



**CERN** European Organization for Nuclear Research  
Organisation Européenne pour la Recherche Nucléaire

## The CERN OHL

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### CERN OHL: background

- ***CERN: Intergovernmental Organisation, with mainly European membership, but worldwide participation***
- ***Knowledge transfer: maximise dissemination***
- ***Open Hardware Repository (Javier Serrano):***
  - Create framework for collaboration among research institutes and beyond
  - Make available designs and documentation for modification/redistribution by all
  - <http://www.ohwr.org>
- ***Options:***
  - Open Source Software licence, e.g. GNU GPL
  - Open Content licence, e.g. GNU Free Documentation Licence, Creative Commons
  - Open Source Hardware licence, e.g. TAPR, e-Puck



- **Initially drafted to address CERN-specific concern**
  - Tracing impact of our research
  - Taking into account our status and constraints
- **Current form makes it usable by anyone**
- **Principles of the CERN OHL similar to GPL open source software licence**



Knowledge Transfer

## CERN OHL: facts and figures

- CERN OHL v.1.1 released July 7, 2011
- Gathering comments / ideas for v.1.2
- 12 projects on the Open Hardware Repository licensed under CERN OHL v.1.1 (as of Sept. 7, 2011)

The screenshot shows the CERN Open Hardware Licence website. The header includes navigation links for Home, Projects, and Help. Below the header, there are tabs for Overview, Activity, Mailing List, News, Documents, and Wiki. The main content area is titled "Projects using the CERN Open Hardware Licence" and is divided into two sections: "Electronics" and "Non-electronics".

**Electronics**

- [Real projects in the Open Hardware Repository OHR](#)
  - [Gnome For You Ltd, Cyprus](#)
    - [How this works - User's Terms and Conditions](#)
  - [Jerry, the DIY server, France](#)
    - [Who is Jerry?](#)
- [SimpleMachines, Italy](#)
  - [SimpleMachines to adopt CERN Open Hardware License v.1.1](#)
  - [Riscv12 project, an easy-to-use a 32 bit microcontroller.](#)

**Non-electronics**

- [Sufficiency Inc. - Sufficiency Mutual Aid Forum, USA](#)
  - [Warm Farm turns shredded paper and waste fruit and vegetables into high quality organic fertilizer, with the help of tiger worms.](#)

**Considering using CERN OHL**

- [Epihel \(August 2011\)](#)
  - [Open hardware and open source camera designed by Epihel Inc. primarily for scientific applications. Epihel cameras are being used to capture images for Google Street View and the Google Books project and are used in a Global Hawk UAV operated by NASA.](#)
  - [Epihel in wikipedia](#)

31 August 2011

## CERN OHL: main features

### ***Set of definitions***

### ***Applicability***

- Documentation and products
- Not software

### ***Warranty and liability***

### ***General***

### ***Documentation: permitted uses and conditions***

- Use, copy, distribute;
- Modify, subject to certain conditions
  - Keep notices and disclaimer of warranties;
  - Make clear that the Documentation was modified;
  - License modifications under same conditions (CERN OHL)
  - Notify Licensor of modifications
- Licence to patents owned by Licensor included

### ***Manufacturing products***

- Manufacture
- Distribute products, subject to certain conditions
  - Together with Documentation
  - Comply with same obligations that apply to Documentation
- Inform Licensor



Knowledge Transfer

## OSHW definition

***Documentation***

***Scope***

***Necessary software***

***Derived works***

***Free redistribution***

***Attribution***

***No discrimination against persons or groups***

***No discrimination against fields of endeavor***

***Distribution of licence***

***Licence must not be specific to a product***

***Licence must not restrict other hardware or software***

***Licence must be technology neutral***



Knowledge Transfer

## OSHW definition

- Documentation* "preferred format for making changes"
- Scope*
- Necessary software*
- Derived works*
- Free redistribution*
- Attribution*
- No discrimination against persons or groups*
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Knowledge Transfer

## OHANDA

- Freedom 0:*** The freedom to use the device for any purpose.
- Freedom 1:*** The freedom to study how the device works and change it to make it to do what you wish. Access to the complete design is precondition to this.
- Freedom 2:*** Redistribute the device and/or design (remanufacture).
- Freedom 3:*** The freedom to improve the device and/or design, and release your improvements (and modified versions in general) to the public, so that the whole community benefits. Access to the complete design is precondition to this.



Knowledge Transfer

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Knowledge Transfer

## CERN OHL: points under discussion

### 1. Definition of Documentation

- Must include the 'source' of the hardware, i.e. preferred form for making modifications

### 2. Notification of changes (s.3.3.d)

- Version control systems – impractical? not in spirit of licence?
  - Modify definition of "Modifications"?
- Requirement vs. request; reasonable efforts

<http://www.ohwr.org/projects/cernohl/wiki/CernOhIdeas>



Knowledge Transfer

## Open Hardware Workshop

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- ICALEPCS (<http://icalepcs2011.esrf.eu>)
- Grenoble
- **October 9, 2011**
- <http://www.ohwr.org/projects/ohr-meta/wiki/OHWorkshop>



Knowledge Transfer