



ELISA
Enabling **Linux** in
Safety Applications

WORKSHOP

Drawing an open source safety-critical landscape

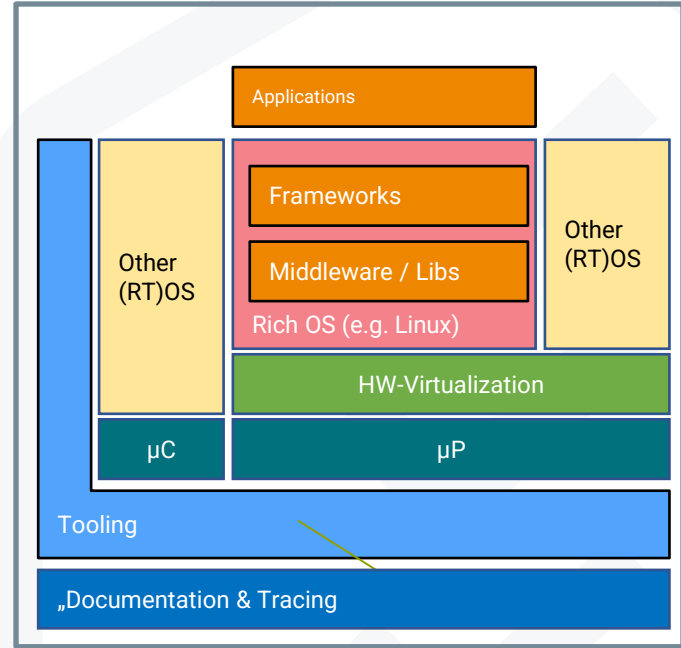
Philipp Ahmann, ETAS GmbH, ELISA TSC chair



Motivated by the Systems WG activities

- Requirement tools
- Documentation frameworks
- Traceability tools
- Testing frameworks
- Build tooling
- Compiler
- Hypervisor
- (RT)OS
- Container
- Middleware
- Frameworks
- IDEs
- ...

Projects
&
Foundations



Example of the safety open source landscape

... spot check



Landscape example

The screenshot displays the LF Energy Landscape dashboard. At the top, there's a header with the LF Energy Landscape logo, navigation tabs for 'EXPLORE' and 'STATS', a search bar, and icons for code, download, and share. Below the header, a filter bar shows 'Filters' and a 'GROUP' dropdown set to 'LF Energy Projects'. It also includes a description 'Energy-related open source project ecosystem', 'LF Energy Members', and 'LF Energy SIGs'. To the right, 'VIEW MODE' is set to 'Grid' (with a 'Card' option), and 'ZOOM' controls are visible.

The main content area is divided into two main sections: 'Transmission' and 'Distribution', each with its own category headers and project cards.

Transmission Section:

- Modeling and Simulation:** Includes POWSYBL (Early Adoption), Dynawo (Incubating), OpenSTEF (Incubating), grid2op (Sandbox), GridFM (Sandbox), and GRID VANTAGE (Sandbox).
- Data & IoT:** Includes GXF (Early Adoption), FLEDGE POWER (Incubating), and RTDIP (Sandbox).
- Operations:** Includes OPERATOR FABRIC (Early Adoption), SHAPESHIFTER (Incubating), CDS Power Systems Data (Working Group), and TROLIE (Working Group).
- Grid Automation:** Includes SEAPATH (Early Adoption) and CoMPAS (Incubating).

Distribution Section:

- Modeling and Simulation:** Includes OpenSTEF (Incubating), POWER GRID MODEL (Incubating), grid2op (Sandbox), GridFM (Sandbox), GRID VANTAGE (Sandbox), and ARRAS (Sandbox).
- Grid Edge:** Includes OPENDSM (Incubating), GEISA (Sandbox), OpenSynth (Sandbox), CDS Customer Data (Working Group), and CDS Registration (Working Group).
- Grid Automation:** Includes SEAPATH (Early Adoption) and CoMPAS (Incubating).
- Operations:** Includes OPERATOR FABRIC (Early Adoption), SOGNO (Early Adoption), SHAPESHIFTER (Incubating), openLEADR (Incubating), and POWER GRID MODEL (Incubating).
- Data & IoT:** Includes GXF (Early Adoption), FLEDGE POWER (Incubating), and RTDIP (Sandbox).

The tool to create a landscape

```
- category:
  name: Renewable Energy
  subcategories:
    - subcategory:
      name: Photovoltaics and Solar Energy
      items:
        - item:
            name: A Global Inventory of Commerical-, Industrial-, and Utility-Scale Photovoltaic Solar Generating Units
            description: Used to produce a global inventory of utility-scale solar photovoltaic generating station.
            homepage_url: https://github.com/Lkruitwagen/solar-pv-global-inventory
            repo_url: https://github.com/Lkruitwagen/solar-pv-global-inventory
            logo: A Global Inventory of Commerical-, Industrial-, and Utility-Scale Photovoltaic Solar Generating Units.svg
            extra:
              refs: ',https://zenodo.org/record/5005868,https://zenodo.org/record/5005868'
            organization:
              name: Lucas Kruitwagen
        - item:
            name: autoxrd
            description: a python package for automatic xrd pattern classification of thin-films, tweaked for small and class-imbalanced
            homepage_url: https://github.com/pv-lab/autoxrd
            repo_url: https://github.com/pv-lab/autoxrd
            logo: autoxrd.svg
            extra:
```

Structured in Yaml

Category:

```
name: (repeats)
subcategories:
items:
    description:
    homepage:
    repo_url:
    logo:
    extras:
    organizations:
...

```

More entries:

- additional_repos
- project
- accepted
- annotations
- ...

Mapping things:

Category

Transmission	Modeling and Simulation 🔍						Subcategory	
		DynaWo	INCUBATING		grid2op	GridFM		GRID VANTAGE
	EARLY ADOPTION	INCUBATING	INCUBATING	SANDBOX	SANDBOX	SANDBOX		
	Operations 🔍						Logo Name Links	
		SHAPESHIFTER	CDS Power Systems Data	TROLIE				
	EARLY ADOPTION	INCUBATING	WORKING GROUP	WORKING GROUP				
	Modeling and Simulation 🔍							
		POWER GRID MODEL	grid2op	GridFM	GRID VANTAGE	ARRAS		
	INCUBATING	INCUBATING	SANDBOX	SANDBOX	SANDBOX	SANDBOX		

Possibilities for fields...

- Categories: ...
- Attributes: ...

Ready to make it visible (together)

- The PR: <https://github.com/elisa-tech/wg-systems/pull/18/files>
- Collaborative editing md: <https://mensuel.framapad.org/p/elisa-oss-landscape>
- Directly as yaml: <https://rustpad.io/#wWNzSq>

MD:



yaml:



Thank you



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