# Introduction to Digital DIY

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

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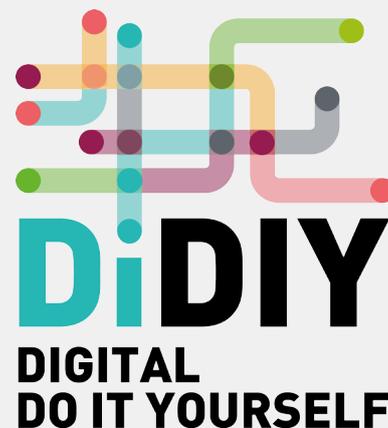
Digital Do-It-Yourself ("DiDIY" for short) is a complex phenomenon, involving social, cultural, technological, economic, and psychological dimensions, stemming from the new ability to **mix physical and informational components** into simple and affordable systems such as 3D printers and Arduino boards.

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 is already everywhere

Computers, digital communication networks and production systems controlled by digital devices have been used for decades. The novelty of DiDIY is that these systems, or at least scaled down versions of them, **are widespread and used in every field of human activity nowadays**, even outside of the workplace, that is in personal or otherwise non-professional settings. Today many different things are produced in the spirit of DiDIY, from toys to medical devices and homes, weapons, clothes, furniture, agricultural machinery, jewellery, and environmental monitoring systems. Most designs, be they **developed by teams or by single individuals, are published with open licenses**, in on-line communities like Thingiverse *(www.thingiverse.com)*, Arduino forums *(forum. arduino.cc)*, Instructables *(www.instructables.com)*, or OpenDesk *(www.opendesk.cc)*. You can find many real-world examples of DiDIY in action in the DiDIY Project blog *(www.didiy.eu/blogs)*.

DiDIY is a complex phenomenon

DiDIY is both **something that someone:**
• **does, an activity** for the production, modification or maintenance of objects or services; in this sense DiDIY is objective, and manifests itself as tools, products, structure of collaborations, etc;
• **has, a mindset,** and then a producing and consuming culture; in this sense DiDIY is subjective, and manifests itself as motivations, competences, social contexts, etc.

We have found, and documented, that this combination activates a self-reinforcing process that is **transforming DiDIY into a powerful socio-technical system.** Consequently, its evolution and regulation should be driven mainly by social and cultural strategies, not by technology.

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 might prove unsafe. The DiDIY practice of making artefacts oneself - as hobbyist, amateur or inhouse - **does not necessarily follow the same standards or certifications**, and tends to be for personal use, not for sale. We have found that this fact ultimately has consequences for the social contract and the way we think about product responsibility and risks.

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DiDIY forces society to rethink what is wrong or right

With DiDIY people can easily produce physical objects of all sorts, and this may be for the wrong or for the right:
• self production of objects that may directly hurt people, be they weapons or, much more likely, unsafe furniture or car parts, **presents objective risks**, that must be thoroughly evaluated;
• widespread DiDIY manufacturing **may bring huge benefits to society,** from reduced waste and pollution (DiDIY spare parts!) to support for new art forms, or more effective teaching methods.
Our research has shown that both scenarios will certainly require the adaptation of existing laws, or in some cases the creation of new ones, in order for the whole society to benefit as much as possible from DiDIY, while minimising the associated risks

DiDIY changes the ways we deal with physical objects

DiDIY offers possibilities of personal fabrication and repair/ maintenance that are blurring the distinction between producers and consumers. We have found that this will not just create new options for making all of us prosumers, but above all challenge the very definition of what a product is at all levels, from legal to marketing.

DiDIY reshapes arts, schools, and workplaces

All our research has confirmed one basic fact: DiDIY **will contribute to change**, in ways not fully studied or understood yet, the ways in which Europeans study, work, express their creativity and, in general, deal with the physical and non-physical goods in the knowledge society. These impacts are described in other DiDIY fact sheets, available in the "Results" section of the DiDIY website (www.didiy.eu/project/results).

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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