D8.5 SECOND ONLINE SURVEYS

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Executive summary

Deliverable D8.5, Second online surveys, is not formally a report. This document complements the online resources, mainly questionnaires and reports, that are already available and are going to be produced in the context of the activities of Work Package 8 and of other Work Packages.

This is a follow up of D8.3, released in May 20151. It first describes the activity that has been possible to carry on so far, and the corresponding findings. Next, it suggests how to proceed on the same front for the rest of the Project, taking into account that experience.

Revision history			
Version	**Date**	**Created / modified by**	**Comments**
0.0	26/10/15	FKI	First, incomplete draft.
0.1	28/10/15	FKI	Extensions and fixes.
0.2	30/10/15	FKI	Extensions and fixes.
1.0	31/10/15	LIUC	Approved version, submitted to the EC Participant Portal.

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1. Scope and objectives

In general, the surveys of WP8, possibly run in collaboration with other WPs, have been intended with a twofold purpose: (i) they contribute to collection of data about the Digital DIY phenomenon, as interpreted in its two main complementary dimensions of mindset and activity, about how and how much it is practised, or not, in the several components of society; (ii) they support the larger dissemination activity of which they are part.

This document reports the results of a test questionnaire on Digital DIY in SMEs of the crafts and agricultural sectors and proposes some next steps from the related lessons learned.

1.1 Terms and acronyms

WP	Work Package
SME	Small/Medium Enterprise
DIY	Do It Yourself
DiDIY	Digital Do It Yourself
ABC	Atoms-Bits Convergence

2. The pilot survey on Digital DIY in agriculture and crafts

The topic chosen for this survey, which is currently online,[1] is related to Task 8.2 of the Project, which includes the study of, among other things, the *"level of knowledge and usage of DiDIY in EU SMEs, crafts and agriculture sectors"*. With respect to the original formulation, after some analysis the topic has been slightly changed to *"level of knowledge and usage of DiDIY in EU SMEs of the crafts and agriculture sectors"*.

Today, in general, and also taking into account the results of the Survey and Awareness study, the motivation to start with those categories remains valid: *"The interest for such SMEs comes from what is defined in the Project Proposal as "ABC", that is the "widespread availability of digital devices that support the Convergence of physical ("Atoms") and informational ("Bits") components". SMEs completely focused on production of physical objects, as those in crafts and agriculture sectors, could and should experience both the benefits and the challenges brought by the ABC dimension of DiDIY both earlier and more strongly than those, for example, in the tourist, law and other immaterial services sectors, hence the decision to start from them.*

And the same is true, also for similar surveys in other categories, about the initial consideration on who to approach and why: *The study of the level of knowledge of SMEs in the crafts and agricultural sectors can best be done by addressing relevant associations in these sectors. Each country has federations of farmers, associations of craftsmen, etc. These organisations tend to have experts and/or working groups or commissions on technology who will give us an insight in the level of knowledge within that sector. Other targets maybe schools of arts and crafts to find out what is being taught and what is popular among its learners.*

As it will be clear from the next section, however, the way to proceed from now on with this and with similar surveys for WP8 should be modified as described in the rest of this document.

1https://docs.google.com/forms/d/1fqojm0GA9zrwcDLIhqpXZS7Iil-yPfEy2KsfFF0hU9o/viewform?c=0&w=1.

3. Survey-related activities in months 9/10

In the preliminary activities about online surveys, performed in first months of the Project, we prepared the first version of a test survey on Digital DIY in agriculture and crafts, for the reasons explained in the previous section. That survey should have been just a basis, and demo, for a larger scale one on the same topics, to be run in Months 9/10 (September/October 2015) of the Project. Eventually, a slightly simplified and still experimental version of the same survey was published, and is still online.[2] Attempts to contact representatives of other categories, between May and September 2015, in order to prepare similar surveys, did not succeed.

The agriculture and crafts survey has received a really low number of answers. Those answers, however scarce, are briefly commented in the final section of this report. The raw data, with the only exception of the email addresses of those participants who chose to provide them, so to make them anonymous, are attached and will be also published online, as per official Project Policy:[3] "any databases with research data that may be developed during the project will be licensed under a specific open data license".

In parallel with the survey above, we also ran as a related activity the collection of source material and then the preparation of a report about support and awareness of Digital DIY in Europe.[4] Together, the work made for that report, its results, and the direct and indirect feedback received from the surveys activities described above, have provided several indications about how to proceed with surveys. These indications, which will be separately reviewed and discussed in the DiDIY Steering Board, are described in a separate section.

4. General findings

The initial assumptions about WP8 surveys foresaw two classes of respondents:

- *DiDIY flag-bearers*, that is people already actively involved in the maker/hacker communities practising DiDIY, who provide real-world, already working examples of both the mindset and the activity;
- *DiDIY beneficiaries*, including, but are not limited to, associations and federations (rather than their individual members) of farmers, craftsmen, SMEs in other sectors of the economy, but also teacher, students, etc.

The initial plan was to involve, in the preparation of the surveys, in equal measures if at all possible:

- members of the first category, to help make sure that the main points of DiDIY technologies would be presented in the survey, even if only as reference material linked by the survey itself;
- members of the second category, to help us to make sure that also their point of view and practical needs, would be covered.

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2 https://docs.google.com/forms/d/1fqojm0GA9zrwcDLIhqpXZS7Iil-yPfEy2KsfFF0hU9o/viewform?c=0&w=1.

3 http://www.didiy.eu/disclaimer.

4 It is the Deliverable D8.4, due on the same date as this one, whose contents will also be published in the DiDIY result page, http://www.didiy.eu/project/results.

We expected that, during this process, the DiDIY beneficiaries would also gain a good, practical understanding, from their point of view, of the risks and opportunities of DiDIY for their own profession or category. We also expected that, by working with us as co-developers of the survey itself, both categories of respondents would acquire enough knowledge of the overall goals of the Project (and of DiDIY itself, if they needed it) to spread knowledge about it in all their communities, associations and so on, in the most effective way.

Eventually, things turned out differently:

- we did find (very few) DiDIY flag-bearers and digital artisans that gave input about the survey, participated in it and also gave provided more general, valuable inputs about their experiences with Digital DIY, that will be useful for future WP8 activities, and maybe even other areas of the Project;

- but, in spite of repeated contact attempts through several channels, we did not get any answers, about the survey, from the associations and federations of the DiDIY beneficiaries (not just in Agriculture and Crafts).

The feedback (including the *lack of it)* during the survey activities, but also the research work for the "Support and Awareness Report", and from other dissemination activities of the Project, have highlighted both low-level and higher level reasons for this situation.

The low-level result, which in one way was well known since the beginning, but also showed up in unexpected ways, is language differences. Only people speaking English may answer the survey, and this of course was expected. But even receiving answers from the associations and federations of the respondents has proved a hard task, when language barriers were involved.

A higher, and more serious reason for the lack of answers, both to the survey and to invitations (even from *international* associations and federations, that can surely handle requests in English) to prepare them together, has turned out to be the *vastness* and inherent complexity of Digital DIY, which is documented in the "Foundational interpretation" and "Initial Knowledge Framework" deliverables of the Project.[5]

Regardless of how difficult the survey is (that is: number of (mandatory) questions, their wording, and so on), the inherent complexity of the topic makes it really hard to explain to complete newcomers, especially via "quick" online contacts, what a "Digital DIY survey" is about, or what distinguishes it from generic, e.g., "3D printing surveys" and consequently to interest people and organizations to contribute. An indirect confirmation of this problem are the similar difficulties encountered, at the same level, while collecting material for the "Support and Awareness" report.

5. Future WP8 survey activities

The experience in September and October 2015 confirms that, in general and as described in the preliminary report in May 2015, WP8 data collection has to be more *qualitative* than quantitative, which would be not in the scope of that Work Package. Such data, however small in volume, may still give us relevant research insights about the two main complementary dimensions of Digital DIY, mindset and activity, in the several components of society.

The same experience also confirms the other reason acknowledged for these surveys in the preliminary report: in addition to collecting qualitative data, those surveys can and should have the

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5 Both deliverables are available at www.didiy.eu/project/results.

important task to disseminate with their very existence (i.e., regardless of how many qualitative data they collect), awareness about the activities and results of the DiDIY Project, which is the purpose of WP8. Furthermore, it seems possible now that the greatest parts of these contributions may also happen indirectly, rather than through the data themselves.

What seems possible and useful now, as far as WP8 goals are concerned and considering the available resources, the complexity of Digital DIY and the general level of awareness outside the Maker communities, is to proceed as follows:

1. for each category of interest, directly and only search, inside it, a few "flag-bearers" of Digital DIY willing to help the Project;

2. during the same contacts, invite the flag-bearers to describe, in the shortest and simplest way that is possible, their Digital DIY activities, with pictures and/or links to their own work, in guest posts on the DiDIY blog;

3. together with those flag-bearers, prepare simple, purely demonstrative surveys, and have the same flag-bearers take them, with any other respondent that may answer a public invitation, of course;

4. use charts and data from those surveys, together with any guest post obtained in phase 2, as concrete, easy to understand material to officially invite professional associations of the same category, to (i) build together more complete surveys on the same topics, and (ii) above all, promote them among their own associates directly. This, and the fact that those other surveys would surely be co-developed with category representatives, would greatly increase the probabilities to get useful results, and, regardless of the results, to spread the word about the Project, and the possibilities of Digital DIY in general.

The agriculture and crafts survey will remain online, improving it if possible, in order to use its future results in the same way described above. Besides, some Makers contacted for the survey by email or during the Maker Faire Rome, have already committed to provide posts as described in point 2.

Of course, the invitations in point 4 would make very clear that the charts and data have no scientific value, but are only an example of what real research may and should be done together, and of why it would be valuable. It is obvious that such a strategy cannot guarantee results. It is now quite clear, however, from the several WP8 activities of the last months, that such a strategy has sensibly more chances to:

• lead to the publication of real surveys, co-developed with category associations by WP8 and other DiDIY work packages and, even when this doesn't happen;

• disseminate and raise general awareness of the DiDIY Project;

• make us discover, and use for our research, similar surveys that the same category associations may have already run internally but were not visible from the outside because still unpublished, or because of language barriers.

6. Summary and comments from the pilot survey

Besides being accessible online, the questions of the survey are also available in pdf format, attached to this document, together with the anonymised raw data. For the reasons already explained, the results miss any real research value. Some of them, however, still have some interest,

mainly the data that are not directly about specific technologies. It is those questions and answers, in fact, that may be useful either as pointers to future contacts and/or as inputs for other dissemination actions, or better surveys.

The survey has received 14 answers, from the six following EU countries:

Denmark	1
France	1
Ireland	2
Italy	6
Netherlands	2
Spain	2

The geographic distribution of the answers matches relatively closely, with the notable exception of Denmark and Ireland, the same distribution of the members of the DiDIY Project most involved in dissemination.

- Of the 14 respondents, 6 declared their availability for further contacts, to receive updates about the DiDIY project activities.
- The distribution of fields of activity was really varied for such a reduced pool of respondents. The most interesting answers to this question include: furniture, home automation, eyewear, jewellery, agriculture, food processing and carpentry.
- Support from outside the fablab / makers community is not absent, but when it is present in some form, from financing to, especially, training, it comes from the most disparate sources. The answers here go from telcos to "regional department of agriculture".
- The reasons most cited for not already using Digital DIY are "too complicated" and "not usable in my activity", each with three answers.
- Of the 7 participants who did answer the question "Who is the author of the designs you use for your Digital DIY in your activity? (please check all applicable choices)" only one cited "Myself, or my colleagues" as the only author of those designs. All the others answered a combination of "Myself, or my colleague(s), and of "Online Digital DIY communities, or other internet sources".
- 9 out of 14 respondents expressed the wish to learn more, in one way or another, about the legal aspects of reusing community shared designs. Such a high number may be particularly interesting in spite of the extremely small size of the pool. First, when compared with the previous point, that is with the fact that most respondents (also) used designs retrieved online. Second, the 9 out of 14 figure may be interesting exactly because this was a very selected group of people, all already involved, or at least very well aware, of the possibilities of digital DIY, and mostly using it also for work.

Annex 1: Questionnaire

Digital DIY in the crafts and agricultural sectors

This is a PILOT survey, aimed at Small and Medium Enterprises (SMEs in the crafts and agriculture sector) of the Digital Do-It-Yourself Project (DiDIY, www.didiy.eu). In the context of the survey, "Digital DIY" means producing something by themselves, with the help of software, computer and other electric/electronic hardware. This specific survey, which should take less than 10 minutes to complete, is ONLY meant as basis for future ones, as explained in the post www.didiy.eu/blogs/pilot-survey-digital-diy-crafts-and-agriculture, which also includes the privacy policy.
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SECTION 1: DIGITAL DIY GENERAL KNOWLEDGE AND ADOPTION

The purpose of this section is to measure the degree of knowledge about some general concepts, practices and basic technologies commoly used in Digital DIY activities

* Required

1. **Design Sharing and Mutual Support** *
   Are you aware of people sharing their DIY designs and knowledge so others can replicate, make and adapt them, and supporting each other in their DIY activities?
   Mark only one oval.

   ◯ Yes

   ◯ No

2. **Licensing** *
   Do you know about open and free licenses that allow legal sharing, improvement and redistribution of designs of all kinds of goods, from software to physical objects?
   Mark only one oval.

   ◯ Yes

   ◯ No

3. **Digital DIY Technologies**
which of these Digital DIY technologies do you already know and use, either personally, or in your work?
Mark only one oval per row.

	Unknown	Known, but not used for work	Occasionally used for work	Regularly used for work
3D printing	◯	◯	◯	◯
CNC (Computer Numerically Controlled) manufacturing	◯	◯	◯	◯
Laser cutting or engraving	◯	◯	◯	◯
Computer-assisted weaving or knitting	◯	◯	◯	◯
Computer assisted fabric cutting and/or stitching	◯	◯	◯	◯
Software-based fabric design	◯	◯	◯	◯
Composition of music with computers and/or other digital instruments	◯	◯	◯	◯
FPGA design	◯	◯	◯	◯
Sensors (to monitor temperature, humidity, motion, etc)	◯	◯	◯	◯
Seed planting	◯	◯	◯	◯

4. **Other Digital DIY technologies**
If you (also) know or use Digital DIY technologies
not explicitly mentioned in the previous question,
please write their names here

....

5. **Digital DIY Tools**
which of these Digital DIY tools or technologies do you already know?
Mark only one oval per row.

	Unknown	Known, but not used for work	Occasionally used for work	Regularly used for work
Microcontrollers (e.g. Arduino)	◯	◯	◯	◯
Single-board microcomputers (e.g. Raspberry Pi)	◯	◯	◯	◯
Electronic sensors	◯	◯	◯	◯
FPGAs	◯	◯	◯	◯
3D printer	◯	◯	◯	◯
CNC wood working machine	◯	◯	◯	◯
CNC metal working machine	◯	◯	◯	◯
Knitting machine	◯	◯	◯	◯
Computerized loom	◯	◯	◯	◯
fabric design software	◯	◯	◯	◯
website management software	◯	◯	◯	◯
music composition software	◯	◯	◯	◯
Seed Planting machines (e.g. Farmbot)	◯	◯	◯	◯

6. **Other Digital DIY tools**
   If you (also) know or use Digital DIY tools not
   explicitly mentioned in the previous question,
   please write their names here

   ....

7. **Digital DIY Communities**
   which of these Digital DIY communities do you participate in, or already know? (please select one
   answer per row)
   Mark only one oval per row.

	Don't know	Know, but never participated	Occasional participant	Regular participant
Thingiverse	◯	◯	◯	◯
Instructables	◯	◯	◯	◯
OpenCores.org	◯	◯	◯	◯
Opendesk	◯	◯	◯	◯
AtFAB	◯	◯	◯	◯
Farmhack	◯	◯	◯	◯
Appropedia	◯	◯	◯	◯
WikiHouse	◯	◯	◯	◯
Open Source Ecology	◯	◯	◯	◯

8. **Other Digital DIY Communities**
   If you (also) know and/or participate in other
   Digital DIY communities, please write here their
   names explicitly mentioned in the previous
   question, please write their names here

   ....

Section 2: Digital DIY Usage and Barriers
The purpose of this section is to investigate how Digital DIY is used in small/medium enterprises in the
craft and agriculture sectors, and what are the biggest barriers to its adoption when this does not happen

9. **Do you already practice Digital DIY in your activity? ***
   Mark only one oval.

   ◯ Yes

   ◯ No   *Skip to question 13.*

Section 2a: Digital DIY Usage
This section of the survey, for SMEs that already practice Digital DIY in their activities, aims to find out
how and why this happens

10. **Digital DIY use cases: ***
   How do you use or have used, in your SME, the Digital DIY technologies, tools and communities
   mentioned in the previous questions? (please check all applicable choices)
   Check all that apply.

   ☐ Building prototypes

   ☐ Regular production

   ☐ Special, on-demand orders

   ☐ Production of repair parts

   ☐ Energy production

   ☐ Other: ....

11. **Digital DIY initial obstacles** *

What were the biggest issues when you started using Digital DIY for your work?
Check all that apply.

☐ Finding the necessary information (suppliers, documentation...)

☐ Receive the proper training

☐ Cost of equipment

☐ Bureaucracy

☐ Legal/regulation issues (fear of copyright/patent violations, need for extra insurance, etc: open question)

☐ Other: ....

12. **Design sources** *

Who is the author of the designs you use for your Digital DIY in your activity? (please check all applicable choices)
Check all that apply.

☐ Myself, or my colleague(s)

☐ Hired consultants

☐ Online Digital DIY communities, or other internet sources

☐ Other: ....

Skip to question 18.

Section 2b: Digital DIY Barriers

Please answer these questions if you have not used any Digital DIY technique in your activity yet

13. **Digital DIY lack of adoption** *

What is the main reason why you have not used yet Digital DIY in your SME?
Check all that apply.

☐ Did not know about it at all

☐ Too expensive

☐ Too complicate

☐ Not needed

☐ Not usable in my activity

☐ Legal, regulation and/or bureaucratic issues

☐ Other: ....

14. **Digital DIY FUTURE adoption 1** *

Do you plan to start using any Digital DIY technology for your activity within the next year?
Mark only one oval.

◯ Yes   *Skip to question 15.*

◯ No   *Skip to question 16.*

Future adoption of Digital DIY technologies: YES

(this question must be answered only if you answered YES to the question "Do you plan to start using any Digital DIY technology within the next year?"

15. **Digital DIY technologies to be evaluated and possibly adopted** *

Which of these Digital DIY technologies do you plan to evaluate and possibly adopt for your activity within the next year? (please check all the applicable choices)
Check all that apply.

- ☐ 3D printing
- ☐ CNC (Computer Numerically Controlled) manufacturing
- ☐ Laser cutting
- ☐ Laser engraving
- ☐ Computer assisted weaving
- ☐ Computer assisted knitting
- ☐ Computer assisted fabric cutting and/or stitching
- ☐ Software-based fabric design
- ☐ Installation and management of websites
- ☐ Composition of music with computers and/or other digital instruments
- ☐ FPGA design
- ☐ Sensors (to monitor temperature, humidity, motion, etc)
- ☐ Seed Planting
- ☐ Precision agriculture
- ☐ Other: ....

Skip to question 18.

Future adoption of Digital DIY technologies: NO

(this question must be answered only if you answered NO to the question "Do you plan to start using any Digital DIY technology within the next year?"

16. **Future adoption of Digital DIY technologies: NO** *

What is the MAIN reason why you do NOT plan to evaluate/adopt any Digital DIY technology in the next year?
Check all that apply.

- ☐ Too expensive
- ☐ Too complicate
- ☐ Not needed
- ☐ Not usable in my activity
- ☐ Legal, regulation and/or other bureaucratic issues
- ☐ Other: ....

17. **Legal/regulation challenges**

What legal/regulation aspects would you consider as possible challenges? Fear of copyright/patent violations, need for extra insurance or certification, etc

....

Section 3: Digital DIY support and training

The purpose of this section is to investigate the amount of support that SMEs using, or evaluating, Digital DIY for their activity receive by their own sector associations and similar organizations (Chambers of Commerce, etc)

18. **Institutional Support**
Do these institutions support Digital DIY in your area, by providing information, financing, consulting services...
Mark only one oval per row.

	Yes, regularly	Yes, occasionally	Yes, on demand	No	I don't know
Category/Professional Association	◯	◯	◯	◯	◯
Chamber of Commerce	◯	◯	◯	◯	◯
Local (i.e. region or lower level) Administration	◯	◯	◯	◯	◯
Banks or other financial services institutions	◯	◯	◯	◯	◯
Other	◯	◯	◯	◯	◯

19. **Other institutions providing Digital DIY support**
If you answered "Other" in the previous question, please write here which other institutions provide Digital DIY support in your area and sector of activity

....

20. **Training**
Which of these institutions provide training programs about Digital DIY in your activity?
Mark only one oval per row.

	Yes, periodically	Yes, occasionally	Yes, on demand	No	I don't know
Category/Professional Association	◯	◯	◯	◯	◯
Chamber of Commerce	◯	◯	◯	◯	◯
Local (i.e. region or lower level) Administration	◯	◯	◯	◯	◯
Other (please specify it in the next question)	◯	◯	◯	◯	◯

21. **Other institutions providing Digital DIY training**
If you answered "Other" in the previous question, please write here which other institutions provide Digital DIY training in your area and sector of activity

....

Section 4: General question and future contacts with the DiDIY project

This is the last section of the survey. Its purpose is to know what is your field of activity and country, and if you are interested in staying in touch with the DiDIY Project

22. **Country** *

Please indicate in which country your SME is based

Mark only one oval.

○ Austria

○ Belgium

○ Bulgaria

○ Croatia

○ Cyprus

○ Czech Republic

○ Denmark

○ Estonia

○ Finland

○ France

○ Germany

○ Greece

○ Hungary

○ Ireland

○ Italy

○ Latvia

○ Lithuania

○ Luxembourg

○ Malta

○ Netherlands

○ Poland

○ Portugal

○ Romania

○ Slovakia

○ Slovenia

○ Spain

○ Sweden

○ United Kingdom

○ Albania

○ Iceland

○ Montenegro

○ Serbia

○ The former Yugoslav Republic of Macedonia

○ Turkey

○ Bosnia and Herzegovina

○ Kosovo

○ NON-EU country

23. **What is your field of activity?** *
(check all that apply)
Check all that apply.

☐ Furniture

☐ Plumbing

☐ Carpentry

☐ Blacksmithing

☐ Landscaping

☐ Clothing

☐ Cookware

☐ Landscaping

☐ Gardening

☐ Agriculture

☐ Jewelry

☐ Food processing

☐ Microelectronics

☐ Home automation

☐ Music production

☐ Theater

☐ Movie production

☐ Other: ....

24. **Reusability of Digital DIY designs**
Would you be interested to learn more about the legal aspects of reusing community shared designs? (if you answer Yes, please DO provide an email address in the next question!)
Mark only one oval.

○ Yes

○ No

25. **Digital DIY project**
Would you like to learn more about Digital DIY and be kept up to date through a low-frequency email notification? If yes, please enter your email address here

....

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Annex 2: Raw data obtained by the questionnaire

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########################################################################################################
==>   0      Design Sharing and Mutual Support
      0                                                                              No      1
      0                                                                              Yes    13


########################################################################################################
==>   1      Licensing
      1                                                                              No      3
      1                                                                              Yes    11


########################################################################################################
==>   2      Digital DIY Technologies [3D printing]
      2                                                    Known, but not used for work      6
      2                                                       Regularly used for work        5
      2                                                     Occasionally used for work       3


########################################################################################################
==>   3      Digital DIY Technologies [CNC (Computer Numerically Controlled) manufacturing]
      3                                                     Occasionally used for work       4
      3                                                        Regularly used for work       1
      3                                                    Known, but not used for work      9


########################################################################################################
==>   4      Digital DIY Technologies [Laser cutting or engraving]
      4                                                     Occasionally used for work       4
      4                                                        Regularly used for work       2
      4                                                    Known, but not used for work      8


########################################################################################################
==>   5      Digital DIY Technologies [Computer-assisted weaving or knitting]
      5                                                    Known, but not used for work      7
      5                                                                        Unknown       5
      5                                                     Occasionally used for work       2


########################################################################################################
==>   6      Digital DIY Technologies [Computer assisted fabric cutting and/or stitching]
      6                                                    Known, but not used for work      7
      6                                                                        Unknown       5
      6                                                     Occasionally used for work       2


########################################################################################################
==>   7      Digital DIY Technologies [Software-based fabric design]
      7                                                    Known, but not used for work     12
      7                                                                        Unknown       2


########################################################################################################
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==>   8        Digital DIY Technologies [Composition of music with computers and/or other digital instruments]
      8                                                            Known, but not used for work        7
      8                                                            Occasionally used for work          4
      8                                                                                Unknown         3


#####################################################################################################################
==>   9        Digital DIY Technologies [FPGA design]
      9                                                            Known, but not used for work        2
      9                                                            Occasionally used for work          1
      9                                                                                Unknown        11


#####################################################################################################################
==>  10        Digital DIY Technologies [Sensors (to monitor temperature, humidity, motion, etc)]
     10                                                            Occasionally used for work          7
     10                                                                                Unknown         1
     10                                                            Known, but not used for work        5
     10                                                            Regularly used for work             1


#####################################################################################################################
==>  11        Digital DIY Technologies [Seed planting]
     11                                                            Regularly used for work             1
     11                                                            Known, but not used for work        5
     11                                                                                Unknown         8


#####################################################################################################################
==>  12        Other Digital DIY technologies
     12                                                            connected security webcam           1
     12                                                 Farmbot.io opensourceecology.org               1


#####################################################################################################################
==>  13        Digital DIY Tools [Microcontrollers (e.g. Arduino)]
     13                                                            Regularly used for work             3
     13                                                    Known, but  not used for work               7
     13                                                                                Unknown         1
     13                                                            Occasionally used for work          3


#####################################################################################################################
==>  14        Digital DIY Tools [Single-board microcomputers (e.g. Raspberry Pi)]
     14                                                            Occasionally used for work          3
     14                                                                                Unknown         1
     14                                                    Known, but  not used for work               9
     14                                                            Regularly used for work             1


#####################################################################################################################
==>  15        Digital DIY Tools [Electronic sensors]
     15                                                    Known, but  not used for work               6
     15                                                                                Unknown         1
```

```
                                                                   Occasionally used for work          4
         15                                                          Regularly used for work          3


#########################################################################################################
==>  16        Digital DIY Tools [FPGAs]
         16                                                                       Unknown         10
         16                                                Known, but  not used for work          2
         16                                                   Occasionally used for work          2


#########################################################################################################
==>  17        Digital DIY Tools [3D printer]
         17                                                Known, but  not used for work          6
         17                                                   Occasionally used for work          3
         17                                                     Regularly used for work          5


#########################################################################################################
==>  18        Digital DIY Tools [CNC wood working machine]
         18                                                   Occasionally used for work          5
         18                                                Known, but  not used for work          8
         18                                                     Regularly used for work          1


#########################################################################################################
==>  19        Digital DIY Tools [CNC metal working machine]
         19                                                   Occasionally used for work          4
         19                                                Known, but  not used for work          9
         19                                                     Regularly used for work          1


#########################################################################################################
==>  20        Digital DIY Tools [Knitting machine]
         20                                                                       Unknown          5
         20                                                Known, but  not used for work          9


#########################################################################################################
==>  21        Digital DIY Tools [Computerized loom]
         21                                                                       Unknown          8
         21                                                Known, but  not used for work          6


#########################################################################################################
==>  22        Digital DIY Tools [ fabric design software]
         22                                                     Regularly used for work          1
         22                                                                       Unknown          5
         22                                                Known, but  not used for work          8


#########################################################################################################
==>  23        Digital DIY Tools [website management software]
         23                                                   Occasionally used for work          5
         23                                                Known, but  not used for work          5
```

```
        23                                                    Regularly used for work        4


############################################################################################################
==>  24        Digital DIY Tools [music composition software]
        24                                                 Occasionally used for work        3
        24                                           Known, but  not used for work        7
        24                                                            Unknown        4


############################################################################################################
==>  25        Digital DIY Tools [Seed Planting machines (e.g. Farmbot)]
        25                                           Known, but  not used for work        6
        25                                                            Unknown        8


############################################################################################################
==>  26        Other Digital DIY tools
        26                                                       midi controler        1
        26                                                   UV print with lef20        1
        26                                       Farmbot.io opensourceecology.org        1


############################################################################################################
==>  27        Digital DIY Communities [Thingiverse]
        27                                                          Don't know        6
        27                                          Know, but never participated        2
        27                                                  Regular participant        1
        27                                               Occasional participant        5


############################################################################################################
==>  28        Digital DIY Communities [Instructables]
        28                                               Occasional participant        6
        28                                                          Don't know        4
        28                                          Know, but never participated        4


############################################################################################################
==>  29        Digital DIY Communities [OpenCores.org]
        29                                                          Don't know       12
        29                                          Know, but never participated        2


############################################################################################################
==>  30        Digital DIY Communities [Opendesk]
        30                                          Know, but never participated        4
        30                                                          Don't know       10


############################################################################################################
==>  31        Digital DIY Communities [AtFAB ]
        31                                          Know, but never participated        1
        31                                                          Don't know       13
```

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################################################################################################
==>  32       Digital DIY Communities [Farmhack]
     32                                              Know, but never participated       3
     32                                                          Don't know            11

################################################################################################
==>  33       Digital DIY Communities [Appropedia]
     33                                              Know, but never participated       1
     33                                                          Don't know            12
     33                                                    Occasional participant       1

################################################################################################
==>  34       Digital DIY Communities [WikiHouse]
     34                                              Know, but never participated       4
     34                                                          Don't know            10

################################################################################################
==>  35       Digital DIY Communities [Open Source Ecology]
     35                                                    Occasional participant       1
     35                                              Know, but never participated       4
     35                                                          Don't know             9

################################################################################################
==>  36       Other Digital DIY Communities
     36                                                               shapeways         1

################################################################################################
==>  37       Do you already practice Digital DIY in your activity?
     37                                                                   No            7
     37                                                                   Yes           7

################################################################################################
==>  38       Digital DIY use cases:
     38                                                        Building prototypes       3
     38           Building prototypes, Regular production, Special, on-demand orders, Production of repair parts       2
     38                                                  Special, on-demand orders      1
     38                     Building prototypes, Special, on-demand orders, Production of repair parts       1

################################################################################################
==>  39       Digital DIY initial obstacles
     39       Bureaucracy, Legal/regulation issues (fear of copyright/patent violations, need for extra insurance,       1
     39       Finding the necessary information (suppliers, documentation...), Legal/regulation issues (fear of co       1
     39                                                        time constraints        1
     39                                     Receive the proper training, Cost of equipment       2
     39            Finding the necessary information (suppliers, documentation...), Receive the proper training       2

################################################################################################
```

```
==> 40        Design sources
    40                         Myself, or my colleague(s), Online Digital DIY communities, or other internet sources        6
    40                                                                                     Myself, or my colleague(s)        1


#########################################################################################################################
==> 41        Digital DIY lack of adoption
    41                                                                                              lack of skills        1
    41                                                              too complex compared with the use that I will do        1
    41                                                              Too expensive, Too complicate, to time consuming        1
    41                                                                 Did not know about it at all, Too complicate        1
    41                                                                                     Not usable in my activity        3


#########################################################################################################################
==> 42        Digital DIY FUTURE adoption 1
    42                                                                                                          No        3
    42                                                                                                         Yes        4


#########################################################################################################################
==> 43        Digital DIY technologies to be evaluated and possibly adopted
    43        CNC (Computer Numerically Controlled) manufacturing, Computer assisted fabric cutting and/or stitchi        1
    43                                                     CNC (Computer Numerically Controlled) manufacturing        1
    43        CNC (Computer Numerically Controlled) manufacturing, Laser cutting, Laser engraving, Installation an        1
    43        3D printing, CNC (Computer Numerically Controlled) manufacturing, Sensors (to monitor temperature, h        1


#########################################################################################################################
==> 44        Future adoption of Digital DIY technologies: NO
    44                                                                                 Not usable in my activity        2
    44                                                                           Too expensive, Too complicate        1


#########################################################################################################################
==> 45        Legal/regulation challenges

#########################################################################################################################
==> 46        Institutional Support [Category/Professional Association]
    46                                                                                                          No        4
    46                                                                                            Yes, regularly        1
    46                                                                                              I don't know        5
    46                                                                                         Yes, occasionally        4


#########################################################################################################################
==> 47        Institutional Support [Chamber of Commerce]
    47                                                                                            Yes, on demand        1
    47                                                                                              I don't know        3
    47                                                                                         Yes, occasionally        2
    47                                                                                                          No        8


#########################################################################################################################
```

```
==>  48      Institutional Support [Local (i.e. region or lower level) Administration]
     48                                                                             No        6
     48                                                          Yes, occasionally             2
     48                                                               I don't know             6


###################################################################################################
==>  49      Institutional Support [Banks or other financial services institutions]
     49                                                          Yes, occasionally             2
     49                                                               I don't know             5
     49                                                                             No        7


###################################################################################################
==>  50      Institutional Support [Other]
     50                                                                             No        2
     50                                                          Yes, occasionally             1
     50                                                               I don't know            10


###################################################################################################
==>  51      Other institutions providing Digital DIY support
     51                                                    WeCreate FabLab Ireland             1
     51                private organisations and individuals, schools, universities, telcos    1


###################################################################################################
==>  52      Training [Category/Professional Association]
     52                                                                             No        4
     52                                                          Yes, occasionally             5
     52                                                               I don't know             4
     52                                                             Yes, on demand             1


###################################################################################################
==>  53      Training [Chamber of Commerce]
     53                                                          Yes, occasionally             2
     53                                                               I don't know             3
     53                                                                             No        9


###################################################################################################
==>  54      Training [Local (i.e. region or lower level) Administration]
     54                                                                             No        8
     54                                                               I don't know             4
     54                                                          Yes, occasionally             2


###################################################################################################
==>  55      Training [Other (please specify it in the next question)]
     55                                                          Yes, periodically             1
     55                                                                             No        3
     55                                                               I don't know             7
     55                                                          Yes, occasionally             2
```

```
      55                                                          Yes, on demand        1


################################################################################################
==>  56        Other institutions providing Digital DIY training
      56                                                                  IAL Udine        1
      56                                                  WeCreate and Fab Lab SAUL        1
      56                                   schools and universities, private organisations        1
      56                                          Regional Agricultural Department.        1
      56                                  youtube.com/startupfood (DIY startup advice)        1


################################################################################################
==>  57        Country
      57                                                               Netherlands        2
      57                                                                     Spain        2
      57                                                                    France        1
      57                                                                   Denmark        1
      57                                                                     Italy        6
      57                                                                   Ireland        2


################################################################################################
==>  58        What is your field of activity?
      58                          research & development, exploration & production of knowledge        1
      58                                                                 Furniture        2
      58                                             Home automation, 3d printing        1
      58                                                                   advisor        1
      58                                                                   eyewear        1
      58                                                                   Jewelry        1
      58                                          Agriculture, Food processing        2
      58                                     Microelectronics, Home automation        1
      58                          Carpentry, Music production, accordion repair        1
      58                                                  Research and Innovation        1
      58                              Microelectronics, Personal Transportation        1
      58                                                               Agriculture        1


################################################################################################
==>  59        Reusability of Digital DIY designs
      59                                                                        No        5
      59                                                                       Yes        9


################################################################################################
```