Support of free software in public institutions
The KiCad case

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Outline

Introduction to OSHW
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OSHW in practice
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Public institutions
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Outlook
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Outline

A basic question

Could hardware design be as easy to share as software?

A basic question

Why is this important?

Empowerment

Empowerment

Introduction to OSHW
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OSHW in practice
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Public institutions
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Empowerment

Empowerment

There is an OSHW definition!

Check out http://www.oshwa.org/definition/

- Inspired by the Open Source definition for software.
- Focuses on ensuring freedom to study, modify, distribute, make and sell designs or hardware based on those designs.
- Now we know exactly what we mean when we say OSHW!

CERN Open Hardware License – ohwr.org/cernohl

Provides a solid legal basis

- Developed in collaboration with Knowledge Transfer Group at CERN.
- Better suited than non-HW licenses (GNU GPL, Creative Commons. . .)
- Defines conditions for using and modifying licensed material.

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Provides a clear legal environment

- Written in a clear, concise style.
- Easy for licensors to evaluate if it is good for them.

Outline

Example of a project in the Open Hardware Repository – ohwr.org

Open source and the unexpected
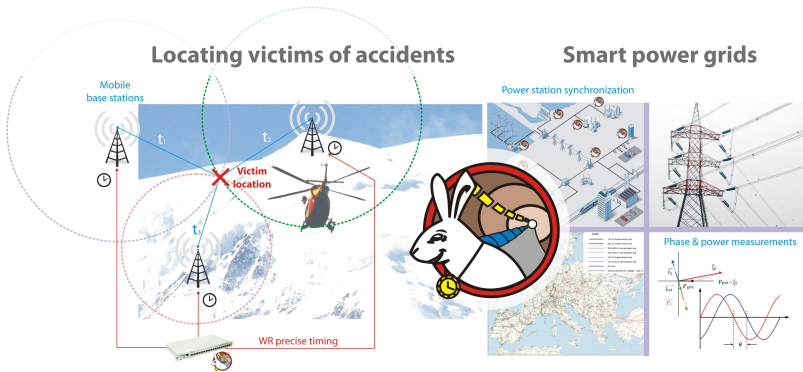
Business models
Dispelling the commercial vs open myth

	Commercial	Non-commercial
Open	**Winning combination. Best of both worlds.**	Whole support burden falls on developers. Not scalable.
Proprietary	Vendor lock-in.	Dedicated non-reusable projects.

SPEC: Simple PCI Express FMC carrier
Made in Spain, The Netherlands & Poland

Introduction to OSHW
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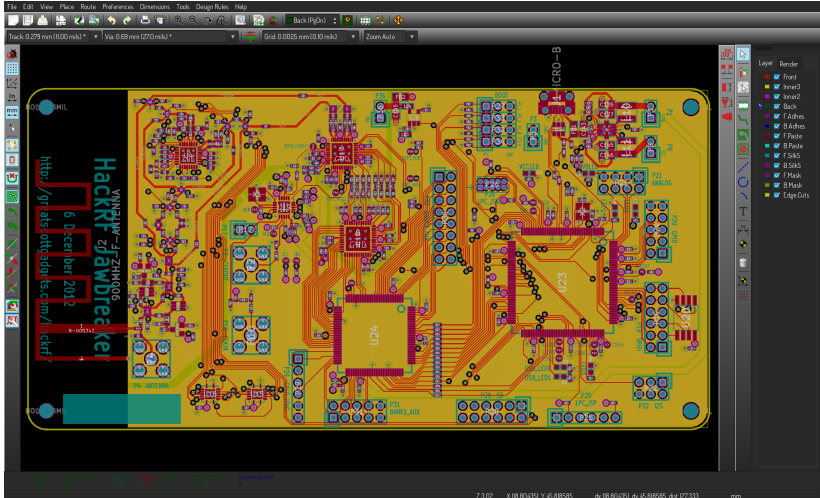Outlook
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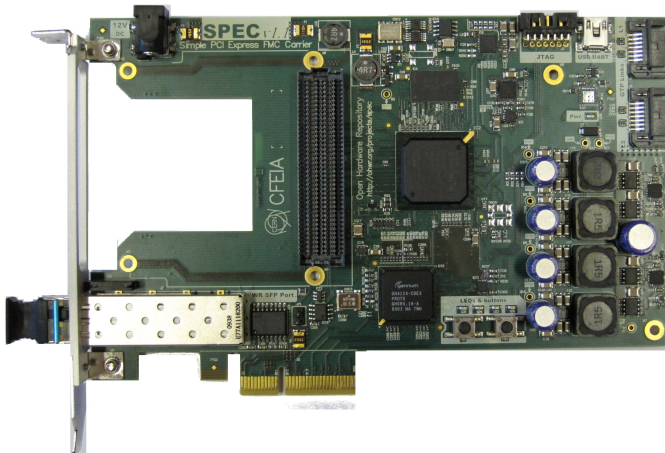
Where the rubber meets the road
Seven years of experience at CERN

Free-as-in-freedom design tools
The last hurdle to efficient sharing

Outline

1. Introduction to Open Source Hardware

2. Open Source Hardware in practice

3. Public Institutions

4. Outlook

Public institutions

They serve the interests of a whole society

- Try to maximize positive impact of decisions.
- Not always easy.

Public institutions

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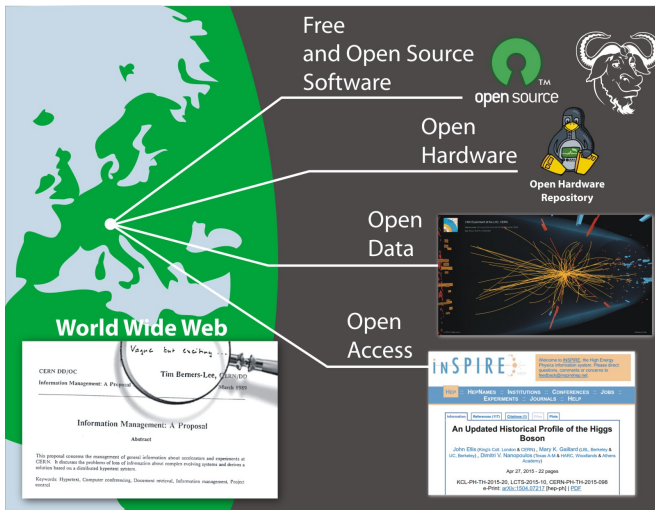- Not always easy.

Can be "tractor" institutions

- To help take projects to a mature state where they can be sustained commercially.
- Liaising with other public institutions to reach critical mass.
- Also with their procurement hat.

Dissemination

... the results of its experimental and theoretical work shall be published or otherwise made generally available.

CERN Convention, Paris, 1ᵉ July, 1953

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How to interpret one's dissemination mandate in the 21st century

Free and Open Source Software

Open Hardware

Open Data

Open Access

World Wide Web

The funding agencies conundrum

Issues with "coopetition"

Research groups sometimes (often?) end up behaving as
private companies (but with public money!) because of wrong
incentives by funding agencies.

Outline

KiCad plans

Give it a try in CERN's drawing office

- Have PCB layout professionals provide UX feedback.
- Fix KiCad and iterate.

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Propose purchase of a KiCad support contract

- Including provision for new developments.
- A paid supporting entity is a requirement of potential users and helps sustain the project.

So, can all this apply to other cases?