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TRACK 1

DESIGN AND HUMANITIES: A DISCIPLINARY COMPARISON

Design is a human discipline par excellence and its “human” dimension is capable of spreading, with sensibility and responsibility, onto practices and processes. Humanities, which are “transdisciplinary” by vocation, research into the human abilities of creativity and inventiveness in order to understand the meaning of social action, to interpret it and, if possible, to direct it. This synergy may become a tool for disciplinary innovation with consequences for research and training. This section seeks to explore the way in which the processes of the two disciplinary fields renew themselves through this interchange and, thus, gain new theoretical, operational and diffusing devices.

Self-production: a human centered design process

The sustainable future of self-production through a humanistic and participatory process

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ABSTRACT

Self-production is a human-centred design process, which shows how design is moving towards the management of the entire process (design, production, distribution, communication) rather than focusing exclusively on the final product.

Humanities can support self-production not only upstream, as a source of inspiration for mindful projects, but also throughout the process to manage the user involvement in practices of participatory design, as well as downstream, for designing the distribution and the communication of a product in an anthropocentric way.

KEYWORDS

Self-production, human-centred design, participatory design, sustainability

PAPER

Introduction

This paper focuses on self-production, a human centred design process in which the designer manages the entire process (design, production, distribution, communication). Self-production will be investigated in its various facets, from hand-crafted design to digital making.

The aim is to assess the concept of sustainability applied to self-production, i.e. a zero kilometre industrial process tailored to local or personal needs. From this perspective, self-production is considered as a production model which can satisfy the demand for sustainable, flexible, customized, and local productions on demand.

Some case studies worldwide (especially in Northern Europe, Brazil and Italy) draw an International scene from which it emerges the need for a platform of services to boost selfproduction. It seems necessary to support the meeting between designers and other different actors of the process towards innovative and sustainable businesses. The platform is intended to become a laboratory for innovation, education, research applied to industry, as well as promotion in the field of self-production, contributing to the sustainable development of a territory.

Self-production

For a good comprehension of this paper research theme, it is important to define its major focus, that is the meaning of self-production. This consists of:

- the work of designers who manage the entire design process, from design to production, distribution and communication. In self-production, the “know-how”, the technological testing and the direct control over the overall product system are the key factors.

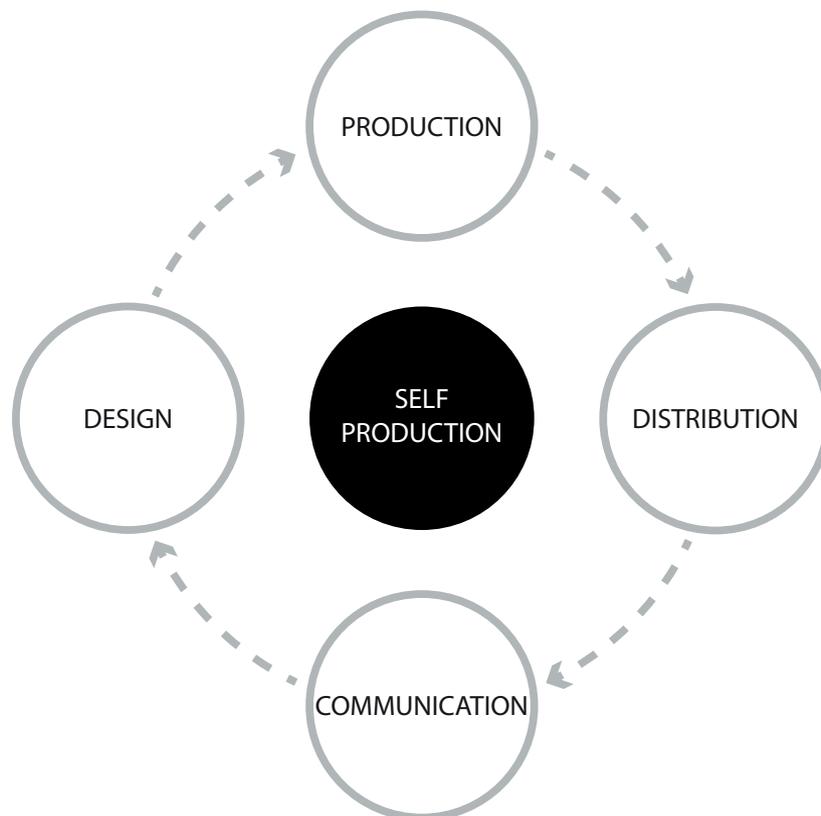


FIG.1: Self-production influences the entire process, from design to production, to distribution and communication.

- an activity aimed at affirming the autonomy of designers, the first step towards self-managed production, between craftsmanship and small series. The figures of artisan-designer or small entrepreneur-designer arise within these boundaries (Pasca, 2001).

- sometimes, this approach is considered as a failure, an expedient for those who have lost the possibility of cooperating with firms. It coincides with a self-promotion strategy, through which designers try to come into contact with factories, hoping to start collaborating with them.

- a human centred design process. In a company responsibilities are divided among several professionals whose aim is usually selling their products. On the other hand, in a self-production process everything revolves around the designer’s humanity, and for this reason it is more likely

that self-producers follow their own design passions rather than commercial issues. From this point of view, self-production can also be defined as “authorial design” (Maccarrone, 2011), since it results from a process strongly characterized by simplicity and near to ready-made, reuse and recycle, hand-made by the author, who is an advanced craftsman (Micelli, 2012).

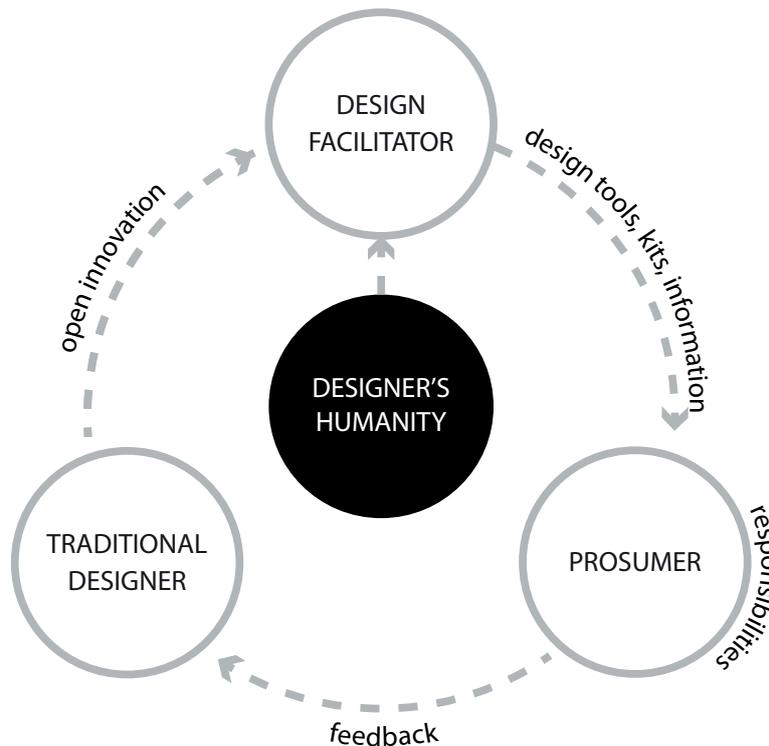


FIG.2: Self-production is a human centred design process. The traditional figure of designer is becoming the one of a facilitator who provides prosumers with tools, toolkits and information to self-produce their own objects. Prosumers provide designers with useful feedback for the development of the project.

Origins of self-production

In order to understand the self-production process and its relations with humanities, it is important to briefly refer the origins of this approach, in relation to the economic and productive models developed along the two centuries after the Industrial Revolution.

Self-production seems to have sprung as an evolution of crafts (know-how), a reaction to mass production (to create limited edition objects) and as a catalyst for instances of mass customization (diversified series) (Boradkar, 2010).

The first self-production attempts can be found in technological experiments in the 20s and 30s of the twentieth century (Pasca, 2001), when architects like Alvar Aalto, Jean Prouvè, Charles and Ray Eames tested new materials and technologies (plywood, electric welding, three-dimensional shaping of the wood). After the World War II, governments and residential institutions began to actively involve users in domestic reconstruction works (Peruccio, 2005). In the 90s in London, especially in the Chelsea neighbourhood, the “Arts & Crafts Council funded

many “craft” projects by young British designers “with a strong inclination towards experimentation, probably derived from the teaching method of Germanic Anglo Saxon style” (Ferrara, 2011). In this context, the so-called “Brit New Wave” arose, thanks to designers (Tom Dixon, Sebastian Bergne, the Inflate and others) who established their own studio/workshops, dealing with design, production and selling of their products with a handcraft taste, marked by their imperfection, uniqueness, local identity. As a reaction to the spread of virtualization in the overall design processes, and to homogeneity of the industrial products in the era of globalization, designers (Satyendra Pakhalè, the Campana brothers) have begun to reaffirm their manual skills, creating small handmade productive series. In this post-Fordist phase, design became close to the New Handicraft, which laid the foundations of a culture based on diversity and personalization. Recently, self-production is becoming a real strategy of self-promotion young designers choose to enter the International design scene. Self-production is therefore getting more and more diffuse worldwide, due to many promotional events (mainly, the Milan Design Week and its Salone Satellite, 100% Design London, DMY Berlin, Designboom Marts, Opera, Open Design Italia).

In the current context, self-production has contributed to the process of “democratization” of design (Von Hippel, 2005), placing the man at the centre of the project. This is the case of “digital making”, which is the automated fabrication of products made or customized by users through complex, but accessible technologies (e.g. Elephant Design, Arduino, FabLab, etc.). Nowadays, through many design portals (Nomade Design, Garage Design, Re-Urban, Vectorealism) selfproduction addresses demands of personalization which invests the production, the roles of design and the real needs of consumers. Designers act as facilitators of the design process, by allowing end-users to interact with a provided toolkit to self-produce their own objects (cf. Do-It-Yourself).

Transdisciplinary process

In the third industrial revolution era, self-producers act as “mediation between areas of knowledge” (Celaschi, 2008), as a bridge between craftsmanship and industry, able to interact with diverse figures throughout the design process. In a self-production process, designer may become art director leading the craft production process to develop mindful projects. By using local technologies, human and material resources, selfproducers can add value to their projects. This way, it is possible to develop, for instance, products whose production process implies a good deal of manual intervention or that integrates handmade components whining their industrial production (Buccheri, 2008).

The role of humanities in self-production

As previously mentioned, the development of self-production is closely interwoven not only with technological aspects, but also with social ones.

A self-producer designer, due to its craft background, draws on humanities (such as anthropology, sociology, history) in order to read the cultural, social, aesthetic and material background of a territory. Human and social sciences can provide critical instruments to read and map a territory through trans-disciplinary techniques, such as ethnographical research or

“persona analysis”, with the purpose of identifying the cultural specificities to be enhanced in a process of local selfproduction.

Humanities can support self-production not only upstream, as a source of inspiration for mindful projects, but also throughout the process to manage the user involvement in practices of participatory design, as well as downstream, for designing the distribution and the communication of a product in an anthropocentric way.

Adopting a humanistic approach it is useful to add value and quality to artefacts, places, services and relations. In fact, humanities may support designers to understand diversities, which should be interpreted as a cultural value to be protected in order to enhance and strengthen the social and cultural identity of a territory.

Systemic design, for instance, can trigger relations among diverse territorial resources, mediate among diversities (in terms of material and human resources) and enhance the local identities of a territory.

Such a process based on the interrelations between humanities and design would lead to an approach with a high cultural and social content, fostering social, beyond technological, innovation. The result can be, from time to time, either anonymous design (the collective self-production process led by creative communities), or authorial design (in which the designer/author interprets and marks with his unique manual act the social and cultural specificities discovered).

The humanist designer becomes, therefore, a valid reaction to the expressive homogeneity of design in the current era of globalization. By rediscovering and interpreting the territorial resources, the self-producer designer will probably provide the opportunity to enhance some local identities, and afterwards connect them with global markets.

From product design to process design

In a self-production process the designer focuses on the entire process of project development, aiming at ethics and shared sustainability.

Relevant to clarify this phenomenon is the work of Mischer-Traxler, two young Austrian designers who developed the project “The Idea of a Tree”. This is a self-sufficient production process which combines a natural energy (the sun) with a mechanical process. The result of the process is an infinite variety of unique items which, exactly like a tree, reflect the diverse sunlight intensities registered in the precise moment in which the object was produced. According to the environmental conditions in which the process takes place, the objects (bench, lamp, cupboard and some containers) can vary in their height, colour and thickness. This is an industrial production process, although strongly influenced by the climatic features of the production environment.

The same focus on the overall design process counts also for those self-producers who show a renewed interest in the lost manual skills, thus also in the intelligence and innovation capability of those who make things by their hands. The rediscovery of the practice of makers springs not just from the pleasure of managing an own business, freely from industrial constraints. The future success of self-production may result from the satisfaction that young designers draw from managing the entire process until production and distribution of their products. This is a

more challenging, but demanding practice that, focusing on manual skills and direct testing on materials, can become a valuable way to address the need of creativity of young designers and advanced craftsmen (Micelli, 2011).

From self-production to co-production

It is interesting to note that nowadays the designer, who has already undertaken the production process in the self-production approach, tends to share it with the user. Hence, we are moving from self-production towards co-production and the consumer seems to be rather a co-designer. In this scenario, self-production is being developed with diverse approaches. It can be the case of designers who provide the end-user – here evolved as “prosumer” (Toffler, 1980) – with tool, toolkit and design guidelines to produce objects by his/her hands: that is “do-it-yourself for yourself” (Rosso, 2011). On the other hand, the designer can adopt rapid prototyping technologies to mass-customize objects according to user’s demands, like in cases of “do-it-yourself for someone else” (Rosso, 2011). From this perspective, end-users are invested with large responsibilities and designers have to reflect on the sustainability of self-production. The real demand of a product, the selection of best materials for each component, the design of product components and product maintaining and the analysis of the entire product life cycle are fundamental features to be analysed.

Case studies

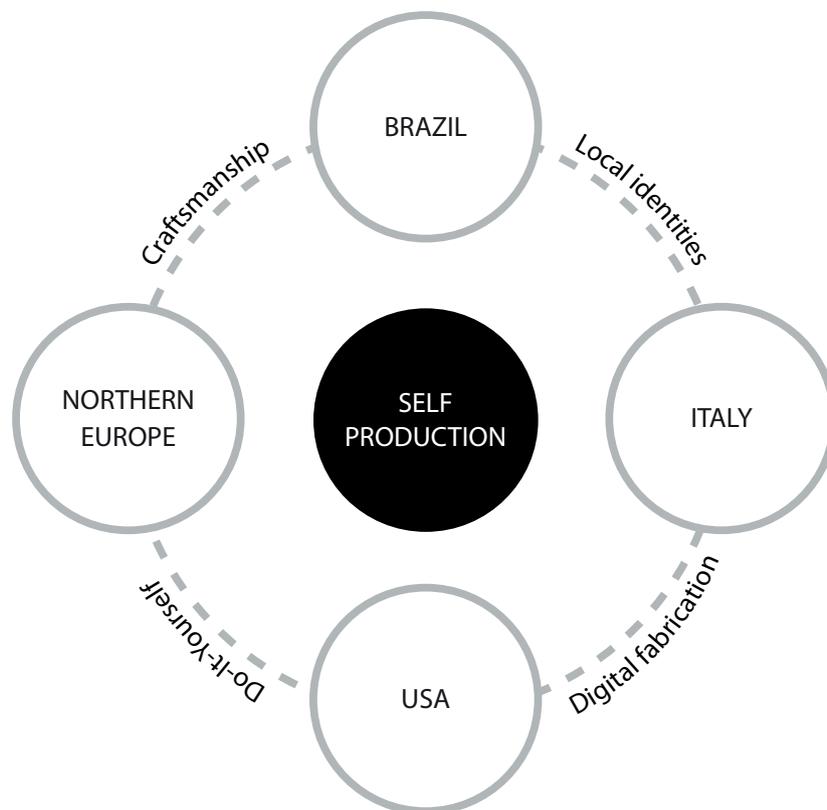


FIG. 3: Case studies of self-production in USA, Northern Europe, Brazil and Italy, among craftsmanship, local identities, digital fabrication and do-it-yourself experiences.

The theoretical analysis drawn up to now lays the foundations of a series of case studies of self-production worldwide, especially in the Netherlands, Brazil and Italy, which are very different, but at the same time equally exemplary approaches to self-production.

In particular, the Dutch environment is one where self-production has risen for first, within the overall Arts & Crafts movement coming from Northern Europe. Dutch design has developed an advanced approach to self-production: the designer makes use of complex digital fabrication techniques and is supported – in his self-production experiments – by private and public collective institutions (cf. Droog Design, Moooi, Connecting the Dots).

In Eindhoven, Dirk Vander Kooij has developed the “Endless Robot”, a computer-driven robot which can produce an endless series of unique items (chairs and tables). By changing some code lines of the software or the master in the compound in granules within the extruder it is possible to radically modify the final product, for instance in terms of colour, size or shape. This system is a production process on demand, which allows to produce the right amount of items required and with the specific characteristics defined by consumers. The possibility to deliver digital files all over the world and then produce the object locally makes the process dynamic, sharable, and sustainable (drastically reducing the shipping costs and reusing components from wasted fridges as input material for the extruder).

Within this advanced approach to self-production, it is interesting to mention also the Do-it-yourself experiences coming from the USA and Northern Europe. Designers act as enablers of self-construction processes of objects made by users (such as the International cases of Nervous System, Ponoko, Spreadshirt, Thingiverse, etc.).

On a opposite but equally exemplary front, in Brazil self-production is often linked to craftsmanship to preserve local traditions and identities. The designs by the Campana brothers, Sergio Rodrigues, Pedro Franco, Paula Dib are the reflection of a young, but booming country, which receives and reinterprets the influences of the International culture of design. There, selfproduction stresses the research on materials, the reuse of wastes, technological testing, biomimicry and so on. This is sustainable design, due to the fact that it is typically local, using the cultural, social, material and technological resources of the territory.

Between these two opposite perspectives, in Italy self-production emerges as “New Industrial Craft”. Its main peculiarity is the coexistence of analogical and digital production processes (Maffei, Micelli, 2012) held by a network of thousands of micro and small enterprises diffuse in the territory. Due to the strong design culture and long tradition in craftsmanship, Italian selfproduction is moving towards a participatory design, maybe even highly automated, but still with the flavour of the manual skills and the know-how of crafts. Furthermore, exemplary experiences of digital fabrication (such as Arduino, FabLab Torino and Vectorealism) have enhanced Italy in the International self-production map.

Guidelines

From the case studies analysed, it emerges the lack of coordination among the different

selfproduction experiences, which appear fragmented and isolated, and therefore unable to become a critical mass to significantly influence the design sphere. Besides, self-producers accuse serious difficulties in managing the entire process and declare the lack of commercial skills for planning, distributing and communicating their products.

This International scene proves the need to design a platform of services to support and develop self-produced design. The aim is to turn self-production into an approach that can contribute to the sustainable development of a territory from an environmental, economic and social perspective.

The idea is to create a structure equipped and organized in order to support education, applied research and promotion in the design field. The local community of prosumers would be actively involved since the early problem setting and design phase in order to set briefs for mindful projects. Based on the principles of circular economy, the network would support designers in the search for materials, technologies and facilities, which would be shared among factories and designers, lowering the investments designers should make. Within a peer-to-peer platform, designers would be able to share their projects with other actors of the projects and therefore have an International showcase for their projects. Suggestions from other actors of the process (designers, producers, end-users, and various stakeholders) could lead to progressive improvements of the projects. It would be an open innovation platform where prosumers could interact, by buying existing designs or customizing them according to their personal needs. By creating an International network, it would no longer be necessary to mass produce objects and transport them all over the world, but only 3D files would be delivered for local production on demand. Finally, an online platform would support the distribution and the promotion of products, enlarging the action channel and reducing the costs for designers.

The project intends to be a modern centre which would not only offer services to the design field, but it would also be conceived to effectively interact with the educational needs and research applied to humanities, architecture and engineering. These diverse competencies share a common culture of project and the ability to interact with enterprises and the territorial institutions.

Focusing on participatory design, the platform for self-production would become a Living Lab (Marsh, 2008), a user-centred, open innovation ecosystem. Using this approach, future collaborative services would be developed to boost social innovation and create new sustainable ways of life.

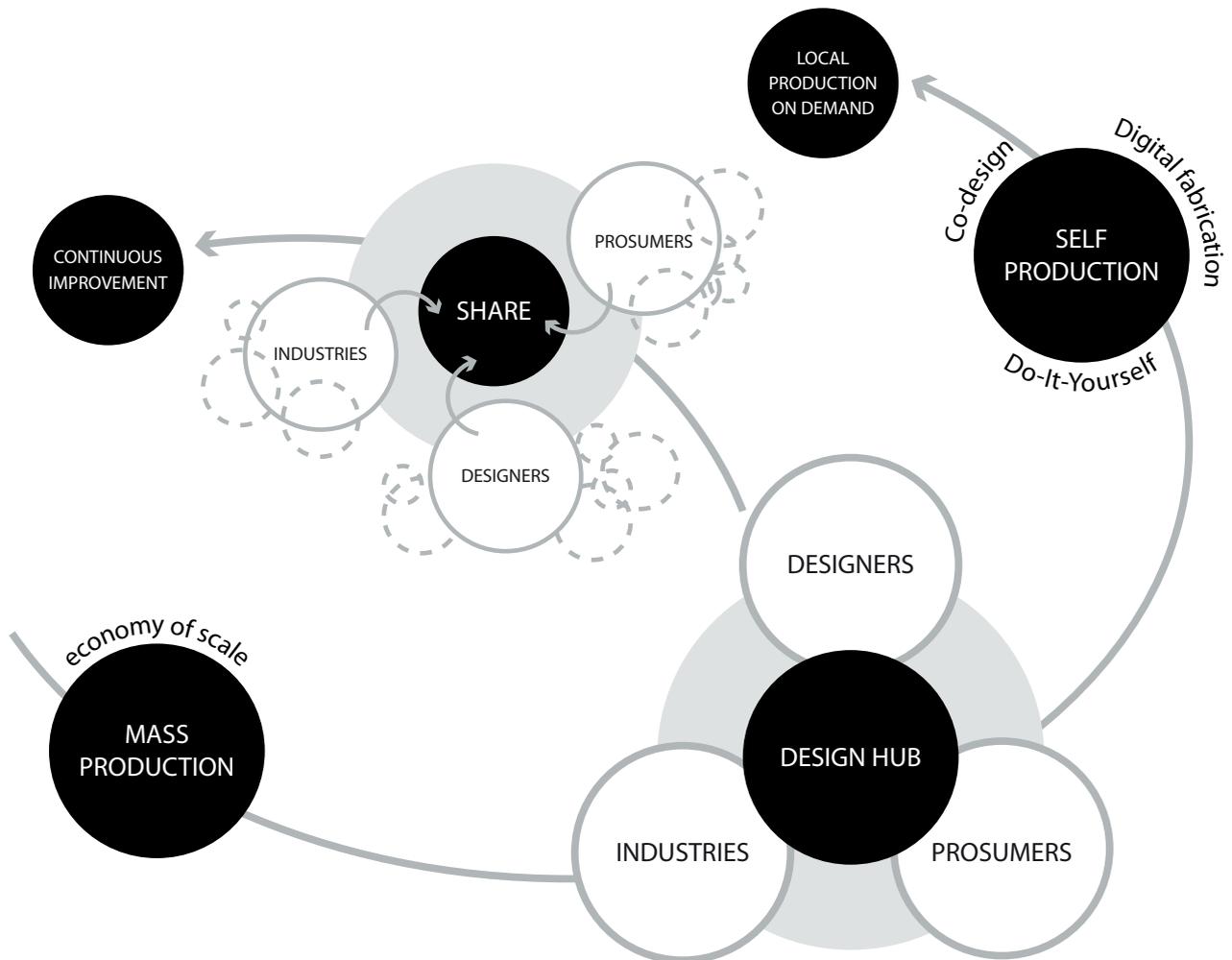


FIG. 4: The Design Hub as a reaction to the limits of economy of scale in a mass production system. It enables designers, industries and prosumers to share and improve their projects towards a local selfproduction on demand.

Conclusion

Self-production seems not to be an anachronistic situation, but an interesting opportunity, which addresses the increasing demand for flexible and diversified productions, even able to connect local realities with global markets.

In the current economic crisis, self-production seems to provide young designers with a viable opportunity to start from the bottom, from small business on their own. Such an approach seems to be one of the most effective ways emerging designers can undertake to access the overcrowded market of design today.

The future of self-production appears to be successful to the extent that it may renew the relation between the design culture and a territory and react to the homogeneity of the design culture in the current era of globalization.

Aware of this situation, designers and industries are moving towards a kind of digital craftsman, addressing the increasing demands for personalization, aesthetic freedom, flexibility and speed

of the production processes.

The future perspective of self-production intends to overtake the limits of economies of scale in a mass production system and enable individuals (designers and users) to self-produce smart devices originating a sustainable industrial process, tailored to local or personal needs.

The overall idea is to catalyze micro bottom-up initiatives, “small, local, open and connected” activities (Manzini, 2009). These initiatives, if spread in the territory, will likely affect institutions at a higher level and boost macro and top-down support. In this scenario, the idea is to guide and facilitate the interrelations between micro and macro initiatives, raising the awareness of the beneficial effects of creativity at both economic and social level.

The paper intends to show the need to foster research and development in the field of selfproduction. Services and facilities to support self-producers should be designed, and the meeting between designers and industries should be enhanced. An International network of stakeholders should be created and promotion in the field of digital self-production should be boosted through cultural activities, conferences and publications.

Additionally, the research has demonstrated how self-produced design can satisfy the demand for sustainable, flexible and customized productions. The future of self-production seeks an open innovation system to contribute to the sustainable development of a territory from an environmental, economic and social perspective.

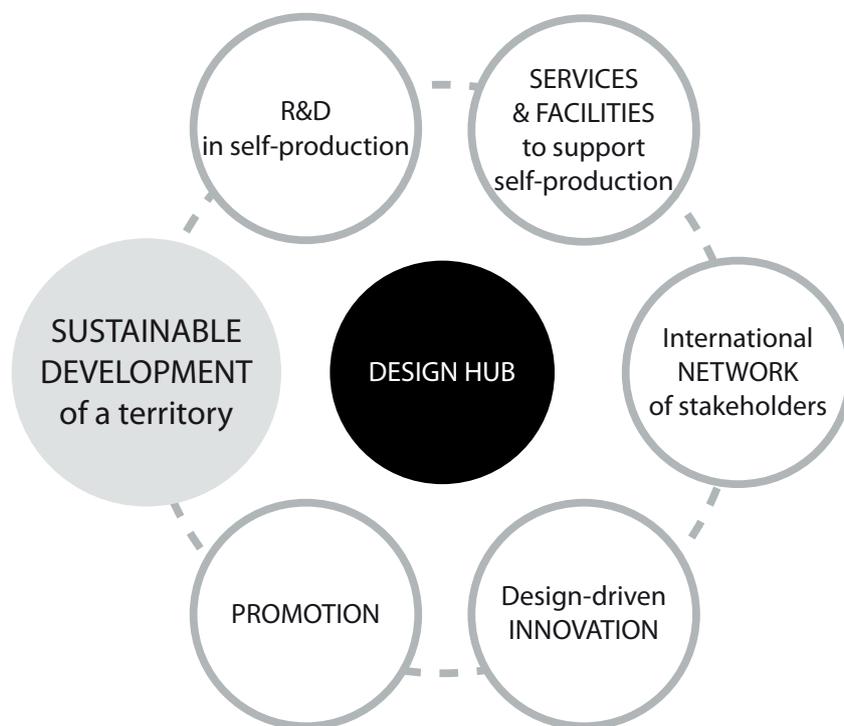


FIG. 5: The main goals of the research: creating a platform of services to support self-production (by means of researches, facilities, networks, innovation, promotion) and contribute to the sustainable development of a territory.

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