



EUROPEAN DESIGN INNOVATION INITIATIVE

DeSIGN_{IN} EUROPEAN POLICY



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COLOPHON

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TABLE OF CONTENTS

<i>Foreword</i>	p. 07
1. INTRODUCTION AND APPROACH	p. 08
1.1 Background to DeEP and its origins in the European Action Plan for Design-Driven Innovation	p. 09
1.2 Rationale: the DeEP research – why 'design' in European policies?	p. 11
1.3 Research approach and method – key steps and components of the research	p. 14
1.4 Key issues and central concepts	p. 16
2. EUROPEAN DESIGN INNOVATION POLICY LANDSCAPE	p. 18
2.1 The European agenda for design	p. 19
2.2 Classifying Design Innovation Policy in Europe – the DeEP Design Innovation Policy Landscape	p. 22
2.2.1 Developing the landscape	p. 23
2.2.2 Landscape data	p. 24
2.2.3 Discussion	p. 28
FOCUS: EXAMPLES OF DESIGN POLICY INNOVATION IN EUROPE	p. 29
3. EVALUATING DESIGN INNOVATION POLICIES	p. 40
3.1 An introduction to Policy Evaluation	p. 41
3.1.1 Examples of existing measures for Design Policies and design	p. 42
3.2 The policy cycle and the evaluation principle	p. 43
3.3 Developing macro and micro design indicators	p. 45
3.3.1 Developing macro indicators	p. 45
3.3.2 Developing micro indicators	p. 45
3.4 Macro level: design innovation ecosystem	p. 46
3.5 Micro level: firm design capabilities and micro indicators	p. 48
4. STRATEGIES TO SUPPORT DESIGN POLICY EVALUATION	p. 50
4.1 National benchmarks and scenarios (macro level)	p. 52
4.2 Firm outlines (micro level)	p. 57
4.3 Challenges and limitations	p. 61
4.3.1 Macro	p. 61
4.3.2 Micro	p. 62
5. A WEB TOOL FOR DESIGN POLICY EVALUATION	p. 64
5.1 Rationale: the initial challenge	p. 65
5.2 Description: what does it do and how it works?	p. 65
5.3 What does it deliver?	p. 70
5.4 What difference does it make for policy makers and firms?	p. 74
5.5 Current challenges and limitations of the Tool	p. 75
FOCUS: KEY LESSONS LEARNT ON DESIGN POLICY EVALUATION	p. 77
6. RECOMMENDATIONS FOR POLICY MAKERS	p. 80
<i>Further readings</i>	p. 86
<i>Bibliography</i>	p. 87

Foreword

Policy makers face a significant challenge when evaluating the effectiveness of design policies – and hence the justification for investment in design policy and the value subsequently generated. This is a complex challenge as no specific methods to measure the value of design in innovation are currently in place; and no consistent data has been collected to demonstrate the importance of support for design policy. This raises a key question - How should governments measure the link between design policy beneficiaries, their actions, processes, and results?

Answering this question has the potential to provide a two key benefits – i) policy makers would be able to deliver more focused and effective investments in a period of economic downturn; and ii) the profile of design would be elevated and better represented as a value-adding component of policy making and evaluation.

The European Commission has started to address this situation by establishing the European Design Leadership Board (EDLB), promoting the European Design Innovation Initiative (EDII), and by supporting the establishment of a design culture, ultimately aiming to nurture EU socio-economical capital. As part of this action, DeEP: Design in European Policy (DeEP) has received funding to research the advocacy of an evaluation culture for design policy. A key challenge is the development of measures and tools for understanding the coherence between policy objectives and their outcomes.

Over a period of two-years, DeEP has explored complex theoretical questions, such as the link between design

and innovation, and the definition of a principle to evaluate the effectiveness of design policies. The research has investigated the practical application of theoretical frameworks by developing tools and establishing channels to disseminate a culture for policy evaluation – and to make a start on identifying relevant evidence with which to evaluate design policy effectiveness.

The complexity of this task, navigating as it does largely uncharted waters, arguably requires longer than a two-year project. Nevertheless, the DeEP Consortium envisages this project is a significant steps towards developing an evidence base for design-driven evaluation systems – that not only permanently integrate design as a key component to be considered within innovation programme funding, but also in developing and implementing evaluation systems based on 'radical efficiency'¹, open data, and transparency.

DeEP envisions a generative policy evaluation system that establishes a virtuous circle encompassing policy making, programme delivery, and the evaluation of initiatives. The DeEP project team believe that the inclusion of design thinking approaches directly into design policy making at government level represents an achievement with significant benefits for the design-driven innovation community across the European Union.

These then are our overarching hopes – and challenges – driving what has been an exciting research journey that we hope will ultimately result in more effective recognition of the role of design in innovation across Europe.

¹ The notion of 'radical efficiency' as developed by NESTA and the Innovation Unit, describes 'an innovative approach to redesigning services that saves money and improves outcomes for users'. NESTA (2010) Radical Efficiency: Different, Better, Lower Cost Public Services, June 2010 (available at www.nesta.org.uk/publications/reports/assets/features/radical_efficiency).

Chapter 1

INTRODUCTION AND APPROACH *

* This chapter is a joint effort of:
Stefano Maffei, Venanzio Arquilla, Marzia Mortati, Beatrice Villari (Politecnico di Milano)

1.1 Background to DeEP and its origins in the European Action Plan for Design Driven Innovation

DeEP: *Design in European Policy* is one of six projects funded by the Directorate General for Enterprise and Industry (DG Enterprise and Industry) as part of the First Action Plan of the European Design Innovation Initiative (EDII).

DeEP responds to the main issues of the Action Plan, by promoting design and an evaluation culture into European innovation policies. This is supported by reinforcing the link between design and innovation; the awareness of design innovation policies; and the promotion of a policy evaluation culture.

DeEP prototypes a scenario for tools and strategies with which to orientate policy makers in the implementation of design policy, which envisages an open, transparent, and generative policy evaluation system, manifested as a web-based tool for the future evaluation of design policies.

In line with the key challenges proposed by the European Commission in the Action Plan, DeEP promotes a shared vision in which design is systemically embedded within the European innovation system by 2020, at both the level of public bodies and policy makers, and at enterprise level.

In promoting this vision, DeEP is in line with three strategic directions underlined by the DG Enterprise and Industry, and the European Design Leadership Board.

A. POSITIONING DESIGN WITHIN THE EUROPEAN INNOVATION SYSTEM

DeEP aims to **mainstream design within innovation and improve the integration of design and user-centred innovation approaches into innovation projects** and policy support across Europe.

To achieve this, DeEP has framed an evaluation approach based on the identification and development of a process, and of two sets of design indicators – macro and micro. Macro design indicators permit countries to benchmark the support for design within an design innovation policy ecosystem; micro design indicators evaluate the effectiveness of policy initiatives directly on beneficiaries in terms of improving design capabilities.

Policy makers and firms have been involved in workshops and seminars directly sharing **a joint vision for non-technological, user-centred innovation both within the design-driven-innovation community and outside**, and to support the dissemination of different experiences of design policies.

In particular, DeEP has produced five case studies from Italy, UK, Sweden and Poland, and has conducted more than 50 interviews with policy makers, intermediaries and other representatives of public bodies, and firms to gather feedback on its approach; design indicators and the evaluation tool itself.

1.2 Rationale: the DeEP research. Why 'design' in European policies?

B. DESIGN FOR INNOVATIVE AND COMPETITIVE ENTERPRISES

DeEP has worked with its two main target groups – public bodies/policy makers and SMEs. These groups are important, both when seeking to increase opportunities for firms' growth, and for inclusion in the development of design in innovation processes.

In particular, small and medium enterprise (SMEs) – as one of the main target groups for design innovation policies – may benefit from DeEP by receiving more

focused support resulting from more effective policy implementation, and by gaining a better understanding of the potential of design innovation and the potential impact on the enterprise.

DeEP has also included the experiences of entrepreneurs in its investigations, to develop a set of micro indicators for design innovation policies for firms.

C. DESIGN FOR AN INNOVATIVE PUBLIC SECTOR

DeEP has targeted public bodies (for example, policy makers, governmental institutions, business support organisations, employers' federations, public business support organisations, design promotion organisations) as key stakeholders interested in evaluating the effectiveness of design innovation policies.

European public bodies at regional, national and EU-level have been closely involved in establishing a knowledge repository; in developing macro and micro indicators; and evaluation tools and strategies.

To disseminate this information to a wider community, the on-going results and information collected have been published on the DeEP online platform. Here, a repository of interesting and relevant publications produced by the consortium (in the form of 'Design Policy Issues') is available for download, together with other commentary and communication channels aimed at disseminating DeEP's approach, philosophy and key results.

Moreover, the composition of the Consortium, in terms of moderate innovators (Poland and Italy), innovation followers (UK) and innovation leaders (Sweden)¹ has facilitated **mutual policy-learning by reaching different targets of the countries involved.**

Finally, in accordance with the statement of the Innovation Union, and the EU's Horizon 2020 strategy – in recognising **the importance of capitalising the role of design in bringing ideas to the market** – DeEP has dedicated consistent efforts to developing and implementing a conceptual prototype of the DeEP online evaluation tool² at the disposal of policy makers and enterprises interested in promoting, supporting and advocating design policies across Europe.

The European Commission recognises the need to develop a distinctive, EU approach to innovation. It recognises the need to understand the changing nature of the barriers and constraints to achieving successful innovation – for example, the need to help companies overcome barriers to seeking new ideas, sharing knowledge and bringing good ideas to the market. Accordingly, design is acknowledged as a fundamental driver to innovation; as a competitive European advantage; and as **a form of innovation that builds on Europe's existing strengths, its heritage, diversity, authenticity and creative potential to adapt to global markets.**

Despite this, the role of design in innovation policies is fragmented across Europe. Few governments – either national or regional – have developed explicit design innovation strategies. Even if it were possible to recognise the efforts of all EU member states and regions to implement design programmes, much of the contribution of design to innovation policy remains implicit.

Two systems can be identified in Europe: one *explicit* where design policies are fully acknowledged and developed; the other *tacit* where design innovation can be discerned within more general innovation policies. Both systems have seldom been evaluated, resulting in a lack of a theoretical framework – and of indicators with which to evaluate the impact of design on socio-economic growth.

One of the most significant constraints in determining the scale of fragmentation concerns the lack of data relating explicitly to design innovation policy and the lack of evaluation instruments required to demonstrate the efficacy of existing policy. Public bodies need, on the one hand, to understand regional and national performance in terms of design innovation,

and, on the other, to appreciate the effectiveness of design innovation initiatives.

Insights for these constraints have been sought within DeEP in order to help policy makers and enterprises address the needs for stronger support and inclusion of design in innovation processes. Further, DeEP has practically applied these insights in order to develop a tool to analyse the effectiveness of design policies at both micro level (the effect of policy initiatives on beneficiaries) and macro level (the indirect effect on the national design eco-system).

The overall objective is create an understanding of the effectiveness of design innovation policies by building frameworks and indicators to evaluate design policies, mainly targeting policy makers and beneficiary firms.

The key objectives for DeEP are to:

- Identify and understand the presence of tacit and explicit design innovation policies in Europe.
- Develop design indicators to measure the effectiveness of design innovation policies both at a macro and micro level.
- Activate a process of mutual learning and transnational cooperation in the field of design policies, also through the creation of an open platform and knowledge repository as well as through contacting important stakeholders directly.
- Actively disseminate research results to the European Commission and to all interested stakeholders (researchers, managers, SMEs, policy makers) in as many European countries as possible.

¹ As classified according to the Innovation Union Scoreboard 2014.

² Available for viewing and testing online at www.deepinitiative.eu/test/

DeEP MIND MAP



Figure 1: DeEP mind map

1.3 Research approach and method.

Key steps and components of the research

DeEP has encountered a number of questions and challenges, following an iterative pathway often into unfamiliar lines of enquiry. These have included discussions on the linkage between design and innovation; research on the 'state of the art' of design policy in Europe; and the collection, synthesis and assimilation of this knowledge into practical outcomes to promote and raise awareness of the need for effective design policy evaluation. The theoretical

development of concepts and frameworks has been enriched and validated through interviews and field testing, directly involving end users and target audiences. This has influenced the development of the final results, thereby creating user-driven tools and outcomes.

DeEP has applied a design-led approach to the development of the research from the outset. The four phases each have specific activities and key outputs:

DISCOVER DESIGN POLICIES

Initial, predominantly explorative phase aimed at:

- Defining design and describing its link with innovation
- Describing design policies and their state of advancement in Europe, producing an annotated list of design innovation policies and taxonomy of the field

DEFINE DESIGN POLICY EVALUATION

Second phase expanding and applying previous knowledge to specific research topics, including:

- A description of the Design Policy Evaluation Cycle, connecting the policy making cycle with the policy evaluation cycle
- A definition for the DeEP Evaluation Principle, as the core of the research and engine for the evaluation tool

DEVELOP DESIGN POLICY INDICATORS

Third phase applying theoretical knowledge to identify and develop design indicators, in particular:

- Defining and describing micro design indicators
- Defining and describing macro design indicators
- Testing indicators directly with target users in all countries of the consortium

DELIVER THE DEEP EVALUATION TOOL

Final phase condensing key concepts into the DeEP Evaluation Tool and design policy evaluation strategies through:

- Designing, testing, and implementing the tool and the evaluation engine
- Mapping design policies across Europe through the Design Policy Landscape
- Making recommendations; developing concepts for national benchmarks and firms outlines as tools for policy makers to develop better design policy in the future

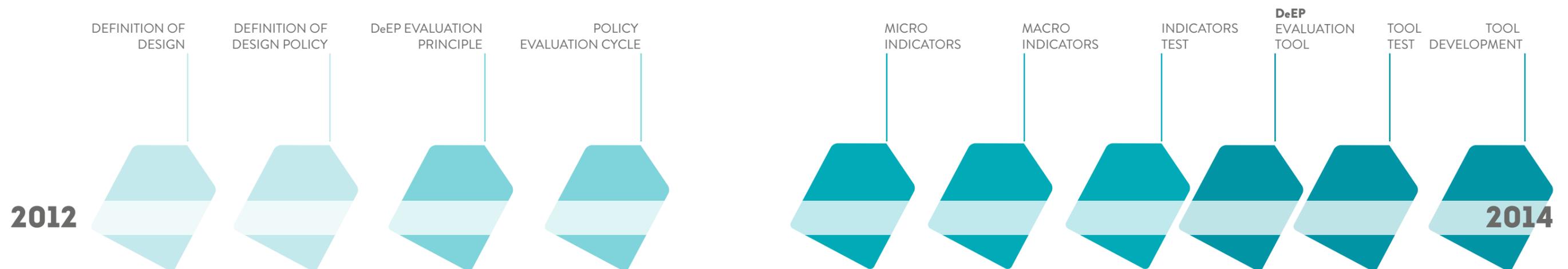


Figure 2: the four phases of the DeEP research approach

1.4 Key issues and central concepts

Concepts developed in the research address three key aims:

- A. The description and investigation of design, design policy, and the design policy evaluation cycle.
- B. The design and development of indicators to measure design policies and their outcomes.
- C. The implementation of recommendations and strategies for policy makers to develop better design policies.

A. DESCRIBING AND INVESTIGATING DESIGN, DESIGN POLICY, AND THE DESIGN POLICY EVALUATION CYCLE.

One of the central concepts developed through the research is the definition of a common language for design, design policy, and design policy evaluation. In line with recent reports published by the EC, DeEP acknowledges design as:

- A process or activity – not only an outcome
- A thinking process applying a holistic approach
- An activity producing products, services, systems, environments and communication
- A process taking place, often tacitly, within all organisations

The activity or process of design is often embedded within innovation, however it is seldom acknowledged within policies. As Hobday et al. (2012: 272) note, "...design has been either absent or a poor 'second cousin' to innovation policy. (...) Analytically, the design policy debate has been largely instrumental, seeking to support policy makers in the shaping of policies to promote design, rather than asking deeper questions about the validity and the efficacy of policies".

Further, the arena of design policy is under-explored and under-defined, as opposed to the very rich area of public policy. Raulik-Murphy and Cawood (2009: 7) define design policy "as the process by which governments translate their political vision into programmes and actions in order to develop national design resources and encourage their effective use in the country". Hobday et al (2012: 278) consider design policy, "not as a rational problem-solving activity but as a socially based, collective activity for generating solutions to complex problems and challenges".

For DeEP, design policy aims is defined as a set of rules, activities, and processes to support design through the reinforcement of design capabilities at all levels of the policy cycle.

This premise connects directly with the policy evaluation cycle, which includes ex-ante, monitoring, and ex-post evaluation strategies and tools in an iterative cycle of policy making, delivery and evaluation. These feed into each other to ultimately support the development of better future policies.

B. DESIGNING AND DEVELOPING INDICATORS TO MEASURE DESIGN POLICIES AND THEIR OUTCOMES

A wide range of criteria exist for policy evaluation. The most acknowledged ones are effectiveness and goal attainment; cost-effectiveness; efficiency; fairness; legitimacy; coordination; and legal acceptability. Design innovation has strong social, environmental, territorial concerns, thus making the measurement of its effects nuanced and sophisticated. DeEP has applied a capability approach that defines design as 'a set of capabilities that enable people-centred innovation'. This is an adaptation of the EU definition: "design is perceived as an activity of people-centred innovation by which desirable and usable products and services are defined and delivered." (Thomson & Koskinen, 2012: 15).

An effective way of evaluating policy is by collecting codified knowledge. In particular, an effective evaluation should describe:

- Inputs – resources at the disposal of the project, including staff and funding.
- Activities – actions taken or work performed to convert inputs into outputs.
- Outputs – tangible goods and services resulting from project activities.
- Outcomes – medium-term results achieved as beneficiaries utilise outputs.
- Impacts – longer-term project impacts and final project goals.

Evaluations are generally conducted using indicators – synthetic and representative reflections of a greater sum of phenomena – preferably made measurable on a quantitative scale (OECD, 2005).

C. IMPLEMENTING RECOMMENDATIONS AND STRATEGIES FOR POLICY MAKERS TO DEVELOP BETTER DESIGN POLICIES

Utilising indicators and the policy evaluation cycle principle to develop better design policy may shape several outputs useful to policy makers and enterprises:

- Recommendations to develop better design policies.
- Developing a Design Policy Landscape to record the 'state-of-the-art' for design policies across the EU.
- National benchmarks and scenarios to evaluate national and regional design ecosystems.

Indicators can inform decision-making in the policy making process, whilst performing different roles: conceptual – i.e. used as a tool to illustrate concepts; and instrumental – i.e. by disclosing a direct relationship between decisions.

Design-specific policy indicators are few in number and seldom well-developed, and are principally found within R&D or Innovation policies. They are often limited to a one-dimensional context e.g. a national picture, overlooking the more nuanced shades derived from a context-based analysis. Further, even within a national context, as depicted, for example, by the Innovation Scoreboard, **data are not clearly linked to design**. This results in a lack of available sources from which to assess the value of design and design policies across the EU, and a consequent lack of tools available to policy makers to advocate their importance.

DeEP has developed two sets of design innovation policy indicators:

- Macro design indicators – understanding the enabling conditions for the policy (national-level).
- Micro design indicators – measuring the effects of the policy directly on its beneficiaries (local-level, context-based evaluation).

This distinction is crucial in recognising that policies are applied to contexts within their own specificities that should be accommodated, and which are fundamental in defining further the true effectiveness of a design action.

- 'Firms outlines' to justify the effects of design policies directly on beneficiaries,
- A DeEP Evaluation Tool to overcome the lack of data on design currently existing in Europe.

It is evident that the research conducted during this project attempts to draw together a number of key theoretical and applied concepts. The following sections aim to elaborate on the research journey undertaken, challenges faced and key outcomes developed within the project.

Chapter 2

EUROPEAN DESIGN INNOVATION POLICY LANDSCAPE*

* This chapter is a joint effort of:
Martyn Evans, John Chisholm (Lancaster University)

2.1 The European agenda for design

In recent years there has been an increasing recognition by policy makers of the potential for design, and a key driver of innovation, to add value to the competitiveness of Europe.

The European Commission demonstrated their commitment to design, stating "There is political agreement in Europe that to ensure competitiveness, prosperity and wellbeing, all forms of innovation need to be supported. The importance of design as a key discipline and activity to bring ideas to the market, has been recognised in ... the Innovation Union, a flagship initiative of the Europe 2020 Growth Strategy" (European Commission, 2014).

THE EUROPEAN AGENDA FOR DESIGN

In 2011 the European Commission established the European Design Leadership Board (EDLB) which was charged with making proposals enhance the role of design in innovation policy. Specifically the remit of the EDLB was "to provide

recommendations on how **to enhance the role of design in innovation policy in Europe at the national, regional or local level** and to develop a joint vision, priorities and actions, and thenceforth to integrate design as a part of innovation policies in Europe."

While the EDLB were commencing the research that would underpin their recommendations, the European Commission launched a call for proposals for the European Design Innovation Initiative (EDII) which aimed to exploit the potential of design for innovation and to reinforce the link between design, innovation and competitiveness. Six projects were funded under the remit of the EDII (including DeEP) each addressing specific dimensions of role of design in innovation policy in Europe. The six projects are:

EDII Project	Description	Led by
DeEP: Design in European Policies	Evaluation indicators to provide understanding on the impact of design innovation policies	Politecnico di Milano, Italy
EHDM: European House of Design Management	Improves design management competencies in the public sector	Design Business Association, UK
IDeALL: Integrating Design for All in Living Labs	Connects designers and innovative eco-systems to increase competitiveness of companies	EPCC Cite du Design, France
REDI: When Regions support Entrepreneurs and Designers to Innovate	Stimulates innovation through design in regional innovation ecosystems	APCI, France
SEE Platform: Sharing Experience Europe – Policy Innovation Design	Integrates design into innovation policies by exchanging best practice	Design Wales, UK
€Design: Measuring Design Value	Information about design as an economic factor for value creation	Barcelona Design Centre, Spain

Table 1. Six European Design Innovation Initiative (EDII) projects

In September 2012 the EDLB presented its recommendations to Vice-President Tajani at the European Design Innovation Summit in Helsinki. *Design for Growth & Prosperity* (Thomson & Koskinen, 2012) included twenty-one policy recommendations, in six strategic areas for design action.

This landmark report contributed to increased agenda for design in Europe and helped to raise the political recognition of the potential contribution to design in innovation policy. In this report the EDLB identified six strategic design actions:

- Differentiating European design on the global stage
- Positioning design within the European innovation system
- Design for innovative and competitive enterprises
- Design for an innovative public sector
- Positioning design research for the 21st century
- Design competencies for the 21st century

The EDLB provide unequivocal evidence of the increasing recognition of design in the political agenda in Europe, stating:

“NEVER BEFORE HAS SO CLEAR AN OPPORTUNITY EXISTED AS NOW, FOR THE EUROPEAN COMMISSION, MEMBER STATES AND REGIONS TO TAKE BOLD ACTION TO ENABLE A NEW LEVEL OF AWARENESS ABOUT THE IMPORTANCE OF DESIGN AS A DRIVER OF USER-CENTRED INNOVATION ACROSS EUROPE,,

Thomson & Koskinen, 2012: 5

The political agenda for design policy in Europe, and member states, has continued to develop with increased awareness of, and attention being paid to, design as a driver for innovation. Through the *Action Plan for Design-Driven Innovation* (European Commission, 2013) the Commission seeks to actively promote design's relevance and value as an enabler of innovation amongst Europe's enterprises, public sector organisations, policy-makers.

This internal Commission 'staff working document' asserts that "A more systematic use of design as a tool for user-centred and market-driven innovation in all sectors of the economy, complementary to R&D, would improve European competitiveness" (European Commission, 2013: 04).

Against this backdrop, an appreciation of the picture of European design is a valuable precursor to understanding how design policy might affect European business and society through its impact on the elements that comprise the design *policy* landscape. The European Design Leadership Board (EDLB) report identifies a number of key characteristics of design in Europe. These include:

- Over 410,000 professionally-trained **designers** practicing in Europe operating either within the design-services consulting sector as independent, external consultants, or 'in-house' in medium and large companies with a dedicated design function.
- Multi-disciplinary, national **professional associations** representing the interests of qualified, professional designers.
- **Trade associations** representing design businesses are also present in a number of member states.
- Publicly-funded national and/or regional **design promotion organisations**, representing the visible face of design promotion at national and regional level.
- An extensive network of **design schools** across Europe.

Thomson & Koskinen (2012) also identify a number of pan-European design organisations, for example, the Design Research Society (DRS) and European Academy of Design (EAD) that engage in, and disseminate, design research; and the Bureau of European Design Associations (BEDA) which communicates the value of design to the EC, and other institutions, on behalf of their members.

Amongst the literature considered, the SEE Project¹ has comprehensively reviewed design innovation policy across Europe. 'Design Policy Monitor 2012' corroborates the DeEP view that, whilst design can be explicitly referred to in EU member states' innovation policy, the gap between government statements on design and the implementation of design policy initiatives is marked. Reasons cited for this include a lack of evidence 'in the form of consistent and comparable statistics on the micro and macro performance of design across Europe' (Whicher 2013:3).²

While it is clear that there is political will underpinning the elevation of design as a pillar for European competitiveness and prosperity, the lack of consentient and effective data on the 'state-of-the-art' of design across Europe is challenging. The DeEP project sought to search, identify, classify and organise relevant data and resources to support the theoretical and practical development of the research.

¹ Now funded as the SEE Platform, one of the six European Design Innovation Initiative (EDII) projects.

² Whicher, A. et al (2013) Design Policy Monitor 2012. Cardiff Metropolitan University, Wales.

2.2 Classifying design innovation policy in Europe.

The DeEP Design Innovation Policy Landscape

The need to understand the existing context for design and design policy was clearly evident within the research agenda for DeEP. Without a comprehensive grasp of existing policies, initiatives, organisations and research related to design as a driver for innovation, the project would lack solid foundations for further work. This understanding takes the form of the *DeEP Design Innovation Policy Landscape* – a comprehensive database that brings together literature and resources relevant to the design innovation policy environment in Europe.

Specifically, the purpose of the DeEP Design Innovation Policy Landscape was to:

- Gain a greater understanding of the design innovation policy environment in Europe,
- Develop a repository for design innovation policy resources,
- Provide a snapshot of the level of engagement in design innovation policy across member states,
- Use the insights gained to develop a categorisation framework for design innovation policy.

A final yet critical purpose of the DeEP Design Innovation Policy Landscape was to inform the development of understanding that would underpin the concept of a national design innovation ecosystem. We define a national design innovation ecosystem as *the actors, context(s) and interactions required to support design as an enabler of people centred-innovation*. This is a complex, interrelated and multi-layered environment in which design innovation policy operates. The boundaries of a national design innovation ecosystem are to an extent porous and interaction with other ecosystems, both geographically and sectorially defined is acknowledged. The idea of the national design innovation ecosystem enabled the DeEP project to conceptualise the extent to which a given member state, or 'special interest group', engages with design innovation policy and provides a means of capturing the actors, context(s) and interactions required to move forward design as a driver for innovation.

The approach used to develop of the DeEP Design Innovation Policy Landscape was informed both by a literature review and interactive workshops between the consortia members. Accordingly, the development process was been design-led - iterative, and driven by emergent themes arising out of the interactions within the consortia and the overall context of the project.

2.2.1 DEVELOPING THE LANDSCAPE

The Landscape has been organised around five primary categories for data organisation, which form a useful starting point from which to classify design innovation policy. The five categories are:

Category	Description
Policies	Strategic policy documents that include or reference design innovation, for example, national design policy, innovation & growth strategies, etc.
Initiatives	Defined policy actions or programmes resulting from a policy
Organisations	A body (public or private, regional, national or European) relevant to design innovation policies or initiatives
Research	Published, peer-reviewed research into design innovation policies, initiatives or organisations
Reports	Other published reviews, assessments etc. of design innovation policies, initiatives or organisations

Table 2. Primary Categorisation underpinning the DeEP Design Innovation Policy Landscape

By collecting regional and national data for these five categories, it was possible to develop a more comprehensive and nuanced categorisation methods for design innovation policy resources. While a considerable effort went into developing a detailed

categorisation system, this was rationalised and reduced to provide an effective mechanism to organise and interrogate design innovation policy resources across Europe. The DeEP Design Innovation Policy Landscape was organised thus:

Heading	Description
Type	Element type [policy, initiative, organisation, research, report].
Name	Name/title of the element.
EC Member State	Member State from which the element originates.
Coverage	Geographical scope of the element [i.e. local, regional, national].
Year	Year the element commenced [policy, initiative, organisation] or was published [research, report].
Status	Status of element [current, ceased etc.].
Principal aim	Principal aim, objective or purpose of the element.
Primary beneficiary	Primary beneficiary of the element.
Route	Route by which the element might increase an enterprise's design capability i.e. [direct, indirect or through collaboration].
Specificity	How specific is the element in respect of increasing the design capability of the enterprise? i.e. [specific, complementary, and opportunistic].
Description	A brief description of the element.
Funding/cost	Annual level of funding provided for the element (if applicable).
URL	The original URL of the element [organisation, initiative] or its source [policy, research or report].
Year of published outcomes/evaluations	The year of any published results, outcomes or evaluations relating to the element (if applicable).

Table 3. Data collection fields used in the DeEP Design Innovation Policy Landscape

Two key concepts emerged during the development of the landscape and analysis of the data collected. These were:

- **Route** – which reflects the paths by which enterprises access policies in order to increase design capability
- **Specificity** – describes how explicit the focus on design in policies in order to increase the design capability of the enterprise

Our research revealed the extent to which design policy was **embedded** within innovation policy. Moreover, it confirmed that design policy was often tacitly rather than explicitly expressed. As a result consideration was given to the concepts of 'route' and 'specificity' as a means of differentiating the characteristics found in design innovation policy from those in innovation policy.

Three differentiating characteristics were identified for both route and specificity, namely:

ROUTE	Direct	Directly increasing the design capability of the enterprise itself
	Indirect	Indirectly increasing the design capability of the surrounding ecosystem
	Collaborative	Increasing design capability collaboratively by connecting enterprise with surrounding ecosystems i.e. improving access to ecosystem resources
SPECIFICITY	Specific	Increasing design capacity in an enterprise using specific design policies, initiatives and/or organisations where these have been explicitly stated from the outset. We term this Policy For Design
	Complementary	Increasing design capacity in an enterprise through complementary policies, initiatives and/or organisations where focus is not on design, but design is recognised as a significant, or contributory, factor in increasing design capability. We term this Policy Through Design
	Opportunistic	Increasing design capacity in an enterprise in an opportunistic way where the policy, initiative and/or organisation may be accessed by the enterprise in order to increase its design capability, but where this was not the stated aim. We term this Policy By Design

Table 4: Route and Specificity within the landscape

2.2.2 LANDSCAPE DATA

Data was collected by all members of the DeEP Consortium resulting in 443 individual entries. This included 30 policies, 242 organisations and 114 initiatives. Data was collected for 23 EU Member States, with 5 (Bulgaria, Croatia, Cyprus, Malta, Romania) not represented. The average number of data elements collected for each country was 19 (of 23 member states)

From the outset it was intended that policy information should be as representative as was feasible within the time and resource constraints of the project. Data on policies would span the previous 10 years, whereas initiatives, organisations, reports and research information should be reasonably contemporary.

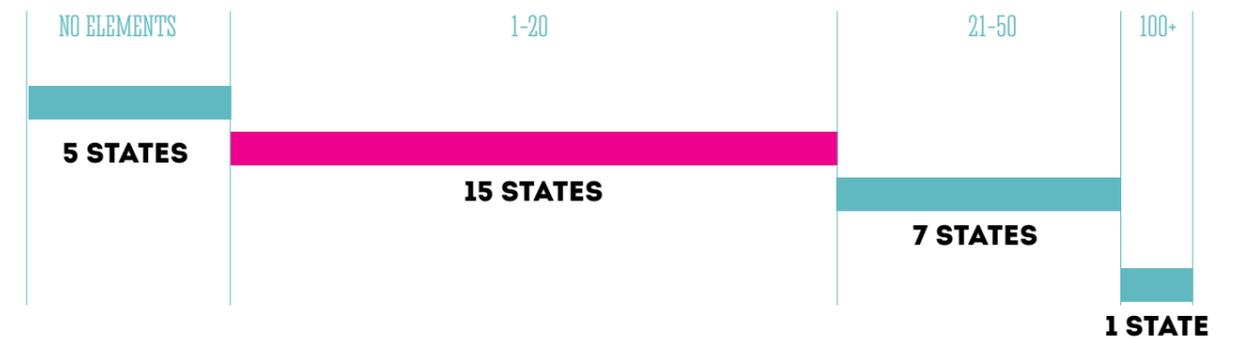


Figure 3. Average no. of elements per member state.



Figure 4. Total number of elements collected per category.

Some difficulties were encountered in ensuring even coverage – particularly regarding the strong regional dimension in many cases and, of course, language. Many policies are specific to local or regional administrations and are not reported in the wider publications; or only available in languages in which the consortium are unfamiliar. Explicit design innovation policies were identified for 15 member states. There remain some member states without national representation including Bulgaria, Cyprus, Malta and Romania. Some additional observations arising from the data collected for the Landscape include:

- Some member states, for example, Netherlands, have their design policy embedded with their industrial policy. Accordingly, overall there are a limited number of specific design policies.
- Countries such as Belgium have nascent design initiatives, which are growing however the impact of such initiatives is yet to be ascertained.
- Some smaller countries, for example Malta and Cyprus, have no or very few policies related to design yet these countries have good design related businesses.

Countries with a similar design ecosystem, for example Sweden and Denmark, enjoy high levels of trade, exchange of design related activities, personnel and resources further strengthening their design innovation ecosystem.

A number of policies that are related to financing specific activities like R&D, knowledge transfer, etc. have design as part of the policy; however design is not the focus of interest in the action. The number of policies that explicitly identify design as its key focus was limited, with most references to design are implied within innovation strategies.

Data provided for a member state was used to develop a visual representation of their design innovation policy 'ecosystem'. There were two main aims in this approach: first, to better understand elements and relationships within specific eco-system; and secondly, to confirm our own understanding of the data collection process. Please see overleaf example.

Design Innovation Policy Landscape in Poland

IN PRACTICE

Poland has a system of strong regional governments each with regional strategies underpinning the national strategy.

The Polish government has recognised design as one of the strategic elements for the country's development, and which is included within its main programme 'Innovative Economy' (2007–13). This programme has allocated some €186m dedicated to industrial design support; and includes the €7m 'Design Your Profit' programme delivered by the Institute of Industrial Design, Warsaw.

Poland is also one of five member states who have introduced national occupational standards for design in respect of vocational skills.

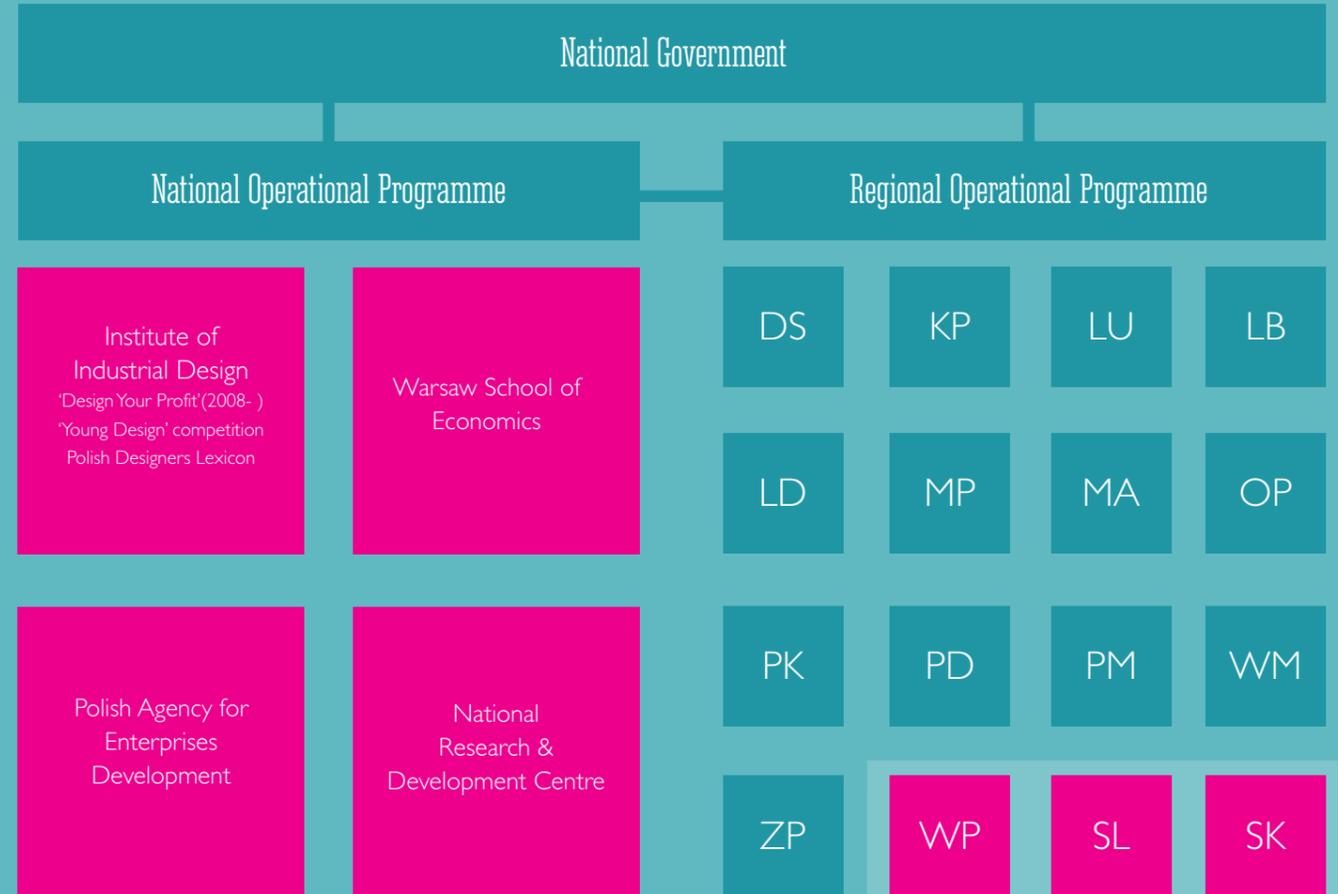
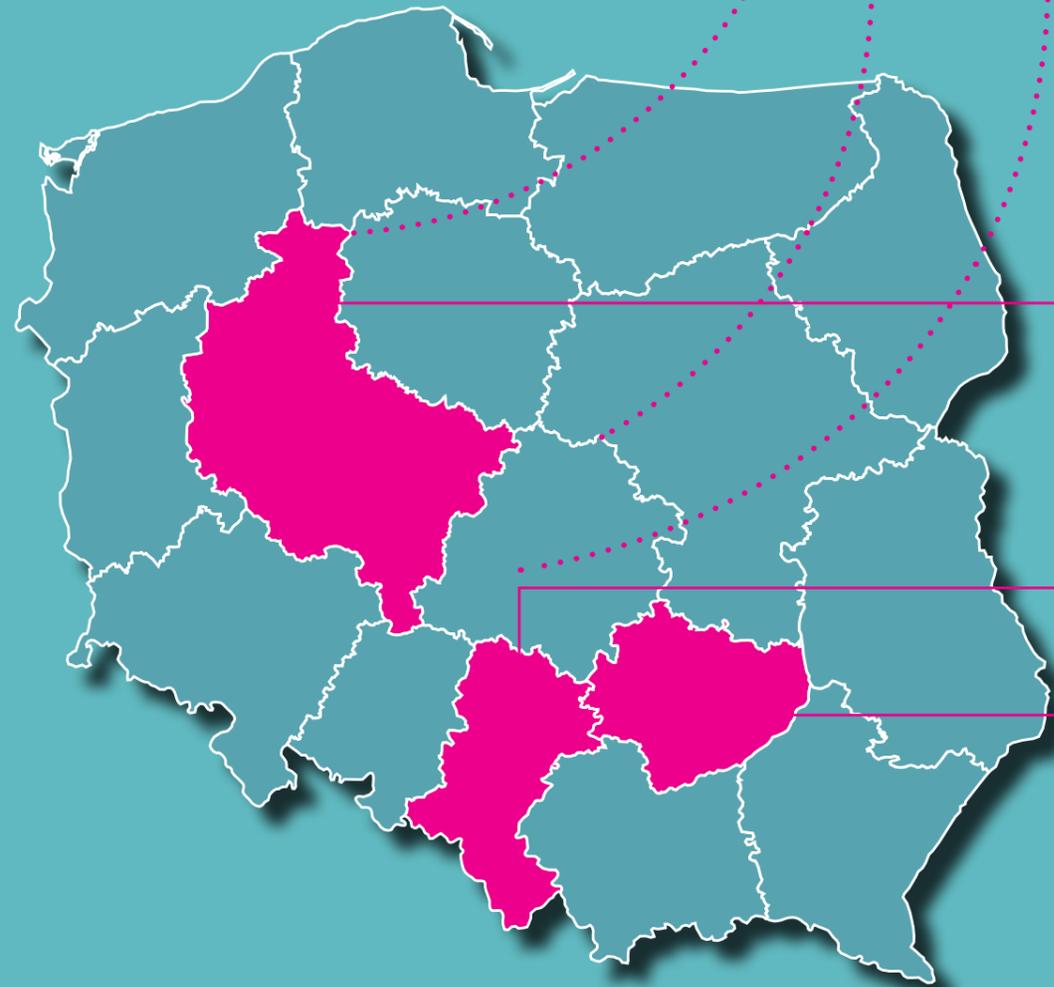
Here are examples from just three of the 16 regions in Poland.

TRANS-NATIONAL INITIATIVES

South Baltic Region
DesignSHIP – European Regional Development Fund

Berlin
Design Innovation & Exchange Programme – Berlin Senat

12 European Cities
Poznań City Hall in CREA re.project (INTERREG IV)



WIELKOPOLSKA

ProDesign Concordia Design & Creativity Centre

Workshops (2011–12):
“Design management as the Driving Force of Innovation in Wielkopolska’s SME sector”

Nowy Folk Design! (New Folk Design!)

Development of the Wielkopolska Cluster

Creation of the Wielkopolska Design Centre in Poznań

SILESIA

Zamek Cieszyn – Silesian Castle of Art & Enterprise

Enterprise Club

Prof. Michał Ozmin Institute of Design for All

Design Silesia (2010–)

Wzorcowo Silesia (Exemplary Silesia)

Silesian Icon

ŚWIĘTOKRZYSKIE

Kielce Technology Park

Circles of Innovation

Kielce Design Centre

Design Kielce

We validated the data collected by developing a diagrammatic representation of the DIP ‘ecosystem’ (in this case, Poland). This approach enabled us to:

- i) to better understand elements and relationships within a specific ecosystem; and
- ii) to confirm our understanding, and identify gaps in data collection. In the case of Poland, the elements indicated a strong regional dimension and individuality to design innovation policy.

2.2.3 DISCUSSION

The development of the classification framework underpinning the DeEP Design Innovation Policy Landscape is based upon the following considerations:

- Data for macro design policy indicators is not available in a meaningful and consentient form across the EU member states;
- Data for macro innovation policy indicators that is available includes design within wider innovations;
- There is a high degree of 'embeddedness' of design policies in innovation policies/growth strategies yet the explicit contribution of design policies is not stated;
- The design innovation policy eco-system relates to the macro environment;
- The design innovation policy enterprise-system relates to the micro environment;
- Evaluation is preferred to measuring the effectiveness of design innovation policy.

An innovation classification framework is unsuited to design innovation policy because:

- Design component is not stated;
- Design is a means to the end (innovation) just as innovation is a means to its end (jobs and growth);
- Design is dissipated 'amongst' innovation;
- Design can enhance any part of an innovation policy – in reality it appears in varying degrees and at various points.

Some key observations regarding our proposed categorisation framework include:

- We have not developed a classic taxonomy – in the true sense of the term – as we believe that such a narrow approach would potentially miss out on opportunities for a more robust and flexible categorisation framework.
- There is a need to link macro and micro design innovation policy indicators by developing a categorisation framework that enables this relationship to be decoded.

The project recognises that there are limitations to the approach we have adopted yet the development of the DeEP Design Innovation Policy Landscape does provide a mechanism to gain a greater understanding of the design innovation policy environment in Europe and provide awareness of the level of level of engagement in design innovation policy across member states.

In doing so the DeEP project developed an understanding of the landscape of design innovation policy in member states and the relationship to their respective national design innovation ecosystem. This understanding is emergent and requires additional empirical exploration to fully understand the multiple actors, breadth of contexts and multi-layered interactions.

FOCUS

EXAMPLES OF DESIGN POLICY EVALUATION IN EUROPE *

In order to inform DeEP's thinking on design policy evaluation, five case studies have been developed across the countries represented in the consortium (UK, Sweden, Italy, and Poland). These case studies have been developed through structured interviews undertaken with policy makers and beneficiaries. The process collected information and other data on the background of the design policy initiatives in terms of main objectives, implementation, nature of the beneficiaries, results achieved and the evaluation process.

The Design Policy Initiatives examples are:

- Un designer per le imprese (Italy - Lombardy Region)
- DEA | Design e Artigianato per il Trentino (Italy - Trentino Alto Adige Region)
- Designin Demand (UK)
- Design som Utvecklingskraft (Sweden)
- Design for Profit (Poland)

The policies were selected on the basis of their importance as an exemplar for each country, and are considered as relevant examples of design policy practice replicated across Europe. Both design *leaders* and design *followers* are represented in the DeEP Consortium, thus providing a valid sample of design policies across the EU.

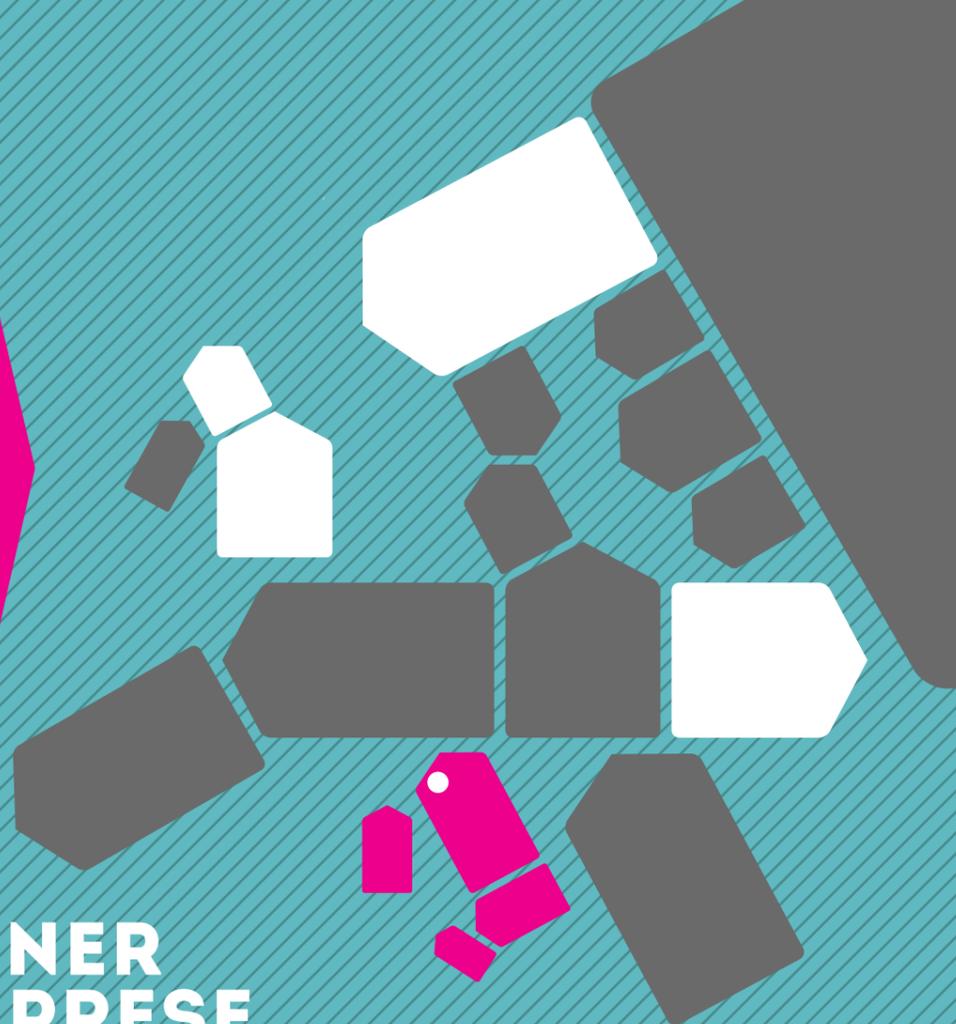
* This chapter is a joint effort of:
Marzia Mortati, Beatrice Villari (Politecnico di Milano)

DESIGN POLICY:
Coaching

BENEFICIARIES:
SMEs in the
Lombardy Region

EVALUATION: -
No formal
evaluation

DELIVERY BODY:
Milan Chamber of
Commerce (CCIAA)



UN DESIGNER PER LE IMPRESE A DESIGNER FOR ENTERPRISES

ITALY – LOMBARDY REGION

The objective of “Un designer per le imprese” is to promote a strong and meaningful perception of the relevance of design to beneficiary SMEs, and to promote the use of innovative materials and innovation processes in medium-sized firms based in the Lombardy Region.

**TOTAL BUDGET ALLOCATED
TO IMPLEMENT A THREE
YEARS POLICY INITIATIVE:
475 000€**

**YEAR 2009-2010 TOTAL
BUDGET:
200 000€**

**YEAR 2010-2011 TOTAL
BUDGET:
120 000€**

**YEAR 2011-2012 TOTAL
BUDGET:
155 000€**

MAIN BUDGET DESTINATION:
Prototype development by firms

**NUMBER OF BENEFICIARIES,
2012 COHORT:
25**

**NUMBER OF PROJECT DEVELOPED
2012 COHORT:
90**

**NUMBER OF PROTOTYPES
DEVELOPED 2012 COHORT:
26**

**NUMBER OF NEW PRODUCTS
LAUNCHED ON THE MARKET,
2012 COHORT:
4**

THE DETAILS

The design policy has encouraged dialogue between the local business community and young designers whilst connecting design researchers, professionals and enterprises/entrepreneurs. In particular, the design policy initiative supports the:

- Creating links between companies and universities.
- Increasing opportunities for young designers to work in directly with firms.
- Developing original design concepts and the use of new materials.
- Developing new design products.

The initiative has run for three different cohorts (2010, 2011 & 2012) each of which has involved different stakeholders: Milan Chamber of Commerce (CCIAA), Province of Milan, Como Chamber of Commerce, Monza e Brianza Chamber of Commerce, Material ConneXion (MC), six Design Schools located in Milan and Como, and firms operating in these areas. The six Design schools are: Politecnico di Milano, European Institute of Design (IED), Nuova Accademia delle Belle Arti (NABA), and Domus Academy in the Milanese area, Accademia di Belle Arti Aldo Galli, and Politecnico di Milano in Como.

DELIVERY

“Un designer per le imprese” selects beneficiary firms through public bidding, whilst design schools have been the main hubs responsible for the selection of young designers. Through the direct involvement of experts based in Material ConneXion and the design schools involved, firms and designers have been matched, and a brief developed. The brief represents the basis for activities developed throughout the initiative.

At different stages, tutors assigned in one of the schools have mentored young designers to help them develop a number of design concepts for the firm. The most promising concepts have been prototyped and launched into the market. At the conclusion of each cohort, an exhibition – supported by Triennale di Milano – is organised to share the results with a wider audience and at which a publication describing the process and the projects is distributed.

RESULTS AND EVALUATION

No formal evaluation has been run or considered for this initiative. Policy makers conducted informal interviews with beneficiaries to develop their understanding of the level of satisfaction for the support received. However, no data collection is undertaken, nor reports produced and no data is currently available. Moreover, data is difficult to recover ex-post as firms tend to not retain such evidence or documentation.

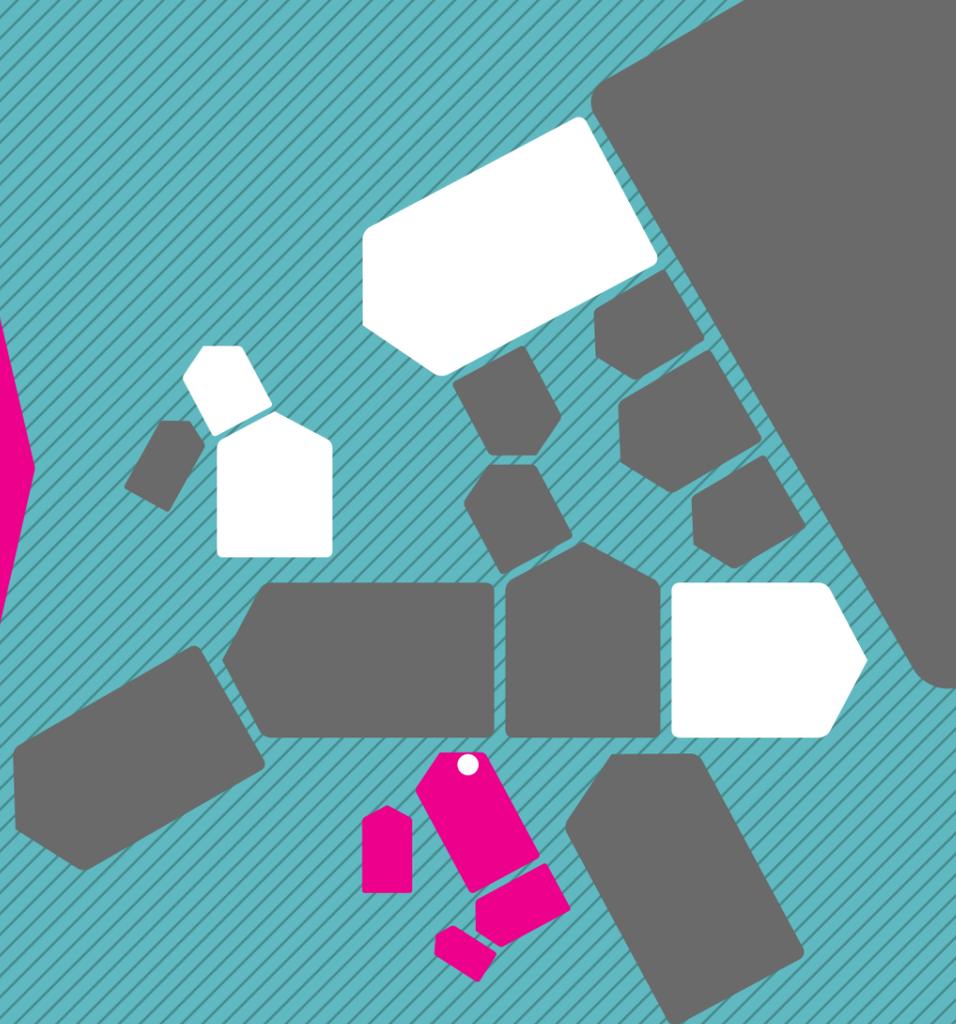
This is a typical situation for this type of design policy initiative, with relatively small budgets and mainly centred on coaching and the matching of designers with firms. These initiatives are primarily concerned with the aim of encouraging firms to establish a first relationship with design, and to have ‘*tried it out*’, thus kick-starting a relationship for future collaboration.

DESIGN POLICY:
Coaching

BENEFICIARIES:
SMEs

EVALUATION: -
No formal
evaluation

DELIVERY BODY:
CEii Trentino



DESIGN E ARTIGIANATO PER IL TRENINO

DESIGN AND CRAFT FOR THE TRENINO REGION

ITALY – TRENINO ALTO ADIGE REGION

“DeA” is aimed at promoting closer connections between design and craft in the local area of the Trentino Region.

This area is rich for its craft tradition, which is supported by local governing bodies through its investment in closer connections to design as a potential source of growth.

**TOTAL BUDGET ALLOCATED
TO IMPLEMENT A THREE
YEARS POLICY INITIATIVE:**
150 000€ by cohort

MAIN BUDGET DESTINATION:
Costs of design research
and designers fees

**NUMBER OF BENEFICIARIES
FIRST COHORT:**
9 firms involved

SECOND COHORT:
70 firms

THIRD COHORT:
13 firms

**NUMBER OF PROJECTS DEVELOPED,
FIRST COHORT:**
27 ideas, 5 projects

SECOND COHORT:
13 ideas, 10 projects

THIRD COHORT:
20 ideas, 8 projects

**NUMBER OF YOUNG DESIGNERS
REACHED,
FIRST COHORT:**
105 applying designers

SECOND COHORT:
60 applying designers

THIRD COHORT:
143 applying designers

THE DETAILS

“DeA” is mainly aimed at promoting a closer connection between design and craft in the local area of the Trentino Region. This area is rich for its craft tradition, and local governing bodies have decided to assist with its development through investment in a closer connection to design as a potential source of growth. In particular, the initiative supports the:

- Creation of links between companies, universities and policy makers.
- Development of opportunities for designers to work with firms.
- Ideation of original concepts based on a design-driven approach.

Beneficiary firms are selected through a public bidding process, while the main academic partner (Politecnico di Milano) has selected appropriate designers. Firms and designers are subsequently matched, and after careful mediation by a university expert, a brief is agreed together with the main objectives for the firm and designer involved. The design policy initiative ran with three cohorts (2010, 2011 & 2012) each of which has involved different

stakeholders. The leading ones were: CEii Trentino in partnership with the Politecnico di Milano and Trentino Sviluppo, and supported by the Department of Industry, Trade and Commerce of the Province of Trento. Other interchanging partners have been: Trentino Sviluppo, the Craft Association of Trento and ADI (Industrial Design Association) Nord Est.

DELIVERY

The design policy has been developed by CEii Trentino in collaboration with a leading Italian university for design and promoted by the Province of Trento. At the start, SMEs were requested to submit a project proposal on the connection between design and craft. The quality and relevance of projects presented are the main basis for the selection of beneficiaries. Successful applicants are introduced to expert consultants from Politecnico di Milano and invited to participate in workshops and seminars aimed at co-designing the final brief. As a consequence, designers are then matched to a specific firm and brief.

This collaboration between designers and entrepreneurs/craftworkers has led to the ideation of new design products, which were then subsequently prototyped and presented in an exhibition during the Milano Design Week.

RESULTS AND EVALUATION

No formal evaluation has been run or considered for this initiative. Policy makers have undertaken informal interviews with beneficiaries to develop their understanding of the level of satisfaction for the support received. Satisfaction levels for this initiative are very high and show a consistent increase in the level of awareness of design. However, no reports or data collection have been produced and no public data is currently available.

This is a typical smaller, regional design policy initiative, where the relatively small budget mainly funds matching and consulting, seeking to encourage firms to develop a first awareness and understanding of design for the development of new products, services and processes.

DESIGN POLICY:
Coaching

BENEFICIARIES:
Public and
private sectors

EVALUATION: -
Formal reporting
by experts

DELIVERY BODY:
Design Council

DESIGNING DEMAND

UK

The Designing Demand programme was created and launched by the Design Council in partnership with Regional Development Agencies (RDAs) resulting from recommendations made in the Cox Review (2005).

**TOTAL BUDGET ALLOCATED TO
IMPLEMENT A THREE YEARS
POLICY INITIATIVE:
2,5m € per year**

MAIN BUDGET DESTINATION:
Expert-coaching for businesses
through Design Associates to
identify how to integrate design
and meet their goals while
implementing tangible projects

NUMBER OF BENEFICIARIES:
Since 2007, the programme
has supported over 2000 SMEs,
intensively coaching over 700
(annual participants 118)

NUMBER OF ACTORS INVOLVED:
55 Design Associates are engaged
to deliver the programme,
all appointed and managed
by the Design Council.

THE DETAILS

The process identified five principal barriers preventing SMEs from accessing the UK's creative sector:

- Lack of awareness and experience (of the UK's creative talents).
- Lack of belief in the value of, or confidence in, the outcome.
- Not knowing where to turn for specialised help.
- Limited ambition or appetite for risk.
- Too many other pressures on business.

Designing Demand seeks to build design capabilities in UK SMEs by helping them to understand how they can use design strategically and effectively within their business; and embed design tools, techniques and management to build new skills and capabilities. A 'learning by doing' approach is adopted whereby professional coaches (Design Associates) work directly with businesses to identify areas where design can best meet their goals and to support them in implementing tangible projects that meet these goals.

DELIVERY

Businesses are taken through a programme that includes workshops, coaching and peer-to-peer support. CEOs and management teams work to explore, define, and implement design opportunities for business growth. Design Associates provide guidance and direction to develop a brief, procure appropriate resources (usually design agencies), and ensure that projects get delivered.

Designing Demand was introduced in 2005 and has evolved continually to its present day form and is now delivered directly by the Design Council. It is funded to 2015 by the Department of Business Innovation and Skills (BIS) as part of the Design Council's Design Leadership Programme. The initiative matches funds provided directly by participating businesses, who each contribute 50% of the total cost.

RESULTS AND EVALUATION

Designing Demand is evaluated annually using a combination of a quantitative statistical approach augmented with qualitative case studies. Evaluation tends to be limited to measures of activity such as the number of seminars held and the number of participants in seminars rather than impact indicators such as new products or services launched, new spending on design expertise following programme intervention and return on investment. Evaluation is conducted at the end of the programme (ex post) and qualitative case studies are developed to illustrate successful companies. Of 249 companies that participated in Designing Design over a ten year period, the study found that, on average, for every £1 invested in design, businesses can expect over £20 in increased revenues, and over £4 increase in net operating profit.

DESIGN POLICY:
Coaching and professional design consulting

BENEFICIARIES:
Companies, municipalities, designers at national level

EVALUATION: -
Formal report by academic researchers

DELIVERY BODY:
SVID – Swedish Industrial Design Foundation



DESIGN SOM UTVECKLINGSKRAFT

DESIGN AS A DEVELOPMENT FORCE

SWEDEN

The overarching goal of “Design som Utvecklingskraft” was to increase the number of “design-mature” companies in Sweden, thus reinforcing their understanding of design and their link with design professionals.

TOTAL BUDGET ALLOCATED TO IMPLEMENT A THREE YEAR POLICY INITIATIVE:
5,7m € for 2003-2005

MAIN BUDGET DESTINATION:
Expert-coaching for businesses totally unaware of design

NUMBER OF BENEFICIARIES:
350 firms, about 40 municipalities or companies owned by municipalities, and about 200 design students placed in professional practice/internship.

THE DETAILS

In 2002 the Swedish Government commissioned SVID (the Swedish Industrial Design Foundation) and Svensk Form to develop a proposal for a national design programme. SVID was granted €6,7m to run a design-related program – DsU – between 2003-2005, which included ‘Design Year 2005’. Nine national and 25 local and regional programs were established, targeting business and the public sector.

DELIVERY | DESIGN FÖR EXPORT AV MEDICINSK TEKNIK

By way of example, a single initiative will be cited – ‘Design för export av medicinsk teknik’ (Design for export of medical technology), the focus of which was support for successful firms within the medical technology sector, who had either limited or no experience about design but were ‘ready to start’. Beneficiary firms were sought and selected directly by the project leader at SVID, on the basis of having appropriate capacity and the ability to complete the project, but also the commitment at both management and operations level. Participating firms directly provided 65 per cent of its overall value.

As part of the process, firms received professional design assistance for a project based on their needs and goals. They also participated in a program of workshops which provided them the chance to share their experiences with other non-competing firms from their sector. Overall the Design för export av medicinsk project funded 8 beneficiary firms which received €16.600 each, at a cost of €5.600 for their participation..

RESULTS AND EVALUATION

In 2012, the Swedish government developed a National Innovation Strategy, however the links between design and innovation are not explicitly stated and are only recognisable through implicit phrases and objectives, for example in the importance of user-friendly innovation when developing products, services and processes, and where design can be acknowledged as a driver of innovation. Accordingly, the Swedish government requested that this policy be evaluated from the outset, assigning it to an expert in the field, Professor Ulla Johansson of Växjö University.

An external, independent evaluation also allowed the possibility of encouraging dissemination and discussion of results to a wider audience. Data was collected using a structured protocol based on interviews of policy makers and beneficiaries. The report was published in 2006 and included evaluation criteria such as increased turnover &/ or revenue; cost reduction; new product development & increased quality of existing products; and increased competitive capability/stronger market position. Other positive effects were identified and their economic value estimated.

This evaluation allowed policy makers to assess success in terms of the benefits to beneficiaries; however no specific indicators have been adopted. It has been a process devised and ‘owned’ by external experts who have gathered and interpreted data which is then shared with a wider community.

DESIGN POLICY:
Coaching

BENEFICIARIES:
Companies,
organizations,
designers at
national level

EVALUATION: -
Internal reporting

DELIVERY BODY:
Institute of
Industrial
Design (IWP)

DESIGN YOUR PROFIT

POLAND

The implementation of “Design Your Profit” was modelled on “Designing Demand” in the UK.

The experiences related to the implementation of the British project were considered as the foundation for the structure of the Polish design policy, and adapted to the conditions and needs of the Polish economy, as well as to the competences and sectors of Polish enterprises.

**TOTAL BUDGET ALLOCATED
TO IMPLEMENT A THREE YEAR
POLICY INITIATIVE:**
Circa 5m €

MAIN BUDGET DESTINATION:
Expert-coaching for businesses

NUMBER OF BENEFICIARIES:
1512 entrepreneurs
125 designers
143 participants of
joint workshops

THE DETAILS

In 2006 the Ministry of Economy in Poland commissioned a research on the level and methods of inclusion/ awareness of design in Polish enterprises. These results had direct impact on including design in high profile national documents as the “National Development Strategy” and the “National Cohesion Policy” as one of the important elements to foster the development of Poland. Design was also featured in the national reform programme, and in regional operational programmes. Moreover, it was classified as the so-called “ordered field of study” by the Ministry of Science and Higher Education.

These events created a fertile context for defining design a strategic element influencing Poland’s economic growth, thus leading to the implementation of “Design Your Profit” and modelled on “Designing Demand” in the UK. The experiences related to the implementation of the British project were considered as the foundation for the structure of the Polish design policy, and adapted to the conditions and needs of the Polish economy, as well as to the competences and sectors of Polish enterprises.

DELIVERY

The main aim of the design policy was to create a professional business environment aimed to support the cooperation between entrepreneurs and designers and increase the level of knowledge in the areas of:

- Design as a tool of competitiveness, innovation and improvement of business profitability.
- Marketing and strategies for new design products.
- Methods of cooperation between designers and firms.

“Design your Profit” has chosen to select beneficiaries through an open bidding process, while considering access totally open. No restrictions to recruitment has been posed, and the process has been managed through an online application procedures established by the Institute of Industrial Design (IWP). Ultimately, the school has also recruited beneficiaries whilst delivering support through workshops and learning activities for enterprises, organizations and designers.

RESULTS AND EVALUATION

This was a pilot project which triggered the need for similar events throughout the country. The design policy showed a relatively high awareness of design importance in building competitive advantage within medium-sized and large companies. A lack of such awareness also became apparent within micro and small companies (with the exception of design studios).

The Institute of Industrial Design managed the evaluation process through periodical workshops and interviews on the activities delivered that were used to structure the final report. An interesting result was the interest of policy makers in continuing the experience in other contexts: in several cities, local authorities decided to continue the project, e.g. Wrocław launched a “Lower Silesian Design Network” project (planned for a few years), Kielce launched “Innovation Circles”, while the Pomerania Development Agency and the Toruń Agency for Entrepreneurship Development created a joint project based on Design Your Profit. This is a typical situation for pioneering projects in new contexts where design had not been implemented before. The main aim is to make visible the opportunities of integrating design in innovation and the better utilisation of design capabilities in companies.

Chapter 3

EVALUATING DESIGN INNOVATION POLICIES *

* This chapter is a joint effort of:
Stefano Maffei, Venanzio Arquilla, Marzia Mortati, Beatrice Villari (Politecnico di Milano) who wrote par. 3.1, 3.2, Martyn Evans,
John Chisholm (Lancaster University) who wrote par. 3.3.1, 3.4, Paolo Landoni (Politecnico di Milano) who wrote par. 3.3.2, 3.5.

3.1 An introduction to policy evaluation

Policy evaluation is described as “the process of determining quality, goal attainment, program effectiveness, impacts, and costs of a policy. The main goal of evaluation is to determine whether policy effects are intended or unintended and whether the results are positive or negative for the beneficiary and the society” (Theodoulou & Kofinis 2004: 191).

The evaluation process assesses whether a set of activities, for example programmes or initiatives, implemented as part of a policy has achieved a given set of objectives. From this judgments can be made about programme quality, using information gathered which in turn may influence decisions about the future of the programme and/or its successors, for example. Three phases are considered in policy evaluation:

- **Ex-Ante Evaluation** precedes decision-making, and pre-assesses the effects and consequences of planned policies in order to “feed” the information into the on-going decision-making process. If undertaken on alternative courses of policies and actions, ex-ante evaluation is useful to selecting alternatives.
- **Monitoring Evaluation** identifies the (interim) effects and results of policies and measures implementation and realization while this is still under way. The essential function is to feed relevant information back into the implementation when this can be used to adjust or redirect the process.
- **Ex-Post Evaluation** assesses the impact of the policy intervention, and provides a feedback on the degree of accomplishment of the policy objectives.

Specifically, a robust evaluation process employs scientific methods to determine how effective, and therefore successful, the implementation of policy initiatives has been in terms of short, medium and long-term goals – outputs, outcomes and impacts respectively.

In DeEP, the evaluation of design policy is centred around the principal of policy as an instrument for the establishment, support and improvement of design capability at national, regional, municipal and enterprise levels.

3.1.1 EXAMPLES OF EXISTING MEASURES FOR DESIGN POLICIES AND DESIGN

Despite a general paucity of studies on the measurement of design and design policies – both in terms of making and evaluating policy – some interesting examples of reports and surveys that assess the economic value of design, innovation and design policy can be identified:

- **International Design Scoreboard (IDS)**
a framework for ranking nations that describes a model of a 'national design system', clustered into four categories: enabling conditions, inputs, outputs and outcomes. It offers 7 indicators that frame a picture of national design capabilities, assessing design's value in 12 countries worldwide.
- **Design Monitor**
published by the SEE Platform, examines regional and national design systems using 34 indicators spread over nine categories (design users; design support; design promotion; design agents; the professional design sector; design education; design research and knowledge transfer; design funding and design policy).
- **World Design Survey 2010 Project**
promoted by IcoGrada¹, this report collects information on the status of design policies, industry, culture, and education in 17 regions worldwide. It uses 20 indicators developed to facilitate a comprehensive understanding of design in different countries. The indicators are grouped into three categories: Design Policy; Design Industry & Design Education; and Design Culture.

- **European Innovation Scoreboard**
is an annual report which describes the 'state of the art' of innovation within EU member states. The survey is based on eight innovation 'dimensions' and 25 indicators which analyse the performance of EU Member States. The measurement framework utilises three main types of indicators and 8 innovation dimensions, drawing data partly from the Community Innovation Survey.
- **Value Added Scoreboard**
now in its seventh year, an annual report that assesses the value added for the top 800 UK companies and the top 750 European companies. It measures wealth created by companies and provides a broader perspective on a company's economic contribution to national performance.
- **EU Industrial R&D Investment Scoreboard**
an annual scoreboard that amasses economic and financial data for the world's top 2000 companies ranked by their level of investment in research and development (R&D).

These surveys and reports, whilst possessing varying degrees of coverage, frequency and relevance to design, nevertheless do provide an extremely useful base for the development, or adoption, of specific indicators for the evaluation of design innovation policy within DeEP.

¹ ICOGRADA - International Council of Graphic Design Associations. It is a non-profit, non-partisan, member-based network working within the multidisciplinary scope of design. Founded in 1963, IcoGrada actively promotes the value of design practice, thinking, education, research and policy, representing more than 200 organisations in 67 countries and regions globally. (from website at www.icograda.org)

3.2 The policy cycle and the evaluation principle

Policymaking takes place within the socio-technical context of the political system. This can be described as the relationship between politics and governance, where politics regulates the relationship between citizen and state; and where governance represents the tools, procedures and processes that enable the political system to affirm its actions. Every political system has a form of governance that enables iterative processes to transform governing intentions into tools for action (policies).

The policy cycle can be represented by five steps:

- Agenda setting – identification of a public problem or issue for the policy agenda to address.
- Policy formulation – definition, discussion, acceptance or rejection of courses of action that address policy issues.
- Policy adoption – formal adoption of a course of action, also implying a consideration of values, party affiliation, constituency interests, public opinion, deference, and decision rules.

- Implementation – conversion of new laws and programmes into practice.
- Evaluation – process of determining quality, goal attainment, programme effectiveness, impacts, and costs of a policy.

A wide range of approaches, tools, data and indicators exist to facilitate policy evaluation in general, the aim being to evaluate the effectiveness of a given policy in the context of the objectives defined as part of 'agenda setting' and, by so doing, support and assist policy makers to develop more effective policies. As noted previously, policy evaluation can be undertaken within three stages - **Ex-Ante Evaluation, Monitoring Evaluation, and Ex-Post Evaluation**.

DeEP links the policy cycle and evaluation stages in the DeEP Design Policy Evaluation Cycle, and to a principle of evaluation that – together with macro and micro design indicators – constitutes the engine of the DeEP Evaluation Tool.

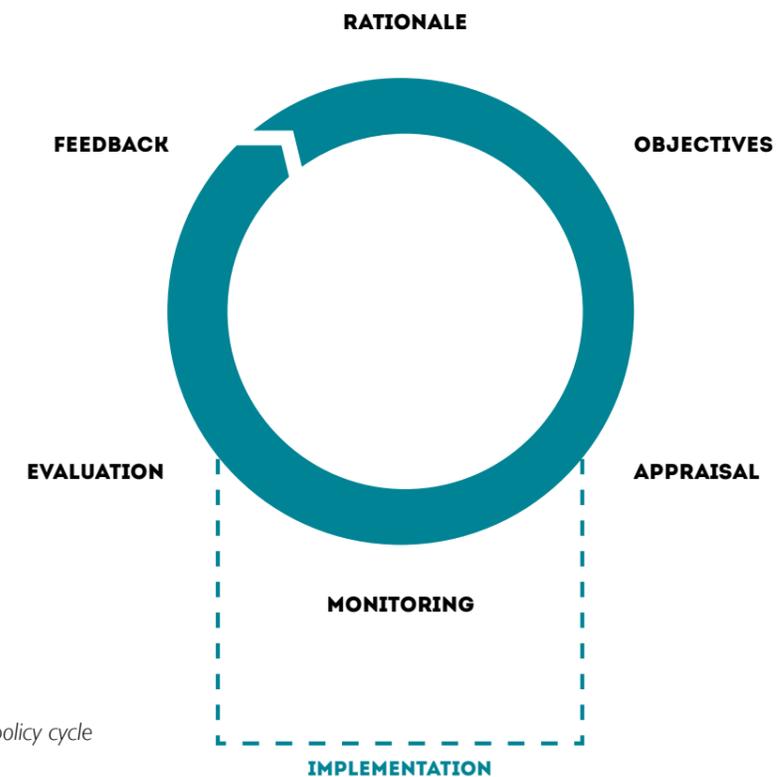


Figure 5: the classic policy cycle

3.3 Developing macro and micro design indicators

3.3.1 DEVELOPING MACRO INDICATORS

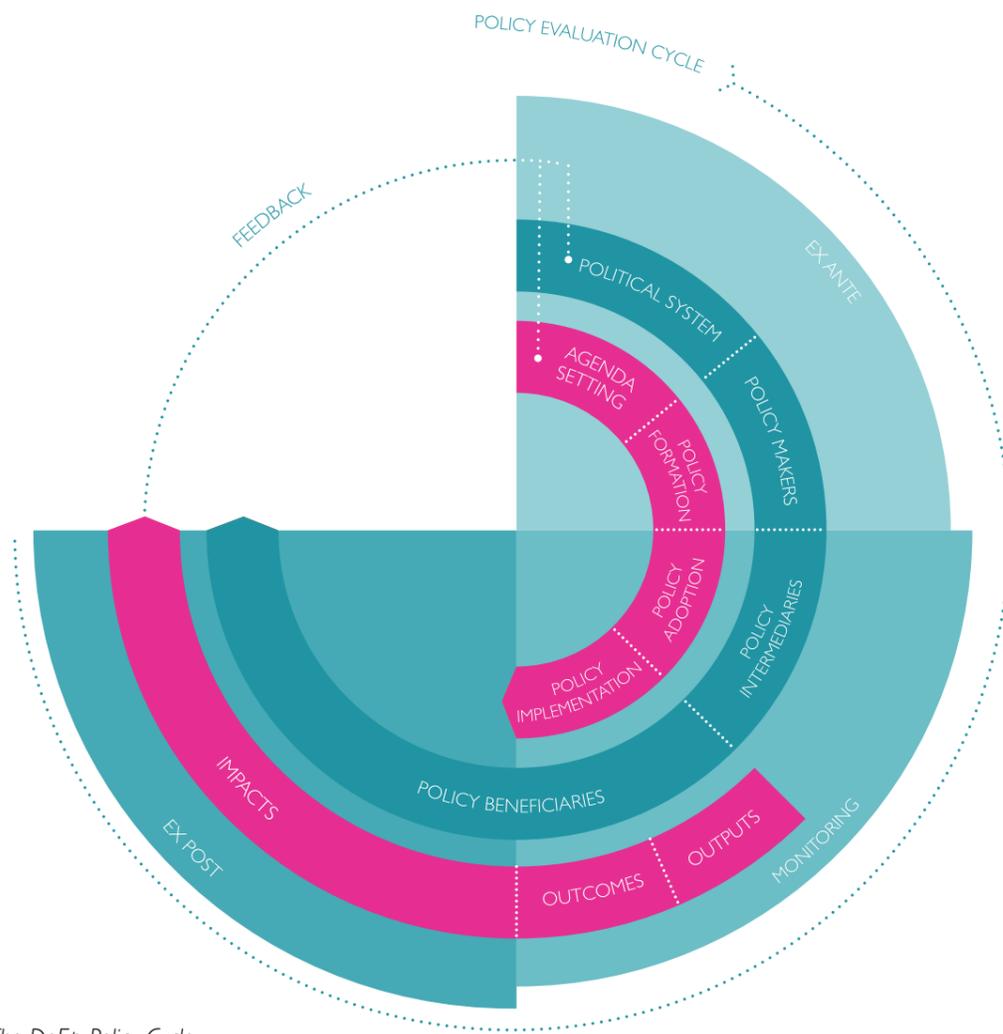


Figure 6: The DeEP Policy Cycle

In particular, the DeEP evaluation principle is stated as follows: **The effectiveness of a design policy is measured by the positive change and/or transformation in the stock of design capabilities observed in design policy beneficiaries.**

It follows therefore, that measuring the effectiveness of design policy is dependent on the development or adoption of appropriate design indicators specific to design as an 'enabler' of innovation.

The project explored ways of integrating macro and micro indicators, rather than attempt to force an artificial connection between them. We consider that recognition of the way in which the subjects of the indicators play their part in design innovation policy would also be useful. The European Innovation Scoreboard (2008) classifies indicators across three broad themes that reflect their relationship to policy – as enablers, activities (firm level) and outputs:

- **Enablers** – key drivers and facilitators of innovation, relating to external factors influencing the firm, and corresponding to macro indicators in DeEP.
- **Activities** – innovation activities undertaken by individual firms in pursuance of economic growth, and corresponding to micro indicators in DeEP.
- **Outputs** – quantifiable, measurable and attributable outputs resulting from firms' activities – which could link to both micro and macro level activities.

This categorisation works equally well for design indicators where a similar relationship can be defined between macro and micro indicators for design. There is potential to expand this approach to provide a conceptual link between micro and macro levels in the evaluation of design innovation policy.

An initial set of over 70 macro design indicators were identified from a range of existing sources. A limiting factor in this process is the relative paucity of macro design indicators spanning all EU member states, particularly in comparison to the availability of innovation indicators. Similarly, data for design indicators is not collected as frequently, nor as consistently across Europe, as that collected for innovation or more general socio-economic indicators.

We have resisted the temptation to adopt innovation indicators as a proxy for design indicators, despite the fact that the compilation of full datasets for all EU member states will not be possible from the outset. It is hoped that national and regional governments will see the value in the consistent collection of design data as a result of DeEP, and as a consequence, implement measures for the collection and assimilation of design innovation specific data. Existing macro design indicators have been selected through an interpretation of the most useful and usable

indicators in the context of DeEP organised into three macro design categories which reflect the enabling role of design in innovation.

- **Design Investment** – representing a governments' investment in design in both financial (€) and policy terms.
- **Design Supply** – reflecting the education, training and supply of design practitioners – including wider education and training provision.
- **Design Sector** – relating to the national design industry as providers of design skills and expertise. NB: this includes the 'creative industries', but also 'in-house' design.

These categories are based on an analysis of existing macro design indicators derived from published reports & surveys and have been synthesised from an optimal list of available macro design indicators.

3.3.2 DEVELOPING MICRO INDICATORS

In contrast to the scale of availability of macro design indicators, there have been many individual surveys and reports published on design capability within firms, and the perceived and actual value of design to those firms – particularly, for example in the UK, by the Design Council.

The development of a set of micro design indicators uses an approach which establishes the principle of a 'core' set of design indicators with a focus on firms design capabilities. These indicators therefore could be considered a subset of a longer list of micro indicators developed to evaluate design innovation policies at the micro level

It is intended that a complete list of indicators used to evaluate specific design innovation policies may be selected by considering the policy under evaluation, its objectives and

the mix of beneficiaries included. The core set of indicators allows comparisons of more generic design policies rather than addressing specific policy types – policies with different objectives, different firms supported, etc. because they focus on the underlying design capabilities and outputs.

Comparative assessments of indicators can be made using number of pre-defined baselines, for example:

- **Time** – Indicators are compared over time (before, during and after policy implementation) in order to assess changes and improvements in firms' design capabilities.
- **Geography** – Indicators are compared to benchmark values or averages, permitting comparisons with different economic systems, member states and categories of firms, industries or sectors e.g. clusters.

The collection of micro data at source should be as timely and efficient as possible. At present, much data from policy evaluation remains 'encapsulated' within individual evaluation reports. Wider dissemination, where it does occur, rarely results in the aggregation of data to provide wider assessment of policy beyond individual programmes or initiatives.

It is often the case that third-parties, e.g. Design Council, SVID, etc. will conduct retrospective surveys of programme beneficiaries in order to assess the wider

effects of policy over time and with larger sample sizes. Whilst undoubtedly useful, the correlation between the cause and effect of specific policy initiatives is lost.

The DeEP approach incorporates the collection of micro evaluation data as part of the policy initiative or programme itself, on a common basis across programmes using common or complementary indicators. It could be considered that the collection of data within the DeEP tool might be a conditional factor for the funding of the programme.

3.4 Macro level: design innovation ecosystem

Due to the desire to identify macro indicators that i) utilise existing data sources, and ii) were available for as many member states as possible, the process of selection

of macro design indicators was challenging (see Sec.4.3.1 Macro - Challenges and Limitations for a detailed discussion). The final selection of macro design indicators is thus:

Macro Design Category	Macro Design Indicator	Data Source
Design Investment	INV01 Public Investment in Design Support (as a % of GDP)	International Design Scoreboard
	INV02 Public Investment in Design Promotion (as a % of GDP)	International Design Scoreboard
	INV03 Government Spend on Design Services (as a % of GDP)	Official Journal of the European Union (OJEU)
Design Supply	SUP01 Design Courses at Graduate Level (as a % of all courses)	OECD – Education at a Glance
	SUP02 Design Courses at Post Graduate Level (as a % of all courses)	OECD – Education at a Glance
	SUP03 Design Graduates (per million population)	International Design Scoreboard
Design Sector	SEC01 No. of Design Businesses (per million population)	International Design Scoreboard
	SEC02 Turnover of Design Services Sector (as a % of GDP)	International Design Scoreboard
	SEC03 Creative Services (Exports) (as a % of total services trade)	UN Conference of Trade and Development (UNCTAD)

Table 5. Macro Design Indicators

This above list of proposed macro design indicators provides a manageable and representative palette of indicators to guide policymakers in the majority of design innovation policy initiatives. However these indicators clearly focus on design and do not include the broader macro-economic context. The DeEP project did not include such indicators in its approach as we believe that there is a wealth of such data available and it would be foolish to believe that this should be replicated within this project. Our position is to advocate the use of available macro-economic data to provide a broad landscape in which design innovation policy is played out.

Macro-economic indicators are likely to be concentrated in the early and later stages of the policy cycle. They are primarily likely to be part of an evaluation framework through:

- Baseline data which provides part of the agenda setting process – ex-ante (e.g. 'we can identify that there are fewer design jobs in x region of x country compared to the European average – this may call for policy intervention')
- Measures of impact some distance down the 'chain' of impacts – ex-post (e.g. 'we can now see, 3 years after the policy implementation, that there are the same number of design jobs as a % of employment in region x of country x compared to the European average')
- Providing the context within which to both determine and evaluate policy and policy impacts. For example GDP, total population, population of working age etc.

Macro-economic indicators are likely to be placed at the 'beginning' and 'end' of the evaluation structure in the policy cycle because, although they are powerful measures (indeed, indicators of the ultimate primary goals of many policy initiatives), they are often highly aggregated, and provide little indication of the causal 'path' of impact for a specific policy – which are likely to be filled with micro indicators within the evaluation framework.

In situating the macro-indicators within the policy cycle framework it is clear that in the 'chain' of impact of a policy, it is likely to impact the design 'system' before it impacts the broader economic system.

Within the DeEP policy cycle framework, then, the development of a set of macro-indicators for evaluating a specific policy initiative will include design macro-indicators which could then be later related to a complementary set of non-design macro-economic indicators as appropriate.

3.5 Micro level: firm design capabilities and micro indicators

The project applied a capability approach to design innovation policy evaluation, where design capabilities are defined as a set of capabilities that enable people - centred innovation – a set of competencies required in order to carry out relevant design activities.

The DeEP project identifies three categories of design capabilities: Design Leadership, Design Management and Design Execution. These categories have been used to guide the development of DeEP micro indicators, as presented below. A fourth category, Design Outputs, has also been included, intended to provide evaluators with evidence of a policy's results.

Micro Design Category	Description
Design Leadership	Relates to the presence of a holistic view of design inside the organisation and to the focus on understanding how people give meaning to things. Design leadership can be perceived when design is a participant in determining the strategic choices available to a firm or organisation.
Design Management	The ability to manage design resources – in terms of human resources; design processes and creativity; and economic resources.
Design Execution	Involves the presence of human resources with technical skills, design technologies and infrastructures, investments in the New Product Development process. It is related to the skills visualising/prototyping and applying new technologies.

Table 6. Micro Design Categories

The following micro indicators have been developed for evaluating design capabilities at firm level:

Micro Design Category	Micro Design Indicator	
Design Leadership	L01	Number of new products launched in the last year that integrates functional, emotional and social utilities (as a percentage of total number of new products launched during last year)
	L02	Number of new products launched in the last year that involved customers in co-creative processes (as a percentage of total number of new products launched during last year)
	L03	'There is a clear connection between design activities and overall strategy' (measured using a 4-part Likert scale: 'completely agree', 'agree', 'disagree', 'completely disagree')
	L04	Number of products launched in the last year that exceeded sales expectations (as a percentage of total number of new products launched during last year)
Design Management	M01	Investment in design-related training programs in the last year as a percentage of total revenues during last year.
	M02	Number of employees involved in design-related activities in the last year (as a percentage of the total number of employees)
	M03	'Design activities are managed through explicit design management processes' (measured using a 4-part Likert scale: 'completely agree', 'agree', 'disagree', 'completely disagree')
	M04	Number of new products launched in the last year that involved external design professionals (as a percentage of the total number of new products launched during last year)
Design Execution	E01	Number of new products launched in the last year that improved the customer experience, and the user interface through new technologies (as a percentage of the total number of new products launched during last year)
	E02	Number of prototypes developed in the last year (as a percentage of the total number of new products launched during last year)
	E03	Investments in hardware and software technologies enabling design activities as a percentage of total revenues
	E04	'Visualization (e.g. storyboarding) and/or materialisation (e.g. prototypes) techniques play a crucial role in concept development' (measured using a 4-part Likert scale: 'completely agree', 'agree', 'disagree', 'completely disagree')
Outputs	O01	Revenues from new products launched during the last year enabling new user experience / Total revenues.
	O02	Number of design or innovation awards received during the last year / Total number of new products launched during last year.
	O03	Number of industrial design rights and patents associated to design projects developed during the last year.
	O04	The design activities allowed to develop new products that would not have been developed otherwise.

Table 7. Micro Design Indicators

Chapter 4

STRATEGIES TO SUPPORT DESIGN POLICY EVALUATION*

* This chapter is a joint effort of:
Stefano Maffei, Venanzio Arquilla, Marzia Mortati, Beatrice Villari (Politecnico di Milano) who wrote par. 4.2, 4.3.2, Martyn Evans, John Chisholm (Lancaster University) who wrote par. 4.1, 4.3.1

Design policy evaluation cannot be considered to be exhaustive if conducted only through the collection of quantitative data. Strategies to also collect and interpret data qualitatively are crucial in order to use appropriately emerging evidence in relation to the context and action being evaluated.

Our research has underscored the limited availability of reliable data on design across Europe and is an area where dedicated initiatives are required if the evidence case for design is to be robustly made.

*In the context of DeEP, interpretation is proposed through a narrative approach, to be applied at both macro and micro levels. The narratives produced are intended to assist policy makers describe in simpler, more accessible terms – through specific cases and scenarios, for example – the effects of a design policy, whilst also offering alternative choices or options for future policymaking. **The qualitative interpretation of quantitative data represents the first step to new policy making**, thus generating a virtuous cycle of policy evaluation, delivery and implementation that DeEP envisages as the most effective process for the future development of design policy. **The combination and integration of quantitative and qualitative data underscores the approach advocated in our research.***

4.1 National benchmarks and scenarios (macro level)

Benchmarking provides a means of comparing the relative performance of EU member states through aggregation of data for macro design innovation policy indicators. The concept of benchmarking – ‘an ongoing, systematic process for measuring and comparing ... with an external standard’ (Alstete, 1995) – provides EU member states with a mechanism to assess how well they are performing when compared to others. The aggregation of data for the nine macro design innovation policy indicators also enables the creation of an EU benchmark. Such an EU wide benchmark enables comparison of the relative performance of member states against the EU ‘standard’.

Paasi (2005) used the term ‘collective benchmarking’ to denote comparisons across a number of countries. Collective benchmarking provides a route to agreed indicators for the measurement and comparison of performances, and identification of successful, best practice policies performed by the best performer. As a result it enables learning through interactions among governments and nations.

While Niosi (2002) asserts that benchmarks are ‘indicators of best practice’, in the context of design policy in Europe, they provide opportunity to rank relative performance of member states. In turn this provides the opportunity to identify the ‘best-in-class’ as exemplars of design innovation policy. By understand their relative position, member states can look to learn from well performing nations.

To make the data more accessible to users and to support easier comparison, data should be ‘normalised’ through mapping the original data range onto a common scale.

This approach is one that is already used in relation to benchmarking in the EU (OECD, 2013a) and as such is adopted for this purpose in DeEP. By applying data normalisation to macro indicators, benchmark data can be normalised for each indicator where the member state with the lowest value ranks as ‘0’; the highest ranks as ‘1’ and the relative value of other member states are ranked in between.

While the use of national benchmarking data is a very useful quantitative tool for assessing the relative performance of a member state, there is also a need to translate data into a form that communicates the underlying implications of the data. DeEP employed the use of a narrative approach, in the form of scenarios, to describe the contextual characteristics of performance ‘above’ and ‘below’ the EU benchmark across the three macro design innovation policy indicator categories: **Design Investment**, **Design Supply**, and **Design Sector**. The use of scenarios is proposed as it presents a description of the likely national context for a given member state when considered above or below the EU benchmark for the macro design innovation policy categories.

These eight scenarios provide a line of best fit between the benchmark data and description of the national context in terms of macro design innovation policy indicators. While this provides an interpretation of the likely national context it is limited as it does not facilitate a detailed description of a particular member state. Rather this approach describes in broad terms the characteristics of performance against the EU benchmark. Further empirical effort is required to ensure these scenarios align effectively with the specific characteristics of all member states.

SCENARIO 1

Above average levels of public investment in design, design sector activity and supply of design graduates.

- A strong awareness of national design running throughout government, business and the sector. National government is able to demonstrate a strong commitment to supporting and maintaining national design capability as a national asset.
- A coherent and balanced national design system (whether formally established or not) has resulted in a balanced national design policy eco-system able to meet demand for design services driven by a strong awareness of the value of design in business.
- A skilled, confident and enterprising design service sector providing high quality employment and offering vibrant and dynamic career paths for designers.
- Finely tuned supply of design graduates with an appropriate mix of specialisms and competencies supplying both the design services sector and wider business.

SCENARIO 2

Below average levels of design sector activity; above average levels of public investment in design and above average supply of design graduates.

- Despite higher than average levels of public investment in design, the design services sector has not responded with a corresponding uplift in levels of activity or performance. This may indicate poor targeting of the promotion and support of design or a misunderstanding of the intended audience and its needs.
- It may indicate that the needs of business are not met by the current orientation and skillsets of the design services sector – needs that are being met elsewhere.
- Despite an understanding of, and commitment to, design – in practice, making effective investments in design has not been fully understood or implemented.
- Higher than average levels of design supply compared to lower levels of design sector activity might suggest that too many design courses are producing too many graduates – or graduates with mismatched skillsets – and that the supply of design graduates exceeds that which the design services sector can absorb.

INVESTMENT

SUPPLY

SECTOR

INVESTMENT

SUPPLY

SECTOR

SCENARIO 3

Above average levels of public investment in design and levels of design sector activity; below average supply of design graduates.

- A strong awareness of the value of design in business resulting from higher than average levels of public investment in design has not been matched by the capacity in design supply – the numbers of design courses and design graduates may be insufficient to meet demand.
- Supply of design graduates does not meet demand. There are insufficient graduates compared to the ability of business and the design services sector to absorb them. Competition for graduates is high within the design services sector and wider business.
- Investment in design has generated more demand for design graduates than the design services sector can meet or, by implication, business in general can source.
- Overseas outsourcing of design services and/or design graduates may be required to meet national demand.

INVESTMENT

SUPPLY

SECTOR

SCENARIO 4

Below average levels of public investment in design; above average levels of design sector activity and supply of design graduates.

- Below average levels of investment in design support and promotion indicate a market-driven philosophy where levels of investment in design is determined and sourced from the wider market for design and the supply of design.
- Effective and performing design sector despite limited government support for design. Vibrant and dynamic career paths for designers continue within a healthy design sector.
- A functioning market-driven model with limited policy intervention. Demand for design services is balanced with ability of supply of design graduates to meet demand, but equilibrium may be jeopardised in the future should a sustained period of below average public investment in design continue.
- The nature of the role of government in generating and maintaining support and awareness of design may be misunderstood. A market forces, 'laissez-faire' philosophy may work well in the short-term, but a central understanding of design as enabler of innovation will be needed for long-term sustainability.

INVESTMENT

SUPPLY

SECTOR

SCENARIO 5

Above average levels of public investment in design; below average levels of design sector activity and supply of design graduates.

- Poor return on investment – above average levels of investment in design support and promotion are failing to stimulate demand for design services either from the design services sector or within business.
- Levels of activity and performance within the design supply and services sector are below average as a result of an absence of market-driven demand for design – despite efforts to stimulate demand for design through public investment.
- The mismatch between public investment and design activity would imply a limited national capacity to respond quickly to new opportunities for design either in terms of meeting demand for design services or maintaining a sufficient 'pipe-line' of design graduates.
- NB: A consideration of timescale may be particularly important here if there has been a recent uplift in public investment as any corresponding improvements in supply or demand for design services will take time to be realised.

INVESTMENT

SUPPLY

SECTOR

SCENARIO 6

Above average supply of design graduates; below average levels of sector activity and public investment in design.

- National demand for design graduates is static despite above average activity in design services sector indicating a mismatch between needs of the design sector and quality and /or skill sets of design graduates. May indicate a need for national design services sector to seek design expertise overseas.
- A highly competitive job market, owing to oversupply of design graduates into a design sector at lower levels of activity.
- Any consequent reduction in design courses and the design graduate 'pipeline' may restrict the supply sector's ability to respond to future uplift in demand for design graduates. Exploration of opportunities for the reinvigoration of overseas design sector overseas.
- Awareness of, and demand for, design is high but design resource not able to meet demand. Education system does not have sufficient capacity to meet future demand and use of design. Lower than average public investment in demand

INVESTMENT

SUPPLY

SECTOR

SCENARIO 7

Above average levels of design sector activity; below average public investment in design and supply of design graduates.

- Lower than average public investment in design indicates that the value of design is not seen as a key asset of national culture; the capacity to supply design skills low in comparison with demand from the design sector; overall awareness of design and the value of design in business may be low.
- A vibrant design sector despite limited government support for design may indicate a market driven model with limited policy intervention.
- Supply of graduates does not meet domestic demand possibly resulting in outsourcing of design overseas and/or employment of overseas design professionals/graduates.

SCENARIO 8

Below average levels of public investment in design, design sector activity and supply of design graduates.

- Little awareness or understanding of design within government and where the value of design is not seen as a key asset of national culture. Lack of design investment has resulted in a limited national capacity to respond quickly to new opportunities for design.
- Levels of activity and performance within the design supply and services sector are below average as a result of a lack of stimulus from government and/or an absence of market-driven demand for design.
- A limited, possibly incoherent design services sector serving only a proportion of potential businesses requiring design services. Limited career paths for designers.
- Limited supply of design graduates with a limited range of specialisms and competencies supplying both the design services sector and wider business.

INVESTMENT

SUPPLY

SECTOR

INVESTMENT

SUPPLY

SECTOR

4.2 Firm outlines (micro level)

Micro level evaluation relates quantitative data sets, collected in the field, to narratives and models of best practice that describe the effects of the policy initiative on its beneficiaries. This assists policy makers and intermediaries – as well as the firms themselves – to understand, in a practical sense, the transformation triggered by involvement in the design policy initiative. Following DeEP's 'capability approach', this effect is mainly found in the system of design capabilities. Data collected through micro design indicators have a two-fold purpose:

- To measure the extent of transformation in firms' design capabilities.
- To support the development of an interpretive narrative to describe the profile of the transformed firm.

DeEP refers to these profiles as *firm outlines* to indicate the development of *archetypical scenarios* generated for each individual policy case. Scenarios are generated by experts who are aware of the original data collected, and of the socio-productive and economical characteristics of the national or regional context to link both data and scenarios in the design policy initiative evaluation.

A preliminary list of *firm outlines* identified throughout the development of the research is provided in the following pages. These are described in general terms, and are exemplified using actual case studies. They represent initial results from the research that we recognise will benefit from further development and testing before finalisation. In particular, direct interviews and the exploration of cases is strongly recommended to reinforce the conceptual models described.

Scenarios were employed as a means to develop and communicate the firm outlines as they provide a hypothetical narrative rather than a description of exact firm profiles. These scenarios remain conceptual as a consequence of the lack of existing data available to underpin the empirical validation of these concepts. It is important to also recognise the potential number of variables that could impact upon the development and validation of the scenarios. However, DeEP proposes to work further on this area by building a statistical system for data analysis to generate combinations of scenarios for the presence of design capabilities in firms. This would assist in the matching of profiles of beneficiaries to *firm outlines*, thus obtaining a more comprehensive and nuanced narrative of the effect of design policy initiatives.

Through the development and deployment of firm outlines policy makers could obtain:

- A system for interpreting and evaluating the effects produced that would orientate future policymaking actions, and that supports the guidance of existing policies.
- A base to support the identification and sharing of good practice, and to initiate peer learning and positive 'confrontation' between firms on design.
- A platform to promote and support self-assessment by firms of the results achieved through their participation in a design policy initiative.
- A forum to steer the development of new types of design policy, based on an appropriate form of coaching and building design skills and capabilities within firms.

DESIGN BEGINNER

Firms with little or no design capabilities, but nevertheless interested in acquiring and experiencing design capability (in terms of tools and approaches) throughout the product/service development process.

Enterprise Summary:

Perimed: Participant in Design som Utvecklingskraft, Sweden. Technology and research driven, Perimed are a world leader in developing, manufacturing and marketing state-of-the-art equipment for microvascular diagnosis.

Benefits to the Enterprise:

Perimed emerged as a design beginner, a champion in its own field but still unclear how design could benefit its activities. As a result of participation Perimed were able to integrate design in the softer side of product development, e.g. user interfaces, software, web development, and aesthetics.

DESIGN ADOPTER

Firms with a core concentration of design capabilities at execution level. Design is used as a technical skill supporting the processes of ideation, production, and distribution of products and services.

Enterprise Summary:

White Logistics: Participant in Designing Demand (Design Leadership), UK. White Logistics is one of the UK's leading providers of logistics, warehouse and storage solutions. It represents an example of enterprise that works in the service sector with an intangible offer system.

Benefits to the Enterprise:

Participation transformed **White Logistic** into an exemplar for best practice for the use of design within their organisation, where design has contributed to their business growth through focussing long term strategies; and to developing a more consistent brand, from company livery (tangible) to drivers' attitudes (intangibles).

DESIGN EXPERT

Firms with a structured approach to design at all levels and functions, including planning, managing, and organising design resources. Capabilities in product development, customer experience and communication are strong, including prototyping and the involvement of external designers.

Enterprise Summary:

Tucano Urbano: Participant in Un Designer per le Imprese, Italy. Tucano Urbano specialise in clothing and accessories for urban motorbikers including helmets, back protectors, panniers and backpacks.

Benefits to the Enterprise:

Tucano Urbano have strengthened collaboration with external designers including transforming previously functional products into 'cool urban wear', and projecting brand recognition in Italy and abroad. They are also exploring possible collaborations with research centres and universities specialising in design.

DESIGN EXPLORER

Firms using design capabilities to strategically orientate innovation processes. Developing new and emerging business process scenarios, this approach to innovation comes from a consistent drive to experiment with new materials and technologies, extending capabilities to the implicit aspects of design e.g. co-design processes.

Enterprise Summary:

Lizard Footwear: Participant in DeA – Design for Arts and Crafts, Italy. Specialising in technical and sports footwear, Lizard Footwear manufacture in Italy, mainly supplying international markets. As a small firm they invest in fashion and new technology to renew their product range each year in order to compete with larger brands.

Benefits to the Enterprise:

Participation has reinforced **Lizard Footwear's** cooperation with external designers through designing new products, and contributed to the effectiveness of its in-house design function through the acquisition of additional management and new product development skills.

EXECUTION

MANAGEMENT

LEADERSHIP

EXECUTION

MANAGEMENT

LEADERSHIP

EXECUTION

MANAGEMENT

LEADERSHIP

EXECUTION

MANAGEMENT

LEADERSHIP

DESIGN ENABLER

Firms concentrate design capabilities e.g. in communicating a product or service and engaging the user in brand value. This includes a high capacity of managing external resources and relationships for design and production. These firms use design throughout the organisation with standard and clear procedures for all, with high investments in training for design.

Enterprise Summary:

Marmorin: Participant in Design Your Profit, Poland. Manufacturer of bathroom and kitchen sinks, and shower trays – mainly exported to western markets; Marmorin have worked with designers for over 10 years, prior to participating in the design policy initiative and integrating a design department in-house. They won many design awards, and participated in design competitions, fairs, and trade shows.

Benefits to the Enterprise:

Participation provided support for know-how building and skills for brief preparation. However **Marmorin** was too mature in design for this type of policy, much more aimed at basic introductions to the field. They would be very interested in other types of design policies, encompassing development of design departments, prototyping and developments of new products, and projects involving new technologies.

DESIGN ADVOCATE

Firms with a design-driven approach to innovation. These firms are acknowledged leaders and exemplars for the use of design. They promote a design-driven vision and culture that can engage and stimulate communities, firms, regions, even nations.

Enterprise Summary:

This category of enterprises is more difficult to engage in design policy initiatives. Generally, they are successful and well acknowledged by users. The majority of design policies delivered in Europe look at introducing design-driven innovation approaches and methods to the widest audience possible. The support Design Advocates seek is much more focused to their sector; and includes actions for experimenting cutting edge and emerging technologies or developing in new and international markets. As an example of Design advocates, internationally known organisations such as **Alessi**, **Freitag**, **Ittala** and **Brompton** employ best practices showing design as a cultural asset that integrates functional, emotional, and socio-economical utilities.

Benefits to the Enterprise:

Design Advocates are champions in co-creative processes with users, as their products are part of a wider value constellation of product-service systems. They are challenging and demanding users of design policy initiatives, although finding a formula to catch their interest could make a real difference in filling the gap between advanced users of design (the economies leaders in design innovation), and others lagging behind.

4.3 Challenges and limitations

4.3.1 MACRO

Macro level evaluation of design policies and initiatives is extremely challenging primarily due to the lack of availability of quantitative data across all member states. Selection of macro indicators was underpinned by the following principles:

- That where possible *pan-European* data that should be employed, i.e. data already collected across the EU such as *OECD – Education at a Glance*.
- That indicators should be selected where existing data is available across some, if not all, member states,
- That data should be comparable across member states, i.e. when collected by individual member states the data should be *methodologically robust*,
- That data should be collected at comparable time-frames.

Paasi (2005) notes that 'very often the selection of indicators is not limited by technical or theoretical understanding, but by the restricted availability of timely, comparable and harmonized data'.

The selection of the macro indicators does provide limitations in terms of the availability of data across the EU. As a consequence, sample data for four countries was used to illustrate the approach proposed for the benchmarking of macro indicators.

We acknowledge that the actual data presented is limited in nature and any conclusions drawn should be treated accordingly.

Our research identified that there are key limitations related to the selection of the macro indicators including: the combination of data coming from various sources may be unreliable; data was often collected for different purposes (and thus the motivation of data collection cannot be guaranteed as being impartial); data was collected using different methodological approaches (and this is not always communicated by the owner of the data, that the point when data was collected differs and covers varying timeframes; and data was only available all nine indicators from a small number of member states.

While these limitations may be considered to undermine the research approach adopted, it is important to recognise the challenge faced at a macro level in the identification of reliable and available indicators.

There are no reliable and comprehensive data sets currently available for design across Europe.

One of the other EDII projects - €Design – has also encountered limitations in data availability across Europe. We have developed a methodological approach for macro evaluation of design innovation policies that is robust but is dependent, to an extent, on more effective and comprehensive data collection.

What is clear is that **to make a compelling and credible case for design in Europe there is a distinct need for more European wide data collection initiatives.** Plans to include specific questions on design in the Community Innovation Survey (CIS) in the next few years will go some way to address this shortcoming but further activities are required if design is to be elevated to the same level as innovation across the EU.

EXECUTION

MANAGEMENT

LEADERSHIP

EXECUTION

MANAGEMENT

LEADERSHIP

4.3.2 MICRO

The firm outline model proposed is an additional challenge in the future developments of DeEP aimed at interpreting and presenting narratively the data collected at the level of policy beneficiaries. Its main purpose is to propose a simple and straightforward storytelling to sustain policy makers in translating and justifying the effects of design-driven innovation, thus involving it more steadily into the strategic development of innovation policies. However, this is not a fully developed solution yet, mainly because of research limitations that should be stressed here.

- The profiles proposed have been created out of a limited number of business cases (especially those studied in the examples of design policies developed in the research and those known to the consortium). This represents an important limitation that makes the model incomplete: a wider sample of cases should be included to fully justify the model, which would also help refine descriptions and justify them with richer details.
- The profiles proposed are not totally separable from one another. There is overlap as the methods and metrics to differentiate the use of design within businesses is quite rich and complex.
- The profiles do not represent a hierarchy. Currently, they express and justify different ways of including design within business operations and strategies. Each of these could be translated in a very good use of design for the firms' purposes and sector. For example, a small firm focused on manufacturing excellence might not want to be a design advocate, but might make the best use of design for its characteristics just being a design expert.

- The model of firm outlines currently is not a model of best practices, but could be developed as such in a more complete European Platform for Design Policies. The business and policy cases evaluated could be translated to build a repository of real examples. These could become extremely useful to aid the extraction of meaningful results from quantitative data.
- Another important limitation is linked to the necessity of simplifying extremely a very rich and nuanced picture, linked to the use of design in firms. In order to engage peer learning, for example, firms would need to find valid samples in terms of similarities. These would span from the sector and size of the firm, the characteristics of the contexts in which it operates, the life and history of the firm, and even the main traits of the entrepreneur, thus making the interpretative model much more complex.
- The main challenge is to transform this model in a tool to support policy makers and firms learn and advocate for design-driven innovation as a crucial lever in innovation policies for future growth.



Figure 7: Conceptual scheme of the DeEP Macro and Micro evaluation model

Chapter 5

A WEB TOOL FOR DESIGN POLICY EVALUATION*

* This chapter is a joint effort of:
Stefano Maffei, Venanzio Arquilla, Marzia Mortati, Beatrice Villari (Politecnico di Milano)

5.1 The initial challenge

One of the main challenges facing policies for economic development includes understanding their efficacy and the isolation and measurement of the presence of design. Currently, no dedicated tools exist to evaluate the efficacy of design policies, either at European level or at national level.

This remains an open issue both for those Member States considered leaders in design innovation, and for those considered to be lagging behind. Even the measurement of innovation presents a series of challenges in terms of defining indicators; assessing their appropriateness; and available models of evaluation providing partial results based on quantitative and static data analysis (e.g. European Innovation Scoreboard).

The lack of comparative data explicitly referring to design innovation and the absence of consistent and repeatable qualitative measures have been the principal reasons guiding DeEP to envisage a tool for policy evaluation based on on-going data collection. Only very few programmes have been fully evaluated for example *Designing Demand* (UK) and *Design som Utvecklingskraft* (Sweden). However, historical sets of comparable data do not exist for the vast majority of European design policies.

5.2 What does it do and how it works

The DeEP Evaluation Tool is based on the collection of an appropriate evidence base related to design policies, and is principally based on monitoring policy beneficiaries within the context of individual programmes or initiatives, and a link to existing national datasets.

To evaluate the evidence base, the tool applies a statistically valid methodology, known as the 'difference-in-difference' method, which explores the time dimension of data describing the counterfactual through the comparison of information coming from beneficiaries and participants (the control group) before and after the policy is delivered. Data is further cross-referenced with national datasets, where a system for the collection of new data can also be foreseen as a future development.

The ultimate goal is to create – as the system is adopted and implemented – an on-going system for policy evaluation specifically dedicated to design that can produce a European Design Innovation Scoreboard. The DeEP Evaluation Tool is structured into four main areas:

- A. A description of the concepts driving the DeEP approach
- B. Observations of the effects of design policies on firms (micro level)
- C. A description of the enabling conditions for design policies in Europe (macro level)
- D. Recommendations for future design policies.

B. OBSERVATIONS OF THE EFFECTS OF DESIGN POLICIES ON FIRMS (MICRO LEVEL)

Implementing Design Policy Evaluation

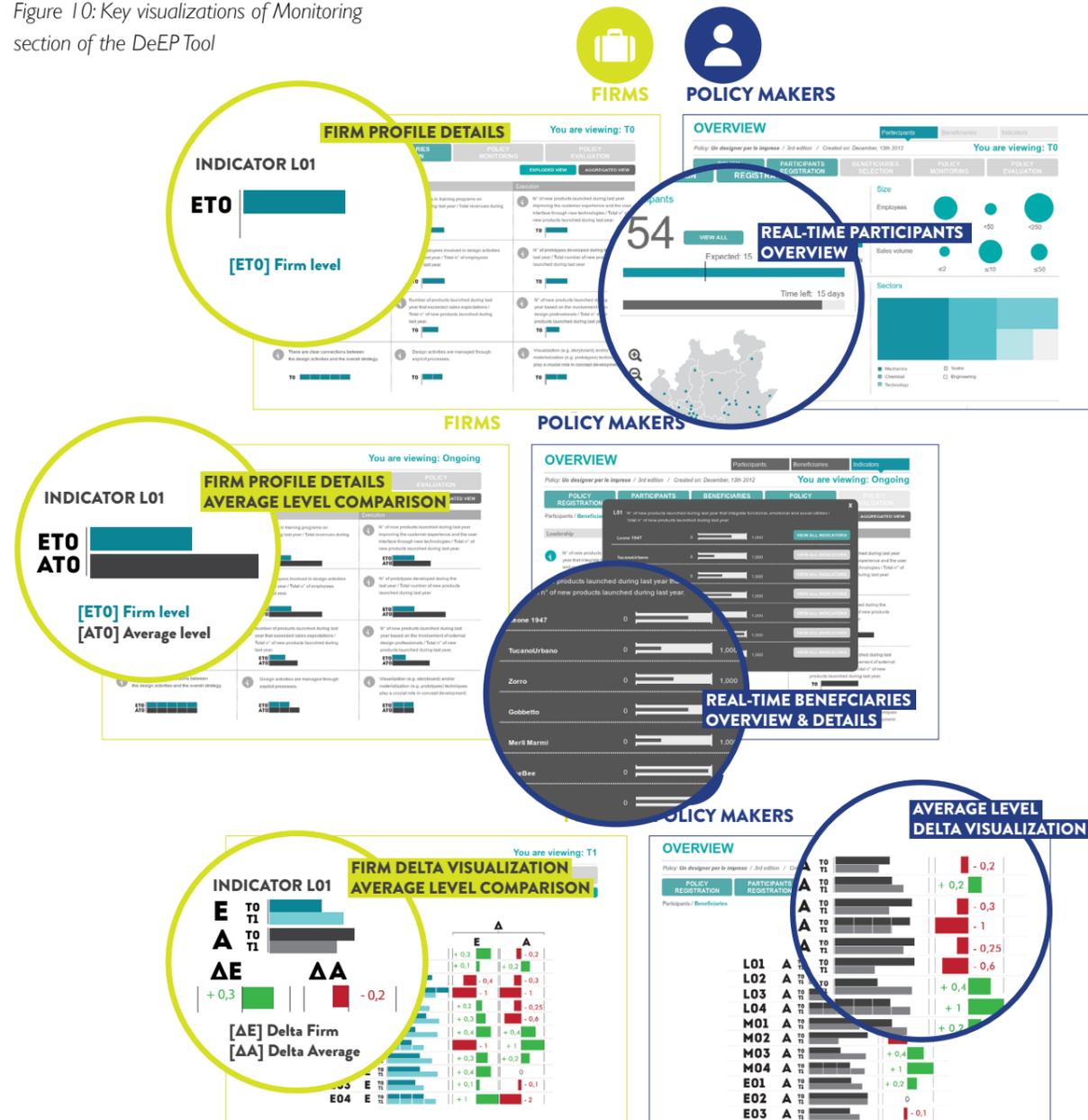
This section collects micro data on the basis of design indicators clustered into three design capabilities (leadership, management and execution). These describe the way firms incorporate design into innovation processes.

The section is dedicated to managing and evaluating the effectiveness of design policies on beneficiaries, and is the only one with specific areas for policy makers and firms.

The former can register, monitor and evaluate policies; the latter can register and apply for policies; access their private profile and assess their progress through micro design indicators.

The Tool manages and visualises micro design indicators through info-graphics to facilitate understanding. Finally, the results of each policy is recorded in the central database.

Figure 10: Key visualizations of Monitoring section of the DeEP Tool

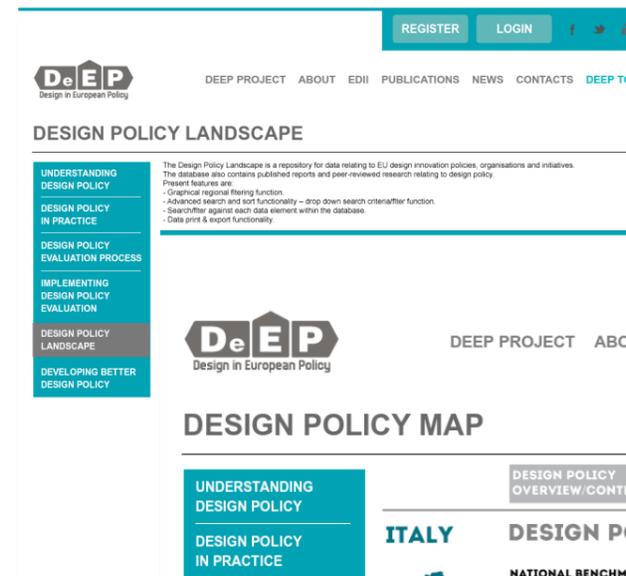


C. A DESCRIPTION OF THE ENABLING CONDITIONS FOR DESIGN POLICIES IN EUROPE (MACRO LEVEL)

Design Policy Landscape

This section connects design policies to national ecosystems by visualising data in interactive maps on past and present design policies and initiatives registered in the platform. This area also visualises data collected through macro design indicators (Design Investment, Design Supply, Design Sector) by extracting design-relevant information from existing baselines. In particular, the Landscape provides two main outputs:

- Benchmarks and national scenarios comparing national design performances across Europe and against EU benchmarks;
- Design Policy Map: a visual and interactive repository of data on EU design innovation policies, organisations and initiatives.

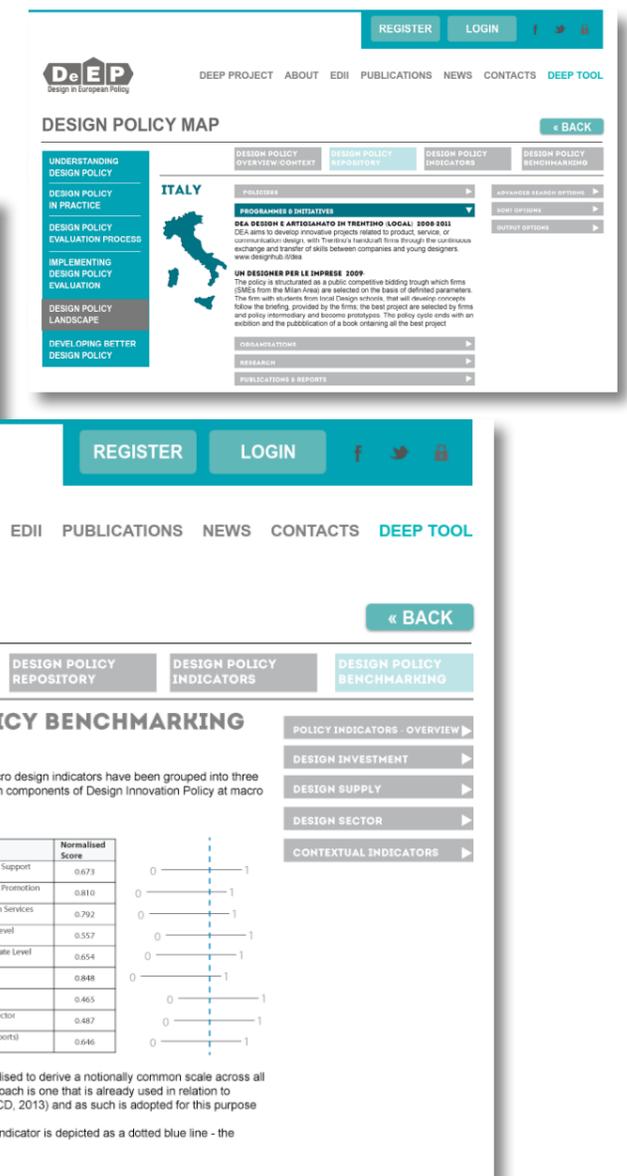


D. RECOMMENDATIONS FOR FUTURE DESIGN POLICIES

Developing Better Design Policy

This section proposes future perspectives on the connection between design policy evaluation and making. The objective is to promote an evaluation culture within organisations and includes recommendations for policy makers involved in promoting design innovation across Europe.

Figure 11: Examples of the Design Policy Landscape section in the DeEP Tool



5.3 What does it deliver?

The DeEP Evaluation Tool collects evidence to facilitate the evaluation of design innovation policies at:

- macro level – the level of the national design ecosystem
- micro level – the level of beneficiary firms

At the macro level, the tool collects statistic data collection for policy evaluation. This is manifested by the **Design Policy Landscape** that provides a picture of the 'state-of-the-art' of design policies across Europe. It is supported by a set of **macro design indicators** that draw on existing datasets for design innovation to **benchmark member states** using indicative **scenarios** based on a representative **narrative**. However, existing datasets for design are neither exhaustive nor comprehensive or geographically granular.

Therefore the inclusion of additional indicators for the collection of new data is strongly suggested.

The micro part is **entirely based on new data collection**, as attempts to measure design policy effectiveness at the level of initiatives has seldom been employed. The target beneficiaries – SMEs – are evaluated for the **transformation their design capabilities** undergo as a result of the policy intervention. Comparison of their individual data with data gathered from a control sample (e.g. the other firms applying to the policy but not selected as beneficiaries) allows policy makers and firms to **understand the effectiveness of any type of policy** (subsidies, coaching, mentoring, etc.) directly with the contextual limitations, constraints and peculiarities. This also provides policy makers the possibility to draw out **firm outlines** to justify the appropriateness of the money allocated and to orientate possible future investments.

DESIGN POLICY BENCHMARKING

MACRO DESIGN INDICATOR		NORMALISED SCORE
INV01	Public Expenditure on Design Support (as a % of GDP)	0.673
INV02	Public Expenditure on Design Promotion (as a % of GDP)	0.810
INV03	Government Spend on Design Services (as a % of GDP)	0.792
SUP01	Design Courses at Graduate Level (as a % of all courses)	0.557
SUP02	Design Courses at Post Graduate Level (as a % of all courses)	0.654
SUP03	Design Graduates (per million population)	0.848
SEC01	No. of Design Business (per million population)	0.465
SEC02	Turnover of design services sectors (as a % of GDP)	0.487
SEC03	Creative Services (Exports/Imports) (as a % of total services trade)	0.646

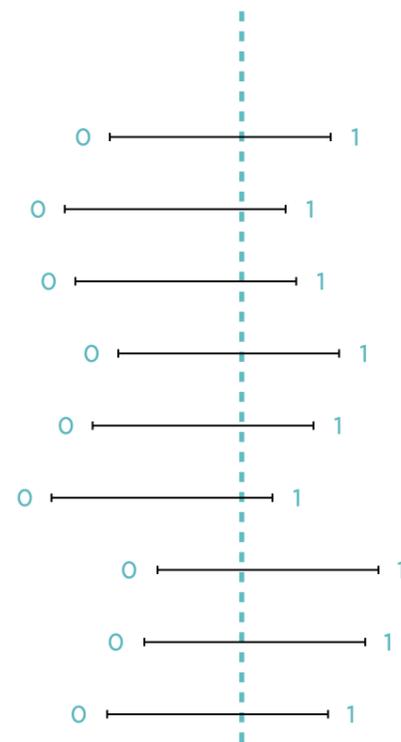


Figure 12: Example of the benchmark of member state

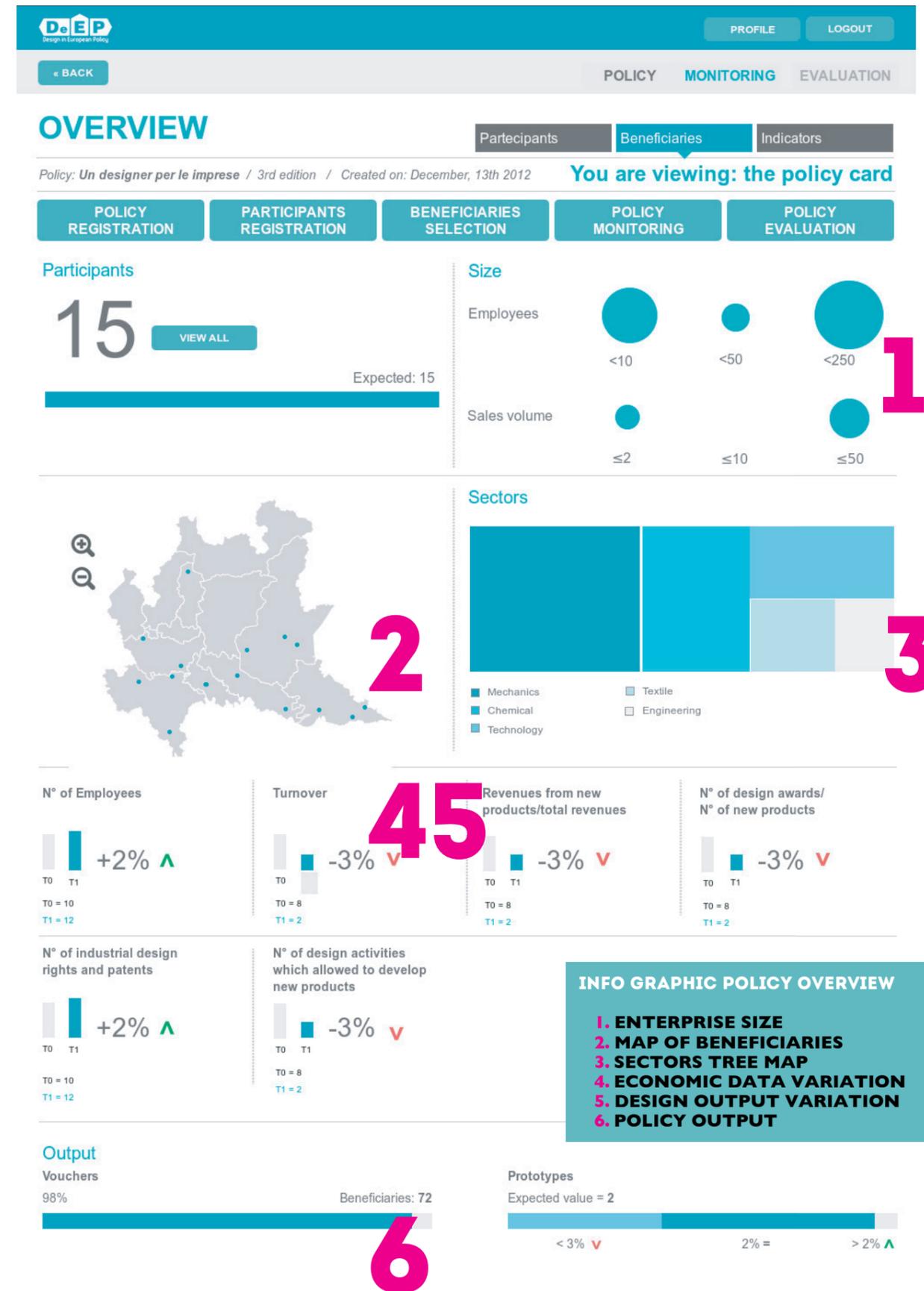
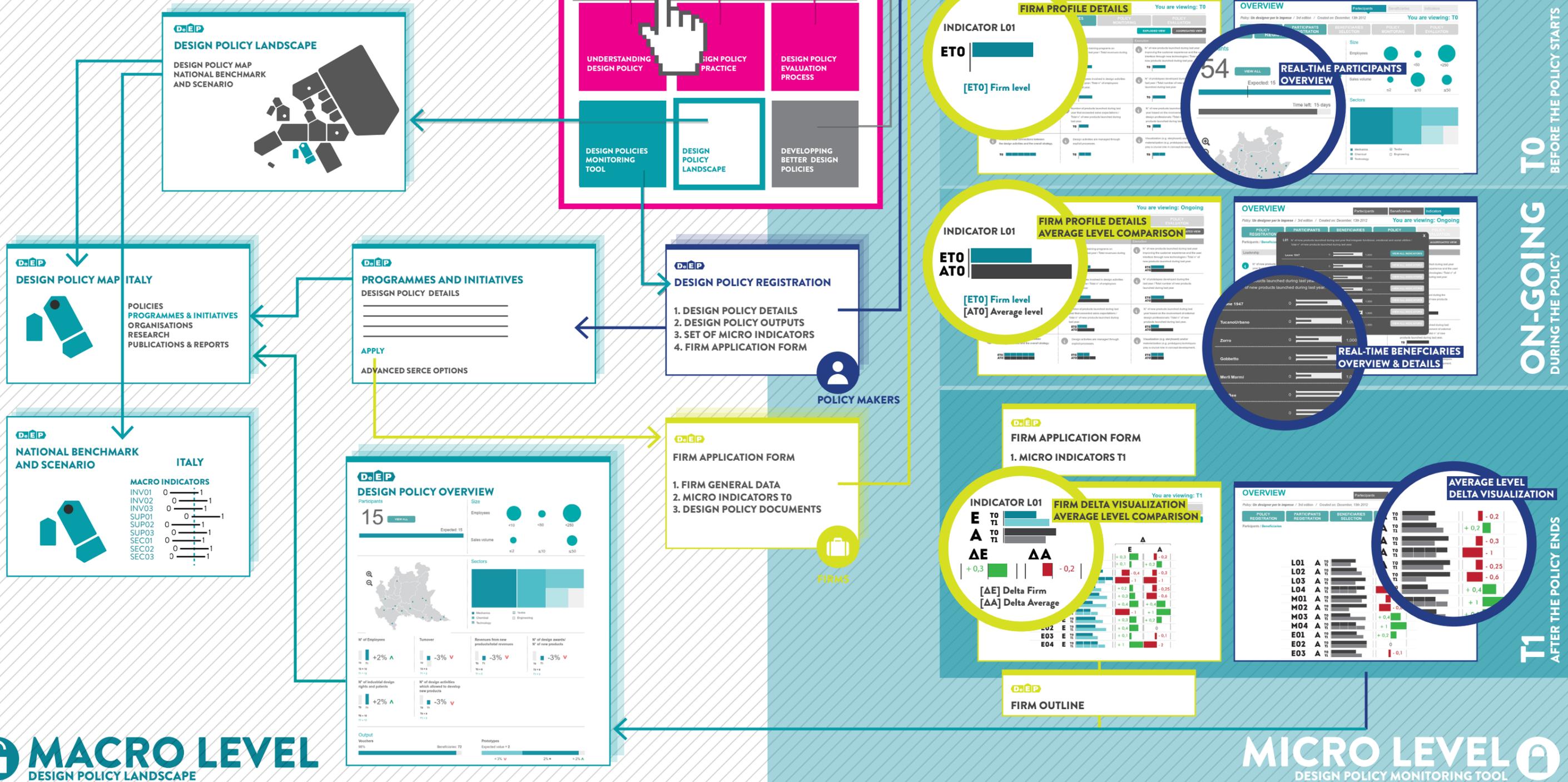


Figure 13: Example of design policy data collection

DESIGN POLICY EVALUATION TOOL

A WEB PLATFORM FOR POLICY MAKERS, ENTERPRISES, AND OTHER STAKEHOLDERS INVOLVED / INTERESTED IN DESIGN INNOVATION POLICIES TO EVALUATE THE EFFECTIVENESS OF THESE POLICIES.

CONCEPTS DRIVING THE DEEP APPROACH



5.4 What difference does it make for policy makers and firms?

Ultimately, the DeEP Evaluation Tool helps policy makers and firms:

- Understand better the Design Policy Landscape in Europe
- Monitor the Design Policy process and collect data on firms to justify design innovation policy investments,
- Evaluate and compare project outcomes and types of policy to understand which works best,
- Create and promote a European platform for the development of better design policy.

Through the DeEP Tool, the research has supported further the mainstreaming of design into innovation by providing tools and strategies for evidence collection on the benefits and value of design and design policies. To enable this, the tool has helped frame and propose an evaluation approach based on a process and two sets of design indicators. Macro design indicators allow countries benchmark design support in their ecosystem; micro design indicators evaluate the effectiveness of policy initiatives directly on beneficiaries in terms of design capabilities.

Further, firms – as one of the main targets of design innovation policies – benefit from DeEP by receiving both more focused support through policy implementation and by gaining a closer understanding of the potential of design innovation to enhance their design capability.

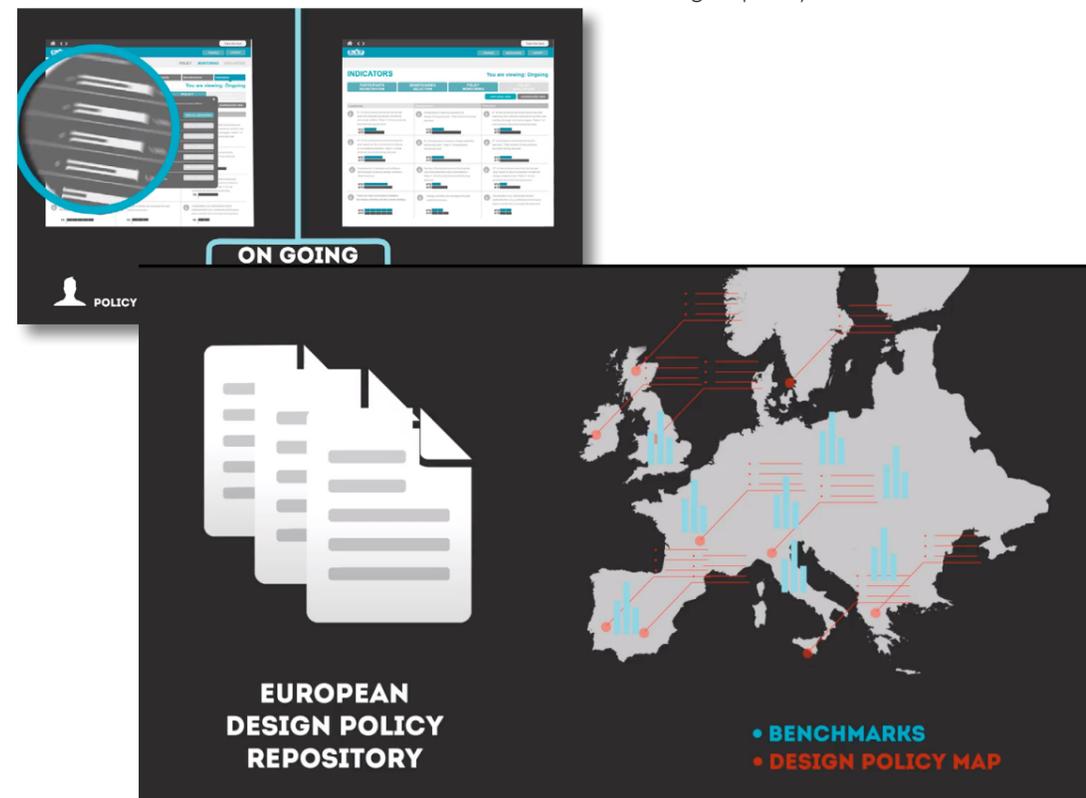


Figure 14: Screenshots DeEP Tool Video @ <http://www.deepinitiative.eu/deep-evaluation-tool-watch-video.html>

5.5 Current challenges and limitations of the Tool

The DeEP Evaluation Tool is part of an on-going process aimed at spreading an evaluation culture across Europe. Currently, it represents the interim result of a much broader path of development that will surely take more than two years to be fully developed.

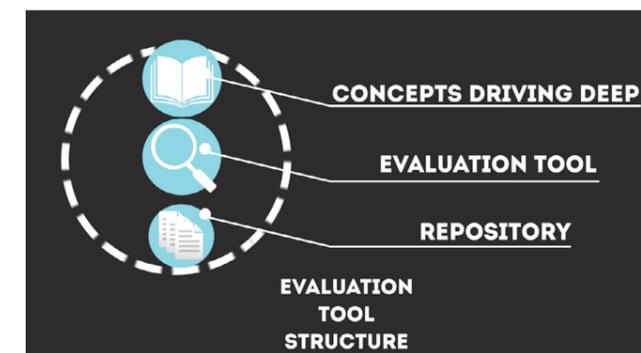
Many challenges still exist to its full development and adoption, part of which are linked to politics and governmental decisions, while part are technical constraints requiring a top level decision to be fully implemented.

In particular, the main limitations and challenges can be listed as follows:

- Promotion and adoption of the Tool in all new design policies developed by the EC, to make it the principal European forum on the topic;
- Adoption of the Tool by the widest pool of European countries/policy systems to allow the collection of as many new design policies as possible and make the tool the central European platform for design policy evaluation;
- Lack of existing national data directly linked to design innovation, and of historical data sets to allow – at present – a proper simulation of the workings of the tool;

- Current need for further testing with policy makers coming from as many European policy systems as possible, to refine the platform and accommodate as wide a variety of countries as possible;
- Further development is needed to incorporate diverse types of policies and firm sectors, and to implement more targeted sets of design indicators depending on the context in which the policy is delivered. Currently, the DeEP Tool does not foresee results tailored to the diverse levels of maturity that characterise national European contexts. This could represent a crucial future development that could highlight the increasing importance of regions as European centres for growth and investment;
- Need for expert qualitative interpretations of the data collected, in order to produce a forward looking evaluation and regenerate policy recommendations on a regular basis, and to provide policy makers with justifications on their investments;

Hypothesis for further developments might include the evolution of the Tool into an official European Platform for design policy making, monitoring, evaluating connected to a wider and networked political strategy to promote and foster investment in design. The Tool might also be adapted to include countries outside the EU for expanded and richer comparison. This might be achieved through an 'open' philosophy, available to the wider design community.



Cupris
Ikawa
Kwickscreen
Orbel
Studio Makgill

Test Firms

5

Test Policy Maker

4

Crawford
BIS
Ailbhe Mcnabola
Design Council
Jocelyn Bailey
Policy Connect
Jamie Jackie Walker
The Design Programme

POLITECNICO DI MILANO
DIPARTIMENTO INGEGNERIA GESTIONALE (DIG)
(IT)

POLITECNICO DI MILANO
DIPARTIMENTO DI DESIGN
(IT)

Test Firms

5

Roberta Redaelli
Roberta Readelli Fashion
Roberto Galbiati
Galbiati Natale e figli
Lorenzo Frigerio
Tessile srl
Debora Guolo
Dexco di Debora Guolo
Filippo Berto
Berto Salotti

Online test Firms

4

Giovanni D'Addario
Maristella Turi
Regione Lombardia
Renato Montalbetti
Unioncamere Lombardia
Enzo Colombo
Mediocredito Italiano
Enrico Bindolini
Confartigianato Imprese Lomellina
Roberto Calugi
Milan Chamber of commerce

Test Policy Maker

5

Online test Policy Maker

5

MÄLARDALEN UNIVERSITY
(SWE)

THE WORK FOUNDATION
(UK)

LANCASTER UNIVERSITY
(UK)

MUNKTELL SCIENCE PARK
(SWE)

CONCORDIA DESIGN
(PL)

Test Firms

3

Anna Wróblewska
VOX
Adam Brukwicki
Adjatech
Marcin Lugawiak
Joanna Sosnowska

Online test Firms

2

Test Policy Maker

8

Katarzyna Wicher Lambryczak
Wielkopolska Dep. of Innovation
Agata Zemska
Justyna Lasak
Anna Kucuk
Aleksandra Czapla-Oslislo
Joanna Dejka
Silesian Province
Katarzyna Faruga
Wroclaw City Hall
Agnieszka Ospipiuk
Poznan City Hall
Atraszkiewicz Karolina
Marshal Office of the Wielkopolska Region
Elzbieta Ksiazek
Poznan Science and Technology
Tomasz Stefanicki
Municipality of Wroclaw

Online test Policy Maker

3

Test Firms

3

Carin Torstensson
Interactive Institute Swedish ICT
Erik Asph Hennerdal
Erik Asph Hennerdal
Jonas Jähkel
Permobil
Mikael Joki
Eskilstuna Elektronik Partner AB

Online test Firms

2

Test Policy Maker

1

Inger Åckander
Almi Företagspartner Stockholm-Sörmland AB
Anderman Eva-Karin
SVID
Annika Löfgren
KREO
Karolina Winbo
Automation Region

Online test Policy Maker

4

TOTAL OF INTERVIEWS

Firms

24

Policy Makers

30

FOCUS

KEY LESSONS LEARNT ON DESIGN POLICY EVALUATION*

Figure 15: Map of interviewees involved in testing phases

* This chapter is a joint effort of:
Marzia Mortati, Beatrice Villari (Politecnico di Milano)

UNDERSTAND THE POLICY CICLE

It is important to understand the policy evaluation cycle, in connection with the policy making cycle, because this is where evaluation can be most effective. It is important to understand where evaluation can intervene, and how it can influence the development of better, more effective design policies. There is a strict relationship between the evaluation of design policies and initiatives and the development model adopted by a political system. The development model is an explicit set of macro socio-economic objectives that a political system aims at in a specific time frame. Policies in general (and design policies in particular) are tools governments use to address such objectives.

CONNECT DESIGN AND INNOVATION POLICY

It is important to define and acknowledge the connection between design policies and innovation policies. Design as an activity and process is embedded in innovation. As Hobday, Boddington and Grantham (2012: 272) state:

“Innovation analysts and policy makers have, traditionally, paid little attention to design policies and provide little in the way of critical appraisal of policies for design, whether constituted as independent design policies or as part of wider innovation policies. Until very recently the overwhelming focus of innovation policy has been on the role of research and development (R&D) and the public sector science base and, to a lesser extent, technology and engineering policy [...] design has been either absent or a poor 'second cousin' to innovation policy. Also, from a business and management innovation perspective, research into design is also scarce [...] Analytically, the design policy debate has been largely instrumental, seeking to support policy makers in the shaping of policies to promote design, rather than asking deeper questions about the validity and the efficacy of policies. As a consequence we know little about the 'mental models' (i.e., implicit approaches and assumptions) which underpin design policy making.”

The relationship between design and innovation can be interpreted and simplified. However, this does not necessarily explain the nuanced link between design and innovation, which is often blurred even in the literature.

SELECT APPROPRIATE DESIGN INNOVATION INDICATORS

Design innovation cannot be considered only in relation with the production of goods (products and services). It also has strong social, environmental, territorial concerns. Understanding which are the most appropriate quantitative and qualitative metrics (indicators) to measure the outcomes of the contribution of design in innovation processes and design policies is a delicate task that raises many questions, for example:

- *How can we establish a causality link between policy beneficiaries, their actions, processes, and results obtained* through a design innovation process? Is there coherence between scopes/outcomes? How can it be measured?
- *Is it possible to imagine qualitative indicators* as well as quantitative ones? How can we collect data for these? Are they transferable between different contexts?
- *No single 'best' evaluation method and technique exists.* The variety of tools available is a signal of the diversity of effects that a policy intervention can achieve. Consequently, each method is fit to analyse one specific impact/effect, and should be chosen for each policy case individually. How is it possible to build the best evaluation approach considering that a mix of different evaluation methods is required?

EVALUATE POLICY AT MACRO

To capture the complex nature of design policies, DeEP has developed an evaluation system at two levels: the relationship with the national design ecosystems, and the application of design policies on its beneficiaries – enterprises. To address this model, two sets of indicators have been defined related to beneficiary firms and ecosystem linked to the design policy under evaluation.

The macro set acts on the 'enablers' by assessing the main drivers of innovation that support a design ecosystem, namely Design Investment, Design Supply, and Design Sector. *The micro set captures firm's innovation efforts* recognising the importance of their activities in the innovation processes. They represent firms' design capabilities described as Design Leadership, Design Management, and Design Execution. These indicators do not consider the influence of the national and local context on the beneficiaries.

EVALUATE POLICY AT MICRO

The 'capability approach' elaborated and applied at a micro level could be further explored and implemented, both through a wider field investigation (direct inquiry with firms embedding design into their innovation process), and through desk analysis of the primary data collected. Moreover, *the categories of design capabilities described could be developed to include the type/sector/size/design alertness etc. of firms.*

ADDRESS THE CHALLENGE OF QUALITATIVE METRICS

One of the key issues that surround design in innovation policy is the wider challenge relating to the identification of metrics to assess design, both in terms of its economic value per se, and its contribution and role in innovation policies. Further, *design often produces qualitative value, which is challenging to assess, measure, and evaluate.*

LINK POLICY OBJECTIVES WITH INNOVATION PROCESSES

The link between the objective of a policy and the phases of the innovation process in an enterprise remains an open issue, to be elaborated further in the future developments of the proposed evaluation approach. There is a need to recognise the time needed to create tangible outcomes and outputs within enterprises due to the timescale required to research, develop, and launch new products and services to the market. *The evaluation of a specific initiative needs to acknowledge the overall timescale involved in new product and service development*

Chapter 6

RECOMMENDATIONS FOR POLICY MAKERS*

* This chapter is a joint effort of:
Stefano Maffei, Venanzio Arquilla, Marzia Mortati, Beatrice Villari (Politecnico di Milano)

RECOMMENDATION 1:

Advocating Design Policies in the European Innovation System

The importance of implementing design policies across Europe should be strongly advocated by the European Commission. All levels of government within each member state should be aware of the benefits and value of design as a driver of innovation.

This recommendation can be developed at several levels, by:

- Coaching policy makers by assigning key stakeholders to support the development of training for policy makers on design methods and benefits
- Integrating design thinking methods into design policy making

- Encouraging the exchange of best practice and knowledge between member states – for example through closer links between leaders and followers – to encourage mutual peer learning on design policy development, implementation, delivery and evaluation
- Organising dedicated forums to promote exchange of knowledge and other resources between policy makers from different member states - for example, by sharing examples of cases in which design has played an instrumental role in creating new economic or social value and driving innovation

Successful adoption of these approaches represents a direct benefit for the European Commission, by providing an open platform to support advocacy of design policies.

RECOMMENDATION 2:

Building an Evidence Base that Demonstrates the Value of Design Innovation to Governments and Enterprises

At the present time, policy makers and government bodies lack comprehensive and credible evidence to advocate the importance and value of design and design policy across Europe. One of the main reasons for this is a lack of data directly linking design innovation and the effectiveness of design policies. Developing a knowledge base that demonstrates the value of design is crucial to support understanding of how, where, or when to more effectively invest in design. The European Commission could support this recommendation by:

- Encourage participative processes to collect data explicitly connected to design innovation
- Applying design methods directly in order to develop an appropriate evidence base and collect appropriate data
- Develop, integrate and promote qualitative and quantitative design indicators to capture the value of non-technological innovation

- Encourage dialogue and share experiences between firms in order to promote peer-peer learning about the potential effectiveness of design policies
- Develop, integrate and implement dedicated platforms and tools to assist member states to collect, assimilate, synthesise and disseminate appropriate evidence

Member states and regional public bodies could support the European Commission by:

- Promptly adopting the tools and measures proposed by the EC by collecting data specifically connected to design innovation
- Sharing and comparing data at regional/national/European level about their design policies

RECOMMENDATION 3:

Strengthening the Design Sector and its Links to Policy Making

Design policies and policy making for design are crucial in order to maintain and support an effective design sector across Europe. Raising awareness and advocacy on their behalf is crucial to develop effective design capabilities.

The European Commission could support this recommendation by:

- Endorsing the Public Sector Design Ladder proposed in the report “Design for Public Good” in order to encourage member states to ascend the ladder – “Design for Policy” at all government levels.
- Sustaining the development of design capabilities across the innovation system through appropriate training, education, and research

- Supporting pilot actions/demonstrations to link member states that are currently positioned on initial steps of the Design Ladder.
- Implementing European platforms to support continuous dialogue between key stakeholders in the Design-Driven Innovation (DDI) community.

Member states could support their design sector by:

- Referencing design explicitly within Innovation Policy
- Assessing the economic and social value of the design sector in their country/region and sharing this data throughout the EU
- Learning from the experiences of other EU Member States on how to better develop their skill sets for the implementation of design policies

RECOMMENDATION 4:

Fostering an Evaluation Culture for Design Policies Across Europe

At The European Commission recognises a gap between member states in the European design innovation community, differentiating between countries deemed to be leaders i.e. particularly advanced in their understanding of the value of design and others, deemed to be lagging behind. This difference can be partly attributed to a lack of a clear evaluation-based approach and culture around design innovation and design policies. Non-technological innovation should rank as highly as technological innovation on policy makers' agenda. However, many design policy initiatives are seldom evaluated effectively, thereby contributing to a continuing lack of awareness of the benefits for the socio-economic European systems.

The European Commission could support this by:

- Promoting training and professional dialogue on a variety of different evaluation practices and approaches, especially those relevant for design policies
- Involving inspirational and enthusiastic users/experts to contribute to a wider programme on advocating design policies and their evaluation
- Encouraging the collection and dissemination of best practice on policy evaluation in order to demonstrate how practices might be adapted to different contexts, and to promote learning from feedback
- Encouraging wider, open communication of the results of design policies, in terms of outputs, outcomes, and impacts.

Further Readings

SELECTION OF KEY DESIGN POLICY RESOURCES

THE THOMSON, M., KOSKINEN, T. (EDS) (2012). DESIGN FOR GROWTH AND PROSPERITY, DG ENTERPRISE AND INDUSTRY

Taking a broad-based view of design, the Leadership Board identified twenty-one policy recommendations, grouped according to six areas for strategic design action.

http://ec.europa.eu/enterprise/policies/innovation/files/design/design-for-growth-and-prosperity-report_en.pdf

MOULTRIE, J., LIVESSEY, F. (2009). INTERNATIONAL DESIGN SCOREBOARD: INITIAL INDICATORS OF INTERNATIONAL DESIGN CAPABILITIES, UNIVERSITY OF CAMBRIDGE

This report presents findings useful to develop an international design scoreboard. A framework for ranking nations has been created that considers design at a national level as a system comprising enabling conditions, inputs, outputs and outcomes.

<https://www.designcouncil.org.uk/sites/default/files/asset/document/InternationalDesignScoreboard.pdf>

CHRISTIANSEN, J., BUNT, L. (2012). INNOVATION IN POLICY: ALLOWING FOR CREATIVITY, SOCIAL COMPLEXITY AND UNCERTAINTY IN PUBLIC GOVERNANCE, NESTA

This paper frames a discussion between policymakers, researchers and practitioners around the dilemmas and challenges involved in developing policymaking practices that can respond productively to the current crisis.

<http://www.nesta.org.uk/publications/innovations-policy>

HALSWORTH, M., RUTTER, J. (2011). MAKING POLICY BETTER, INSTITUTE FOR GOVERNMENT

This report makes a series of recommendations aimed at improving the approach to policy making to give ministers more control over departmental priorities, and make the civil service more responsible for the quality of policies.

<http://www.instituteforgovernment.org.uk/publications/making-policy-better>

METTLER, A. (2009). INNOVATING INDICATORS, THE LISBON COUNCIL

The report provides guidelines on choosing indicators for policy evaluation.

<http://www.lisboncouncil.net/publication/publication/55-innovatingindictors.html>

DESIGN COMMISSION (2012) RESTARTING BRITAIN: DESIGN, EDUCATION AND GROWTH

The first in the Design Commission's 'Restarting Britain' series, this publication sets out the strategic importance of design education as a driver of economic renewal and growth. The authors explore the link between the UK's national design capacity, and economic growth in the 21st century.

http://www.policyconnect.org.uk/apdig/sites/site_apdig/files/report/284/fieldreportdownload/design-commission-restarting-britain-design-education-and-growth.pdf

DESIGN COMMISSION (2013) RESTARTING BRITAIN 2: DESIGN AND PUBLIC SERVICES

The second publication in the Design Commission's 'Restarting Britain' series, this report addresses the question of public service renewal. In it, the authors suggest ways of normalising design as a creative process – design thinking – in practice, including pushing for much stronger design leadership in central government; increasing design capacity (and commissioning capacity) across government through training, and aggregating of good quality information; and building capacity in the design sector itself to respond to social and public challenges.

http://www.policyconnect.org.uk/apdig/sites/site_apdig/files/report/164/fieldreportdownload/designcommissionreport-restartingbritain2-designpublicservices.pdf

Bibliography

- Alstete, J.W. (1995) Benchmarking in Higher Education: Adapting best practices to improve quality.
- ASHE-ERIC Higher Education Reports. Washington DC: George Washington University.
- Christiansen, J., Bunt, L. (2012). Innovation in policy: allowing for creativity, social complexity and uncertainty in public governance, NESTA. London UK.
- Cox, G. (2005) The Cox Review of Creativity in Business. HM Treasury. London, UK.
- European Commission (2010) Europe 2020: A strategy for smart, sustainable and inclusive growth. COM(2010) 2020 final of 3.3.2010. Brussels.
- European Commission (2013) European Innovation Scoreboard 2013. European Commission. Brussels, Belgium. Available from: http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf
- European Commission (2013) Implementing an Action Plan for Design-Driven Innovation. SWD(2013) 380 final of 23.9.2013. Brussels.
- European Commission (2014). Design for innovation. Retrieved from http://ec.europa.eu/enterprise/policies/innovation/policy/design-creativity/index_en.htm <accessed 23 April 2014>
- Halsworth, M., Rutter, J. (2011). Making Policy Better, Institute for Government. London, UK. Available from: <http://www.instituteforgovernment.org.uk/publications/making-policy-better>
- Hobday, M., Boddington, A. & Grantham, A. (2012) Policies for design and policies for innovation: contrasting perspectives and remaining challenges. Technovation, Elsevier Science, 32 (5). pp. 272-281. Philadelphia PA, USA.
- Mettler, A. (2009). Innovating Indicators, The Lisbon Council. Available from: <http://www.lisboncouncil.net/publication/publication/55-innovatingindictors.html>
- Moultrie, J., Livesey, F. (2009). International Design Scoreboard: Initial indicators of international design capabilities, University of Cambridge, Cambridge, UK.
- NESTA (2010) Radical Efficiency: Different, Better, Lower Cost Public Services, June 2010 (available at www.nesta.org.uk/publications/reports/assets/features/radical_efficiency)
- Niosi, J. (2002) National Systems of Innovation are X-Efficient, Research Policy, Elsevier Science, 31 (2): pp. 291-302, 2002. Philadelphia PA, USA.
- OECD (2005) The Oslo Manual. Available at: <http://www.oecd.org/sti/innovationinsciencetechnologyandindustry/oslomanualguidelinesforcollectingandinterpretinginnovationdata3rdedition.htm>
- OECD (2004) Benchmarking Innovation Policy and Innovation Framework Conditions. January 2004. Organisation for Economic Co-operation and Development.
- OECD (2013a) Innovation Union Scoreboard 2013. Organisation for Economic Co-operation and Development. Available at http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index_en.htm
- OECD (2013b), Education at a Glance 2013: OECD Indicators, OECD Publishing. <http://dx.doi.org/10.1787/eag-2013-en>
- Paasi, M. (2005) Collective benchmarking of policies: an instrument for policy learning in adaptive research and innovation policy. Science and Public Policy, Oxford University Press, 32 (1): pp 17--27, February 2005. Oxford, UK.
- Raulik-Murphy, G., Cawood G. (2009) 'National Design Systems' – a tool for policy makers. Research Seminar – Creative Industries and regional policies: making place and giving space. University of Birmingham, 23-24 September 2009.
- Theodoulous, S.Z. & Kofinis, C. (2004) The Art of the Game: Understanding Policy Making. Thomson Wadsworth.
- Thomson, M., Koskinen, T. (eds) (2012). Design for Growth and Prosperity, DG Enterprise and Industry. European Commission Brussels, Belgium. Available from: http://ec.europa.eu/enterprise/policies/innovation/files/design/design-for-growth-and-prosperity-report_en.pdf
- Whicher, A. (Ed) (2013) Design Policy Monitor 2012. Cardiff Metropolitan University, Wales. UK.

Partners

POLITECNICO DI MILANO (IT)

Politecnico di Milano is a scientific-technological university which trains engineers, architects and industrial designers. The University has always focused on the quality and innovation of its teaching and research developing a fruitful relationship with business and productive world by means of experimental research and technological transfer. Within DeEP, Polimi is represented by the Department of Design, and the DIG Department (Management Engineering).

LANCASTER UNIVERSITY (UK)

Lancaster University is consistently placed with the top 10 academic institutions in the UK with strengths in interdisciplinary research and business engagement. Within DeEP this is represented by ImaginationLancaster, a design led research lab that investigates emerging issues, technologies and practices to advance knowledge and develop solutions that contribute to the common good.

MÄLARDALEN UNIVERSITY (SE)

Mälardalen University is one of the most important business schools in Sweden. The School of Innovation, Design and Engineering (IDT) is the main participant within DeEP, with a research profile in Innovation and Product Realisation (IPR) and with competencies in Design and Visualization; Innovation Management; and Product Realization

CONFARTIGIANATO LOMBARDIA (IT)

Confartigianato Lombardia is the most representative trade union organization for Lombard crafts. Founded in 1972, it represents more than 100,000 firms and entrepreneurs in Italy belonging to 35 fields of activity. The institution promotes the growth of a business culture in SMEs and the full acknowledgement of their role in the economic growth of the Lombardy Region.

MUNKTELL SCIENCE PARK (SE)

Munktell Science Park operates mainly within the southwest region of Stockholm, Sweden. It has a strong relationship with MDH of which it is a spinoff. The park is an innovation arena with about 90 tenant companies and about 200 employees focusing on innovative SMEs and on business development assistance.

THE WORK FOUNDATION (UK)

The Work Foundation is part of Lancaster University, and is a leading provider of research-based analysis, knowledge exchange and policy advice in the UK and beyond. It conducts practical research on a range of economic, social and organisational issues, and focuses particularly on developing clear messages for policy advice. As an externally facing organisation, TWF interacts with a wide range of partners in business, as well as policy makers and media outlets.

CONCORDIA DESIGN (PL)

Concordia Design is a centre for innovation, design and creativity. It operates in the Polish market since 2007 and has implemented several projects involving design, while operating as a platform for cooperation between different creative fields. It also delivers training on innovation and creativity, design management, and personal development.



DeEP aims at creating an **understanding of the impact of design innovation policies** by building frameworks and indicators to evaluate these actions both at a macro (regional, national, European) and micro (specific initiative) level.

The role of design in innovation policies is very fragmented across Europe. Only few governments have developed clear national or regional strategies to include design in innovation policies. On the other hand, it is possible to recognize the effort of all European countries and regions to implement design programmes, although often tacitly, while others occupy a middle position with tacit and explicit design innovation policies. Furthermore, **the difficulties in evaluating the impact of design innovation policies are compounded by this lack of frameworks.** There is a lack of evaluation that leads to less effective design innovation policies, disconnected from firms' activities.

DeEP wants to fill this gap by **developing and testing theoretical frameworks and practical tools** aimed at evaluating the effectiveness of design innovation policies.

The resulting DeEP Evaluation Tool can become **an instrument for policy makers, enterprises and other stakeholders** involved in design in the policy making cycle to allow the strategic development of new design innovation policies across Europe.