Impact of DiDIY on
Rights, Responsibilities and Intellectual Property

This fact sheet provides the bases to discover DiDIY and its impacts on European society. It is part of a series of fact sheets produced by the European research Project DiDIY, aimed at providing inputs to find together answers to questions such as:

Is Europe really ready for DiDIY? Does Europe really want DiDIY? Does Europe really need DiDIY?

www.didiy.eu

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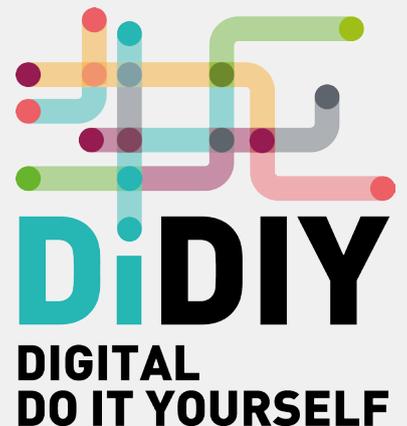
Digital Do-It-Yourself ("DiDIY" for short) is a complex phenomenon, involving social, cultural, technological, economic, and psychological dimensions, stemming from the new ability to **mix physical and informational components** into simple and affordable systems such as 3D printers and Arduino boards.

We call it "Atoms-Bits Convergence", to emphasise that what is happening could become a **new alphabet of knowledge**, hence a new ABC, that may ground and reshape our society thanks to the widespread availability of digital tools that are much cheaper and easier to use than they were just a few years ago, and to the increasing familiarity of many people with such tools. The emergence of the Internet of Things, as the world-wide inclusive ABC system, is further amplifying the potentialities of DiDIY.

But **where these changes are going to lead us is still to be determined**, and is at least partly dependent on the choices that the relevant actors (governments, industries, public administrations, schools and universities,...) are making and will make in the immediate future.

DiDIY poses challenges to exclusive Intellectual Property Right (IPR) systems

As 3D printing, and digital fabrication in general, grow, there is evidence of infringement of exclusive IP rights, such as copyright, patents, design rights and trademarks, albeit on a small scale. We have found that current IPR systems **are only partially fit to protect commons based approaches**, as free/open licenses are generally based in copyright, which can protect the shared works only partially.

Commons based hardware projects provide an alternative to exclusive IPR systems

Traditional, exclusive IPR protection like patents requires parties to request permission to contribute to the adaptation and further development of hardware designs and thus hinders collaborative development. We have found that a growing number of communities sharing their intellectual and creative DiDIY efforts under non-exclusive, free license arrangements **shows successful alternatives to the traditional exclusive IP licensing arrangements.** So called Open Design, Open Source Hardware, or Free Hardware Design refer to projects that are published under free licenses providing all community members the rights to build, adapt, copy and share original or modified versions. Hundreds of thousands of such commons hardware projects can already be found on online sharing platforms such as Thingiverse, Libre3D, OpenBuilds, Open Hardware Repository, Fritzing and Wevolver. Several of these cases have been presented and discussed in the DiDIY Project blog (www.didiy.eu/blogs).

DiDIY activities can benefit from IPR exemptions for private, non-commercial uses

As is the case for traditional DIY and repair activities, DiDIY activities tend to be for private, non-commercial use (sale of self made objects is always an option, but this typically is not the original intent). Many IPR legislations **include exemptions for such uses**, in particular in copyright, design rights and patent rights. Trademarks are infringed by use in the course of trade of the same mark on similar goods. When there is no trade at all, these should not be applicable. We have found that if these exemptions could be strengthened, to encourage DiDIY activities, they could extend the life and usefulness of physical products, protect consumer rights, and contribute to a more sustainable planet.

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Commons based Open Hardware Designs present different business models.

Whereas traditional business models typically required large upfront investments that on its turn required hierarchical control structures to earn back the investments, Open Source Hardware **works differently.** Typically communities form around such projects where the burden of R&D is shared between various members. As the designs are shared under non-exclusive conditions anyone can engage in the production and sale of the products resulting from these designs. Much can be learned from the Free Software and Open Source Software ecosystems that have so successfully been producing myriad of software projects over the last 30 years. A combination of business models is used. First, the sale of physical products based on shared designs typically occurs at cost price plus margin. Second, leading developers in the community with a demonstrated track record of their skills can offer added value services of various types. . We have found that, combined with DiDIY, these alternative business models can offer, to both new and existing companies, many opportunities to succeed and protect existing jobs, or create new ones.

DiDIY requires to rethink product liability

Product liability is a consequence of the so called "duty of care", which is a legal obligation to adhere to a standard of reasonable care when manufacturing and selling products. The advent of DiDIY, however, problematises this issue, by enabling many more individuals to make products that may contain defects that might prove unsafe. The DiDIY practice of making artefacts oneself - as hobbyist, amateur or inhouse - **does not necessarily follow the same standards**, typically is not certified and tends to be non-market. This ultimately has consequences for the social contract and the way we think about product responsibility and risks. We have found, however, that the best way to face this challenge is a combination of education, and minimal changes to current laws and regulations.

To know more about Digital Do It Yourself...

The DiDIY project has ended in June 2017. All its results, however, are still available on the DiDIY website, in order to help everybody to understand what DiDIY is, the impacts it will have on the European society, and what to do about it. These results include, but are not limited to:

- More specific fact sheets on the impacts of DiDIY in work, creativity, intellectual property, etc;
- Foundational interpretation of DiDIY;
- A Knowledge Framework and a Vocabulary on DiDIY;
- A DiDIY Manifesto for Positive Social Change;
- A DiDIY Guidance Manual, and several DiDIY Policy Guidelines

All partners of the DiDIY Consortium continue to work in this field, and are interested in cooperating with other organisations, from joint research to training and evangelisation activities on DiDIY and related topics.
To contact them, please visit www.didiy.eu

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