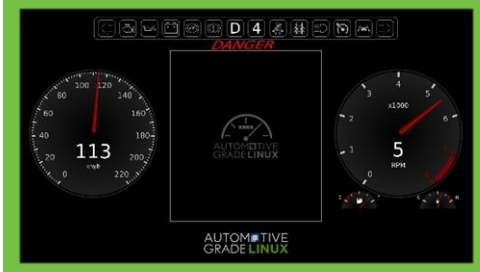


Use Case Verticals

Automotive Medical Aerospace

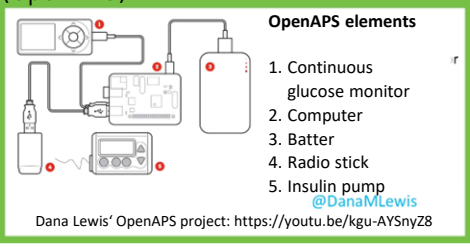
Automotive use case

Instrument cluster warning signs (tell tales)



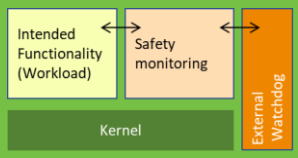
Medical devices use case

Open Artificial Pancreas System (OpenAPS)



ELISA contributes **building blocks** needed to ease the path for Linux-based safety-critical systems. These include:

- **System & kernel analysis processes & tools**
- **Argumentation for a safety integrity standard equivalent development process description**
- **Explicit Linux features, to enhance system safety**
- **Use case based reference systems**



An essential element is the usage of an **external challenge-response watchdog**; a concept used widely in Automotive and other industries. The watchdog serves as the "safety net" for the safety-critical workload in the Linux system.

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