

# BEDA

The Bureau of European  
Design Associations

## BEDA Cluster Measuring Design Value

**Design Europe 2021**  
Design for Cultural and Creative Growth



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# Introduction

According to the COMMISSION STAFF WORKING DOCUMENT Implementing an Action Plan for Design-Driven Innovation (September 2013), promoting understanding of design's impact on innovation is one of the three strategic areas for action to accelerate the take-up of design in innovation policy. This area involves creating conditions and developing competencies for an effective policy on design-driven innovation, and one of its key action lines is:

## *3.1.2. Measuring the economic impact of design and its role alongside other intangible assets in value creation.*

*There is a lack of reliable, comparable statistical evidence demonstrating design's contribution to the economy and its impact on return on investment. Developing effective evidence-based policies requires comprehensive, reliable methods for measuring the impact of investing in design. Also, there is a need for a comprehensive picture of design investment across Europe.*

[https://ec.europa.eu/growth/industry/innovation/policy/design\\_es](https://ec.europa.eu/growth/industry/innovation/policy/design_es)

€Design – Measuring Design Value was one of the 6 EU co-financed projects promoting design-driven innovation in the strategic areas of the Action Plan. They were financed through the Competitiveness and Innovation Programme and relate to the European Design Innovation Initiative that contributes to the take-up of design as a user-centred innovation tool. The project was lead by BCD Barcelona Design Centre, with the participation of SVID, Designaustria, Hungarian Intellectual Property Office, Copenhagen Business School and University of Cambridge – Design Management.

€Design goal was that EU Innovation Statistics (as the Community Innovation Survey or the Innobarometer) include design-driven innovation data of the impact of design for innovation, beyond the aesthetics dimension, but as the integrator of functional, emotional and social utilities.

€Design proposed the following definition of design:

*'To design is to integrate functional, emotional and social utilities when shaping goods, services, processes, messages and strategies'*

On February 13th 2014, €Design took part in the Expert Workshop on Measuring the Use and Economic Impact of Design: New Perspectives on Innovation, with the participation of EU, OECD, Eurostat, NESTI and WIPO representatives to share the knowledge and experiences resulting from the latest research activities on the economic contribution of design.

In this workshop €Design introduced the fundamental pillars on how to collect data and measure the role and economic contribution of design in the value added of nations, economic value creation of businesses and creation of quality jobs.

In line with the content of the Expert Workshop on Measuring the Use and Economic Impact of Design: New Perspectives on Innovation, €Design formulated a set of guidelines for Collecting and Interpreting Data. Copies of the draft of the Proposed Guidelines were sent for comments/contributions to experts of the World Intellectual Property Office (WIPO), the Office for Harmonization in the Internal Market (OHIM), the Organization for Economic Cooperation and Development) OECD and EUROSTAT. We received enriching comments/contributions that were added the final text, which was presented and distributed at the final conference of the project in Brussels in June 2014.

The conclusions of the project were:

- Design as integrator at the outset of systemic innovation has a relevant role to economic and social growth.
- Policy makers need data.
- Data can be provided by introducing three new questions.
  - How goods and services compete
  - Attributes of introduced innovations
  - Resources used
- Design as an economic contributor can be measured in the CIS or in the Eurobarometer.
- Guidelines and questions must be aligned.

€Design made also proposals regarding the future revision of Frascati Manual 2002 version, foreseen for 2015, for example on providing guidelines about the role of design as a connector between research and innovation.

Finally, €Design project was mentioned in the OECD document Measuring Design and its Role in Innovation (STI Working Paper 2015/01) (Page 38) and a link to €Design website was made at the OECD website: <http://www.oecd.org/sti/inno/measuring-design-and-innovation.htm>

Building on the legacy of €Design, this Cluster is aimed at continuing working on initiatives towards the measurement of design's contribution to the economy and jobs creation and about the relevance of these data for policy makers and the design and business communities.

# State of the Art

€Design hypothesis was:

*‘Design, understood as an integrator of functional, emotional and social utilities at the very outset of systemic innovation, may be a key factor enabling important non-linear efficiencies in the economic and social value creation of firms and GDP growth of nations’.*

To that end,

- new data are needed
- attitude towards design needs to be repositioned

To provide quantitative evidence to test this effect, for which there is substantial anecdotal and qualitative evidence, there is a need for additional questions within existing measurement frameworks (e.g. CIS, Community Innovation Survey).

In 2015, the OECD and EUROSTAT published the 7th edition of the Frascati Manual.

The chapter of R&D and Design shows a clear improvement of the way design is recognised in the new edition of this Manual, especially in 2.62 where design is included as a R&D activity. Moreover, design is recognised as playing a key role in innovation. Industrial Design is considered as part of R&D (Frascati Manual 2015, § 2.46), while in 2002 edition Design in R&D was limited to the creation of plans or drawings to define functional issues (Frascati Manual 2002, §124 and 125).

Although the Manual does not use the design definition for statistical purposes proposed by €Design, the ‘user’ is now considered (Frascati Manual 2015, § 2.62).

## **Frascati Manual 2015 (OECD)**

### **R&D and innovation activities and borderline cases**

2.46 Innovation is currently defined for measurement purposes in the third edition of the Oslo Manual (OECD/Eurostat, 2005) with a sole focus on the Business enterprise sector (see a definition for this sector in Chapter 3). In summary, it has to do with putting new or significantly improved products on the market or finding better ways (through new or significantly improved processes and methods) of getting products to the market.

R&D may or may not be part of the activity of innovation, but it is one among a number of innovation activities. These activities also include the acquisition of existing knowledge, machinery, equipment and other capital goods, training, marketing, design and software development. These innovation activities may be carried out in-house or procured from third parties.

2.47 Care must be taken to exclude activities that, although part of the innovation process, do not satisfy the criteria required to be classified as R&D. for example, patent application and licensing activity, market research, manufacturing start-up, and tooling up and redesign for the manufacturing process are not in their own right R&D activities and cannot be assumed to be part of an R&D project. Some activities, such as tooling up, process development, design and prototype construction, may contain an appreciable element of R&D, making it difficult to identify precisely what should or should not be defined as R&D. This is particularly true for defence and large-scale industries such as aerospace. Similar difficulties may arise in distinguishing public technology-based services such as the inspection and control of food and drugs from related R&D.

## **R&D and Design**

2.62 Design and R&D activities are difficult to separate. Some design activities are an integral part of R&D projects, and R&D can be an input to new design efforts. There are similarities and linkages. However, not all design meets the functional novelty and uncertainty tests as captured in this chapter's five core R&D criteria.

Design plays a key role in the development and implementation of innovations. As an agreed definition of design for statistical purposes does not yet exist, design can be described as a potential multi-faceted innovation activity aimed at planning and designing procedures, technical specifications and other user and functional characteristics for new products and processes.

Among these activities are initial preparations for the planning of new products or processes, and work on their design and implementation, including adjustments and further changes. This description emphasises the creative role of design within an innovation process, a feature potentially shared with the R&D performed in the same context. Some design-related activities may be considered R&D to the extent that they play a role in a product development process, which is aiming at something "new" (but not necessarily at new knowledge), is creative and original, can be formalised (performed by a dedicated team), and leads to a codified output to be passed on to the development team. The main difference with R&D is that no uncertainty is likely to be found when skilled designers are asked to contribute to an innovation project. This leads to a view that design is not R&D and that it has to be kept distinct from R&D for any statistical purpose.

Now there is a need for a deeper interpretation of how these improvements in the way design is recognised in the new Frascati Manual edition can bring statistical evidence demonstrating design's contribution to the economy. To that end, the inclusion of new questions to the Community Innovation Survey would be necessary to allow new measurements on design-driven innovation.

In table 2.3 shows that Industrial Design can be considered R&D according to the new Frascati Manual edition.

Table 2.3. **Borderline between R&D, innovation and other business activities**

| Item   | Treatment      | Remarks   |
|--|----------------|---|
| Prototypes   | Include in R&D | As long as the primary objective is to make further improvements.   |
| Pilot plant  | Include in R&D | As long as the primary purpose is R&D.  |
| Industrial design  | Split          | Include design required during R&D. Exclude design for production process.  |
| Industrial engineering and tooling up  | Split          | Include "feedback" R&D and tooling up industrial engineering in innovation processes. Exclude for production processes.   |
| Trial production   | Split          | Include if production implies full-scale testing and subsequent further design and engineering. Exclude all other associated activities.  |
| Pre-production development   | Exclude        |   |
| After-sales service and trouble-shooting   | Exclude        | Except "feedback" R&D (to be included).   |
| Patent and licence work  | Exclude        | All administrative and legal work needed to apply for patents and licences (delivering documentation as an outcome of R&D projects is R&D). However, patent work connected directly with R&D projects is R&D. |
| Routine tests  | Exclude        | Even if undertaken by R&D personnel.  |
| Data collection  | Exclude        | Except when an integral part of R&D.  |
| Routine compliance with public inspection control, enforcement of standards, regulations | Exclude        |   |

Source: Frascati Manual 2015.

# Case Study: a pilot initiative in Catalunya (Spain) with €Design questions in the Innovation Barometer of ACCIÓ (Catalan Government)

ACCIÓ (Catalonia Trade & Investment) is the public agency for innovation from the Catalan Government (Generalitat de Catalunya).

In 2015, ACCIÓ carried out a pilot survey on innovation, the Innovation Barometer, among Catalan companies.

The sample was a representative one of 1.000 companies (industrial, services and building) based in Catalunya with more than 9 employees, which warrants the statistical representativity for the whole Catalunya with a margin of error  $\pm 3,1\%$  and a level of confidence of 95,5%. The survey took place during October and November 2015.

BCD, which regularly works with ACCIÓ on design-driven innovation programs and projects, proposed to ACCIÓ the possibility to include a couple of questions from the €Design project in order to test them, both from the cognitive perspective to see if the questions were easily understood by the companies, and also from the quantitative perspective to see results.

Two questions were included in the Innovation Barometer 2015.

The first one, related to Innovation Activities, does not include the word 'design' in order to test if €Design definition about its role of the integration of functional and emotional could work for businesses.

The second one, related to the 'use of designers for innovation activities', want to test again the view of design as the integration of functional and emotional, compared to the view of providing only changes to technology and functionality or only changes on appearance and form. In this case, we use the word design as we are asking if they use designers (in-house or outsourced) for carrying out innovation activities.

A matching between both answers will give us useful information also and some guidance on how to improve the questions in future questionnaires.

## Question 1 - Innovation Activities

### Which innovation activities are you carrying out?

(Total Sample: 1.000 companies)

Creation of new products and/or services (excluding aesthetics modifications only) providing:

- |   |        |
|---|--------|
| - Changes in technology, functionality, usability | 33,9%  |
| - Changes in user experience                      | 21,1 % |

The percentages above reflect the single choices to 'changes in technology' (33,9%) or 'changes in user experience' (21,1%).

On the other hand, 17% of the companies marked BOTH options.

So the interpretation of the results so far are that at least 17% of the companies are taking into account both the functionality and the user experience while creating new products or services.

But as we are not asking it directly, we don't know if from the 21% who takes into account the user or from the 34% who focuses on functionality and usability, there are design users or not.

This is of course a starting point which gives room for improvement.

## Question 2 – Design for Innovation – design resources for innovation

### Do you use designers (in-house or outsourced) for the following innovation activities?

(Sample: 54% of Total Sample, who have qualified as innovating companies).

2.1. Creation of products or services which provide changes both in functionality and in user experience (ie.: product designers, service designers, interaction designers, web designers)

TOTAL 81,1%

2.2. Creation of products or services which provide changes in technology, performance, functionality or usability (ie.: industrial designers, product designers, engineering designers)

TOTAL 79,4%

2.3. Creation of products or services which provide changes in the form (appearance) or in packaging or the interface (ie.: industrial designers, product designers, interaction designers)

TOTAL 78,5%

2.4. New production processes and/or distribution which reduces cost or increases production quality (p.e.: engineer designers, processes designers).

TOTAL 67,7%

2.5. Marketing methods which use new promotion techniques, new positioning methods, new brand image or brand identity in products and/or services (ie.: graphic designers, brand designers, strategy designers, web designers).

TOTAL 83%

From the results point of view, we see that around 80% of innovative companies use designers to innovate in product or services, process and marketing, which is a very high rate.

It is relevant to see the results to question 2.1. with 81,1% of innovative companies who use designers to create products and services which provide changes both in functionality and in user experience.

Matching both answers to question 1 and question 2.1., we conclude that the percentage of companies answering to both 'functional and user experience' is much higher in question 2.1 than in question 1.

On the other hand, the differences between 2.1, 2.2 and 2.3 are so small, that from a cognitive point of view we don't know if the differences from questions are being perceived by the respondents.

The conclusions of this pilot initiative regarding the two €Design questions proposed are the following:

- There is still a lack of knowledge about the role and the boundaries of design in innovation among companies.
- Technology driven innovation is much commonly understood by companies than design-driven innovation, again for a lack of knowledge, as there are not excluding one from the other, on the contrary design + technology is a much powerful formula.
- Using a design definition on the surveys (the one proposed by Frascati Manual 2015 for example) will help companies to identify the role and the boundaries of it.
- There is a need of consistency of questions and guidelines (again, the new Frascati Manual 2015 definition of design) for interpretation and consistent results.

# Next steps for the BEDA Cluster Measuring Design Value

The BEDA Cluster Measuring Design Value will continue to work on:

- A deeper interpretation of the improvements about the role of design for innovation in the new Frascati Manual 2015 and why this is important for the following target groups: European Commission, Eurostat, BEDA Clusters, BEDA Members, Member States and the business sector.
- A dissemination plan towards the specific target groups mainly European Commission, Eurostat, Member States, the design and innovation sector and the business sector.

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