



## D6.6 CREATIVE DESIGN AND LAWS, RIGHTS AND RESPONSIBILITIES

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## Executive summary

Deliverable D6.6, “Creative design and laws, rights and responsibilities”, presents the results of the codesign workshops organized for the laws, rights and responsibilities Project area. During the investigation we have involved two countries chosen in different European areas: Italy and Spain. In each countries we have replicated the same workshop structure, with little consecutive improvements in the process flow. Their structure includes two main steps:

- exploration activities, aimed at assessing the identified critical issues and opening new possible areas of intervention assessing new visions on the subject as well as deepening and broadening identified challenges, while amplifying the potentials of the most important subjects (e.g., work, society);
- generative activities aim at putting into practice the identified solutions to the encountered difficulties in using open-source technologies. Furthermore they aim at detecting the evolution of the creative process in relationship to the opportunities offered by the open-source technologies investigated.

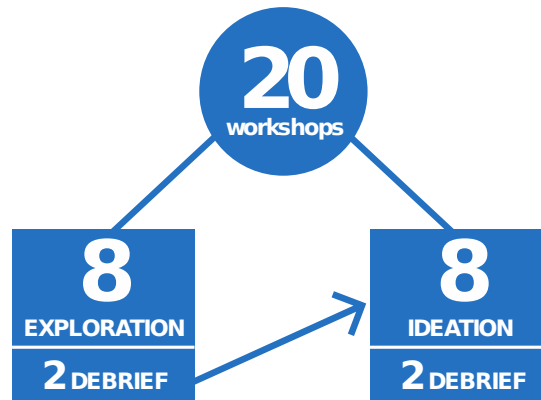


Figure 1 – Workshop structure.

The activity was developed for WP3, WP4, WP5, and WP6 using the same structure and ad hoc tools such as design games and performative toolkit. Despite the workshop structure used is the same for all workshops, the participant background was different. This allowed us to obtain a range of interesting results.

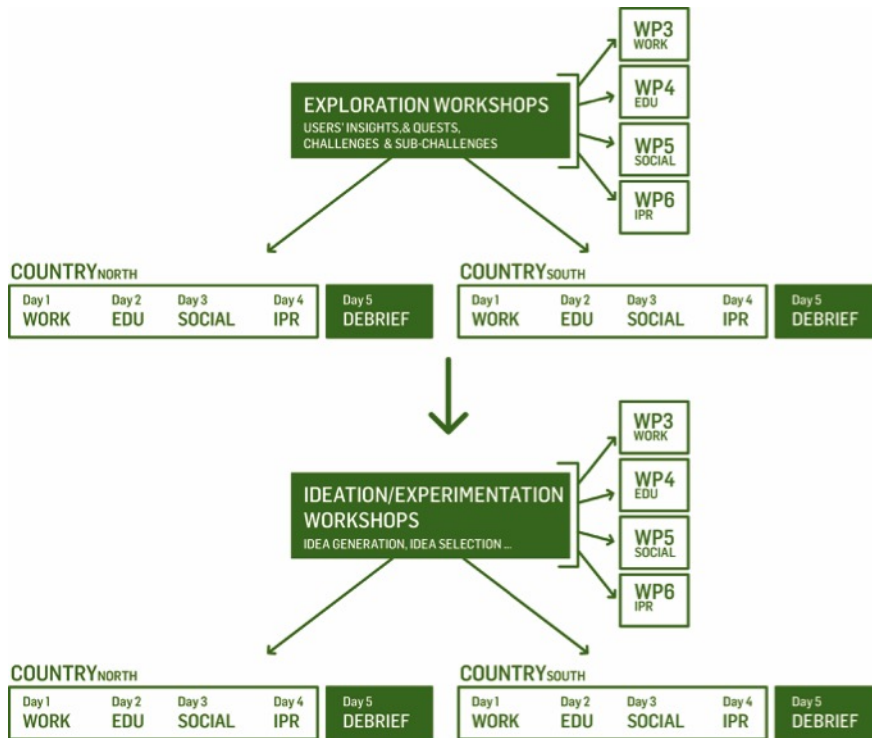


Figure 2 – Workshop structure.

In order to correctly read the document and the results, we do want to point out the twofold objective of the different workshop sessions. The first objective is to emphatically involve people in the DiDIY field in order to obtain the enabled elements of DiDIY which they think are fundamental according with their own experience and knowledge. The second objective is to test and improve a design process and related tools that will end up in a design toolkit.

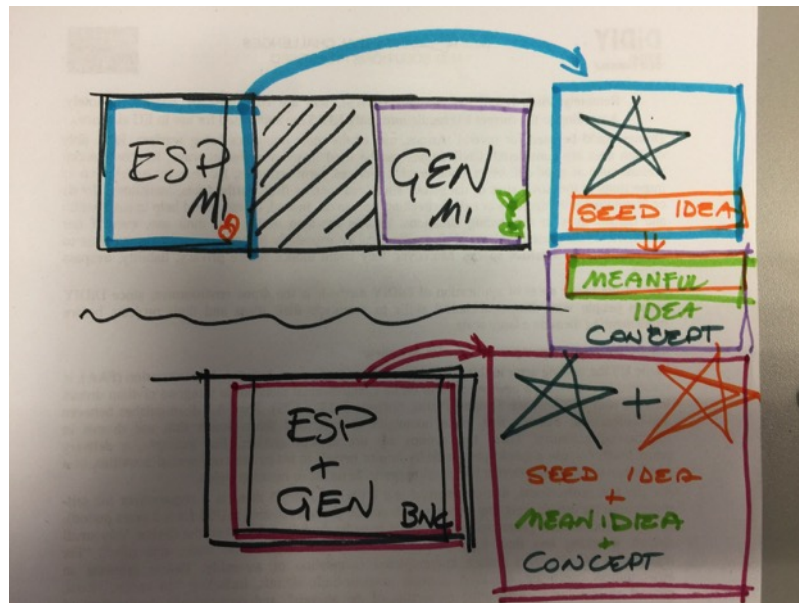


Figure 3 – Workshop structure.



The deliverable is structured according with the two objectives just mentioned above and that are part of an only path. Some sections give emphasis to the first and others to the second. In such a way the reader looking for methodological issues will be driven to the most suitable sections while the one interested only in work related outcomes will be able to easily identify the relevant chapters.

The Introduction presents the research model that will lead us to develop guidelines for the European Community intended to provide solutions for stimulating and engaging people in the application of DiDIY in their own professional field, in order to generate innovation and new competences. Due to its complexity, designing requires a structured and systematic approach. In section 2 are collected the information about the laws, rights and responsibilities project area that were useful for workshops. Some of this information come from the Knowledge Framework and the WP6 deliverables. The contents of sections 3 and 4 are fully described in D4.7 so we decided not to repeat here. We strongly invite to read both the deliverables in order to deeply understand our ongoing work. Section 5 describes the implementation of the activities tested during the workshop sessions and the tools that changed in this workshop. In order to fully understand the section 5, “The Workshop Implementation”, please refer to D4.7 in which we have described the “Workshop Methodology approach” and the various implementations of the tools based on the previous workshop on education and work. Sections 6 and 7 report the aims and obtained results of DiDIY&Legal System workshops from the point of view of the participants involved. Starting from reflections about people, key components and impacts, people were identified the fundamental elements that enable DiDIY and design challenges related to the laws, rights and responsibilities field. In conclusion, section 8 reports some reflections which contribute to the enrichment of the results of the research of the WP6 on Laws, Rights and Responsibilities.

#### Revision history

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0.1	20/02/17	POLIMI	First draft.
0.2	24/02/17	POLIMI	Second draft.
1.0	28/02/17	LIUC	Approved version, submitted to the EC Participant Portal.



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# 1. Introduction

## 1.1 Action Research Model

The present deliverable presents a report about the two workshops conducted within the Legal System Project area, one explorative and one generative workshop. Italy was chosen as significant country for the number of FabLab, makerspaces, etc and DiDIY initiative as well as for the development policies adopted at national level.

As a transversal task to the four Project areas, we decided to implement a research model, based on design and creativity, which could be declined in each one of the project areas. The choice of the co-design is dictated by the desire to engage people and draw input from their experience.

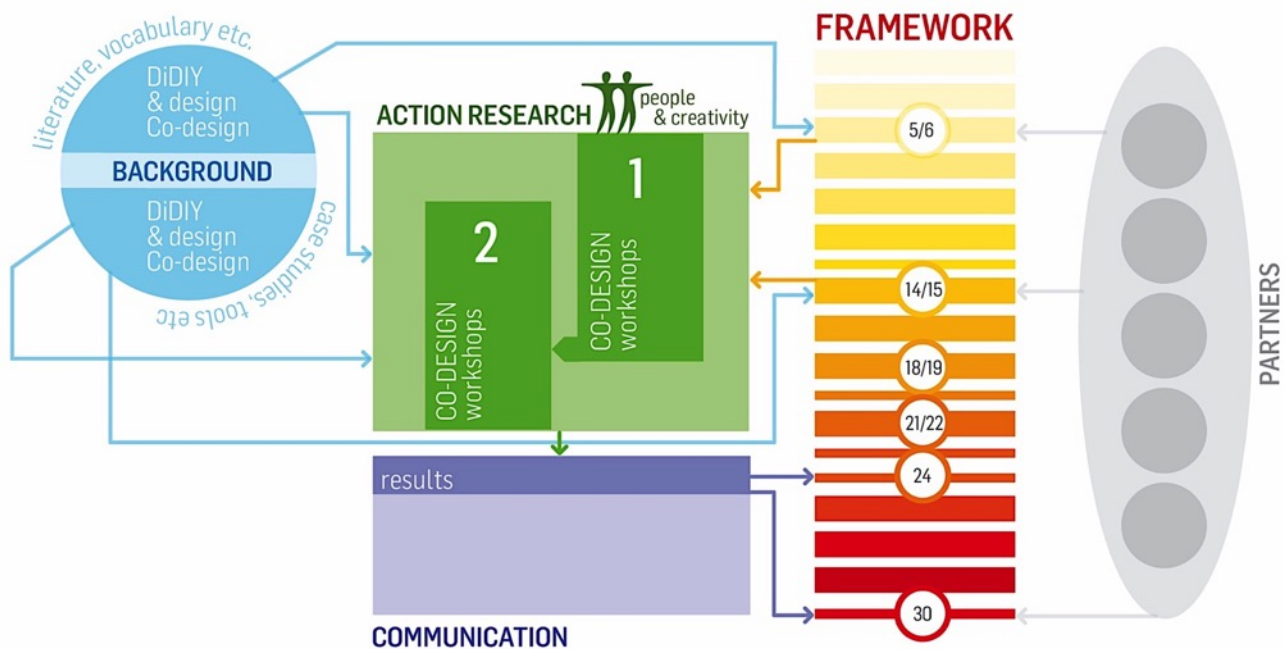


Figure 4 – Schema representing the Action Research Model.

We follow three main areas:

- background research;
- action research, in which we will involve people;
- communication.

The main areas interact with the Project framework for the whole project length.

In particular, through the literature and case studies analysis a research space has been identified.

As is shown in the following image, we have collected existing tools and techniques in a Design tool collection (see Annex I of D4.7 – Design tool collection). Another really important step, in order to realize the DiDIY toolkit is the designing of ad hoc tools. In the background section of the deliverable we have included relevant information to identify our point of view about DiDIY. The contribution is the identification of a design and creativity based model that is able to generate innovation in the project areas, through the exploration of DiDIY as a mindset and a social practice. We can consider it as a (production) process, with a strong social connotation, where people's

creativity and self-improvement through the development of new skills and knowledge are key-elements.

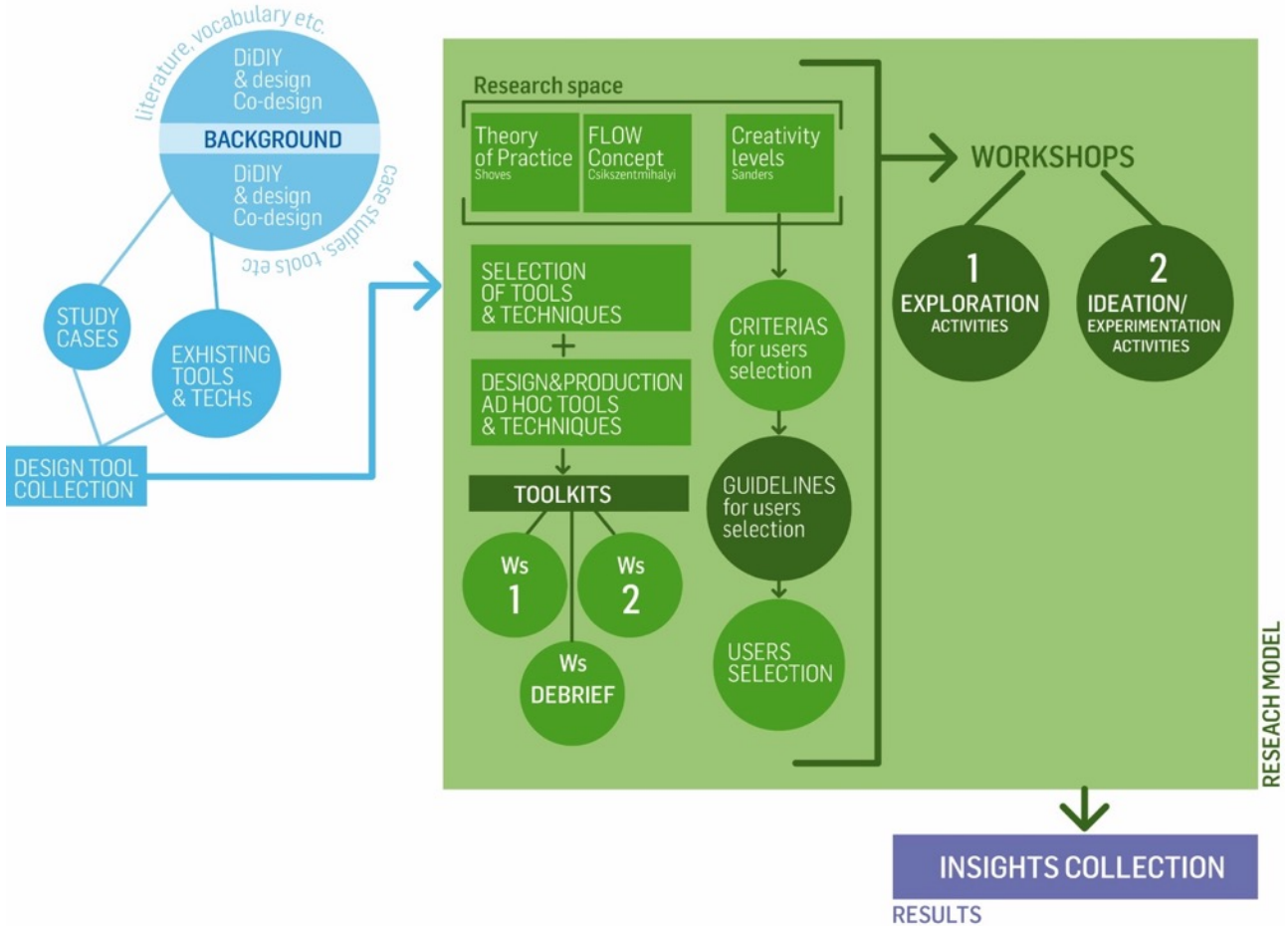


Figure 5 – Representation of research model steps.

### 1.2 Terms and acronyms

Term	Meaning
ABC	Atoms-Bits Convergence
DIY	Do-It-Yourself
DIYer	individual or organisation (formal or informal) that engages in DIY
DiDIY	Digital Do It Yourself
DiDIYer	DIYer that engage in DiDIY
Fab Lab	makerspace structured according to a specific model of DIY, as proposed by the MIT's Center for Bits and Atoms
Makerspace	community-operated physical place that affords sharing of tools, resources and knowledge motivated by maker culture, revealing specific ways of creation, collaboration





	and learning
DiDIY codesign process	<p>process in which users or other stakeholders are invited to actively contribute with their experience to the design process considering the fundamental elements of DiDIY</p> <p>Note 1 – Co-design builds on a tradition of user-centered design, participatory design, critical design, and ethnography. It is growing and being fertilized by many other disciplines. It is about users, or more generally, people imagining and planning with issues that are not-yet-existing and utilizing the skills that are in the core of professional design competence. Co-design is a method and a mindset characterized by the belief that all people are creative.</p> <p>Note 2 – Co-design sessions are defined as “workshops for sketching and trying out possibilities” (Binder 2010) and “temporary spaces for experimentations and collaborative learning” that are “open-ended, collaborative and creative” (Brandt, Agger Eriksen 2010). During the sessions “a set of creative techniques whose aim is to inspire the design process” (Rizzo 2010) might be used.</p> <p>Note 3 – Co-design toolkit is intended as the way that specific techniques and tools are used to unlock people’s creativity helping them to work collaboratively. Each toolkit is designed to serve a specific purpose.</p>
DiDIY design model	<p>design and creativity based model that is able to generate innovation through the use of DiDIY</p> <p>Note – A DiDIY design model will include the development of tools that facilitate the involvement of people in the design process. It has a strong social connotation and people’s creativity and self-improvement through the development of new skills and knowledge are key elements.</p>
DiDIY platform	<p>(1) set of hardware and/or software components, designed from scratch or deliberately assembled, to be the basis for design and/or manufacturing of a DiDIY product, or family of products</p> <p>(2) website explicitly designed to enable any combination of (co)development, manufacturing, sale, or distribution of DiDIY products or DiDIY designs, as well as mutual support amongDiDIYers</p> <p>Note (to def 2) - DiDIY platforms are sometimes intended as including also the DiDIY community that interacts through the website, for example for collaborative writing of documentation.</p> <p>Example (to def 1) - The ArduPilot Mega (APM) at</p>



	diydrone.com, which is “a DIY software and hardware autopilot platform usable for model planes, multicopters, unmanned ground vehicles and many other devices”. Examples (to def 2) - Thingiverse.com; OpenBuilds.org.
KF	Knowledge Framework
STEM	Science, Technology, Engineering, and Mathematics



## 2. Background: literature review and vocabulary

This chapter reports the background literature review that allowed us to acquire the knowledge to design the workshop structure. This chapter is already fully described in D 4.7. Please refer to D4.7 to read it and fully understand the ongoing research work.

### 2.1 *DiDIY and legal system*

For this deliverable we considered as defined in WP6, in relation with the core legal systems that are relevant for different aspects of the DiDIY phenomenon. The intention in D6.1 was to provide an accessible introduction for non-lawyers. For the workshop, it was decided to share these factors, which are key points in the legal systems.

#### *Copyrights*

Copyright is a legal right created by the law of a country that grants the creator of original work exclusive rights for its use and distribution, usually only for a limited time.

#### *Patent rights*

A patent is a document, issued, upon application, by a government office (or a regional office acting for several countries), which describes an invention and creates a legal situation in which the patented invention can normally only be exploited (manufactured, used, sold, imported) with the authorization of the owner of the patent.

#### *Design rights*

Design right protects the shape of a three-dimensional design. It subsists if the design is recorded on paper, or if a product has been made according to that design. It has rules on qualification for protection by both citizenship of the designer and place of the designing.

#### *Trade marks*

A trade mark is a sign aimed at distinguishing the goods and services of a party from those of its competitors (the party may refer to its trade mark as its “brand”).

#### *Open Business Models*

DiDIY knowledge production occurs voluntarily between peers with no commercial transaction nor immediate business model, or DiDIY projects may come also with a range of revenue models.

While the knowledge sharing may occur under free licenses and without monetary exchange, there is still a range of options to generate revenues. Revenue models include typically:

- added value services, e.g., to provide training, workshops, consultancy;
- direct contact, where income is generated through direct contact between producers and consumers, through donations or crowdfunding;
- matchmaking platforms, where supply and demand are brought together and the platform typically charges a small percentage over the transactions;



- membership fees or cost sharing, where associations of people share the cost of the collective;
- public funding, where public institutions provide subsidies or otherwise contribute economically.

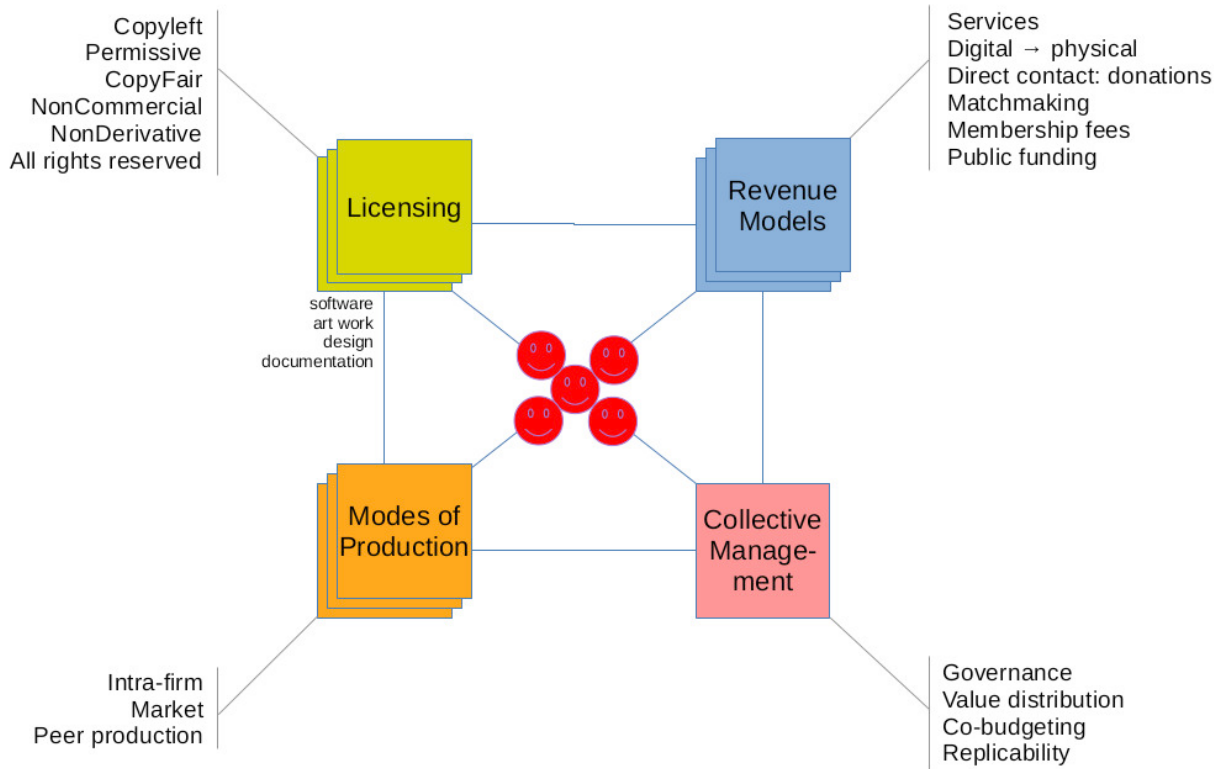


Figure 6 – Representation of research model steps  
(a more extensive presentation of this framework is in D6.3).

WorkPackage 6 of this Project studies the rights and responsibilities that users and producers of DiDIY-related technologies have and how current legislation affects them and vice versa.

On 14 July 2015 the Project partners participated in a co-design workshop to collectively discover the various topics that make up the challenges in the context of impact of DiDIY on laws, rights and responsibilities. The session was co-organised by FKI and POLIMI and included the participation of representatives of all partners.

The main challenges identified mark the set of Research Topics (RTs) that WP6 aims to explore. The relevance of these RTs has been validated by the Project’s Legal Advisory Board. In this deliverable we report only the list of main topic areas. To examine in depth the topics we invite the readers to consult the paragraph 4 of the D6.1.

### Liability

For taking the concept of liability into account in the context of DiDIY at least two underlying concepts have to be discussed: 1) duty of care, and 2) product liability or the so called “strict liability doctrine”.



### *Ownership of DiDIY resources*

Digital resources produced in the context of DiDIY range from software code to documentation, from blueprints to design files, from protocols to data. For intellectual or creative works there are two forms of ownership (read paragraph 4.2 of D6.1).

### *Non-exclusive Public Licensing*

Sharing creative works in a world dominated by exclusive copyright is not what lawmakers had in mind when devising the IPR legal system. In fact, creative works – when the originality criteria are met – are by default covered with exclusive copyright protection, when made public. This implies that interested parties are required to negotiate a contract where the author(s) grant(s) the desired rights, a process that adds considerable complexity (and opportunity costs) to online collaboration.

### *3D printing of exclusively protected products and exemptions*

Intellectual property law includes patents, design rights, copyrights, and trademarks. All of these ranges are vulnerable to infringements caused by DiDIY activities. As DiDIY refers in particular to the socio-technological phenomenon of digital fabrication and Internet of Things, we can observe the growing accessibility of related knowledge and data through open online communities. In the specific area of DiDIY investigating the reaction of intellectual property law could represent a different aspect of how the evolution of new technologies is impacting this area.

### *Internet of Things and privacy and anonymity*

The Internet of Things (IoT) concerns the infrastructure in which many sensors are designed to record, process, store data locally or interacting with each other both in the medium range, through the use of radio frequency technologies (e.g., RFID, Bluetooth, etc.) and an electronic communications network. The devices involved are not only traditional computers or smartphones, but also daily life objects (“things”), such as wearable, home automation, georeferencing, and assisted navigation objects.

There are two main problems: the control of personal data and regulation issues. Indeed, Internet of Things devices could present difficult issues because their sensors may capture a lot of information about people’s identity, tastes, intention, behaviour. Regulating the IoT represents a strong challenge because the range of legal, regulatory and rights issues associated to it is broad. IoT devices create new legal and policy challenges that did not previously exist, and they amplify many challenges that already exist.

In the anonymization area, the main issue is related to IoT consumers’ protection. It would seem that IoT products have become an inseparable mixture of hardware, software and service. Despite legal attempts to distinguish the different elements, this has become untenable. This convergence has, we would argue, implications for the applicability of consumer protection and privacy laws.



### **3. Design Tool Collection**

The design collection is in Annex I, “Design Tool Collection”, and also available on the Project website at [http://www.didiy.eu/public/codesign-workshops/annex\\_i\\_desig\\_tool\\_collection.pdf](http://www.didiy.eu/public/codesign-workshops/annex_i_desig_tool_collection.pdf). Please refer to D4.7 to fully understand the ongoing research work.



## **4. The Workshop Methodology approach**

This section, aimed at reporting in detail the design of the workshop structure, activity and tools, is already fully described in D4.7: please refer to that deliverable to fully understand the ongoing research work.



## 5. The Workshop implementation

This section describes in detail the experiences collected from the exploratory and generative workshops, in Italy and in Spain, carried out in the Laws, Rights and Responsibilities area. These experiences allowed an experimentation which led to the cumulative acquisition of knowledge. Carrying out the process and the planned tools allowed us to refine and continually improve the flow of activity and of the tools, testing the changes made each time. The reflections which led to these changes come both from the observation of the research team in the workshop phase and from the debriefs with the participants which allowed collecting their feedback. The reflections on the evolution of tools are reported on the pilots and the explorative workshop in education field (see the paragraph 5.1, 5.2 and 5.3 of D4.7). This is followed by the descriptions of the exploratory and generative workshops in the two countries. The different workshops will be related according to the following pattern: a short introduction, the description of the flow of the different activities, the tools used and finally, the conclusive reflections which are the points taken into consideration for the refinement, completion or change of activities.

### 5.1 Explorative workshop on DiDIY&Legal System – Milan

See flow description in section 6.

This paragraph reports just the last implementation: it will be useful for the reader to take a look of the correspondent section in D4.7. Please refer to D4.7 to fully understand the ongoing research work. Only the indications useful to implement the process and the tools will be described.

#### Workshop structure

In this specific case the DIY&Creative Society and DiDIY&Legal System workshops were merged into a single one, to experiment a new relationship's modality among the participants. The aim was to understand whether there could be a contamination between the different topics and enrichment in the creation of the challenges. The interaction between people involved in the intellectual property and laws fields and people who work with digital technologies in order to develop new ideas could have created an interesting process of shared identification of problems and generation of solutions. The activities' flow was enriched, but the way the two different topics was treated has slightly changed. Please refer to chapter 6.2.1 for the workshop flow description. The only activity that has slightly changed was the collection of challenges that have been simultaneously discussed among the two groups.

#### Tools

Please refer to chapter 5 in D4.7 and D3.4 for the description of the last improvement of the tools.

#### Summary Reflections

We collect all *the learning* and the *warnings* that emerged from the integration of the reflections made both on the flow and on the tools. As for the workshops in educational and work field, only the indications useful to implement the process and the tools will be described. For clarity and coherence with the previous ones, the inputs are listed by points. The reflections that emerged are listed as follows.





- I. Dealing simultaneously with two different topics, DIY&Creative Society and DiDIY&Legal System, in the same workshop didn't bring any positive result or meaningful contribution in the identification of the fundamental factors. The activities worked out only in the first part that is the analysis through the gameboard and the identification of the fundamental factors in the single group. The participants of each group could indeed concentrate in the given topic and coherently use the gameboard and do the single clustering. However when they did the common clustering it has been difficult to talk simultaneously about the two different topics and then identify the fundamental factors.
- II. A single clustering that puts together 3 different ones it is complex, since the factors are many. The difficulty lies on aligning factors that are generated by different people with different background and experiences, who therefore use own languages to identify similar situations. Many times indeed factors with different names express similar contents and it is therefore difficult to map the factors starting from the definitions given by each single group.
- III. A meaningful reflection point is related to the reflections described above. Using the same analysis process, each group generated outputs that are tied to their specific topic. The common results get in this way consolidated and gain value because they come from different experiences and knowledge. As researchers we aligned and clustered factors that, even if different words, expressed the same concept.
- IV. Using two different posters to write the challenges coming from the two different topics was effective. The participants could indeed separately visualize the challenges of DIY&Creative Society and DiDIY&Legal System. This visualization helped them to generate challenges that are relevant for their topic.
- V. The working group of DiDIY&Legal System, formed by a higher number of participants, generated interesting and full of information discussions. The analysis of the case study was more accurate and complex since many points of view were taken in consideration and therefore some new aspects emerged.

## ***5.2 Generative workshop on DiDIY&Legal System – Milan***

See flow description in section 6. This paragraph reports just the last implementation: it will be useful for the reader to take a look of the correspondent section in D4.7. Please refer to D4.7 to fully understand the ongoing research work. Only the indications useful to implement the process and the tools will be described.

### **Tools**

Please refer to chapter 5 in D4.7 and D3.4 for the description of the last improvement of the tools.

Factors star

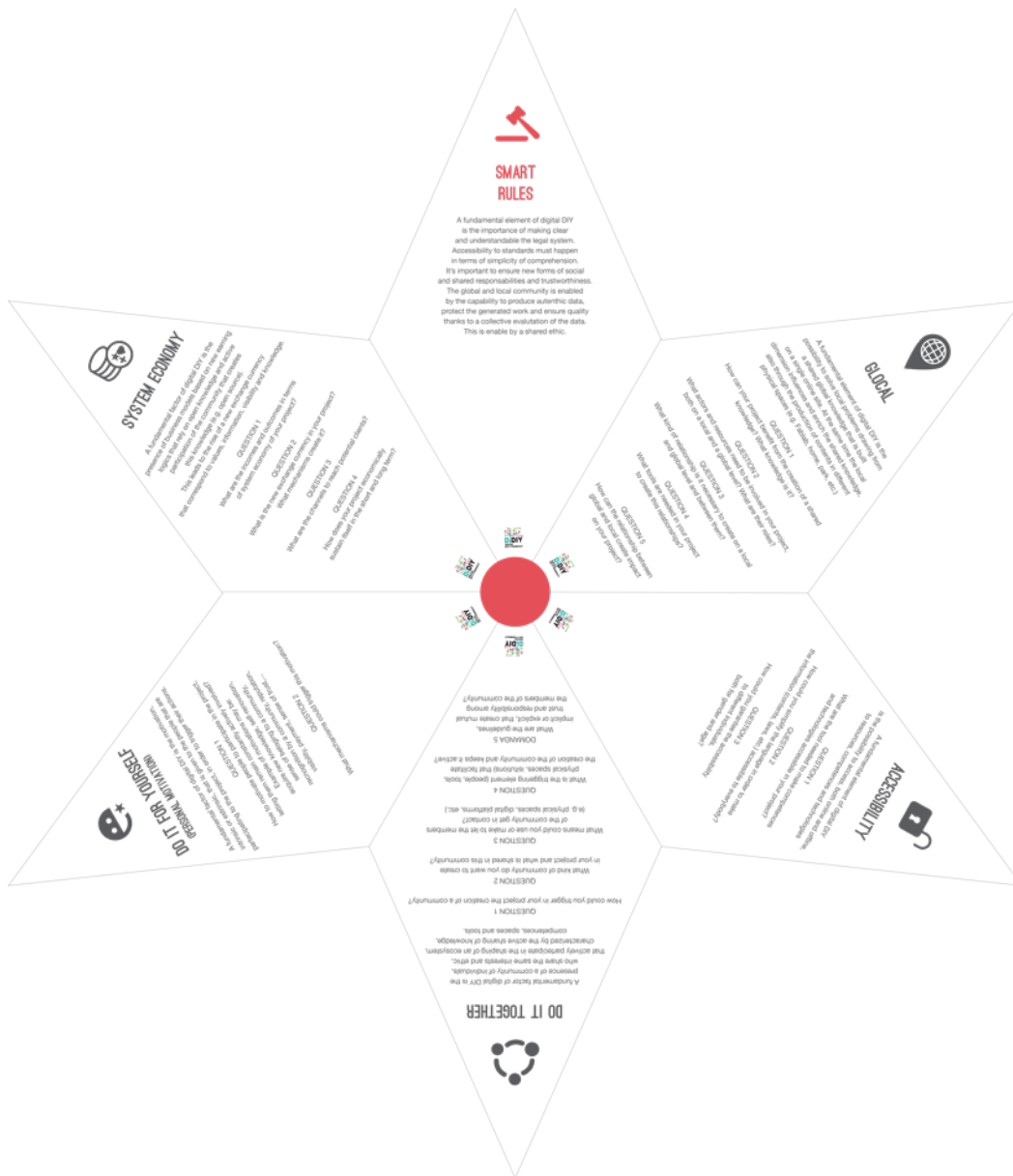


Figure 7 – DiDIY&Legal System factors star.

\*Input

The description of some factors was not easily comprehensible. A simplification is necessary. The specific factor Smart Rules was discussed and confirmed by participants.

**Summary Reflections**

As for the explorative workshops, we also want to collect for the generative workshops all the *learning* and the *warnings* that emerged from the integration of the reflections made both on the flow and on the tools. For clarity and coherence with the previous ones, the inputs are listed by points. The reflections that emerged are listed as follows:



- I. The video presentation was simple and effective. The participants understood well that they were taking part in the construction and verification of a process of project-building which has as its output the development of a toolkit of project-building that helps launch and design a challenge in the world of DiDIY.
- II. The installation of the platform was not presented because in the explorative workshops it did not generate added value for the participants who, already overloaded by a great deal of information, were unable to enter into empathy. The platform is a further container of information useful for our future objective but not necessarily for the purposes of correctly carrying out the activities.
- III. Only two participants attended the previous workshop explorative phase. In order to help the other participants in understanding the DiDIY context and potentialities, we introduce a first activity of analysis of the explorative clustering activity result. The two participants helped the research team to tell the cluster and the reflections that emerged in the case study analysis (see paragraph 7.1.1).
- IV. The group of participant was highly motivated and skilled so the reflections that emerged were really reach and also the final idea was great.
- V. The brainstorming phase was coordinated internally by the facilitator. As for the generative workshop in DiDIY&Education (see D4.7), the cards were used to stimulate creativity and ideas.
- VI. It's important that participants during the co-creation session, understand the real value of writing on post it. A person in charge for this role has to be elected. A complete concept should be written on each post it. A word is not sufficient because is difficult to remember the thought afterwards. This important feature will be added inside the toolkit.
- VII. The research team tried to put the participant in the position of actively contribute without giving them too much help. The participants during debrief session admit that a first example or help from facilitator was necessary to better help them to understand the exercise. This is a good advice to transfer in the final toolkit where it will be important to provide good examples during the activity explanation.
- VIII. The prototyping phase turned out to be very effective as it allowed visualizing the idea and freezing the concepts which until earlier had been stated orally. The decision is taken to keep this technique in all the workshops, slightly modifying the timetable: 10 minutes of prototyping of the initial idea, followed by 30 minutes of prototyping of the concept inserting the factors.
- IX. The project-building with the factors was really effective. The participant included in their project almost all the fundamental factors.
- X. The activities of the generative workshop concluded with a documented videoclip of the emerged idea and a description of how each individual factor has been integrated.

### **5.3 Final conclusions**

The experiences of the workshop have contributed to continuous experimentation, verification and implementation of a project-building process, of specific activities and relative tools in order to produce a *toolkit* and *guidelines* which also help non-designers to formulate a challenge and design a concept to apply the potential of DiDIY in their professional area.



The *toolkit* represents all the techniques and tools designed and collected whilst the *guidelines* include the conditions necessary to start and set up a session of co-design and the flow of activities to be performed during the session, referring to the specific tools.

The list of *learning* and *warnings* that emerged from the various workshops which will contribute to drawing up the guidelines is as follows.

- I. In terms of number of participants and it emerged that the optimal number for the complete session of co-design (exploratory and generative) is 5-6 people.
- II. If the group is made up of profiles with multidisciplinary profiles, complete results with many nuances are obtained. One of the highly-recommended conditions for the success of the co-design session will be to involve different profiles, including at least one expert of digital making, one expert of digital innovation or start up that is using open source method or digital tech, or a representative from a company and possibly a designer.
- III. One of the highly-recommended conditions for the success of the co-design session is the involvement of competent and highly motivated people with a shared and common goal. This condition proved to be fundamental to keep the flow of reflections during the session high and continuous and to work together towards a shared goal.
- IV. It is fundamental that the contribution is collective for the wealth of details and for the different facets to emerge, therefore the management of the group dynamics which will become one of the Tips in the guidelines must be taken carefully into consideration.
- V. One of the fundamental conditions for the success of the codesign session is assigning roles in the group. A facilitator has to be appointed, who moderates the reflections and leads the group in the various steps of the project-building path, and a time-keeper, who monitors the times established for each activity. It is certainly useful to involve a someone to document from outside the group who takes note of the intermediate results that have emerged from the various activities.
- VI. One of the suggested and highly recommended conditions is the preparation of the working environment. The guidelines will include suggestions on how to recreate a creative environment which stimulates sharing and collaboration.
- VII. We think that a web channel of sharing in which participants can consult, upload and insert useful information, case studies, interesting websites and presentations is fundamental. It should become the point of reference for those who want to develop a project with a strong social impact with DiDIY.
- VIII. The design process and its activities are quite long and require a big effort from participants. The toolkit will probably suggest to organize it in different co-design sessions, probably two. A split can be done between the *Immersion* phase and the *Define* phase. At this point of the process, after having defined the Seed Idea, the participant should collect inspiration about the topic of the idea sharing it with others. This activity is suggested to be conducted separately in a specific period of time between the first session and the second one. Inside the toolkit a collection of digital collaborative tools will be suggested, as well as tips for keeping note.
- IX. The combination of paper and digital material for the case study creates methods of consultation which satisfy various needs, those who prefer collaborate learning helped by the poster and those who prefer individual learning helped by the digital presentation. For the design toolkit it is necessary to reflect on the ways with which to create the archive of



case studies and how to manage them, allowing people to add new ones following a specific format.

- X. The toolkit and the guidelines can be used both by those who already know the phenomenon of DiDIY and has in mind a challenge idea to design, and for those who do not know the phenomenon and therefore first have to explore it and identify a project-building challenge. For this reason, two different entries in the process will be define: a longer one starting from the Immersion phase, and a shortcut starting from the Define phase (for whom already know the DiDIY phenomenon).
- XI. In the brainstorming phase, it would be interesting, especially with regard to the toolkit, to insert a number of techniques to proper stimulate the participants, including cards, videos, images etc.
- XII. For the success of the workshop it is fundamental that the participants share a common goal, so that it becomes easier and more meaningful to find an agreement among the participants in the brainstorming, idea selection and further development phases. To have a common goal also enhances the engagement level and the diligence of each participant.
- XIII. After the experimentations and the experience gained during the workshops, the use of the fundamental factors as a tool is considered meaningful. Through the Toolkit the participants will be able to use these factors as a guide line for the design and the implementation of the idea. They will have a supporting tool that they can modify, where they can add elements or take some off according to the results of the gameboard. The Factors star becomes indeed a flexible and not static tool. Given the wideness and the speed of evolution of the DiDIY phenomena the use of flexible factors is indeed fundamental.



## 6. Workshop in DiDIY and Legal System Experience

This section describes in detail the experiences collected from the explorative and generative workshops, in Italy and in Spain, carried out in the Legal Systems area.

### 6.1 Workshop general aims

The ‘Digital DIY inspiring future’ two full-day workshop series are for ideas exploration and generation respectively. Codesign approaches and tools will be applied for the identification of the dynamics underpinning creativity through participatory activities and the production of tools which can be used to foster the creative process.

The codesign workshops intend to explore how digital production technologies (e.g., additive manufacturing and coding) and sharing (e.g., open source) may influence and modify DiDIYers creativity. In particular, the workshop on law and rights for the DiDIY phenomenon will address the implications of open, collaborative environments and relationships towards the increasing of such skills as creativity, critical thinking, collaboration and communication.

The workshop is based on five main steps:

1. presentation of the workshop objectives and schedule;
2. presentation of the DiDIY Project, including interim hypotheses and findings;
3. data collection, sharing and elaboration in relation to the topics of context, digital technology, motivations and collaboration;
4. codesign activities;
5. presentation of the results from the activities carried out by the workshop participants.

Following a structured path, in the first series of explorative workshops participants have the opportunity to know and apply the innovative features enabled by production and sharing digital technologies (e.g., additive manufacturing and open platforms), in order to develop innovative ideas and projects in a collaborative way.

During the explorative workshop participants have the chance to collaborate with other experts in their field and propose a topic for the generation of a design challenge shared with the other participants, to be addressed and solved at the later generative workshop. Participants share experiences and information, build knowledge, use a design process for idea generation co-designing with their team.

#### *Right of ownership and freedoms*

Conventional production systems are generally based on patents, copyrights and dissemination restrictions. This has supported the development of the XX century economies. However, the recent socio-technical change challenges the validity of such restrictive approach.

Digital technologies of production and sharing may facilitate innovation through the collective intelligence, commitment and creativity.

The question addressed in the workshop is if and how the more open systems of idea generation could foster individual creativity and people could be on someone else ideas? Can open source technologies and software support this? Is individual motivation and commitment needed or charismatic people could lead such collective intelligence?



### *Open source circular economies*

Contemporary society faces the urgent need of drastically reducing the consumption of resources (energy and raw materials) and the fast pace of product lifecycle, without affecting societal issues such as employment and welfare.

Circular economy models is gaining the interests of governmental institutions and firms as it aims at merging environmental and productive goals by extending product lifespans through the creation of loops which keep energy and materials in use for longer, namely by reusing, repairing, remanufacturing.

This goal is challenging and efforts are needed to overcome predictable rebound effects.

The question addressed in the workshop is if and how open source approach can facilitate the development of new loops for the circular economies. Can open source enable an easier and more effective recover of energy and materials which reach the end of life?

## **6.2 Workshop description**

The different workshops will be related according to the following pattern: a short introduction, the description of the flow of the different activities, the conclusive reflections which are the points taken into consideration for the refinement of activities.

### **6.2.1 Explorative workshop on DiDIY&Legal System – Milan**

The explorative workshop on DiDIY&Legal System was held in Milan on 23rd September 2016. During the same workshop session was also executed the workshop on DiDIY&Creative Society.

*Location:* Polifactory – Campus Bovisa - Politecnico di Milano. Via Privata Schiaffino 22-30 Edificio B3

*Length of the workshop:* 10.00 a.m. - 5.00 p.m. (5 hours of activity + 1 h break)

*Participants:* Makers and designer working in FabLab, Fablab manager, Expert in digital innovation, start upper that create business by using open source method or digital tech, students working with new technologies, tinkering experts from museum, expert in copyright and intellectual property, expert in patenting and licensing, lawyers, expert in digital technology.

*Environment:* As anticipated, it is the same one that was used in the pilot workshop in Milan.

### **Description of the flow of the different activities**

To start to create a convivial and relaxed atmosphere in which to express their creativity, the participants were welcomed immediately with breakfast. They were then guided shortly afterwards on a 10-minute visit of the Polifactory space to get to know the activity and see the machines at their disposal.

The workshop starts with a screened presentation about the DiDIY Project, the role of the POLIMI research team with the relative objectives to be reached, the objectives of the workshop, the project-building path, the platform and the activities of the day. This presentation is followed by sharing the rules of the day to be respected in order to keep a creative and collaborative atmosphere (see Annex II, “Creative rules”).



At the start of “Create your Avatar” the participants choose 7 images, from those put at their disposal, which most represent them and they go to the Log In centre alongside the platform. Here they are given a profile depending on the images chosen, through a label on which they wrote the user name that identifies them as avatar. Each of them is given the explanation which figure corresponds to their profile with respect to Foursight.

This is followed by individual presentations to foster the generation of collaborative dynamics and the formation of the work groups. Since the workshop handled two different topics DiDIY&Creative Society and DiDIY&Legal System, two groups of 4 participants were formed for DiDIY&Creative Society workshop and one group of 6 participants was formed for DiDIY&Legal System workshop.

The groups have been made up trying to create multidisciplinary teams with different profiles and mixed skills linked both to digital making and to education. Each table is facilitated by an expert of the research group.

The analysis activity begins with the choice of the case study. 5 are made available, laid out on a table (see tools – case studies). Each group, after consulting with one another, selects the favourite one.

The pilot workshops allowed finding an ideal configuration for the work table. The tools that the participants find for the analysis activity are: Gameboard, Box with the Gameboard cards, the Instructions, the sheet with the QR code and a tablet to access the digital presentation of the case study and to access Internet information, coloured felt tip pens, Post-Its in different colours, and small games that help keep a creative atmosphere during the activity (tops, bells, etc.).

The facilitator explains the analysis activity making use of the activity Cards and also highlighting the rules of the game which are also present near the gameboard.

After the group has analysed the case autonomously, each facilitator intervenes working together with their group. The activity as planned lasts one hour and the discussions stimulated by the tools should take shape on the Post-its.

The first phase of Discovery ends with a break and re-opens with the individual group clustering in order to identify the fundamental elements of DiDIY which have emerged from the analysis.

The group activities end and the participants come together to work collaboratively. A representative of each group relates the case analysed and shares the reflections and the fundamental elements identified. In the next phase the participants negotiate and identify the fundamental clusters shared deriving from the union of the three work tables (see section 7).

During the negotiation, there is heated discussion which allows the facilitators to identify potential challenge phrases to propose to the participants. Facilitators wrote the challenges for each topic (DiDIY&Creative Society e DiDIY&Legal System) on separated hanged posters.

The challenges are in the end voted for by the participants (see section 7). The workshop ends with a debrief in plenary session to collect feedback and ideas for project- building with respect to installation, flow and tools.





Figure 8 – Scenes from the workshop.



Figure 9 – Scenes from the workshop.

### 6.2.2 Generative workshop on DiDIY&Legal System – Milan

The generative workshop on DiDIY&Legal System was held in Milan on the 30th January 2017.

*Location:* Aula Azzura – Politecnico di Milano. Via Durando 38 A

*Length of the workshop:* 10.00 a.m. – 5.00 p.m. (5 hours of activity + 1 h break)

*Participants:* two of the participants involved in the exploratory workshop were able to take part in the generative workshop. New participants on the basis of well-defined profiles were then identified



and selected and they were sent a personal invitation. Expert in copyright and intellectual property, expert in patenting and licensing, lawyers, expert in digital technology.

*Environment:* The workshops were held in a room at the Department of Design of the Politecnico di Milano. The room was simply equipped with tables and chairs and was prepared ad hoc by the research group.

### **Description of the flow of the different activities**

The workshop starts with a screened presentation of the DiDIY Project once again, the role of the POLIMI research team with the relative objectives, the explorative experience already made with the results obtained and the activities of the day with the objectives to reach. This presentation is followed by sharing the rules of the day to be respected in order to keep a creative and collaborative atmosphere (see Annex I of D4.7, “Creative rules”).

The participants form a single work group to be able to sustain a more stimulating discussion. The generative workshop start with an overview of the results obtained in the clustering activity of the previous explorative workshop in order to help the new participants to immerse in the DiDIY context. The two “already-immersed” participants helped the facilitators to explain them. This activity raised a good discussion on the topic also because the participants were well prepared and highly motivated. Combined to this, participant started sharing personal knowledge and experience on the theme of the challenge selected at the explorative workshop. The idea is refined and through a creative phase of brainstorming and project-building, the creation and construction of a well-defined project will be reached, which includes the fundamental factors (see chapter 6.3 – *Fundamental factors resulting from Explorative workshop*) and which meets the challenge launched.

In the generative workshop, the different activities are not accompanied by a relative card but are explained orally by the facilitator. They will however be structured for the toolkit together with facilitator card that will help facilitator with tips and reminder to guide the activity.

The workshop session continues with the validation of the fundamental factor “Smart Rules” presented to the participant and with the creation of the scenario using the Scenario worksheet (see chapter 4- *The workshop Design and Organization in D4.7*).

In the scenario activity, the participants share their personal knowledge and experience on the theme of the challenge to design a scenario shared by all the members of the group. After this, the facilitator distributes to each participant 3 cards to fill in and which will be used during the brainstorming to stimulate the generation of ideas (see Tools – brainstorming cards D4.7). Through the brainstorming many ideas are formulated and the one receiving the most votes will be selected to be designed with the factors in the next phase. After a break, the idea is summarize in one sentence in order to have a recognized and shared idea clear to all the participant.

They then go on to the prototyping phase (see chapter 4- *The workshop Design and Organization in D4.7*) through which the participants visualize the first draft of their idea. This idea is implemented both conceptually and visually through the use of the *fundamental factors* of the “Factors star” tool for project building. Each point of the star that corresponds to a fundamental factor of DiDIY and presents indications that lead to reflect on the meaning of the factor. In turn, each participant takes a point, reads the content and together with the group implements the idea. At the end of the project-building, the group makes a short presentation of the idea that has emerged, documented with a video.

The workshop ends with a debrief in a plenary session to collect feedback and ideas on project-building with respect to the flow and tools.



Figure 10 – Scenes from the workshop.



Figure 11 – Scenes from the workshop.

### **6.3 Final conclusions**

The experiences of the workshops described so far have contributed to spreading knowledge of the project both in Italy and in Spain.

Overall, about 350 contacts, of educators, teachers, schools, researchers, FabLabs, museums, SMEs, artisans, lawyers, policymakers, ... have received an explanation of the DiDIY Project and



an invitation to take part in a workshop. All were directed to visit the website of the project and to consult the results produced by the different partners in the four specific areas. Many asked to be kept updated on the activities of the DiDIY Project.

The workshop was also spread through a visit to many FabLabs in Milan and through participation in events and conferences with topics related to the projects, held both in the Milan area and outside it, including the Maker Fair.

Overall about 20 people took part in the workshops in the sphere of DiDIY&Legal System, personally experiencing a specific project-building process for DiDIY, thus becoming ambassadors of the method to be reproduced in their working environment.

The experiences of the workshop have contributed to continuous experimentation, verification and implementation of a project-building process, of specific activities and relative tools in order to produce a toolkit and guidelines which also help non-designers to formulate a challenge and design a concept to apply the potential of DiDIY in their professional area.

The toolkit represents all the techniques and tools designed and collected whilst the guidelines include the conditions necessary to start and set up a session of co-design and the flow of activities to be performed during the session, referring to the specific tools.



## 7. Workshop results

The explorative and generative workshops based on the method of co-design allowed the research team to actively involve people in research activities and knowledge creation highlighting their desires and aspirations for the construction of new possible futures. Involving people using a co-design approach allowed the research team to be in empathy with people, to have meaningful conversations with them and to collect their ideas regarding the impact of DiDIY on the Legal System field. The importance of involving competent profiles active on the topics treated emerges from this, in order to collect significant data that can contribute to the specific research carried out by the leader partner of the WP6 on Legal System.

The section presents the data collected at the explorative and generative workshops on DiDIY&Legal System held in Milan. In particular, the explorative workshop allowed collecting the fundamental elements that the people involved deemed were qualifying for DiDIY, together with a series of challenges that tackle real needs in the area of education. The generative workshop, on the other hand, provided answers in terms of possible scenarios and benefits generated, to some of the challenges selected. Paragraph 7.3 relates the process of processing the data which emerged from the explorative workshops held in Italy in the four areas investigated by the project, made by the research team in order to identify the fundamental factors of DiDIY common to the 4 areas and the fundamental factors of DiDIY specific for each area. The section ends highlighting the contribution made by the co-design workshops to the research of the WP6 on Legal System.

### 7.1 Results of the explorative workshop on DiDIY&Legal System – Milan

During the explorative workshop, the participants, divided into groups, started from the analysis of a case study for each group. This analysis allowed them to break down the case study, taking into consideration people, fundamental elements and impacts. At the end of each analysis, the participants clustered the results, extrapolating the fundamental elements of the DiDIY. Subsequently, each group shared their clustering with the others, in order to reach a common clustering. During this process, the participants obtained challenges in the area of reference.

#### 7.1.1 DiDIY fundamental elements

##### **Fundamental element from “Instructables”**

(Cluster linked to the specific case study)

##### *Participants*

Makers and designer working in FabLab, expert in copyright and intellectual property, expert in patenting and licensing, lawyers, expert in digital technology.

##### *Elements that emerged*

**Digital ecosystem skills.** The digitalization process makes the acquisition of new skills necessary. The ecosystem is referred to the set of technical, social, personal skills (individual or collective) and design that characterize the artefacts in this area. These competences are developed through a shared knowledge, from which is possible to trigger our own creativity in new forms of expression. The globalised self-production, amplify the opportunities creating new advanced practices of DiDIY, becoming a social and distributed solutions prototyping. However, at the same time there is a loss of some abilities and skills.



**DiDIY Economy.** DiDIY enable new forms of market and it's able to generate new directions for the economy. On the one hand, it gives rise to new business models based on the logic of alternative production, hybrids between DiDIY and industrial production, the knowledge market rather than the product. On the other hand, it becomes a target market for traditional economies, as it acts as a catalyst for unexpected innovations and therefore as an important phenomenon to be constantly monitored, even from the regulations point of view.

**New forms of responsibilities.** DiDIY enables the informal economy, which is a personal production who require new forms of individual and social responsibility for the whole community. In a context in which everything is open and accessible it becomes crucial to understand the responsibilities of each person in respect of the projects/idea he/she shares. New forms of distributed and socially controlled responsibility are therefore required and at the same time it is important to design a conscious control of their actions, in order to create a safe environment.

**Smart rules as awareness of the regulatory system.** In DiDIY is necessary the creation of smart rules, that are an adaptation of the regulatory system aimed at creating awareness in individuals who participate in this phenomenon. It is indeed necessary to immediately understand the responsibilities and the legal implications of their actions in the digital environment. From this point of view, the simplicity of information becomes critical. This is referred to accessibility to standards in terms of knowledge and ease understanding of the responsibilities. It is possible to think of shared standards that are already applied between companies but not socially.

**Digital technology.** Digital technologies enable the self-production of the products in the social and distributed perspective. The innovation through people and technology are means by which the informal economy is developed.





Figure 12 – Fundamental elements from “Instructables”.

### 7.1.2 Design Challenges

During the common clustering, the groups brought out different topics, reflections and criticalities deriving from the analysis of the case studies and from their personal experience. These criticalities were recorded and transformed in the form of a challenge, using the structure of the common question, “How can we...?”. Afterwards, each single participant voted the 3 challenges which, in their opinion, are the most significant in the field.

#### Challenges

- I. How can we create a legal culture in DiDIY that is accessible and understandable by everybody?
- II. How can we help the average user to be aware of the private and public use of the material he share?
- III. How might we start the quality assurance processes for the most visited products on online sharing platforms?
- IV. How can we create a system that help creative people to protect their ideas, without damage the freedom of sharing? People must be aware that, through online sharing and publications, they lose some rights. In this context is it possible to facilitate the process of patenting and licensing?
- V. How can we guide and support an ethical and responsible use of new technologies?



Challenge	Votes
I	6
II	5
III	4
IV	7
V	1

Table 1 – Challenge Votes.

## 7.2 Results of the generative workshop on DiDIY&Legal System – Milan

During the generative workshop, the participants started from a challenge launched in the explorative workshop and first of all examined the context of the challenge and built up a scenario. Subsequently, the participants generated different ideas through a brainstorming session, they grouped them together, gave them titles and voted for them. The voting took into consideration criteria such a feasibility, coherence with the brief and the desirability for the user. Lastly, the participants planned this idea in the details, considering the fundamental factors identified in the exploration phase.

### Participants

Expert in copyright and intellectual property, expert in patenting and licensing, lawyers, expert in digital technology.

### Challenge

During the exploratory workshop the participants extrapolated challenges. The challenge most voted for is taken as a starting point and launched in the exploratory workshop.

*How can we create a system that help creative people to protect their ideas, without damage the freedom of sharing?*

*People must be aware that, through online sharing and publications, they lose some rights. In this context is it possible to facilitate the process of patenting and licensing?*

### Scenario

From the challenge launched, the participants were asked to share their knowledge in the context of the challenge and to share some case studies or ideas that they consider interesting. Following this sharing, the participants built up a shared scenario.

Intellectual Property has the problem to communicate complex contents to individuals who don't have any familiarities with that intellectual code just because they don't know those contents. It's necessary to improve the user awareness, increasing and enhancing communication effectiveness.

Contents simplification could be the strategy to improve the communication, but, at the same time, it is a burden. Who takes the responsibility to simplify? How can we help the DiDIYers to understand this concepts? Current laws are many and complex, but they are proper. It's not, therefore, necessary to make new laws but it's necessary to make them more understandable, trying to spread the culture, giving instructions through courses and warning pills on the products security. How many people will upload their project on Instructables if there will be a clear warning about the risk of their intellectual property?



### 7.2.1 Brainstorming ideas

After having constructed the scenario, the participants took part in a brainstorming session to find concrete ideas in the scenario described. The ideas were then clustered and each cluster was given a title. Lastly, the ideas were voted for according to three criteria (feasibility, coherence with the challenge and desirability) and the idea receiving the most votes was selected.

*How might we enhance the knowledge and the awareness of users?*

- **Question map or path:** creation of a map of intellectual property that will help people to understand how much their idea is innovative and what kind of protection it needs. The path can be a series of precise questions or guidelines to that can help people in creating the intellectual property map of their ideas.
- **Network of expert:** creation of a network of experts that can translate and simplify the regulations in a way that could be accessible to everybody.
- **Pills from experts with a simplified language:** the pills are intended as smart rules that form a manual of basic rules or a collection of recipes that help people to basically understand what to protect and how. The pills could also be intended as disclaimers on the sharing platform that will inform people about what are the effective risk of upload and publish their project.
- **Immersive itinerant experience:** itinerant workshop to spread information about regulations. An expert key coordinator will be fundamental to define directions.
- **Community online platform:** bottom-up app or platform that can give different type of answers in different ways: feedback from experts, online legal advices, forum, etc.

### 7.2.2 Idea-building

The idea selected was developed through rapid prototyping. The participants made a tangible representation of their idea using the material supplied. In addition, the participants continued the project-building of their idea, integrating the fundamental factors obtained from the exploratory workshops.

*Idea – Institutional platform to simplify different type of contents and typology*

The platform basic rule is to involve users actively. An attempt is being made to teach users gradually and progressively, making contact with educational contents, concerning Intellectual Property, easier than the manual's one.

Users with a certain background level, suggests some legal content to be transformed in legal pills. The content will follow some guidelines (i.e., number of words, template, etc). A network of validator will revise it verifying the coherence with the original law. The revisions allow the validation of the pills and assign it a validation mark. The pills can now be shared through social networks. It is necessary to implement corrections for the cost-cutting. Institutional entity could be made up of a group of individuals, the same which propose pills and validate each other: they propose content to a group of individuals and if they obtain a high score, the proposer can disseminate it on the social media with a special mark of validation.

All the contents will be stored on the platform as a landing pages. Accessible by the social media too. Contents may circulate on the web and the very best one will have more mobility on the web.

Users who create pills can have an institutional accreditation to partial commercial contents, that they couldn't have had in any other case. They will pay a small price to access to the validation process, that price that could be put down offering to make the revision to others contents (10 reviewed contents for the validation of 1 free content).

Furthermore, through the platform all the community could move some questions forward on the platform, and the individuals who create legislative pills can gain, answering to these questions, pills that can solve the community problems. The pills will be validated and voted by the community, so the creators will have a score too.

The very best ones will access to the creation of a conceptual map, that explains with simple words how to access to the Intellectual Property contents, which will be the platforms communication contents itself.

Anonymity is on the creation's base and pill's validation too. The identity will be announced only in the moment of the pill's validation.



Figure 13 – “Institutional platform” idea prototyping.



## 8. Conclusions

### ***8.1 Fundamental factors resulting from the Explorative Workshops***

A critical piece of the Explorative workshop is finding the insights that will drive our design out of the huge mass of information we have collected. After having collected the results of the explorative workshops in the 4 areas investigated by the project, the research group has put into a system, combining and pairing the numerous concepts that emerged to identify the common aspects and the potential of the digital Do It Yourself recognized by the participants.

This systematization is made up of different and repeated phases of processing in order to achieve complete results that include all the wealth and knowledge produced by the participants and the nuances that have emerged from the specific professionalisms involved. We want to recall that. As described in the chapter of planning of the workshops, the participants, with our support, grouped together similar concepts giving a name to the group and describing them.

A first interpretation of the results that emerged during the phase of clustering, the workshops allowed us to identify those elements that can be replicated and designed which were then considered fundamental for the generative phase.

Subsequently, we identified the clusters common to several areas, making a detailed analysis and integrating their descriptions in order to reach a rich and complete definition of the elements. Specifically, the integrated clusters were selected not only if defined with the same name but above all if the descriptions corresponded.

After this first selection, choices were made regarding the elaboration of the clusters that emerged that were not identified as common. On the one hand, elements we deemed inseparable as components qualifying one another, such as for example the Do-It-Together cluster which includes community and sharing and which will be described later were integrated. On the other, we decided to transfer the concepts written in some clusters to others, because we deemed that they were facets of the elements in which they were included. An example of this type of choice is the Accessibility cluster.

Lastly, we decided to select a cluster which was representative of each area investigated through the workshops.

This enormous work of re-elaboration of the data obtained led to identifying the fundamental common and specific factors at the basis of the DiDIY and of the individual areas.

Some aspects recognized by many participants and that are indispensable for the current movement linked to digital technologies in DIY are here explained but they don't represent the fundamental factors explained in the next sub section. These aspects were not transformed into fundamental factors as they cannot be planned as elements in itself. The mindset, the process of learning and the idea leader will be underlined and described in the guidelines of the toolkit as positive attitude and approach to deal with a project in this context.

#### *Maker mindset/Open Attitude*

The current movement of DiDIY sees the change of mindset from individualist to collaborative. The DIY mindset defined also as a Geek Mindset is the intrinsic strength that bring people to be self-driven, passionate about technology and proactive creator of executable results and being able to be perseverant applying a learning by doing approach. The DIY mindset imply also an open



attitude that is the need to create the project with an open ended mindset. It is not the final result that means but the process itself.

### *P2P Dynamic Learning*

Reflections about the process also emerged during DiDIY workshops, in particular the concept of P2P Dynamic Learning. Rather than a linear, isolated way of learning, the new way of learning enabled by the DiDIY takes place exponentially by activating learnings from each project carried out by the community (and the other way around).

### *Idea leader*

An important feature of DiDIY is the necessary presence of an idea leader, i.e., a driving force, that stimulates in order to keep the participation in the project high.

The leadership is therefore defined here as the motivating force to reach the objective.

This driving force can also be represented by a leader figure identified as a super guru, i.e., a charismatic person with a strong and engrossing vision who does not necessarily have technical skills. The three key words which identify this element are stimulate, motivate and coordinate for a common objective.

In order to create a community or to keep high the participation in a community project, the presence of an idea or of a positive figure leader that can stimulate the creativity and the motivation of the participating community is necessary.

## **8.1.1 Fundamental common factors of DiDIY**

The fundamental common factors of DiDIY are fully described also in D5.5. In order to fully understand this important section and the generative workshop results, we decided to replicate it also in D6.6.

The factors came from the integration of the explorative workshops held in Italy and Barcelona in the 4 project areas. The paragraph 8.1.2 reports the Fundamental specific factor of DiDIY for Legal System.

### *Do It for Yourself – personal motivation*

One fundamental factor of DiDIY is the personal motivation of the people involved. Motivation is indeed the factor necessary to activate the interest in taking part in a community project and to keep its involvement constant.

Motivation can be intrinsic, therefore linked to an innate predisposition of the individual and extrinsic, linked to external factors of reward and satisfaction.

The elements on which pressure can be put to involve people and activate their participation are described as follows.

- To acquire skills: people take part because they enrich and acquire new skills and knowledge.
- To reinvent themselves: people take part because they have an opportunity to refresh and improve certain aspects of themselves. DiDIY gives the possibility to play, act and experience multiple identities and to express the self in different identities influenced by cultural and social aspects.



- Long term vision: people who participate in the initiative feel the need of investing in themselves for the construction of a future career or a company. The participation provides indeed the achievement of an institutional approval.
- A sense of belonging to a community: people take part because they feel part of a large community made up of people who share similar interests. People have the possibility to get to know other like-minded people and build up a network.
- Hedonism/Reputation: people take part to be recognized by a community that is considered cool.
- Showcase/Visibility: people take part for promotional purposes.
- Remuneration: people take part because they have something to gain or a return.
- Sense of intrinsic confidence: people take part to increase their self-confidence.

### *Do It Together – Community and sharing*

One fundamental factor of DiDIY has been defined as the Do It Together. This factor refers to a community of individuals, who have in common an interest, a vision and ethical values, who take an active part in the collaborative construction of an ecosystem in which sharing represents a new way of operating and a new attitude. The members of the community are active users and share ideas, knowledge, skills, spaces and tools.

Inside the community people are encouraged to work together in a collaborative model, in which everyone is peer and everybody is on the same level. This allows the creation of a global network of individuals and communities who share problems and issues and grow together.

In this sense sometimes the concept of Do It Together can switch in the Solve it together (SIT) that is the attitude of facing a challenge through the use of collective knowledge and an active and dynamic participation of the community.

In some cases the community is characterized by a set of explicit or tacit guidelines which correspond to the manifesto within which the community identifies itself.

As a member of the community, the individual has to be responsible for his/her actions with regard to the other members and in turn has to be able to trust the knowledge shared internally.

In the community, the presence of an activating element is necessary: this can be a person, a place, an institution. The activator supports constructs and reinforces the relations within the community. One example is the Fab Lab or the figure of the community manager.

Moreover, in order to create a network of communities there is the need of a *digital* and a *physical* hub that connects, facilitates and feeds existing networks of communities and individuals. The network shares knowledge and solutions.

### *Accessibility*

One fundamental factor of the DIY is the possibility of easily accessing technology, knowledge and skills, both online in the virtual world and offline in the real one. Accessibility is understood both as the physical possibility of reaching points of access to technology but also the need to translate the technical and scientific languages to develop empathy and make consulting the contents easier for a vast public of peers, men and women, of different ages.

Accessibility is also translated into a simplification of the normative languages which regulate the use of the shared ideas of the community.



The ease of access to technologies allows individuals and organizations to draw on skills, consequently allowing their growth and the development of determined skills.

Accessibility means also the need of understanding what to do with the resources available, by applying a strategic approach to accessibility.

The individual also, through the practice of DiDIY, has the possibility of accessing personal resources to experiment his/her capacities in order to reinvent him/herself both in professional life and in daily practice.

Even if the information are available online and everybody has access to them, the initiative remains an elitist one, because it is limited only to a certain kind of people, since it is linked to the actual accessibility to facilities and economical resources.

### *Glocality*

One fundamental factor of DiDIY has been defined Glocality. This glocal factor refers to the interrelation between local demands, resources, actions and flows of global skills. The motto is “Think global, act local”.

The reflection originates mainly from the idea that a problem or a need come into being at the level of local community, encouraging the creation and increasing of itself. From a need that originates locally, there is then diffusion as an idea at global level. The force of this element is that it is a local problem (and relative solution) which can be common to different situations in different countries and is shared globally. There is therefore the *reciprocal influence between local and global*.

The local area is seen as a stratifier and as simplifier of contexts. The contents, collected in global virtual places, are initially produced at a local level and resume the needs and the requirements identified locally. These contents are then shared on global virtual supports, without overlooking their local production. In the enormous mass of data, thinking of one’s local reality can guide the choice of the useful ones. For this reason, *the local area becomes a stratifier of the collective knowledge but at the same time a simplifier*. The close bond with the local area allows exploiting the human and material resources of the same, generating benefits for the community.

Other important aspects linked to local and global are: the possibility that a local need is solved by shared skills and multi-channel, or when the contents which are enclosed in a single virtual space, are conceived in multiple local physical spaces (e.g., Fablab, home, park, etc). Local understood as multispatial and Global as a single online container where knowledge is conveyed.

### *System economy*

One fundamental element of DiDIY is defined System Economy where system means a set of elements that are interconnected with one another by reciprocal relations, but which behaves as one. This refers to different elements which contribute to making a project in the DiDIY context sustainable such as: business models, social impact, economic sustainability and planning.

DiDIY, according to the participants, can generate two business approaches: the first is translated into new markets of reference for the world of traditional production, the second creates new models that did not previously exist. The companies that understand their potential have the possibility of exploiting DiDIY to create new hybrid forms of production and communication, working not on the simple use of the tool but at a strategic level. In the second case, the technologies qualify new forms of unforeseen innovation which can also appear on alternative unnamed markets.





As far as economic sustainability is concerned, in addition to the traditional forms of financing, one factor deemed fundamental is the presence of business models based on new logics of gain which put pressure on open and diffused knowledge and on the active participation of communities that process this knowledge (e.g., open source). All this allows the birth of a new currency of exchange which corresponds to values, information, visibility and knowledge.

### *Digital technology*

Digital technology allows the access to production technologies, in order to make the manufacturing process easier and cheaper.

Thanks to digital technology is possible to realize artefacts, also valuable for the human being life, lowering the price and skipping different production steps.

Technology allows to customize products based on human needs.

Digital technology is a mean that allows breaking down frontiers and allowing the spread of an idea or a project to the different local communities spread around the world to solve their local needs, readapting the solutions according to their culture and geographical area of reference

Digital technologies are intended also as social process facilitators. Digital skills are spreading in our society and they need to be guided in order to proper answer to the modernity.

## **8.1.2 Fundamental specific factor of DiDIY for Legal System**

### *Smart Rules*

One fundamental element of DiDIY is the importance of making clear and understandable the legal system. Accessibility to standards must happen in terms of simplicity of comprehension. It's important to ensure new forms of social and shared responsibilities and trustworthiness. The global and local community is enabled by the capability to produce authentic data, protect the generated work and ensure quality thanks to a collective evaluation of the data. This is enable by a shared ethic.

## **8.2 Workshop outcomes for laws, rights and responsibilities**

The information we have collected during the workshops in the DiDIY&Legal System area brought us to identifying concrete outcomes. The outcomes will be described in relationship to the main objectives to be investigated (please refer to section 6.1).

### *Right of ownership and freedoms*

During the workshops the topic of how the recent socio-technical change challenges the validity of a restrictive approach (based on patents, copyrights and dissemination restrictions) has been explored. The workshops highlighted that the main issues regarding laws and regulations lie on awareness and communication. People practising the DiDIY are indeed not aware of the legal implications of their actions and therefore do not have a conscious control of what they share and of the shared material they use. At the same time they often share their innovative ideas, without considering any kind of intellectual property.

The lack of awareness is given by the fact that the laws and regulations are many, complex, difficult to understand and furthermore not properly communicated. This highlights the need of a translation of language for the regulatory system, in order to let people be more aware of what they do, also starting from their personal and specific needs.



On the other hand the freedom of sharing is considered a crucial aspect in the DiDIY practice. The possibility of helping too much creative people to protect their innovative ideas could be seen as a damage of the DiDIY spirit and a damage of the potential of the sharing practice and of the power of collaboration and co-creation. The power of collaboration and co-creation are indeed fundamental pillars of DiDIY. In this perspective it is therefore needed a right balance between protection and the intrinsic spirit of DiDIY, in order to make people aware and conscious of what they do, but at the same time free of sharing and collaborating. In this sense a meaningful connection with experts is a key element.

#### *Open source circular economies*

During the workshops the topic of how open source approach can facilitate the development of new loops for the circular economies hasn't been widely explored. The participants of the workshops indeed decided to focus more on the "Right of ownership and freedom" objective and not to go in deep in the "Open source circular economies" one.



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## **Annex I – Design Tool Collection**

See [http://www.didiy.eu/public/codesign-workshops/annex\\_i\\_desig\\_tool\\_collection.pdf](http://www.didiy.eu/public/codesign-workshops/annex_i_desig_tool_collection.pdf).



## **Annex II – Creative rules**

See [http://www.didiy.eu/public/codesign-workshops/regole\\_della\\_giornata\\_en\\_2-min.pdf](http://www.didiy.eu/public/codesign-workshops/regole_della_giornata_en_2-min.pdf).



## Annex III – Digital Content

Flickr Photo Album: <https://www.flickr.com/photos/147342500@N04/albums>

- Co-design Explorative Workshop on DiDIY – Pilot – Barcelona
- Co-design Explorative Workshop on DiDIY&Education – Milan
- Co-design Generative Workshop on DiDIY&Education – Milan
- Co-design Explorative+Generative Workshop on DiDIY&Education – Barcelona
- Co-design Explorative Workshop on DiDIY&Work&Creative Society – Milan
- Co-design Generative Workshop on DiDIY&Work – Milan
- Co-design Explorative+Generative Workshop on DiDIY&Work – Barcelona
- Co-design Generative Workshop on DiDIY&Creative Society – Milan
- Co-design Explorative+Generative Workshop on DiDIY&Creative Society – Barcelona
- Co-design Explorative Workshop on DiDIY&Law System – Milan
- Co-design Generative Workshop on DiDIY& Law System – Milan