Design Policy Monitor 2012

REVIEWING INNOVATION AND DESIGN POLICIES ACROSS EUROPE

A Whicher
G Cawood
A Walters

20 September 2013

see platform
Sharing Experience Europe Policy Innovation Design

Supported by the European Commission

CONTENTS

// page	
// 03	Executive Summary
// 04	Introduction
// 07	Methodology
// 15	Section i: Design and Innovation Policy in the 27 European Member States
// 15	a. Design Centres
// 15	b. Design Promotion
// 15	c. Design Support
// 16	d. Design Policy
// 21	Section ii: SEE partner National and Regional Design Systems
// 21	a. Design Users
// 26	b. Design Support
// 30	c. Design Promotion
// 33	d. Design Agents
// 36	e. Professional Design Sector
// 39	f. Design Education, Research and Knowledge Transfer
// 41	g. Funding
// 43	h. Policy, Governance and Regulation
// 46	Conclusion
// 47	Acknowledgements
// 48	Bibliography

EXECUTIVE SUMMARY

In the UK, companies spend more on design (2.92% of GDP) than on R&D (1.07%) and in Denmark, Finland and the UK, more companies engage in design activities (93%, 57% and 66% respectively) than innovation activities (52%, 52% and 46%)[1]. However, governments favour R&D over design as a driver of innovation; in Denmark, Estonia, Finland and the UK, public expenditure on R&D promotion is on average 500 times greater than public expenditure on design promotion. According to discussions with policy-makers, design is under utilised in innovation policy due to inter alia a lack of evidence in the form of consistent and comparable statistics on the micro and macro performance of design across Europe. SEE, which stands for Sharing Experience Europe, is a network of 11 European partners sharing international research and best practice to accelerate design's integration into innovation policies and programmes. In this document, the SEE partners set out to collate existing statistics on the performance of their national or regional design systems in order to provide input for evidence-based policy-making.

This report also presents an overview of innovation and design policies in the 27 EU Member States. In 2012, 15 of the European Member States had design explicitly included in innovation policy. Nevertheless, the SEE partners observe that there is an increasing gap between government statements on design and implementation of policy initiatives. Many more European countries and regions have active business support programmes connecting designers with SMEs, design promotion activities such as award schemes, exhibitions and publicity campaigns as well as active design centres. In 2012, Estonia was the only country to have a dedicated design policy although Denmark and Finland launched dedicated policies in early 2013.

Innovation policies are based on an analysis of the National or Regional Innovation System, design policies should also be based on an analysis of the National or Regional Design System. We have identified nine components of a design system – i) design users, ii) design support, iii) design promotion, iv) design agents, v) the professional design sector, vi) design education, vii) design research and knowledge transfer, viii) design funding and ix) design policy, governance and regulation). The main section of this SEE Design Policy Monitor 2012 examines the SEE partner's design systems according to 34 indicators. We examine the national design systems in Estonia, Denmark, Finland and the United Kingdom as well as regional design systems in Flanders (Belgium), South Bohemia (Czech Republic), Central Finland, Central Macedonia (Greece), Border, Midland and Western Region (Ireland), Silesia (Poland) and Wales (UK). As identified in the policy 'Innovation Union', 'some European countries are world leaders in design, others lack a robust design infrastructure and design capability in companies and engineering schools. This systemic gap has largely gone unnoticed but must now be tackled'[2]. The key findings reveal that for every €1,000 of business expenditure on R&D, business expenditure on design is €2,728.97 in the UK, €192.31 in Denmark and €81.18 in Finland. In contrast, for every €1,000 in public expenditure on R&D, public expenditure on design is €178.32 in Wales, €83.33 in Estonia, €33.14 in Central Finland, €23.81 in Denmark, €4.97 in Flanders and €3.45 in the UK. This raises the question that if governments increased public expenditure on design policies and programmes, it could leverage greater innovation capacity in companies relative to public investment in R&D policies and programmes.

Through new research and hands-on workshops on different themes, the SEE Platform seeks to enhance the understanding of the value of design for innovation among policy-makers[3]. Between 2012 and 2015 SEE is delivering 80 workshops on different themes (design policy, business support programmes, design for service innovation, design for social innovation and industry-academia collaboration). By the end of 2012, the partnership had engaged over 100 policy-makers in practical workshops. SEE is financed by the European Commission through the European Design Innovation Initiative[4]. The SEE partners have played an instrumental role in raising the profile of design among policy-makers in their countries and influencing the latest cycle of innovation policies and programmes. SEE will continue to monitor policies trends in innovation and design over the next few years.

SUMMARY OF KEY FINDINGS

Design Users

- In the UK, companies spend more on design – 2.92% of GDP than on R&D 1.07%; whereas in Denmark and Finland, companies spend less on design – 0.4% and 0.22% of GDP than on R&D - 2.08% and 2.71%.
- In Denmark, Estonia, Finland and the UK public expenditure on R&D is almost 500 times greater than spending on design.
- For every €1,000 in public expenditure on R&D, public expenditure on design is €82.12 in Estonia, €23.67 in Denmark, €7.75 in Finland and €3.35 in the UK.
- For every €1,000 of business expenditure on R&D, business expenditure on design is €2,728.97 in the UK, €192.31 in Denmark and €81.18 in Finland.
- Public expenditure on design is greatest in the UK in actual terms – €9.75M – whereas in Estonia, public expenditure on design is more relative to GDP – 0.014%.
- In Denmark, Finland and the UK, more companies engage in design activities (93%, 57% and 66% respectively) than innovation activities (51.9%, 52.2% and 45.6% respectively).
- In Finland 23% of companies have in-house designers compared with 16% in Denmark and 7% in Estonia.
- In Denmark, 23% of companies use design strategically compared with 17% in Finland and 7% in Estonia.
- Design usage and investment by companies and the public sector is much better captured at national level rather than regional levels.
- In Flanders, Central Finland and Wales, on average public expenditure on R&D is 139 times greater than spending on design.
- For every €1,000 in public expenditure on R&D, public expenditure on design is €4.97 in Flanders, €33.14 in Central Finland and €178.32 in Wales.
- Public expenditure on design is greatest in Flanders both in actual terms – €2.8M and relative to regional GDP – 0.0015%.

Design support

- In 2012, Enterprise Estonia and the Estonian Design Centre introduced the first design support programme to Estonia supporting ten companies and ten design managers – the Design Bulldozer.
- In 2012, The Danish Design Centre (€800,000), Estonian Design Centre (€240,000) and the UK Design Council (€1.3M) spent an average of €780,000 on design support programmes.
- The UK spends the most on design support in actual terms but the least relative to GDP whereas Estonia spends the most relative to GDP and the least in actual terms.
- The average annual implementation cost of the SME Wallet in Flanders (€75,000), the Service Design Toolkit in Central Finland (€300,000), Design Silesia in Poland (€912,000) and the Service Design Programme in Wales (€146,000) was €358,250.
- The scope of design support programmes is expanding. Although conventional product design support is still predominant, design intervention organisations are increasing providing service design support to the private and public sectors and granting access to finance or subsidies for companies to invest in design.
- Design still remains largely excluded from broader innovation support programmes except in Greece in the programme 'Extraversion' where businesses can obtain 55% subsidies for costs between €30,000 and £250,000 for a range of innovation activities including design as well as the 'SME Wallet' in Flanders where companies can access 50% subsidies to a maximum of €2,500 for design advice or €25,000 for design management expertise.

Design Promotion

- Design promotion activities are more prevalent across Europe than design support programmes. However, despite design promotion activities being conducted in almost every EU country, design awareness across Europe remains comparatively low.
- In 2012, Finland made the largest aggregated investment in design promotion in Europe in the form of Helsinki World Design Capital. The cost of the initiative was €17.8M, with the Finnish Government providing €5M and the cities of Helsinki, Espoo, Vantaa, Kauniainen and Lahti providing €6M.
- At national level, expenditure on design promotion was greatest in Finland (€17.8M) followed by Denmark (€1.4M), the UK (€116,000) and Estonia (€135,000).
- At regional level, expenditure on design promotion was greatest in Flanders (€120,000) followed by x (€x) and Wales (€40,000). At regional level, expenditure on design promotion is consistently lower than expenditure on design support.
- Every year, Design Flanders hosts the Henry van de Velde Awards and the OVAM Ecodesign Awards PRO costing €120,000 including €23,500 worth of prize money.
- There is a high degree of commonality between the design promotion activities operating across Europe at both national and regional levels – almost all partner countries and regions have design awards, design weeks, design exhibitions, design conferences and awareness campaigns.
- Design awareness in the public sector is reported by the SEE partners' policy-makers as being highest in Denmark and Wales.

Design Agents

- National design centre budgets range from €240,000 in Estonia to €12,522,100 in the UK and staff numbers range from 6 in Estonia to 65 in the UK.
- Regional design centre budgets range from €566,677 in Silesia to €4M in Flanders for four design bodies and staff numbers range from 7 in Wales to 25 in Flanders.
- In Central Macedonia, local stakeholders have developed a business plan for a regional design centre that is hoped to be established in 2013.
- The model of funding national design centres is changing – national design centres are finding a proportion of their funding from private sources while regional design centres tend to still be 100% publicly funded although they obtain their funding from multiple levels of government: local, regional, national and European.
- The scope of design centre activities is also expanding, whereas design support was previously focused on enterprises, design centres have recognised that public authorities also need understand and use design in a strategic way. All of the national design centres conduct awareness raising activities for the public sector.

Professional Design Sector

- In Denmark, Estonia, Finland and the UK a total of approximately 1,615,000 people are employed in the creative industries (with 1.5M of those in the UK) and approximately 263,470 are designers (with 232,000 in the UK). Designers make up approximately 16% of people employed in the creative industries in Denmark, Estonia, Finland and the UK.
- In Flanders, BMW Region, Silesia and Wales, a total of approximately 205,560 people are employed in the creative industries (with 121,800 of those employed in Flanders) and approximately 7.5% (15,404) of those are designers (with 5,293 of those employed in Wales).
- GVA of the creative industries in Denmark, Estonia, Finland and the UK is 3.0% on average, figures for the GVA of the design sector only exists in the UK (0.14%).
- GVA of the creative industries in Flanders, BMW Region, Silesia and Wales is 2.9% on average, GVA of the design sector in Flanders, Silesia and Wales is 0.1% on average.
- National Occupational Standards for Design exist in the UK, Belgium, Ireland and Poland and the Estonian Design Centre is planning to develop professional design standards in 2013.
- In Denmark and Finland, over 80% of designers holder an undergraduate degree whereas in Estonia between 60-79% hold an undergraduate degree and in the UK only 51% and UK designers are least likely to undertake skills training.
- In both Estonia and the UK, financial services and the public sector are designers' largest clients.
- In Flanders, Central Finland, Central Macedonia and Western Region of Ireland, the manufacturing sector is the largest client of professional design services. In Flanders, Central Finland, Central Macedonia and Silesia, the IT and digital sector is the second largest client of professional design services.
- In Denmark, Estonia and the UK, designers are most likely to work in the area of communication and graphics and then most likely to work in digital and multimedia area.

Design Education, Research & Knowledge Transfer

- This component of the National and Regional Design Systems is probably the least well understood as data is sparse.
- Design is taught in primary and secondary schools in Estonia (ages 6-16) and the UK (ages 6-10 and 11-18), Flanders (17-18 year olds) and South Bohemia (15-18 year olds). In Estonia, design was added to the national curriculum for the academic year 2011-2012 from the first to ninth grade (6-7 year olds to 15-16 year olds) as part of the arts as well as technology lessons.
- In 2012, in the UK, 240,704 students opted to study 'Design and Technology' (D&T) for their GCSEs, the exam taken by 15-16 year olds. 35% more students took a GCSE in D&T than in biology (166,168). In 2012, 17,105 students opted to study D&T for A-level, the exam for 17-18 year olds but 71% more students chose A-level biology (62,041) than D&T.
- In Denmark, Estonia, Finland and the UK, there were a total of approximately 17,075 bachelor degree design graduates (with 16,000 of those from the UK).
- There are no reliable figures for the number of master's and doctoral graduates at national or regional levels.

Funding

- Funding is one of the prime policy instruments for governments to incentivise innovation; however, design is often excluded from mainstream innovation funding for research and practice.
- At national level, the scope of funding mechanisms for design is broadest in Denmark where there exist subsidies for business to invest in design, funding for academia-industry collaboration, funding for design research and public tenders for design services in terms of both communication and strategy contracts.
- At regional level, the scope of financing mechanisms was broadest in Flanders with subsidies for companies to invest in design, subsidies for designers to invest in training and skills, funding for academia-industry collaboration and public tenders for design services for public communication.
- The most important factors for a successful tender in regional government are reported to be solutions that are innovative, creative and user-centred. Although awareness of design is reported to be relatively high in regional government innovation departments, design is not broadly applied as an approach to problem-solving.

- In 2012, in Wales, the Design Advisory Service tender came up for renewal at a value of €1M over three years.

- In Flanders, public tenders for professional design services amounted to €120,000 for the government department Enterprise Flanders.

Design Policy

- Innovation policy was perceived by local design stakeholders as being best articulated in Denmark and Finland (9 out of 10) and design is a few points behind in both countries (7 out of 10).

- At regional level, innovation policy was perceived to be best articulated in Flanders and Wales (8 out of 10) and design policy scored 5 out of ten for both regions.

- In 2012, Estonia was implementing the National Action Plan for Design and Denmark and Finland were preparing design strategies launched in early 2013.

- At national level, policy and programme provisions for innovation are broadest in Finland followed by Denmark, while policy and programme provisions for design are broadest in Finland followed by Estonia.

- At regional level, policy and programme provisions for innovation are broadest in Central Finland, Border, Midland and Western Region of Ireland and Wales, while policy and programme provisions for design are broadest in Flanders followed by Wales.

- In Estonia, the expenditure on innovation policy implementation is €143.8M, expenditure on creative industries policy implementation is €7.57M while expenditure on implementing design policy amounts to €0.4M.

- In 2012, the Regional Government of Silesia, the Marshall Office, made design a cornerstone of the 'Regional Innovation Strategy of Silesia Voivodeship for the years 2013-2020' and the Welsh Government prepared an 'Innovation Strategy for Wales', which included design as a driver of innovation in both the private and public sectors.

- The scope of both policies and programmes for innovation and design are expanding. There is a high degree of commonality between the policy and programme provisions for innovation among the SEE consortium.

- Policy and programme provisions for design still cover the traditional design domains of product development and industrial design but service design for the private sector features in policies or programmes in 8 of the 11 partner countries and service design for the public sector features in policies or programmes in 7 of the 11 partner countries.

INTRODUCTION

SEE is a network of 11 European partners sharing international best practice to accelerate the integration of design into innovation policies and programmes. In discussions with policy-makers, SEE partners face a number of recurrent barriers to justifying policy intervention in favour of design – a lack of awareness and understanding of the benefits of design, the absence of a common definition for design and how it relates to innovation, a lack of statistics on the economic performance of the design sector and uncertainty of the return on design investment.

The root of many obstacles to design forming part of innovation policy at European, national, regional and local levels is providing an economically robust rationale for a design policy based on macro and micro statistical data. There are an increasing number of studies on design's economic impact but they are often conducted in isolation from a broader European comparative context.

For policy-makers and academics, a prerequisite for evidence-based policy-making is benchmarking – a process of learning by comparison[5]. Benchmarking is used across Europe to inform innovation policy. R&D and innovation are well captured in European benchmarking studies such as the Community Innovation Survey but design is not. However, as the scope of innovation policy expands from the traditional focus on R&D drivers to include other drivers such as design, benchmarking studies have been slower to evolve. Studies on design sector performance have been conducted by a number of design centres across Europe and in 2010, Moultrie and Livesy's International Design Scoreboard examined design performance against seven indicators[6]. However, these studies tend to overlook the regional dimension, do not collect data regularly and do not contextualise findings with R&D and innovation benchmarking exercises. If governments across Europe are to integrate design into innovation policy, they require comparable, empirical evidence of the value of design. This research seeks to test a benchmarking framework that could provide input for such evidence-based policy-making.

Through the Design Policy Monitor 2012, the SEE partners have collated existing statistics on the performance of their national or regional design systems in order to provide a more compelling rationale for integrating design into innovation policy. This publication is intended to spark debate among European design stakeholders in academia, government and design centres on the need for robust and comparable design metrics and indicators to develop a pan-European design benchmarking initiative for evidence-based policy-making.

The framework for the Design Policy Monitor was informed by innovation and design benchmarking studies and innovation and design systems literature as outlined in the methodology section. From over 60 potential design policy indicators, the indicators were refined according to data availability and relevance for policy-makers in interviews and a focus group with design centres and innovation policy-makers. The benchmarking framework for the Design Policy Monitor is based on 34 indicators.

The SEE partners tested the framework by collating existing data on design from studies in their countries or regions. Significant data gaps in certain countries and regions were anticipated but data for all indicators were available in at least one country. The results are presented according to nine components of a design system: design users, design support, design promotion, design actors, design education, design research and knowledge transfer, design funding and design policy.

The purpose of this exercise was to propose a framework for benchmarking design that could be a starting point for countries and regions looking to examine their design systems. Since data on all the indicators are available in at least one country or region and by combining the methodologies, a handbook for collecting and interpreting design data could be developed. Such a benchmarking study could be conducted every few years allowing participating countries to benchmark the performance of their national or regional design systems against others. Such a tool would prove useful for the SEE partners in supporting their national and regional governments.

This publication is divided into two main sections: an overview of design and innovation policies in the 27 EU Member States as well as a more in depth examination of national and regional design systems in the SEE partner countries and regions.

SEE Partnership

Design Wales / PDR / Cardiff Metropolitan University (Lead Partner)	UK
Design Flanders	Belgium
Regional Development Agency of South Bohemia (RERA)	Czech Republic
Danish Design Centre	Denmark
Estonian Design Centre	Estonia
Aalto University School of Art and Design	Finland
JAMK University of Applied Sciences	Finland
Business and Cultural Development Centre	Greece
Border, Midland and Western Regional Assembly	Ireland
Castle Cieszyn	Poland
Design Council	UK

METHODOLOGY

R&D is considered the main driver of innovation in Europe and increasing investment in R&D is part of the innovation policy targets of all European countries[7]. However, there is evidence that design is a relatively low cost way for companies to innovate compared with R&D, yet design is marginalised in innovation policy relative to R&D. A significant barrier to design forming part of innovation policy is the lack of quantitative studies on design performance in different European countries and regions to provide sufficient rationale for policy intervention. Over the last few decades researchers and policy-makers have been able to quantify R&D and innovation for the purposes of evidence-based policy-making through a series of micro and macro indicators and benchmarking studies. According to Huggins, benchmarking exercises have become increasingly popular in Europe and are considered an essential prerequisite for informed and strategic policy-making[8]. For Borras and Jacobsson, benchmarking is a methodology involving learning by comparison that can be employed by policy-makers across Europe under the EU's 'open method of coordination' to analyse policy development, implementation and impact to accelerate policy learning and the transfer of best practice[9].

European benchmarking studies are a key mechanism for policy-makers to assess the performance of their innovation and research systems. Constructing a benchmarking model to examine policies for design poses a number of challenges: design systems research is underdeveloped compared with innovation systems research; there is a lack of metrics and indicators for design; data on design is scare; where data does exist, it is not necessarily comparable with studies in other countries; data gathering has not been conducted at regular intervals to demonstrate changes and data collection is costly so data tends to exist at national levels rather than regional levels. The study presented in this report has not collected new data on design, but rather has collated existing design data into a framework that more easily allows comparison between different countries and regions.

This publication is divided into two main sections: an overview of design and innovation policies in the 27 EU Member States as well as a more in depth examination of national and regional design systems in the SEE partner countries and regions. The methodology for each section is presented below.

Section 1: Design and Innovation Policy in the 27 European Member States

This study is based on design explicitly forming part of national innovation or economic development policies. This study has been conducted in two phases: a survey with eight questions among national correspondents followed by content analysis of the national innovation policy document. National representatives were asked to respond to the following eight questions:

1. What is the current innovation policy for your country?
2. When was the policy launched and when will it be revised?
3. Is design explicitly included in the innovation policy document?
4. Is design explicitly included in any regional innovation policies in your country? If so, please specify.
5. Is there a national or regional design centre in your country? If so, please specify.
6. Is there a design support programme in your country? If so, please specify.
7. Are there design promotion activities in your country (awards, exhibitions, campaigns)? If so, please specify.
8. Is there anything you would like to add about design policy in your country?

The questions have been constructed to gain an insight into the explicit and tacit policies for design in the 27 EU Member States. An explicit design policy is gauged by whether design is formally included in the innovation policy through content analysis of the document. The tacit policy provision for design are determined by whether there is design infrastructure such as a design centre, design promotion activities or design support programme. Responses were received from 20 EU Member States. Responses for Cyprus were provided by the Greek respondent. In the case of Latvia, Spain and Sweden responses are based on the 2011 SEE Design Policy Monitor. Data for Malta, Luxembourg and Lithuania is based on desk research by the principle investigator and content analysis of national policy documents.

The national respondents were provided with the following clarification information:

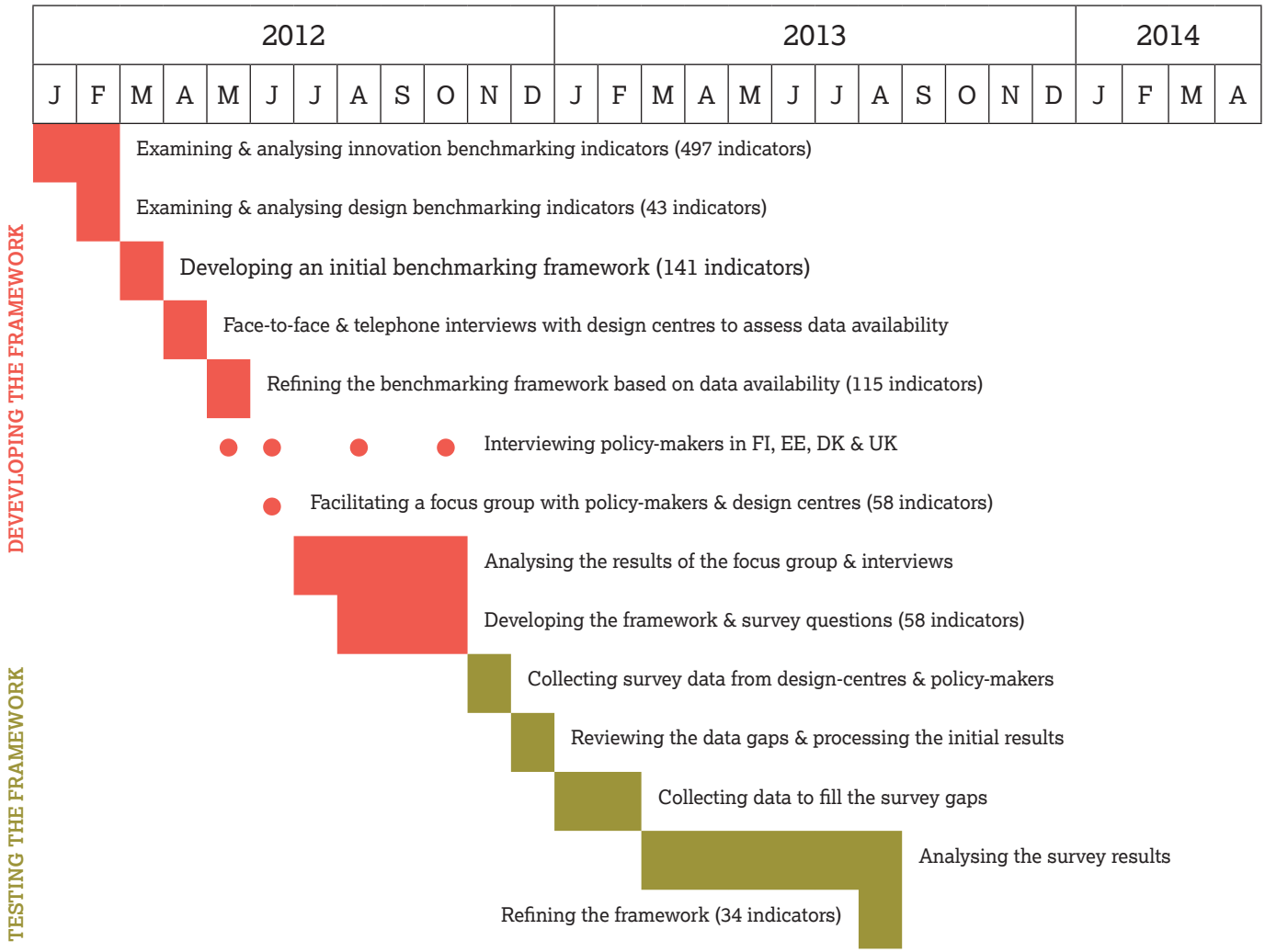
- Design support refers to programmes aimed at supporting companies or the public sector to use design (demand) or supporting the development of professional design capabilities (supply).
- Design promotion refers to activities aimed at raising awareness of design including but not limited to design awards, exhibitions, press campaigns and media.
- A design centre is an organisation delivering design support and/or promotion programmes on behalf of national or regional government. For the purpose of this research, design associations (membership organisations) have not been included.
- Design policy in this instance refers to design explicitly forming part of national innovation policy or development strategies. For the purpose of this research, tacit design policies (design policy instruments that may be operating in countries and regions but which do not formally feature in umbrella policy documents) have not been included.

The survey respondents were asked to identify their national innovation policy or in the absence of an innovation policy their national economic development strategy.

Section 2: National and Regional Design Systems in the SEE partner countries

The objective of this section of the report is to develop and test a benchmarking framework. Benchmarking has become central to the European Union's approach to coordinating competitiveness, innovation and regional policy by examining and measuring the

Figure 1: Research plan



performance, activities and policies of the EU-27. Benchmarking most often involves an analysis of 'key performance indicators' as well as qualitative evidence[10]. Approaches to developing benchmarking frameworks vary greatly. The research plan for the benchmarking study is outlined above.

In the planning phase, it was necessary to examine a series of innovation benchmarking studies to identify good practices in conducting benchmarking exercises. In 2010, Huggins developed a typology of benchmarking studies[11], seven multi-regional, innovation policy benchmarking initiatives were examined to inform the development of the benchmarking framework.

From Huggins' typography of benchmarking studies, 497 policy indicators were examined and categorised thematically according to 'dimensions of innovation capacity'. The indicators could broadly be classed into eight dimensions of innovation capacity: innovation financing, innovation governance, companies' innovation activities, education, research and knowledge creation, technology transfer, innovation agents (innovation centres, technology parks, clusters and networks) and promoting innovation. Excluding EMERIPA, which had 207 indicators, on average the innovation policy benchmarking studies were based on 48 indicators. The process of refining the indicators from nearly five hundred began by deleting the duplicated indicators and examining whether the remaining indicators could be adapted to a design context. Design benchmarking indicators were also examined in the 'International Design Scoreboard'[12] (14 indicators) and 'Design, Creativity and Innovation: A Scoreboard Approach'[13] (29 indicators). The innovation and design benchmarking indicators were combined into a list of 141 indicators, which formed the initial benchmarking framework.

A crucial step in the process was to establish whether i) the data for these indicators would be available in the SEE partner countries and ii) assess the value of these indicators for policy-making (process outlined in figure 2). Between 20 and 27 April 2012, telephone interviews were conducted with nine partners and face-to-face interviews were conducted with the Danish Design Centre and Aalto University to establish the extent of data availability. The results of the data availability interviews determined to a large extent both the distribution of the sample and selection of respondents. From the 141 proposed indicators it was clear that the extent of data availability varied enormously between partners. In general, data was more readily available at national level in Denmark, Estonia, Finland and the UK, with exceptions in the regions of Flanders (Belgium) and Silesia (Poland) where studies of the design sector had been conducted in recent years. To avoid comparing apples and oranges, there would be both a national (Denmark, Estonia, Finland and the UK) and regional (Flanders – Belgium, South Bohemia – Czech Republic, Central Finland, Central Macedonia – Greece,

Table 1: Indicators in multi-region, innovation policy benchmarking studies (Huggins, 2010)

	Project name	European regional coverage	Number of indicators
1	EMERIPA – European Methodology for Regional Innovation Policy Impact Assessment and Benchmarking	8	207
2	EURO-COOP – Regional Innovation Policy Impact Assessment and Benchmarking Process: Cooperation for Sustainable Regional Innovation	9	36
3	IASMINE - Impact Assessment Systems and Methodologies For Innovation Excellence	5	73
4	IMPACTSCAN – Innovation Policy Impact Assessment at Regional Level	7	31
5	INNOWATCH – Application of Technology Watch Methodology for Assessment of Regional Innovation Policy Impact on SMEs	4	61
6	MERIPA - Methodology for European Regional Innovation Policy Assessment	5	67
7	OMEN - Optimal practices, development policies and predictive Models for regions in an ENlarged EU	6	22
TOTAL NUMBER OF INDICATORS EXAMINED			497

Border, Midlands and Western Region of Ireland, Silesia – Poland and Wales – UK) dimensions to the Design Policy Monitor. Furthermore partners identified that data might be available but their regional or national government might be in a better position to respond. Therefore it was decided to conduct two surveys, one for design stakeholders to be completed by the SEE partners and one for innovation policy-makers to be completed by a representative of the partners' national or regional government departments for innovation. As a result of this step in the process, the number of indicators was reduced from 141 to 115.

Examining the relevance of the indicators for policy-making was conducted in two phases – face-to-face interviews with central government policy-makers in Denmark, Estonia, Finland and the UK as well as a focus group with SEE partners and innovation policy-makers. The interviews with representatives of the Danish Business Authority, Estonian Ministry of Economic Affairs and Communication, the Finnish Ministry of Economy and Employment and the UK Department for Business Innovation and Skills were conducted between April and October 2012. The interviews provided insight into the barriers to including design in innovation policy as well as the type of data policy-makers would need to include design in mainstream policy.

On 18 June 2012, in Cardiff, the lead partner of the SEE Platform Design Wales / PDR facilitated a focus with the SEE partners and an innovation policy-maker from each country. The 30 workshop participants were divided into small groups of 4-5 people and each examined a selection of indicators to decide whether they were useful for providing insight for design policy-making. This exercise reduced the number of indicators significantly and added some new indicators to the mix. These 58 indicators would form the basis of the Design Policy Monitor benchmarking study.

Figure 2: Approach to developing the benchmarking indicators

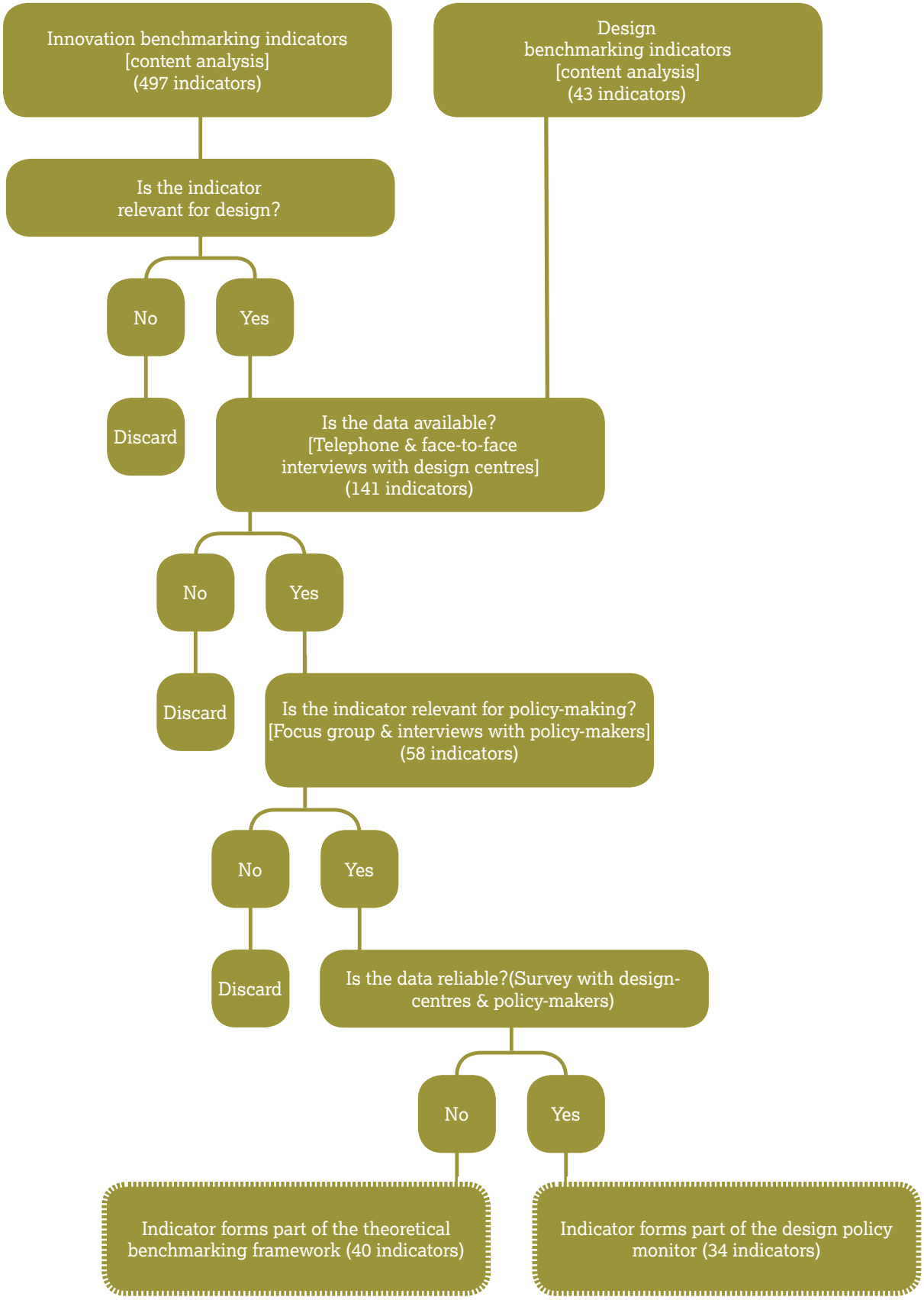


Table 2: Matrix of National Respondents

	Design Stakeholder	Innovation Policy-makers
Denmark	Danish Design Centre	Danish Business Authority
Estonia	Estonian Design Centre	Ministry of Economic Affairs and Communication
Finland	Aalto University, Design Forum Finland, and the Finnish National Board of Education	[No response]
United Kingdom	Design Council	[No response]

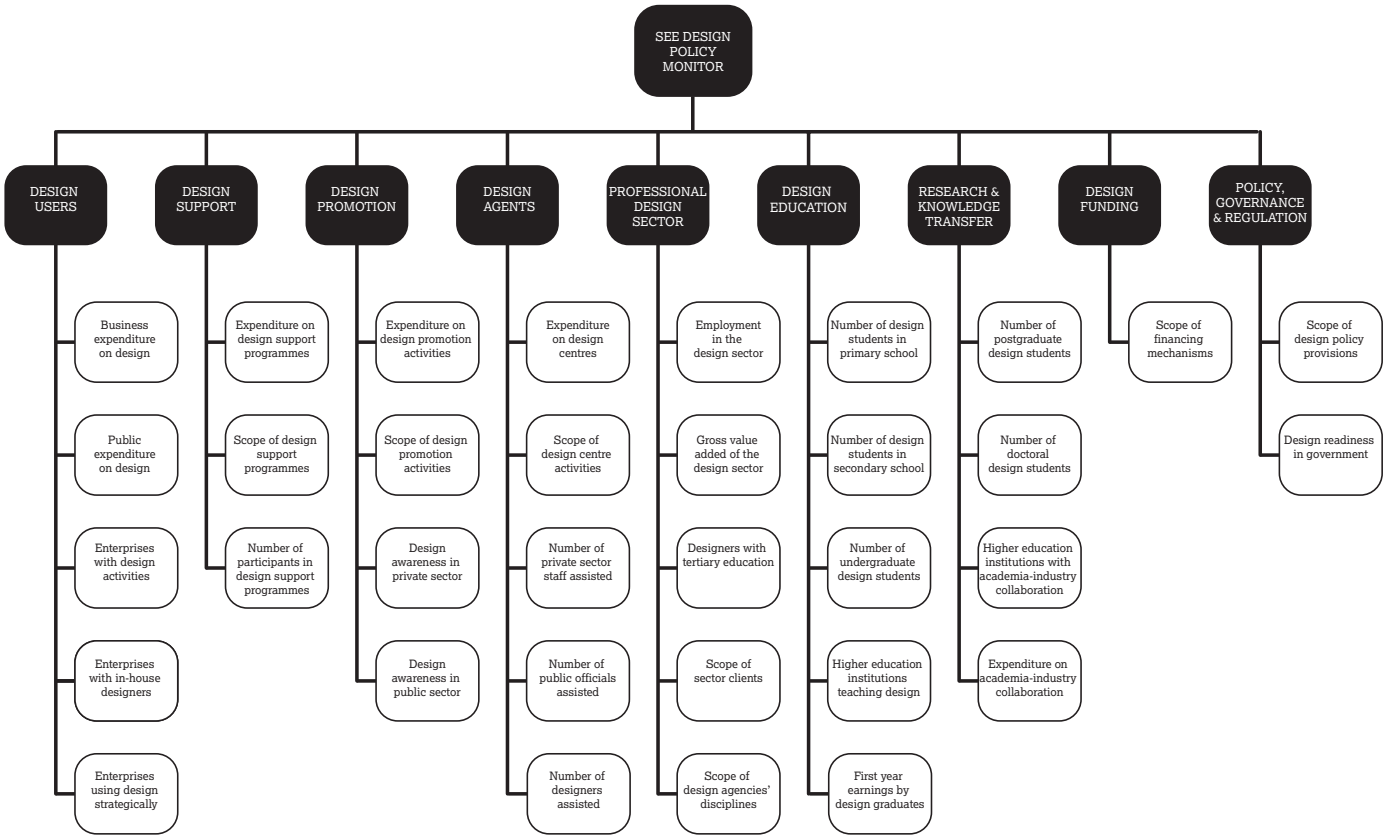
Table 3: Matrix of Regional Respondents

	Design stakeholder	Innovation Policy-makers
BE - Flanders	Design Flanders	Enterprise Flanders
CZ - South Bohemia	Institute of Art and Design of the University of West Bohemia in Plzeň	Regional Development Agency of South Bohemia
FI - Central Finland	JAMK University	Government of Central Finland
GR - Central Macedonia	Business and Cultural Development Centre	Government of Central Macedonia
IE - BMW Region	Border, Midland and Western Regional Assembly	Border, Midland and Western Regional Assembly
PL - Silesia	Castle Cieszyn	Silesian Marshall Office
UK - Wales	Design Wales / PDR	Welsh Government

The design indicators were translated into survey questions. Some indicators required more than one question and additional questions on innovation were added in order to make a comparison between design and innovation. There were two types of surveys: a survey for design stakeholders and a survey for innovation policy-makers. The former was completed by the SEE partners (design centres, education institutions or regional development agencies) and the latter was completed by representatives of the SEE partners' government departments for innovation. The survey data was collected over five weeks from 29 October to 30 November 2012. As the SEE partnership is composed of both national and regional organisations, the survey results have been divided accordingly.

Once the data was collected through the surveys, it was revealed that data on some indicators were in fact not available when partners had hoped they would be. For example, new spending on design by companies involved in design support programmes was identified as a significant indicator for policy-makers but this data was difficult to capture reliably. The SEE partners revisited the survey gaps in between 14 January and 22 February 2013. Nevertheless, there were still gaps and the benchmarking framework had to be revised. Consequently, indicators, which were deemed useful for policy-making but unavailable among the SEE partners formed part of a 'Theoretical Benchmarking Framework' and the indicators that were available formed part of the 'Design Policy Monitor'. Consequently, the recalibrated benchmarking framework was composed of 34 indicators (see figure 3 overleaf).

Figure 3: Indicators in the SEE Design Policy Monitor benchmarking framework



In an ideal world, such an exercise would be conducted on an annual basis to reveal changes in employment in the design sector, spending by different organisations and new policy instruments to support design. However, such an undertaking would require a large investment in data collection as responses for certain indicators were based on studies conducted in the past five years. In no one region was all the survey data available but all the survey data was available in at least one country or region meaning that by compiling the methodologies for collecting data, a survey could be developed to be collected by data collection consultancies in order to create comparable and regular data samples.

Collating existing statistics as supposed to collecting new and comparable data raises considerations for validity and reliability. The surveys reveal three key challenges: 1) quantitative and qualitative data on design is not always collected at national and regional levels; 2) where data is collected it is not collected regularly; and 3) studies are not comparable between countries since different definitions, metrics and methodologies are employed. As such, the following approaches were adopted to tackle each challenge:

Table 4: Methodological challenges and responses

Challenge	Response
Data collection is expensive and therefore not always collected at national and regional levels.	Where possible data is based on studies but in the absence of studies is based on respondents' estimates. Data based on estimates is clearly marked by an 'e'.
Where data is collected, it is not always collected regularly (and certainly not on an annual basis).	Frequently, data is based on studies conducted several years in the past as supposed to being based on 2012 figures. Data is based on the most recent figures available.
Where data is available it is not always consistent within a country and not necessarily directly comparable between European countries as different metrics are employed.	For example, estimates of business expenditure on design in the UK range depending on the source. Estimates of this indicator in Denmark are not necessarily comparable as different parameters were employed. Data is based on the most methodologically robust source.

As data collection is a costly undertaking for design centres, there is an absence of data to inform evidence-based policy-making for design. Given the difficulties of data collection on design, the responses are based on studies and documents where possible and local knowledge of the design landscape where data was unavailable. The following symbols are used in the study to alert the reader to the nature of the survey response.

Table 5: Statistical symbols

Symbol	Definition
e	Estimate
:	Data not available
%	Percentage
N/A	Not applicable

SECTION 1: DESIGN AND INNOVATION POLICY IN THE 27 EUROPEAN MEMBER STATES

Governments across Europe and around the world are looking for new drivers of innovation to enhance national and regional economic, sustainable and social development. In this broader understanding of innovation, design is increasingly recognised as a component of user-centred, service and social innovation. As early as 1997, innovation leaders across Europe developed dedicated design policies including three successive strategies by the Danish Government with 'DesignDenmark' in place from 2007 to 2010 and Finland's 'Design 2005!' active from 2000 to 2005. In 2012, Estonia was the only European country to have a dedicated design policy in operation – Estonian Action Plan for Design[14] – although Finland and Denmark both launched design strategies in early 2013[15]. In 2012, 14 of the European Member States had design explicitly included in national policy such as an innovation policy or economic growth strategy: Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Italy, Latvia, Poland Portugal, Romania, Sweden, Slovenia, and the UK. Nevertheless, it should be highlighted that there is an increasing gap between government statements on design and policy implementation.

This study provides an overview of explicit and tacit policies for design in the 27 European Member States. An explicit policy for design refers to a policy where design is formally included as part of a national innovation or economic development policy. A tacit design policy refers to design infrastructure in a country such as a design centre, design promotion activities and design support programmes. The study has been conducted in two phases: a survey with eight questions among national correspondents followed by content analysis of the national innovation policy.

Design Centres

Design centres are a key design agent connecting the design sector to the private and public sectors. Where design centres exist they are often the actor delivering design promotion and support activities on behalf of government. In Europe, 15 countries have at least one design centre. Some countries such as Belgium and the UK have multiple design centres. Other countries such as Slovenia have organisations with responsibilities for design promotion such as the Museum of Architecture and Design but cannot be said to have a national design centre. In 2012, a number of countries and regions have identified the need for a design centre as a hub to connect the design sector and enterprises. In 2013, there are plans to develop design centres in Bulgaria, Greece (Central Macedonia) and Romania. There is a budget of €50 million to develop the Sofia Tech Park as a nurturing environment for small technology and innovation-based companies. As part of the park's activities, there will be the Sofia Lab for 3D modelling and product design. In Central Macedonia, in North East Greece, local stakeholders have developed a business plan to set up a design centre including a business incubator and design support and promotion activities. According to a ministry official, Romania is also exploring the potential of design with a design centre currently being set up. Of course, design centres are a means to an end – improving the supply and demand of design in a country or region through a spectrum of activities including design promotion and support.

Design Promotion

The survey results reveal that design promotion activities exist in almost every country in Europe. Even countries without national design centres and design support programmes tend to have design promotion activities, for example: Sofia Design Week and Malta Design Week. While design promotion activities such as design awards, exhibitions and museums are important they presuppose awareness and understanding of design by companies and individuals. For example, a company would have to be design aware to participate in a design award and an individual would have to be design aware to attend a design exhibition or visit a design museum. However, according to the European Commission's 2009 public consultation, the first and third most significant barriers to the better use of design in Europe are the lack of awareness and understanding of design among policy-makers (78% of respondents) and potential design customers, i.e. private and public organisations (63% of respondents)[16]. Therefore design promotion activities serve to further enhance design understanding among those already in the know. Therefore the most effective way to enhance design awareness and understanding is through more targeted activities. Despite design promotion activities being conducted in almost every EU country, design awareness across Europe remains comparatively low and therefore to enhance the use of design in Europe, more strategic support is required.

Design support

Design support programmes are a more interventionist approach to introducing design to companies and public authorities. Since 2005, SEE has collected over 20 case studies on design support programmes from around the world available in the SEE library. In 2012, 12 European countries had active design support programmes. For more information on the aims, policy context, target audience, type of intervention, operating costs and impact of design support programmes read the SEE Policy Booklet 6: Reviewing Design Support Programmes in Europe[17]. Some countries are looking to implement design support programmes in the future including Central Macedonia in 2013 and Romania in 2014. Unfortunately, design remains largely excluded from broader innovation support programmes such as subsidies programmes, tax credit schemes, innovation voucher schemes and export promotion programmes. In certain countries, such as Finland, innovation support programmes could be used to access subsidies for design investments but as the design dimension is not explicit in the programme guidelines companies very rarely use the programmes for design support – therefore Finland cannot be said to have a design support programme. Design should be more broadly available in innovation support programmes such as the 'Extraversion' programme in Greece where companies can access 55% subsidies for innovation investments (including design investments). A further example, is the 'EVOLVE' programme in Austria, where design forms part of the support programme for the creative industries. However, design forming part of broader innovation support programmes is not yet widespread across Europe.

Table 6: National provision of design support, promotion, centres and policy

Country Code	Design Support	Design Promotion	Design Centre	Design Policy
AT	■	■	■	
BE	■	■	■	■
BG		■		
CY				
CZ	■	■		■
DE	■	■	■	
DK	■	■	■	■
EE	■	■	■	■
EL	■	■		
ES		■	■	
FI	■	■	■	■
FR	■	■	■	■
HU		■	■	
IE		■		■
IT		■		■
LT		■		
LU		■	■	
LV		■	■	■
MT		■		
NL		■	■	
PL	■	■	■	■
PT		■		■
RO		■		■
SE	■	■	■	■
SI		■		■
SK		■		
UK	■	■	■	■
TOTAL	12	26	15	15

Design policy

The European design policy landscape is more complex than the picture for design centres, design promotion and design support. Design policies can be explicit (design is included in policy or strategy documents as a priority for innovation or the creative industries) or tacit (design policy instruments exist such as design support programmes or tax incentive schemes but design is not explicitly included as a priority in government strategy). For example, Austria can be said to have a tacit rather than explicit design policy as it has a publicly funded design centre, design promotion activities and design is included in the government's 2008-2013 programme for the creative industries called 'EVOLVE'; however, design is not explicitly included in a government strategy document. In Austria, innovation policy is still predominantly technology driven. It is the Austrian Government's ambition to close the innovation gap with the Scandinavian countries and move from being an innovation follow to and innovation leader. Design in Austria is understood as part of the creative industries and design is not explicitly included in a national level policy document.

Here we refer to explicit design policies, where design is formally part of innovation or economic development strategies. In 2012, 15 countries have design included in innovation or economic development policies. However, survey respondents note that there is an increasing gap between government statements on design and design policy implementation. For example, a government may have the ambition to enhance national design capabilities in companies but if the vision is not linked to concrete actions, financing mechanisms and a robust monitoring system then the vision will remain unfulfilled. Romania is in the process of revising their innovation policy and design is expected to feature.

Since 2011, three new policies have been drafted: Belgium has launched a new National Reform Programme, Denmark has produced a new innovation policy 'Denmark – Land of Solutions' and Sweden has a new National Innovation Strategy. In 2012, only Estonia had a dedicated design policy although both Denmark and Finland produced design strategies in early 2013. In December 2012, The Danish Government launched a new Danish national innovation strategy 'Denmark – The Country of Solutions - Strengthened cooperation and a better framework for business innovation'. It sets out 27 initiatives that seek provide a closer link between research, education and innovation. The strategy focuses on three key issues: 1) Social challenges should drive innovation; 2) More knowledge must be transformed into value and 3) Education should increase innovation capacity. The policy introduces an 'innovation competition for pupils in primary and secondary schools where design processes (through cooperation with the organisation INDEX: Design to Improve Life®) will used to transform ideas into solutions on social challenges [19]. The policy also states that a eight 'Growth Teams' are investigating the growth conditions in areas where Danish companies have strengths to make further recommendations and there is a 'Growth Team for Creative Business and Design'[20]. This Growth Team made their recommendations in late 2012, which resulted in the 'Danish Action Plan for the Creative Industries and Design' published in February 2013[21]. According to a ministry representative, Romania is drafting a new innovation policy, the 'National Strategy for Research, Technological Development and Innovation 2014-2020', in which design will play a greater role in the policy than the current strategy.

Table 7: National policies for design

Code	Policy Document	Dates	Quotes
EU	Innovation Union	2010-2020	'Our strengths in design and creativity must be better exploited'. (p.3)
AT	Research, Technology and Innovation Strategy of the Austrian Federal Government, 2011	2011-2020	
BE	National Reform Programme 2012	2012-2016	Based on the 2011 White Paper 'A New Industrial Policy for Flanders', design now forms part of industrial innovation policy in the project 'Factory for the Future'. (P.20) 'In 2011, the Federal Parliament implemented the EU's Ecodesign Directive and concluded new agreements with industry in Flanders'. (p.32)
BG	National Innovation Strategy of Bulgaria[18]	2006-	
CY	National Reform Programme of Cyprus	2007-2013	
CZ	National Research, Development and Innovation Policy of the Czech Republic 2009-2015	2009-2015	'Higher-order innovations with a short time-to-market in the innovation cycle also require the integrated (simultaneous) involvement not only of design development capabilities, but also of the developers of materials, technologies and product maintenance/disposal.' (p. 90)
DE	Ideas. Innovation. Prosperity. High-Tech Strategy 2020 for Germany	2010-2020	
DK	Danish Innovation Strategy: Denmark – Land of Solutions / Vision of the Danish Design2020 Committee	2012- / 2011-2020	'As part of the government's aggressive business and growth policy 'Growth Teams' are carrying out inspections of growth conditions in selected business areas where Danish companies have strengths to identify where framework conditions are not optimal. There are Growth Teams for: • The Blue Denmark • Water, Bio and Environmental Solutions • Energy and Climate • Tourism and Experience Economy • Creative Business and Design • Health-Welfare Solutions • Food • ICT and digital growth'. (p.14)
EE	Knowledge-based Estonia. Estonian R&D and Innovation Strategy 2007-2013 / National Action Plan for Design 2012-2013	2007-2013 2012-2013	'An improvement in the quality of life requires the growth of economic added value. Innovative enterprises which successfully implement knowledge, technologies and professional design in their products and services create the highest added value.' (p.22) 'Design has become one of the best opportunities to improve one's competitive advantages among competing companies or even at international level. Design does not function separately from other disciplines and professions'. (p.3)
EL	National Strategic Plan for Research, Technology and Innovation 2007-2013	2007-2013	
ES	National Science, R&D and Innovation Plan 2008-2011	2008-2011	'The third area of development and sectorial technological innovation is aimed to help the industrial sectors to access tools and programmes that are needed to develop activities related to the design of new, altered or improved products, processes and services. The ultimate objective is to improve industrial competitiveness by developing solutions to problems that have been identified within the sectors that are relevant for Spain's socioeconomic development.' (p.7)
FI	Demand & User-Driven Innovation Policy	2010-	'Design has a more prominent role in user-driven innovation than before, and it can be applied in a comprehensive way to developing services and products alike. Design tools are also applicable to developing solutions to social challenges.' (p.3)
FR	National Research and Innovation Strategy	2009-2013	'Growth in non-technological capacity (design and creation, organisational innovation) and a better dissemination of information and communication technologies must, also and particularly among SMEs, contribute to the strengthening of France's approach.' (p.23)

HU	Science, Technology and Innovation Policy (STI) Strategy [New innovation policy under consultation]	2007-2013	
IE	Strategy for Science, Technology and Innovation 2006-2013	2006-2013 2010-2013	'Many of the submissions to the Taskforce highlighted the changing nature and understanding of innovation. In recent years attention has increasingly been focused on innovation in product design, business processes or organisational design.' (Innovation Ireland 2010-2013 p.20)
IT	Industria 2015 - Made in Italy / National Research Plan	2010-2015 / 2010 -	'The New Technologies for Industrial Innovation Project (EIP) for the 'Made in Italy' concept, is part of the broader context of industrial policy instruments guided by 'Industria 2015', which clearly outlines the strategy for public intervention in support of business for Italian competitiveness. 'Made in Italy' is a macro target with innovation as a specific theme (which combines the concept of beauty, design and quality of 'Made in Italy' with a high level of technology).' (p.5 & 22)
LT	Lithuanian Innovation Strategy for the Years 2010-2020	2010-2020	
LU	National Plan for Smart, Sustainable and Inclusive Growth: Luxembourg 2020	2011-2020	
LV	Entrepreneurship Competitiveness and Innovation Promotion Programme for 2007-2013 / Latvia 2030	2007-2013 2010-2030	'Considerable opportunities exist for increasing the total added value of industrial branches. [A] poor relation is observed between the sectors of professional design and industry'. (p.17) 'Design audits are performed in businesses, design consultations provided for increasing the added value of the product; industrial design portal is established and maintained'. (p.45)
MT	National Strategic Plan for Research and Innovation: 2007-2010	2007-2010	
NL	The Netherlands: land of entrepreneurship and innovation	2008-2030	
PL	Operational Programme Innovative Economy 2007-2013	2007-2013	'At the same time, the support will be provided for consultancy and training courses in regard of elaborating industrial and functional designs and investments connected with the purchase of fixed assets enabling the implementation of new product designs. At present, enterprises, in particular SMEs, are not using opportunities created by industrial design. That is why the support in the above-mentioned area will contribute to the promotion of industrial design as one of the sources of competitive prevalence and, at the same time, to the growing interest of SMEs in conducting R&D activity in this respect.' (p.97)
PT	National Strategic Reference Framework	2007-2013	'A knowledge and innovation-based economy that incorporates the use of intangible competitiveness factors by SMEs (organisation and management, conception, development and engineering of products and processes, presence in the digital economy, energy efficiency, certification of quality systems, the environment, safety, health, social responsibility, fashion and design, internationalisation and insertion and qualification of human resources)'. (p.69)
RO	National Strategy for Research, Development and Innovation 2007-2013	2007-2013	'The research goals for the period 2007-2013 will involve the development of new advanced materials, able to provide an improved product and equipment performance; an increased competitiveness of goods and processes through automation and integrated design; design and development of new technologies and high-precision mechanical products and mechatronic systems, competitive on the international market.' (p.30)
SE	National Innovation Strategy for Sweden	2012-	'Today, innovation is seen as wider than R&D. In the knowledge society, design activities, business and organisational models as well as marketing gain importance'. (p.10) 'Innovation support capital for early-stage business may include investments such as soft loans, other loans, equity etc. It may also include incentives for innovation-related activities such as development or purchase of intellectual skills or design services in established companies'. (p.34)

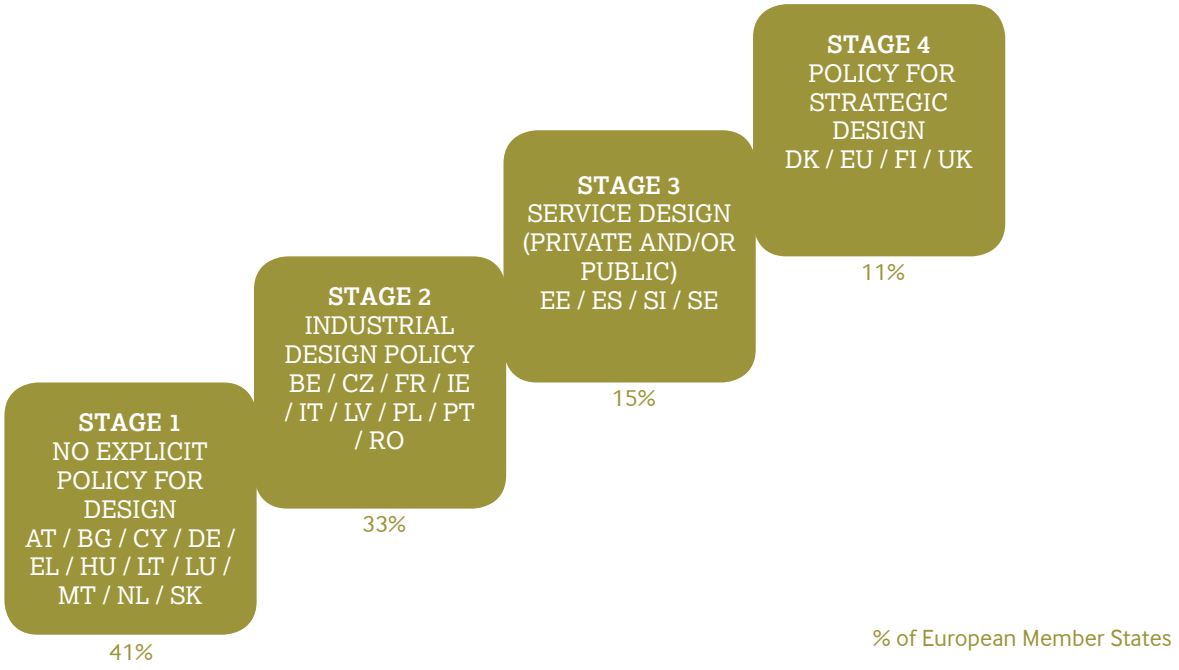
SI	Research and Innovation Strategy of Slovenia 2011-2020	2011-2020	Business-innovation infrastructure must support the concept of open innovation and networking that include small, medium and large enterprises, higher educational institutions, research institutes, various government institutions, and other stakeholders in the innovation process. It must ensure support not only to technological, but also non-technological innovations. This means that special attention has to be paid to management, organisational changes, new business models, design and creativity, marketing, and in general to the development of capability to control and to adapt to the changes. Non-technological innovations and industry are important in particular in service activities which present a substantial share of the Slovenian economy.(p.28)
SK	Innovation Policy for the Slovak Republic for 2011-2013	2011-2013	
UK	Innovation and Research Strategy for Growth	2011-	'Design can be transformative for companies, through leading or supporting product and process innovation, for managing the innovation process itself, for the commercialisation of science, and the delivery of public services.' (p.35) 'Design thinking can play an important role in strengthening the public sector's capacity to be an intelligent customer as it involves bringing together different perspectives, including industry and users of a service or product, to understand needs. The use of design can deliver cost savings and improved efficiency in the delivery of public services and help to generate solutions to societal challenges.' (p.85)

Since 2011, there has not been a great deal of movement predominantly because only three policies have been revised. Estonia is the only country to move up the ladder as it has implemented a National Design Action Plan. A pertinent question is do European countries need design policies or rather do they need policies by design? European countries with strong design sectors do need design policies to ensure that the private sector is developing products, services and systems that are user-centred and desirable and that the public sector are developing public services that are user-friendly and fit for purpose. More than that, the public sector should also be using design to engage more with the public and develop policies that better correspond to public expectation. For more information about design for public sector innovation refer to the SEE publication 'Design for Public Good'[22].

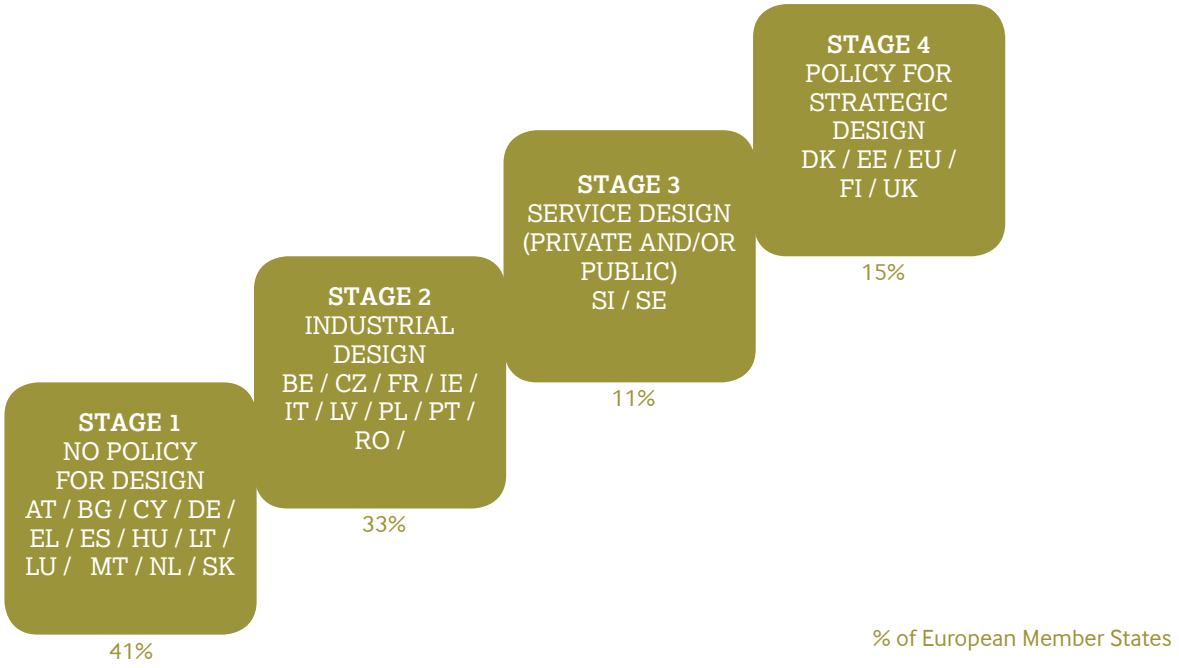
The SEE Platform will continue to monitor policies for design and innovation in the coming years.

Figure 4: Changes in policies for design between 2011 and 2012

Design Policy Ladder 2011



Design Policy Ladder 2012



SECTION 2: SEE PARTNER NATIONAL AND REGIONAL DESIGN SYSTEMS

Innovation policy is based on an analysis of the National or Regional Innovation System and is justified in terms of systems failure. From a design perspective, a failure of the European Innovation System is that design is not holistically integrated in the innovation infrastructure. For design to form part of innovation policy, it is necessary to advance the understanding of National and Regional Design Systems. Innovation systems research is employed by academics and policy-makers to inform evidence-based policy-making for innovation[23]. According to a number of researchers[24], design systems are a tool to support policy-makers in developing appropriate policies for design. For more information on design systems read SEE Policy Booklet 5: 'European Design Systems and Innovation Policy'[25]. In Europe, benchmarking innovation systems is a dominant approach to informing innovation policy[26]; however, design is often excluded from innovation benchmarking exercises. Design may consequently be under utilised in innovation policy mechanisms as a source of innovation in the private, public and third sectors. This research collated existing statistics to provide insight into the national design systems in the SEE partner countries of Estonia, Denmark, Finland and the United Kingdom as well as regional design systems in Flanders (Belgium), South Bohemia (Czech Republic), Central Finland, Central Macedonia (Greece), Western Region of Ireland, Silesia (Poland) and Wales (UK).

The methodology section of this report presents how the benchmarking framework for the SEE Design Policy Monitor was developed. The design policy indicators were developed by examining good practice in innovation benchmarking exercises, refining a long list of design policy indicators according to data availability and relevance for policy-makers in interviews and a focus group with design centres and innovation policy-makers. 34 indicators are examined in the Design Policy Monitor. The benchmarking framework was tested in two surveys; one survey for design stakeholders completed by the SEE partners and one survey for innovation policy-maker completed by a representative of the SEE partners' national or regional government departments for innovation. This section presents the results of testing the benchmarking framework. The results are presented according to the nine components of a design system: i) Design Users in the Private and Public Sectors, ii) Design Support, iii) Design Promotion, iv) Design Centres, v) Professional Design Sector, vi) Design Education vii) Research and Knowledge Transfer, viii) Funding and ix) Policy, Governance and Regulation.

Design Users

Design capability is the extent to which the private and public sectors use design. Policies should focus on raising demand for design and improving how companies and public authorities use and invest in design. The component of the design system for design users is comprised of five key performance indicators: Public expenditure on design, business expenditure on design, enterprises with design activities, enterprises with in-house designers and enterprises using design strategically.

Business expenditure on design refers to the macro level investment in design (whether communication, digital, product, service or strategic design). Public expenditure on design refers to the sum that central government invests in design support and promotion. Design spending by all public sector bodies from national through to local government is not available. To contextualise these indicators, they have been supplemented by R&D and innovation indicators from Eurostat. In this way, the design system is contextualised within the innovations system. However, to construct a detailed comparison between public and private design capability would require a more in depth understanding of design within the public sector, for example, the number of public authorities with design managers and public authorities using design strategically. While examples of design managers in public authorities exist increasingly across Europe, definitive numbers are difficult to obtain.

The key finding among design users is that in the UK companies spend more on design (2.92% of GDP) than on R&D (1.07%) and that in Denmark and Finland more companies engage in design activities (93% and 57% respectively) than innovation activities (52% both) but in Denmark, Finland and the UK public expenditure on R&D is almost 500 times greater than spending on design. In the UK, companies spend more on design – 2.92% of GDP than on R&D 1.07%; whereas in Denmark and Finland, companies spend less on design – 0.4% and 0.22% of GDP than on R&D - 2.08% and 2.71%. Although business expenditure on R&D is comparatively low in the UK (1.07%) relative to Denmark (2.08%) and Finland (2.71%), business expenditure on design is particularly high (2.92%) against Denmark (0.4%) and Finland (0.22%). The largest gap between business expenditure on R&D and design is in Finland – a difference of 2.49%.

In Denmark, Estonia, Finland and the UK, public expenditure on R&D is on average 482 times greater than public expenditure on design. For every €1,000 in public expenditure on R&D, public expenditure on design is €82.12 in Estonia, €23.67 in Denmark, €7.75 in Finland and €3.35 in the UK. Alternatively, for every €1,000 of business expenditure on R&D, business expenditure on design is €2,728.97 in the UK, €192.31 in Denmark and €81.18 in Finland. That the UK private sector spends more on design than R&D is consistent with finding from the NESTA Innovation Index 2009[27] but that public expenditure on design is so low relative to R&D has not previously been quantified. In addition, design has been recognised as a priority for innovation in Denmark, Estonia, Finland and the UK so it can only be surmised that public expenditure on design relative to R&D is considerably lower elsewhere in Europe.

In the UK, companies may spend more on design than on R&D because design is a non-capital cost. Design is a relatively low cost way for small companies to innovate compared with R&D and technology investments. There is a misalignment between

how much the private and public sectors spend on design. Public expenditure on design is greatest in the UK in actual terms – €9.75M – whereas in Estonia, public expenditure on design is more relative to GDP – 0.014%. According to NESTA, design is ranked higher than R&D as a driver of innovation[28], this would suggest that if government increased public expenditure on design, it could leverage greater innovation capacity in companies relative to public expenditure on R&D. If an average government expenditure on R&D promotion of 0.19667% of GDP (based on the examples of Denmark, Finland and the UK) leverages an average investment of 1.95333% on R&D by companies and a smaller average public investment of 0.00159% on design promotion leverages an average investment of 1.19333% on design by companies – the return on investment of government expenditure on design is greater than on R&D (0.19667:1.9533<0.00159:1.1933). By increasing public expenditure on design policies and programmes, governments can leverage a greater innovation capacity in the private sector.

In Denmark and Finland, 52% of companies engage in innovation activities (52% is also the EU-27 average) whereas in Denmark, 93% of companies engage in design activities compared with 57% in Finland. Estonia has the most companies that invest in innovation activities – 56.4% but the least number of enterprises engaging in design activities – 45%; while the UK has the lowest proportion of enterprises engaged in innovation – 45.6% but with two-thirds engaged in design activities. In Denmark, Finland and the UK, more companies engage in design activities than innovation activities. In Finland, 93% of companies have less than 10 employees but of those only 20% use design; whereas 71% of companies with more than 250 employees use design but these larger companies only make up 0.1% of all Finnish companies[29]. In Finland 23% of companies have in-house designers compared with 16% in Denmark and 7% in Estonia (figures were unavailable in the UK). In Finland, 57% of companies engage in design activities and 23% undertake design internally while 93% of Danish companies engage in design activities but only 16% undertake design internally meaning there is a greater trend in Denmark to outsource design expertise. According to the study 'Modelling the Strategic Impacts of Design in Businesses' typically Finnish enterprises 'invest less than 1% of their net sales on design' with only one company in the study investing 5%[30]. In Denmark 23% of companies use design strategically compared with 17% in Finland and 7% in Estonia.

The radar diagram of National Design System Performance: Design Users in Denmark, Estonia, Finland and the UK (figure 5), seeks to provide insight into the performance of this component of the design system by normalising the scores. The country which performed best for a particular indicator (for example, Estonian public expenditure on design over GDP is the largest), received a score of 4 and the country that performed second best for that indicator received a score of 3 and so on. This diagram demonstrates that the Danish, Estonian, Finnish and UK design innovation systems are performing well relative to each other. For one design innovation system to be consistently better than the others, it would appear on the outer ring of the radar diagram but none of the four countries are performing consistently better than the other countries. The only country that could form better in terms of both design and innovation is the UK, which only attained the highest normalised score for one indicator – business expenditure on design over GDP.

Unfortunately it is not possible to draw parallels between public and business expenditure on R&D and design at regional level as crucial data on business expenditure on design is missing. However, figures for public expenditure on design and R&D were available from policy-makers in Flanders, Central Finland and Wales, where on average public expenditure on R&D is 139 times greater than spending on design. For every €1,000 in public expenditure on R&D, public expenditure on design is €4.97 in Flanders, €33.14 in Central Finland and €178.32 in Wales. Public expenditure on design is greatest in Flanders both in actual terms – €2.8M and relative to regional GDP – 0.0015%. Studies on regional design sectors in the SEE partnership have been conducted in Flanders (2006), Silesia (2012) and Wales (2008). The Design Council's 2008 'Design in Britain' study stated that '23% of companies in Wales reported increased design spending – more than double the figure of any other region'[31].

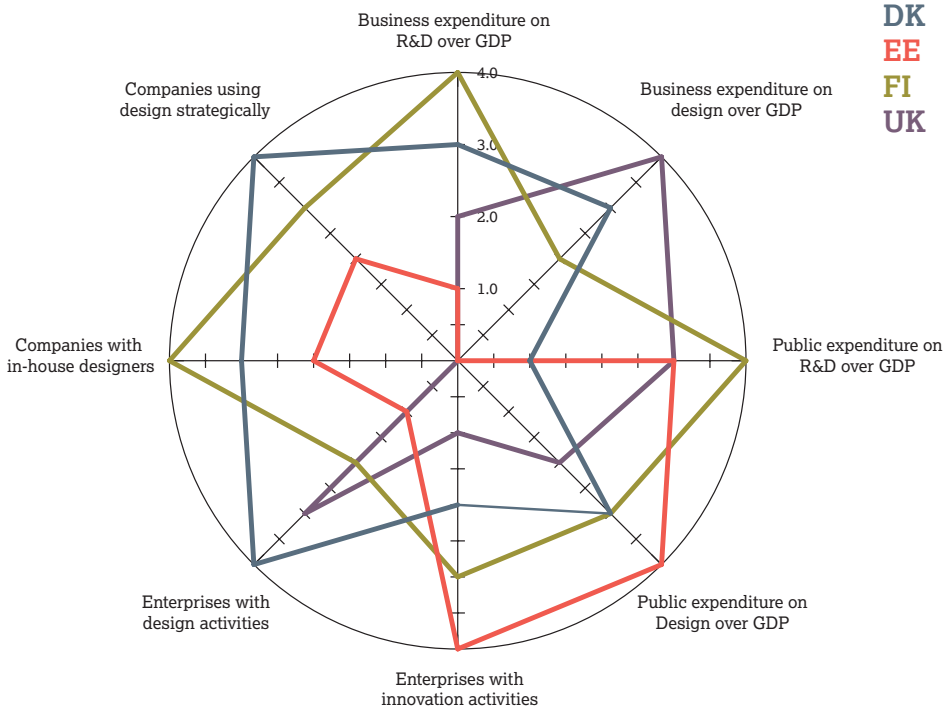


Figure 5: National Design System Performance: Design Users in Denmark, Estonia, Finland and the UK

Normalised score for eight key performance indicators

Table 8: Business and Public expenditure on R&D and design at national level

		BERD € million[32] / GDP[33]		BED € million / GDP		PERD € million[34] / GDP		PED € million / GDP	
Demark[35]	€ million	4 909	2.08%	938	0.40%	151	0.06%	3.349525	0.00142%
	GDP	236 477		236 477		236 477		236 477	
Estonia[36]	€ million	116	0.81%	:	:	25	0.17%	2	0.01396%
	GDP	14 323		14 323		14 323		14 323	
Finland[37]	€ million	4 854	2.71%	400	0.22%	645	0.36%	5	0.00279%
	GDP	178 796		178 796		178 796		178 796	
UK[38]	€ million	18 322	1.07%	50 000	2.92%	2 830	0.17%	9.75	0.00057%
	GDP	1 709 607		1 709 607		1 709 607		1 709 607	
EU-27	€ million	151 126	1.23%	:	:	32 602	0.27%	:	:
	GDP	12 279 915		12 279 915		12 279 915		12 279 915	

Table 9: Enterprises with innovation and design activities, in-house designers and using design strategically

National dimension	Enterprises with innovation activities[39]	Enterprises with design activities	Companies with in-house designers	Companies using design strategically
DK	51.9%	93%[40]	16%[41]	23%[42]
EE	56.4%	45%[43]	7%[44]	7%[45]
FI	52.2%	57%[46]	23%[47]	17%[48]
UK	45.6%	66%[49]	:	:
EU-27	51.6%	:	:	:

Figure 6: Denmark public and business expenditure on design and R&D in actual terms

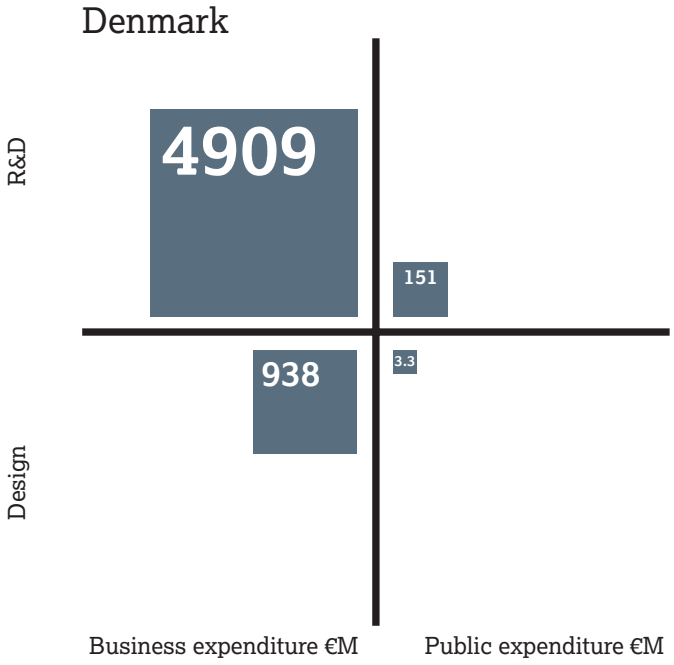


Figure 8: Finland public and business expenditure on design and R&D in actual terms

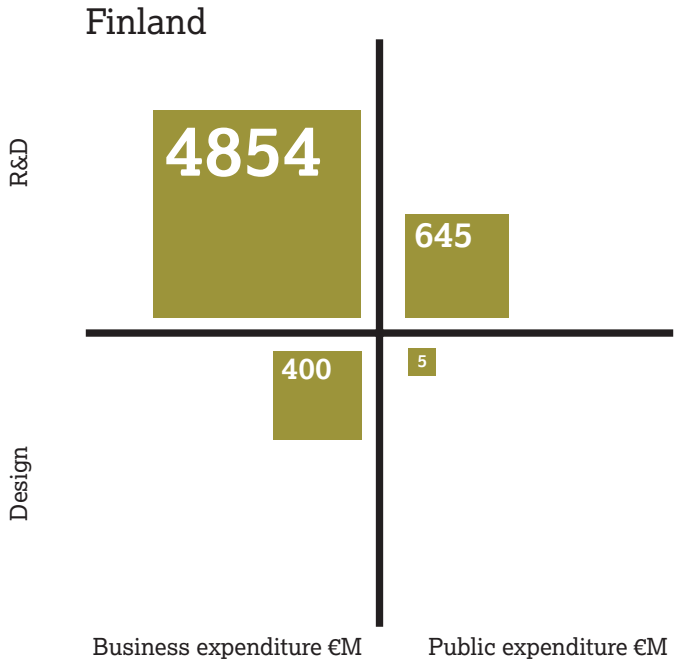


Figure 7: Estonia public and business expenditure on design and R&D in actual terms

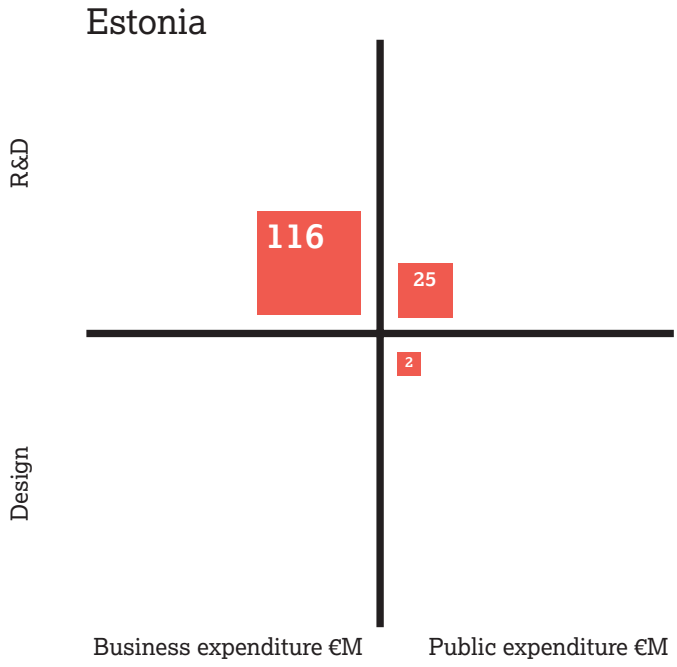


Figure 9: UK public and business expenditure on design and R&D in actual terms

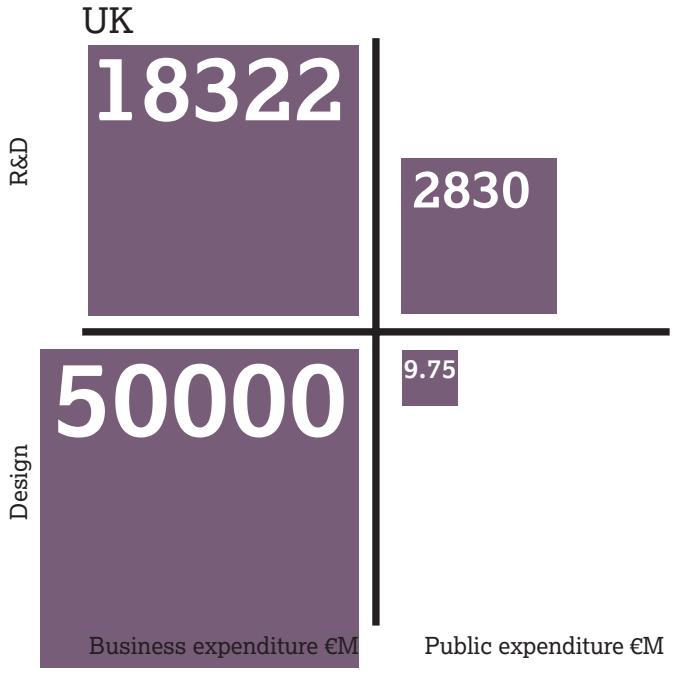


Table 10: Business and Public expenditure on R&D and design – regional dimension

		BERD € million / GDP[50]		BED € million / GDP		PERD € million / GDP		PED € million / GDP	
Belgium / Flanders[51]	€ million	2 548	1.4%	:	:	509	0.3%	2.8	0.00149%
	GDP	188 000		188 000		188 000		188 000	
Czech Republic / South Bohemia[52]	€ million	72.7	0.6%	:	:	176.4	1.4%	0	0.0%
	GDP	12 500		12 500		12 500		12 500	
Central Finland[53]	€ million	1 141	2.9%	:	:	2.7	0.00694%	0.1	0.00023%
	GDP	38 900		38 900		38 900		38 900	
Central Macedonia / Greece[54]	€ million	36.2	0.1%	:	:	:	:	0	0.0%
	GDP	33 100		33 100		33 100		33 100	
Western Region of Ireland[55]	€ million	319.9	1.0%	:	:	205	0.6%	:	:
	GDP	33 200		33 200		33 200		33 200	
Silesia / Poland[56]	€ million	59.2	0.2%	:	:	24	0.06%	0.163	0.00041%
	GDP	39 000		39 000		39 000		39 000	
Wales / UK[57]	€ million	334.7	0.5%	:	:	2	0.00286%	0.36	0.00051%
	GDP	70 000		70 000		70 000		70 000	

Design Support

Business support programmes are a policy instrument for improving innovation and design use in enterprises and the public sector. This component of the design system is comprised of three key performance indicators: expenditure on design support programmes, scope of design support programmes and number of companies participating in design support programmes. Other useful indicators for this component would be new spending on design by programme participants and the number of new products and services brought to market by programme participants but not enough of the programme delivery bodies perform ex-post evaluation to this extent. For more information on design support, read the SEE Policy Booklet 'Reviewing Design Support Programmes in Europe', which provides an overview of ten programmes according to aim, policy context, target audience, type of intervention, operating costs and impact[58]. Policies for design support should identify whether the need is greater to enhance demand (how companies and the public sector use design) or supply (the quality of the professional design sector).

This section is intended to provide an insight into the breadth of design support programmes in operation across Europe. In 2012, nine of the SEE partners had design support programmes in operation and some partners had multiple programmes in operation. Although the majority of these programmes aim to make SMEs more competitive, each one is unique and achieves this aim through varied approaches. Calculating a country or region's total annual spending on design support is difficult because design can feature in multiple programmes, delivered by multiple organisations and funded at multiple levels of governance (national, regional and local). Based on the programmes featured in here, in 2012, the Danish Design Centre (€800,000), Estonian Design Centre (€240,000) and the UK Design Council (€1.3M) spent an average of €780,000 on design support. The UK spends the most in actual terms but the least relative to GDP whereas Estonia spends the most relative to GDP and the least in actual terms. For the same year, the average annual implementation cost of the SME Wallet in Flanders (€75,000), the Service Design Toolkit in Central Finland (€300,000), Design Silesia in Poland (€912,000) and the Service Design Programme in Wales (€146,000) was €358,250. The costs of design support programmes vary greatly and also depend on whether subsidies are available through the programme.

In 2012, Design Bulldozer, the first Estonian design support programme was launched. As part of the National Design Action Plan, Enterprise Estonia and the Estonian Design Centre have instigated a business support pilot programme operating for 20 months with strategic intervention in ten enterprises and involving ten design managers. Both the UK and Denmark have a long history of design support – with the Design Council programme 'Designing Demand' entering into operation in 2002 and the Danish Design Centre's programme 'Design Icebreaker' was launched in January 1998 and ended in 2001. In Finland, activities are more focused on design promotion than design support. Design is an eligible cost in certain programme delivered by TEKES, the Finnish Funding Agency for Technology and Innovation, but as it is not explicitly encouraged through the broader innovation support activities Finland cannot be said to have a concerted design support programme. Programmes such as the 'Aalto University Factories' are classed as a design education programme as they are predominantly aimed at educating young designers rather than systematically supporting companies.

Within the featured countries and regions, the scope of design support programmes is expanding. Although conventional product design support companies is still predominant, design intervention organisations are increasing providing service design support to the private and public sectors and granting access to finance or subsidies for companies to invest in design. Seven of the nine organisations provide service design support for the private sector and five of the nine provide service design support for the public sector. Social design is an emerging discipline and features in programmes in Flanders, Denmark, Silesia and the UK. Unfortunately, design still remains largely excluded from broader innovation support programmes except in Greece in the programme Extraversion where businesses can obtain 55% subsidies for costs between €30,000 and £250,000 for a range of innovation activities including design as well as the SME Wallet in Flanders where companies can access 50% subsidies to a maximum of €2,500 for design advice or €25,000 for design management expertise. Design should be explicitly promoted within innovation support programmes to ensure that companies take advantage of design expertise.

Table 11: Overview of the SEE partner design support programmes

Country / Region	Programme name	Operating dates	Programme description	Delivery body
Flanders / Belgium	SME Wallet	2009-present	Providing SME subsidies (50%) to a maximum of €2,500 for design advice or €25,000 for design management.	Enterprise Flanders
Czech Republic	Design for Export	2008-2012	Integrating design into Czech manufacturing enterprises for higher export value.	CzechTrade
Denmark	Design Boost	2010-2012	A short intensive intervention course focused on specific challenges such as product development, branding, export and services.	Danish Design Centre
Estonia	Design Bulldozer	2012-2014	A 20 month pilot project to increase economic and export potential of 10 Estonian companies and 10 design managers.	Estonian Design Centre
Central Finland	Service Design Toolkit	2010-2012	Using service design methodologies in tourism service development with five Finnish tourist destinations and company networks.	JAMK University of Applied Sciences
Greece	Extraversion Competitiveness of Enterprises	2011-present	Strengthening entrepreneurship of small companies by improving the production base for goods and services.	Ministry for Development, Competitiveness and Shipping, General Secretariat for Industry, Secretariat of SMEs
Silesia / Poland	Design Silesia	2010-present	Providing diverse design support for small companies, civil servants and graduate designers	Castle Cieszyn and Government of Silesia
Wales / UK	The Service Design Programme	2010-2013	Improving understanding and use of service design in the manufacturing sector and building a regional capacity for service design	Design Wales / Cardiff Metropolitan University
UK	Design Leadership Programme	2002-present	A package of design support and coaching for public and private sectors.	Design Council

Table 12: Expenditure, operating costs and number of participants in design support programmes

Country / Region	Programme name	Operating cost	Annual number of participants
Flanders / Belgium	SME Wallet & Service Design Interventions	€195,000	34
Czech Republic	Design for Export	€160,000	115
Denmark	Design Boost & Design 360°	€800,000	30
Estonia	Design Bulldozer	€240,000	10
Finland	[No programme]	€0	0
Central Finland	Service Design Toolkit	€70,000	42
Central Macedonia / Greece	Extraversion	€0[59]	68
Western Region of Ireland	[No programme]	€0	0
Silesia / Poland	Design Silesia	€912,000	80
Wales / UK	Service Design Programme	€400,000	30
United Kingdom	Design Leadership	€1.3M	118

Figure 10: Expenditure on design support programmes in 2012

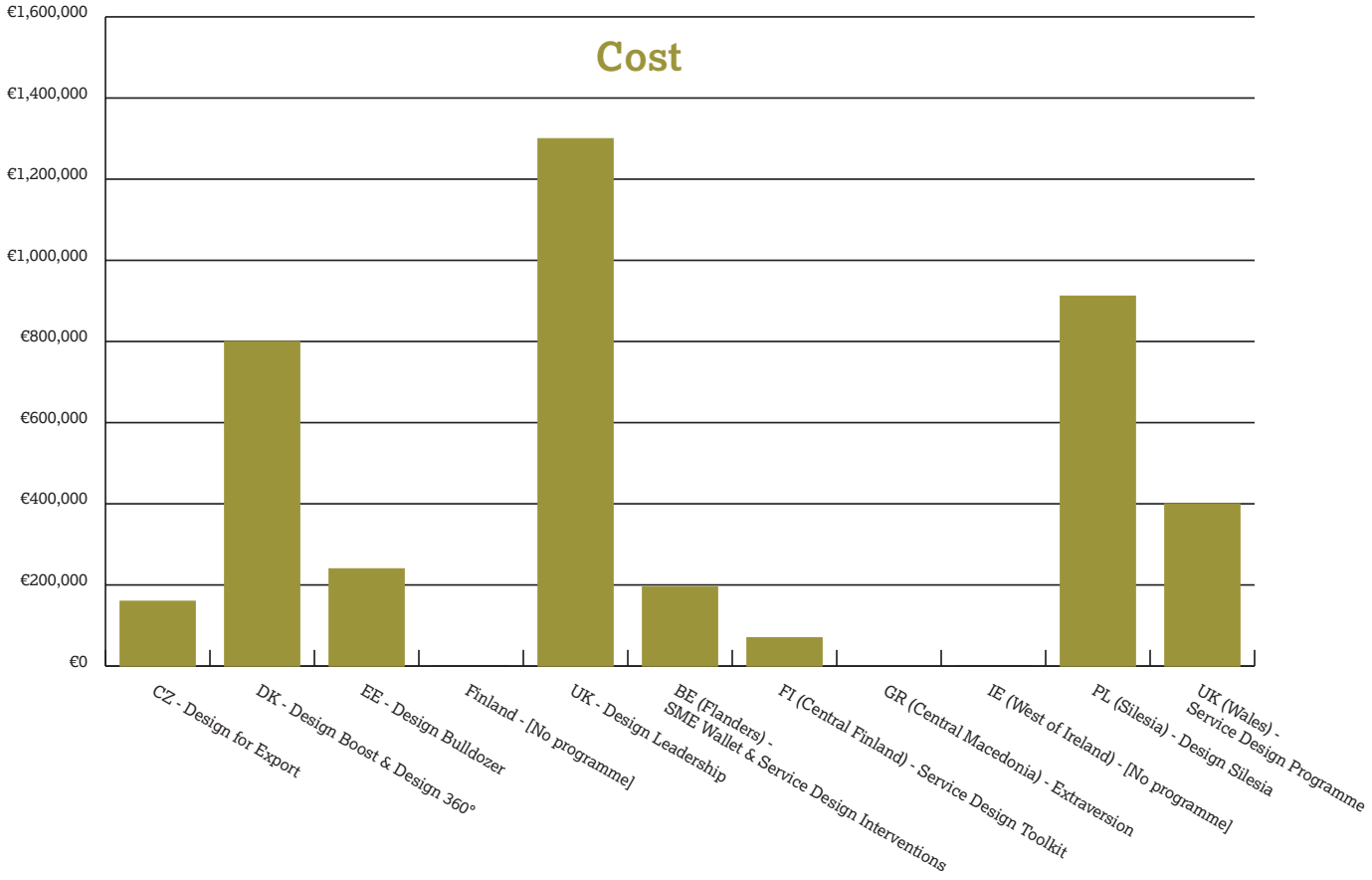


Table 13: Scope of design support programmes in 2012

	SME Wallet & Service Design Interventions (Flanders, Belgium)	Design for Export (Czech Republic)	Design Boost & Design 360°	Design Bulldozer (Denmark)	Service Design Toolkit (Central Finland)	Extraversion (Greece)	Design Silesia (Sliesia, Poland)	Service Design Programme (Wales, UK)	Design Leadership Programme (UK)
Product development	■	■	■	■		■	■		■
Service design (private sector)	■		■	■	■		■	■	■
Service design (public sector)	■		■		■		■		■
Social design	■		■				■		■
Ecodesign	■								
Design management	■		■	■			■	■	■
Intellectual property or patent support	■								■
Support for exporting	■	■	■	■		■			■
Training or mentoring for designers	■			■	■		■	■	■
Access to finance or subsidies	■		■			■			
Tax incentives to invest in design									

Design Promotion

Design promotion refers to conducting activities to raise awareness and understanding of design among different target audiences through initiatives such as design weeks, biennales or festivals, design awards, design exhibitions, design conferences, design museums, publicity and public awareness campaigns among others. Design promotion activities are more prevalent across Europe than design support programmes. This component of the design system is comprised of four indicators: expenditure on design promotion activities, scope of design promotion activities, design awareness in private sector and design awareness in public sector. Other useful indicators would be percentage of public officials, managing directors and the general public with a strategic understanding of design. Design promotion is important for raising awareness and understanding for what design can achieve among different audiences and should be a key element of design policy instruments.

In 2012, Finland made the largest aggregated investment in design promotion in Europe in the form of Helsinki World Design Capital. The initiative was composed of 550 projects, 2,800 individual events and attracted over 2.5 million participants. The cost of the initiative was €17.8 million, with the Finnish Government providing €5 million and the cities of Helsinki, Espoo, Vantaa, Kauniainen and Lahti providing €6 million[60]. It will be intriguing to see whether in the next few years, business expenditure on design increases as a result of the Helsinki World Design Capital initiative. At national level, expenditure on design promotion was greatest in Finland (€17.8M) followed by Denmark (€1.4M), the UK (€116,000) and Estonia (€135,000). At national level, expenditure on design promotion is greater than expenditure on design support in Denmark and Finland but not in Estonia and the UK. Alternatively at regional level, expenditure on design support is consistently higher than spending on design promotion. In fact, South Bohemia (Czech Republic), Central Macedonia (Greece) and Border, Midland and Western Region of Ireland report no expenditure on design promotion. In Flanders, Central Finland, Silesia and Wales, design centres spend an average of €90,400 on design promotion, which is on average four times less than spending on design support. Design support is a more interventionist and cost intensive approach to improving design capabilities. Expenditure on design promotion activities is difficult to isolate because promotion activities involve staff time that is not necessarily categorised as design promotion.

There is a high degree of commonality between the design promotion activities operating across Europe at both national and regional levels. A growing number of design award schemes are operating in Europe – with all of the SEE partner countries or regions bar two operating design awards. Again, all SEE partner countries or regions host a design week or festival as well as design exhibitions with one exception – Central Macedonia.

Silesia had a very active design promotion campaign including posters on billboard in the city of Katowice the capital of the region in 2012 as well as 350 people participating in seminars, conferences and workshops in 2010[61]. Every year, Design Flanders hosts the Henry van de Velde Awards and the OVAM Ecodesign Awards PRO with over seven hundred design products entering the competition[62]. The total cost of this promotion activity is €120,000 including €23,500 worth of prize money. According to Johan Valcke, Director of Design Flanders, 'the challenge of this type of promotion strategy is to keep finding new, well designed products and to find and convince companies to participate. However, the investment has been positive because the public interest in the ceremony and exhibition keeps growing. We succeed in attracting the general public, government representatives, designers, design companies and the media. The ceremony has become a major event and the awards and labels are highly appreciated tools for promotion.'

The Design Policy Monitor surveys asked the SEE partners' policy-makers to report on their perceptions of design awareness in their government innovation departments as well as the perceptions of SEE partners on design awareness in the private sector. Perceptions of design awareness in innovation departments in the SEE partner regions vary greatly. This will also vary greatly depending on the size of the team and the departments' policy priorities. Design awareness in government is reported to be highest in Denmark and Wales, described as 'high awareness but mainly design as a process'. This was followed by Flanders, Central Macedonia and Silesia where policy-makers reported design awareness in their departments as 'generally good awareness but mainly design as a process'. Of course, since this opinion-based approach is not empirically founded, the data is not as reliable as a survey among government officials but it provides a top-level insight. Design awareness in the private sector is reported to be highest in Denmark, described as 'generally good awareness including some understanding of design as strategy' followed by Flanders reported as 'generally good awareness but mainly design as a process'. A valuable exercise would be a survey comparing design awareness among different government departments and industry sectors.

Table 14: Expenditure on design promotion activities in 2012

	Expenditure on design promotion	Expenditure on design support
Denmark	€1.4M	€800,000
Estonia	€135,000	€240,000
Finland	€17.8M	€0.00
United Kingdom	€116,000	€1.3M
Flanders	€120,000	€195,000
Czech Republic	€0.00	€160,000
Central Finland	€100,000	€70,000
Central Macedonia	€0,00	€0,00
BMW Region	€0.00	€0.00
Silesia	€101,600	€912,000
Wales	€40,000	€400,000

Figure 11: Comparison of spending on design support and promotion

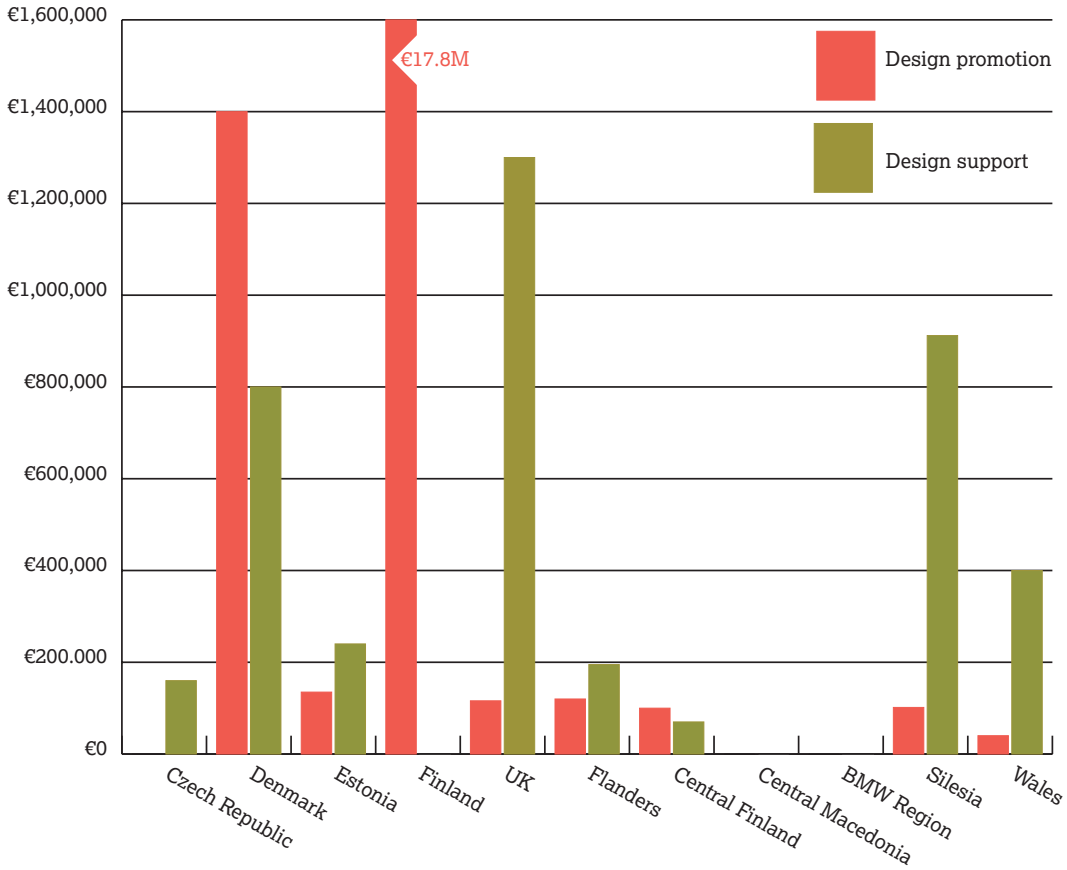


Table 15: Scope of design promotion activities

	Flanders / Belgium	South Bohemia / Czech Republic	Denmark	Finland	Central Finland	Estonia	Central Macedonia	BMW Region	Silesia	Wales	UK
Design awards	■	■	■	■		■		■	■	■	■
Design week / festival	■	■	■	■	■	■		■	■	■	■
Design museums	■		■	■	■	■			■		■
Design exhibitions	■	■	■	■	■	■		■	■	■	■
Awareness campaigns	■		■	■		■			■		■
Design magazines	■		■	■					■	■	■
Design conferences	■	■	■	■	■		■		■	■	■
Other				Helsinki World Design Capital							

Table 16: Design awareness in private sector

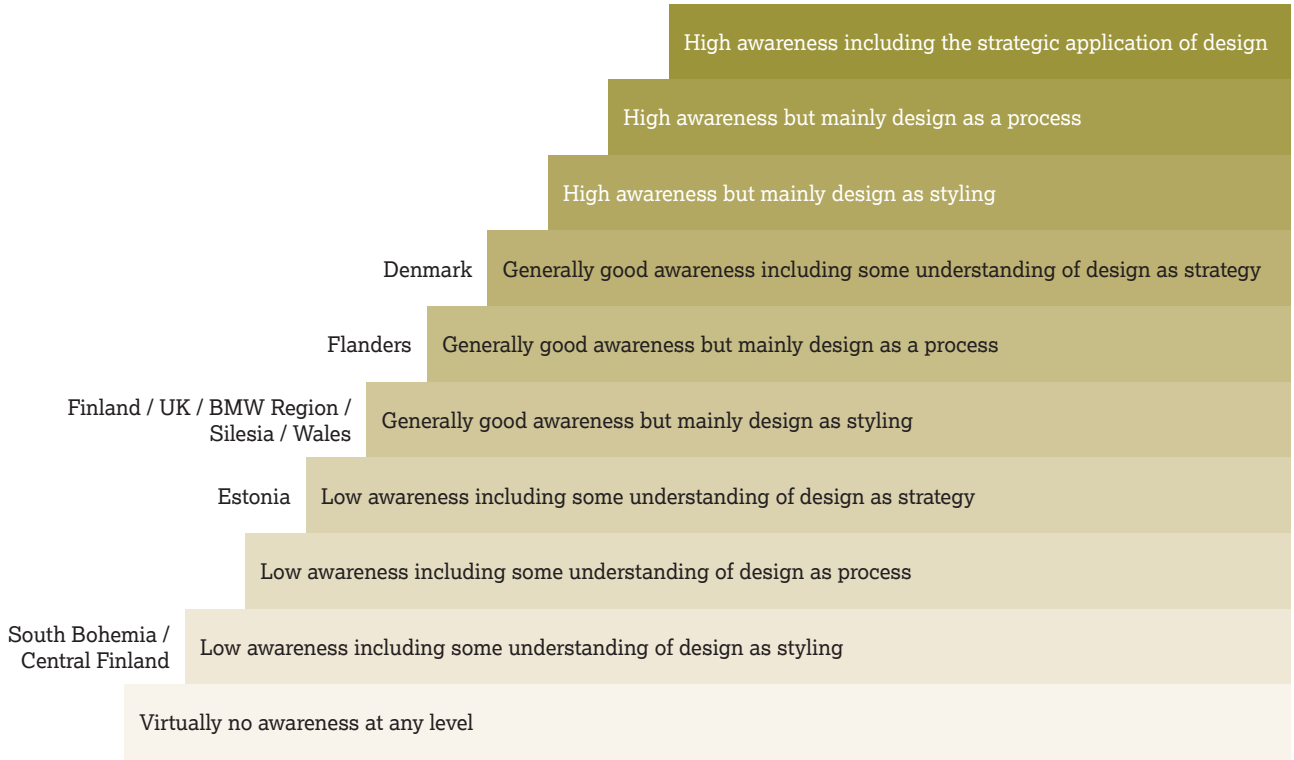
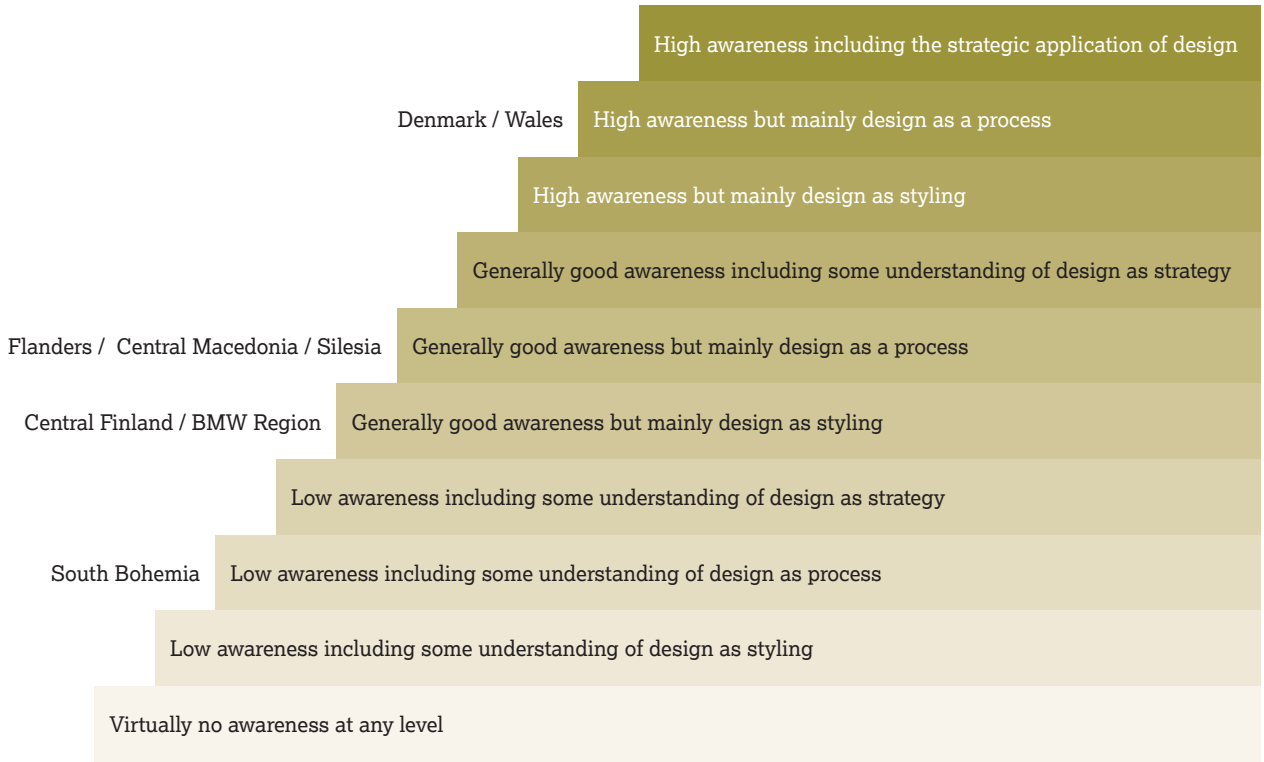


Table 17: Design awareness in public sector



Design Agents

Design agents – design centres, associations, clusters and networks – act as the link between government, enterprises, the design sector, academia and other actors. There are multiple design actors in the SEE partner countries operating at national, regional and local levels; however, the SEE Design Policy Monitor provides insight into the SEE partner organisation or most prominent design agent. This component of the design system is comprised of the following key performance indicators: expenditure on design centres, scope of design centre activities, number of private sector staff assisted, number of public officials assisted and number of designers assisted. Design agents are an important conduit in the policy feedback loop between policy beneficiaries and the network of policy implementation bodies.

National design centre budgets range from €240,000 in Estonia to €12,522,100 in the UK and staff numbers range from 6 in Estonia to 65 in the UK. Design centres have previously relied too heavily on a single government contract, which have undergone various states of revision in the past five years. Some design centres, like other innovation bodies that benefit from public funding, have experienced budgetary revisions in recent years. For example, as a result of the 2010 Comprehensive Spending Review in the UK, the Design Councils budget in 2011 was reduced to £9.2M from £10.3M in 2010 although in 2012 its budget rose again to £10.3M. The Design Council was not the only national design centre to enjoy an increased budget in 2012, due to the National Action Plan for Design, the Estonian Design Centre operated with a budget of €400,000. The model of funding national design centres is also changing; the Danish Design Centre is now half funded by private income and half by public finance. The UK Design Council that used to be 100% funded by the Department for Business Innovation and Skills is now 20% funded from other sources.

Regional design centre budgets range from €566,677 in Silesia to €4M in Flanders for four design bodies and staff numbers range from 7 in Wales to 25 in Flanders. Whereas national design centres must find a proportion of their funding from private sources, regional design centres tend to still be 100% publicly funded although they obtain their funding from multiple levels of government: local, regional, national and European. In Central Macedonia, local stakeholders have developed a business plan for a regional design centre that is hoped to be established in 2013. The model for the design centre is based on design support (aimed at enterprises and designers), a business incubator (integrating design into company strategy) and design promotion (raising awareness of design as a source of innovation in the region).

The scope of design centre activities is also expanding, whereas design support was previously focused on enterprises, design centres have recognised that public authorities also need understand and use design in a strategic way. All of the national design centres conduct awareness raising activities for the public sector. Alternatively, international design promotion, which used to be the traditional domain of design centres is now less prevalent than before. The Danish Design Centre, Design Flanders, Centre for Design Innovation and Castle Cieszyn provide subsidies for companies to invest in design. All bar two design centres provide mentoring for designers. This is demonstrative of a shift in the role of design centres away from their usual activities of training designers and promoting design internationally toward more targeted design support and political engagement. For example, the Design Council assisted three times as many public officials than enterprises.

Table 18: Expenditure on national design centres 2012

National dimension	Design centre name	Annual budget	Proportion of public / private funding	Number of full-time staff
DK	Danish Design Centre	€3,350,100	50% - Public 50% - Private	20
EE	Estonian Design Centre	€400,000	80% - Public 20% - Private	6
FI	Design Forum Finland	€2,000,000	50% - Public 45% - Private 5% - Other	17
UK	Design Council	€12,522,100	80% - Public 20% - Other	65

Table 19: Expenditure on regional design centres 2012

Regional dimension	Design centre name	Annual budget	Proportion of public / private funding	Number of full-time staff
BE - Flanders	Design Flanders FlandersInShape Designregio Kortrijk Designhub Limburg	€1.8M €0.8M €0.7M €0.7M [€4M total]	Public - 100%	11 6 4 4 [25 total]
CZ - South Bohemia	[No regional design centre]	-	-	-
FI - Central Finland	[No regional design centre]	-	-	-
GR - Central Macedonia	[No regional design centre but there is a move to start one in 2013]	-	-	-
IE - BMW Region	Centre for Design Innovation	:	Public - 100%	2
PL - Silesia	Design Silesia	€566,677	Public – 71% (33% City and 38% EU) Private – 29%	7
UK - Wales	Design Wales	€665,000	Public - 100%	7

Table 20: Scope of design centre activities

National dimension	DK - Danish Design Centre	EE - Estonian Design Centre	FI - Design Forum Finland	UK - Design Council	BE (Flanders) - Design Flanders	IE (West of Ireland) - Centre for Design Innovation	PL (Silesia) – Castle Cieszyn	UK (Wales) – Design Wales
Design support	■	■		■	■	■	■	■
Design promotion regionally / nationally	■	■	■	■	■		■	■
Design promotion internationally	■	■	■		■		■	
Design education						■	■	
Access to finance (subsidies for companies to invest in design)	■				■	■	■	
Research		■		■			■	■
Political lobbying	■	■	■	■			■	■
Training / mentoring designers		■	■		■	■	■	■
Collecting data on design investment		■		■			■	
Other (please specify)				Design demonstrations			Workshops for children	

Table 21: Number of private sector staff, public officials and designers assisted

	Companies assisted (seminars or training)	Companies assisted (+3 hours of support)	Public officials assisted (+3 hours)	Designers assisted	Frequency of data collection
DK	600	120	0	15	Intermittently
EE	80	4	0	20	Every three years
FI	50	:	:	50	Intermittently
UK	1100	31	98	:	Every five years
Flanders[63]	722	125	165	450	Rarely
Silesia	50	50	40	120	2012
Wales	80	30	18	25	2008

Professional Design Sector

In many countries across Europe, the creative industries have been identified as a priority sector for growth. Design represents a significant proportion of the creative industries both in terms of employment and gross value added (GVA). However, when governments implement policy instruments to support the creative industries design is often overlooked or under represented. Design is not only a significant sub-sector of the creative industries but it has an important impact on other industry sectors such as the manufacturing sector, IT and digital sector, agri-food sector, financial services and other service sectors. The key performance indicators for this component of the design system include: employment in the design sector, gross value added of the design sector and designers with tertiary education. Enhancing the continuous professional development of the design sector in a country or region is a crucial part of the design system because the quality of the supply of professional design expertise must match the expectations of the demand side. The professional design sector itself can be overlooked in design policy instruments, which often tend to focus on other components of the design system.

In Denmark, Estonia, Finland and the UK a total of approximately 1,615,000 people are employed in the creative industries (with 1.5M of those in the UK) and approximately 254,029 are designers (with 232,000 in the UK). Designers make up approximately 16% of people employed in the creative industries in Denmark, Estonia, Finland and the UK. A number of different organisations in Finland and the UK have sought to estimate the number of people employed in the design sector and different methodological approaches and sample sizes have resulted in ranging estimates. For example, figures for employment in design in Finland range from 1,499[64] by Statistics Finland (2007), to 1,566[65] by the Ministry of Employment and the Economy (2010) to 5,000[66] including in-house designers by the Creative Industries Finland project (2010). This demonstrates that the only way to draw a robust international comparison would be to use the same methodological approach in each country. GVA of the creative industries in Denmark, Estonia, Finland and the UK is on average 3.0% but statistics on the GVA of the design sector only exists in the UK (0.14%). National Occupational Standards for Design exist in the UK, Denmark and Finland and the Estonian Design Centre is planning to develop professional design standards in 2013. In Denmark and Finland, over 80% of designers holder an undergraduate degree whereas in Estonia between 60-79% hold an undergraduate degree and in the UK only 51%. In both Estonia and the UK, financial services and the public sector are the largest clients of the professional design sector. In Denmark, Estonia and the UK, designers are most likely to work in the area of communication and graphics and then most likely to work in digital and multimedia area. If the national and regional statistics for employment and GVA of the design sector were collected on a regular basis – every five years – it would permit an analysis of how well the design sector is weathering Europe's economic storm.

In Flanders, BMW Region, Silesia and Wales, a total of approximately 205,560 people are employed in the creative industries (with 121,800 of those employed in Flanders) and approximately 7.5% (15,404) of those are designers (with 5,293 of those employed in Wales). GVA of the creative industries in Flanders, BMW Region, Silesia and Wales is 2.9% on average, GVA of the design sector in Flanders, Silesia and Wales is 0.1% on average.

Over 80% of designers in South Bohemia, Central Finland and Silesia holder an undergraduate degree compared with 60-79% in Flanders and Wales. Professional design standards exist in Flanders, Ireland, Poland and the UK. In Flanders, Central Finland, Central Macedonia and BMW region, the manufacturing sector is the largest client of professional design services. In Flanders, Central Finland, Central Macedonia and Silesia, the IT and digital sector is the second largest client of professional design services. In Flanders, Central Finland, BMW Region, Silesia and Wales, designers are most likely to work in the area of communication and graphics. In Central Finland, Central Macedonia, Silesia and Wales, designers are second most likely to work in the area of digital and multimedia.

Table 22: Employment and GVA of the creative industries and design sectors (national dimension)

	Employment in the creative industries	GVA of the creative industries	Employment in design	Design GVA
DK	80,600[67]	3.1%[68]	20,000e[69]	:
EE	28,000[70]	2.9%[71]	463[72]	:
FI	77,600[73]	3.1%[74]	1,566[75]	:
UK	1,500,000[76]	2.89%[77]	232,000[78]	0.14%[79]
Total	1,615,000	3.0%	254,029	:

Table 23: Employment and GVA of the creative industries and design sectors (regional dimension)

	Employment in the creative industries	GVA of the creative industries	Employment in design	Design GVA
BE - Flanders	121,800[80] 4.3%	3.00%[81]	4,011[82]	€171M 0.07%[83]
CZ - South Bohemia	Less than 4,999e	:	726[84]	€1.1[85]
FI - Central Finland	Less than 4,999e	:	Less than 999e	:
GR - Central Macedonia	:	:	:	:
IE - BMW Region[86]	11,000 2.4%	:	5,100 1.1%	:
PL - Silesia[87]	48,700 3.0%	€927.6M 3.0%	1,000 0.06%	€19M 0.00049%
UK - Wales[88]	24,060 1.8%	€573.2M 0.63%	5,293 0.4%	€206.4M 0.23%

Table 24: Proportion of designers with an undergraduate degree

	Designers with an undergraduate degree	Professional design standards
DK	Over 80%*e*	Yes
EE	60-79%*e*	No
FI	Over 80%*e*	Yes
UK	51%[89]	Yes[90]
BE - Flanders	60 – 79%*e*	Yes
CZ - South Bohemia	Over 80%*e*	No
FI - Central Finland	Over 80%*e*	No
GR - Central Macedonia	:	No
IE - BMW Region	:	Yes
PL - Silesia	Over 80%*e*	Yes
UK - Wales	60 – 79%*e*	Yes

Table 25: Design industry client sectors (national dimension)

	DK*e*	EE*e*	FI*e*	UK[91]
Agriculture and food	9	6	9	9
Construction	8	8	8	8
Cultural, creative and sport	6	5	7	7
Financial and legal services	1	1	1	1
IT and digital	1	2	1	1
Manufacturing	5	7	5	5
Public administration, health and education	3	4	3	3
Tourism and transport	7	3	6	6
Wholesale and retail	4	2	3	3

Table 26: Regional estimates of design industry client sectors

	Flanderse	South Bohemiae	Central Finlande	Central Macedoniae	BMW Regione	Silesiae	Walese
Agriculture and food	6	1	9	5	4	6	3
Construction	5	4	3	4	2	9	9
Cultural, creative and sport	3	2	8	3	8	3	6
Financial and legal services	9	8	7	8	7	8	2
IT and digital	2	5	2	2	9	2	4
Manufacturing	1	3	1	1	1	1	8
Public administration, health and education	8	9	6	9	6	7	1
Tourism and transport	7	7	5	7	5	4	5
Wholesale and retail	4	6	4	6	3	5	7

Table 27: Composition of design disciplines (national dimension)

	DK*e*	EE*e*	FI*e*	UK[92]
Communication and graphics	1	1	2	1
Design management	7	7	7	7
Digital and multimedia	1	2	5	2
Ecodesign	7	8	8	7
Fashion and textiles	1	5	4	5
Interior and exhibition	6	4	3	3
Product and industrial	1	3	1	4
Services	5	6	6	6

Table 28: Composition of design disciplines (regional dimension)

	Flanders*e*	South Bohemia*e*	Central Finland*e*	Central Macedonia*e*	BMW Region*e*	Silesia*e*	Wales*e*
Communication and graphics	1	3	1	3	1	1	1
Design management	8	4	8	8		6	6
Digital and multimedia	5	5	2	2	3	2	2
Ecodesign	7	8	7	7		8	7
Fashion and textiles	4	7	5	4	5	5	4
Interior and exhibition	3	6	4	5	2	3	3
Product and industrial	2	1	3	1	4	4	5
Services	6	2	6	6		7	8

Design Education, Research & Knowledge Transfer

Design education is crucial for ensuring the supply of quality designers from primary and secondary school to undergraduate degree level design education. Design education does not have to be limited to individuals training to be designers. The most progressive universities across Europe are integrating multidisciplinary education into the curriculum where students from different backgrounds – management, IT, humanities and the arts (including designers) – are put into teams to work on solving a challenge. Business students can take design modules and design students can take business modules. The key performance indicators for design education include number of design students in primary school, number of design students in secondary school, number of bachelor degree design graduates, higher education institutions teaching design and first year earnings by design graduates. Of course, these indicators do not provide insight into the quality or scope of design education across Europe – a more qualitative research approach would be needed. While countries like the UK are reviewing how design is taught in primary and secondary school, other countries like Estonia are introducing design education into the primary and secondary curriculum for the first time. Linked to education is knowledge exchange between academia and industry – using academia to inform good practice in industry and taking industry experience to inform academia.

Design is taught in primary and secondary schools in Estonia (ages 6-10 and 11-16) and the UK (ages 6-10 and 11-18) but not in Denmark and Finland. In Estonia, design was added to the national curriculum for the academic year 2011-2012 from the first to ninth grade (6-7 year olds to 15-16 year olds) as part of the arts as well as technology lessons. However, teachers were slow to receive training on design and textbooks and teaching materials were not fully developed at the outset. In 2012, in the UK, 240,704 students opted to study 'Design and Technology' (D&T) for their GCSEs, the exam taken by 15-16 year olds (253,624 took the exam in 2011)[91]. However, 35% more students took a GCSE in D&T than in biology (166,168). In 2012, 17,105 students opted to study D&T for A-level, the exam for 17-18 year olds (18,249 in 2011)[94]. However, 71% more students chose A-level biology (62,041) than D&T. The number of students studying STEM (science, technology, engineering and maths) subjects is frequently used as an indicator for innovation capability within a country. Design stakeholders want design to been seen as a bridge connecting the STEM subjects. For this to happen, we would need to contextualise the number of science students against the number of design students.

In Denmark, Estonia, Finland and the UK, there were a total of approximately 17,075 bachelor degree design graduates (with 16,000 of those from the UK). In higher education in Estonia, from 2007-2010 a total of 1,038 people received education in design, including 854 people who received university education and 184 people who received vocational education[95]. In Finland, there were approximately 3,000 design graduates with 2,137 of those from Aalto University. Aalto University, School of Arts, Design and Architecture offers 20 Bachelor-level programmes and 24 Master-level programmes[96]. The first year's earnings of a UK design graduate were on average €13.46 (£11.50) per hour, compared with a figure of €10.19 (£8.71) per hour for the rest of the creative industries[97].

Design is taught in primary schools in Wales and is taught in secondary schools in Flanders (17-18 year olds), South Bohemia (15-18 year olds) and Wales (11-18 year olds). In Flanders there are 13 higher education institutions teaching design, 12 in Wales, 7 in Silesia, 6 in BMW Region, 4 in Central Macedonia, one in South Bohemia and in 2012 there were no higher education institutions in Central Finland teaching design. However, in the academic year 2013-2014, JAMK University of Applied Sciences is introducing design studies. Figures for the numbers of design students at primary, secondary and tertiary education levels were unavailable at regional level.

To advance design as an academic discipline, the practice of design within the professional design sector and the use of design by industry we need to advance design research and knowledge exchange. Developing new research to support the field and diffusing knowledge from academia to industry, public sector and society is a crucial aspect of the design system. The indicators for this component include the number of postgraduate design students, the number of doctoral design students, the number of postgraduate degree courses and the number of higher education institutions with academia-industry collaboration. A valuable indicator would be expenditure on academia-industry collaboration and new revenue generated from academia-industry collaboration by enterprises. This component of the design system is probably least well understood as data is the most sparse.

Table 29: Number of design students in primary, secondary and higher education (national dimension)

	Number of primary school students studying design (age 6-10)	Number of 15-16 year olds studying design	Number of 17-18 year olds studying design	Number of bachelor degree design graduates
Denmark	0	0	:	500*e*[98]
Estonia	:	:	:	276[99]
Finland	0	:	:	3,000*e*[100]
UK	4,856,000[101]	240,704[102]	17,105[103]	16,000*e*[104]

Table 30: Higher education institutions teaching design (national dimension)

	Higher education institutions teaching design	Undergraduate degree courses in design	Number of bachelor degree design graduates	First year earnings by design graduates
Denmark[105]	3	:	500	:
Estonia[106]	8	21	276	:
Finland[107]	3	40	3,000	:
UK[108]	80	88	16,000	€13.46 per/hour [£11.50 per/hour]

Table 31: Number of postgraduate design students

	Number of master degree design graduates	Number of doctoral design graduates	Number of postgraduate degree courses at higher education institutions	Number higher education institutions with academia-industry design collaboration
DK	:	:	:	:
EE[109]	:	:	10	4
FI[110]	250*e*[111]	12*e*[112]	15	15
UK	:	:	:	:

Table 32: Design in primary, secondary and higher education (regional dimension)

	Design in primary schools	Design in secondary schools	Higher education institutions teaching design	Undergraduate degree courses in design	Number of students
BE - Flanders[113]	No	Yes (17-18)	13	12	:
CZ - South Bohemia[114]	No	Yes (15-18)	1	6	:
FI - Central Finland[115]	No	No	0	0	0
GR - Central Macedonia[116]	No	No	4	11	:
IE - BMW Region[117]	No	No	6	20	:
PL - Silesia[118]	No	No	4	:	:
UK - Wales[119]	Yes (8-10)	Yes (11-18)	12	20	:

Funding

Funding is one of the prime policy instruments for governments to incentivise innovation; however, design is often excluded from mainstream innovation funding for research and practice. Funding has an impact on every component of the design system. This component includes the scope of financing mechanisms (expenditure on supply-side financing mechanisms and expenditure on demand-side financing mechanisms) as well as public procurement of design. Innovation funding should also be used to simulate design use and research. A useful indicator would be spending on innovation funding relative to funding for design. A plethora of innovation funding instruments exists across Europe but very often design is not an eligible cost within a programme, or if it is, it is 'hidden' within the programme eligibility criteria. Design stakeholders need to engage with funding bodies and demonstrate how design can contribute to innovation. For many SMEs, design is a much more accessible way to innovate because it is a non-capital cost unlike traditional R&D and technology investments. Design could be integrated within existing tax credit schemes, innovation voucher schemes, export promotion schemes, training schemes, funding for academia-industry collaboration, research and public tenders without serious programme revisions.

The scope of funding mechanisms for design is broadest in Denmark where there exist subsidies for business to invest in design, funding for academia-industry collaboration, funding for design research and public tenders for design services in terms of both communication and strategy contracts. Subsidies for business to invest in design also exist in the UK with €550,000 (£500,000) in grants to help provide consistent and good quality design advice across England. According to the respondent from Aalto University and Design Forum Finland, design is not excluded from various innovation funding instruments in Finland but it is 'hidden' within the programmes and therefore there is low take-up of design within innovation programmes. According to the respondent from Design Forum Finland, "For example, TEKES, the Finnish Funding Agency for Technology and Innovation has programmes that could include design – 'Intelligent Environments' is one of them. I don't know for sure if there actually are some design projects there but I think this shows the way design can be 'hidden' in innovation programmes". As such, the scope of design funding instruments in Finland can be deemed limited. Design funding opportunities are more readily available at national level rather than regional levels. The scope of funding mechanisms at regional level tends to be less broad. Overall, funding mechanisms are more focused on the demand side (subsidies for businesses to invest in design) rather than the demand side (subsidies for designers to invest in training or skills).

The survey for policy-makers also asked what factors were important for an applicant be successful in a government tender and whether the government had put a design-related contract out to tender. The most important factors for a successful tender in regional government are reported to be solutions that are innovative, creative and user-centred. Increasingly design is understood to be a driver of solutions that are innovative, creative and user-centred in the private sector and although awareness of design is reported to be relatively high in regional government innovation departments, design is not broadly applied as an approach to problem-solving. Nevertheless, regional government respondents claim to not be risk adverse. This is indicative of a gap between perception and actual application. Regional design stakeholders have some work to do to improve the understanding of design's strategic use in the public sector. Design-specific tenders (as supposed to more general tenders that more strategic design agencies could choose to pitch for) tend be limited to communication and promotion activities rather than strategy. However, every few years there will be larger contracts for delivering a design programme on behalf of government. For example, in 2012, in Wales, the Design Advisory Service tender came up for renewal at a value of €1M over three years. This is also the case in 2011, in Flanders with the contractors for the social design programme worth €60,000. In the future, design stakeholders need to work to raise the game of the design sector to be able to respond to more mainstream public tenders for which management consultants would usually apply.

Table 33: Scope of financing mechanisms for design (national dimension)

	DK	EE	FI	UK
Tax credits for design				■
Subsidies for businesses to invest in design (demand)	■	■		■
Subsidies for designers to invest in training/skills (supply)				
Funding for academia-industry collaboration	■		■	■
Academic research funding for design	■		■	
Design part of mainstream innovation funding programmes	■	■	■	
Public tenders for design services (communication)	■		■	■
Public tenders for design services (strategy)	■			

Table 34: Scope of financing mechanisms for design (regional dimension)

	Flanders	South Bohemia	Central Finland	BMW Region	Silesia	Wales
Tax credits for design						
subsidies for businesses to invest in design (demand)	■	■			■	■
Subsidies for designers to invest in training/skills (supply)	■					
Funding for academia-industry collaboration	■		■	■	■	■
Academic research funding for design			■	■		
Design part of mainstream innovation funding programmes			■	■		
Public tenders for design services (communication)	■					
Public tenders for design services (strategy)				■		■

Table 35: How important are the following factors for an applicant to be successful in a tender from your department? Please rank the factors from 1 to 10 (1 being the most important and 10 being least important):

	BE	CZ	FI	GR	IE	PL	UK	Mean
Low cost is the most important	5	1	7	6	3	1	10	4.7
Innovation is the most important	4	2	6	2	1	3	7	3.6
Cost and innovation are equally important	2	4	4	1	8	9	6	4.9
Quality irrespective of price is the most important	10	6	1	3	9	8	3	5.7
Environmental considerations are the most important	9	8	8	10	7	10	9	8.7
User-centred solution is the most important	3	3	5	4	4	5	5	4.1
Creative solution is the most important	2	5	2	5	5	7	4	4.3
Track record in delivery is the most important	3	7	9	7	2	4	1	4.7
Flexibility in delivery is the most important	5	9	3	9	6	6	2	5.7
Risk adverse solution is the most important	7	10	10	8	10	2	8	7.9

Table 36: Did your department put out a tender for professional design services or the delivery of a design programme?

	Y/N	Description
BE - Flanders	Y	Communication: €50,000; exhibitions: €10,000; contractors program on social design: €60,000; Total €120,000
CZ - South Bohemia	N	
FI - Central Finland	N	
GR - Central Macedonia	N	
IE - BMW Region	Y	Website development; publicity items; annual research report layout.
PL - Silesia	N	
UK - Wales	Y	Design Advisory Service €1M (£950,000) for a three year contract 2012-2015.

Policy, Governance and Regulation

This component of the design systems refers to creating an effective legislative environment for design to flourish including intellectual property rights for designs, public procurement procedures design-led approaches in government and regulatory environment. The indicators include how well policies for innovation and design are articulated, the scope of policy provisions for innovation and design policies and design readiness in government. Useful indicator would include total expenditure on design policy instruments compared with spending on innovation policy instruments.

In 2009 and 2011, the SEE partners conducted self-assessment exercises to map the scope and depth of innovation policies and the role of design within those policies. In 2012, we have conducted a similar exercise and will again monitor design policy developments on an annual basis. This exercise is based on the following questions:

- How well defined is innovation policy in your country or region?
- How well defined is design policy in your country or region?
- How well defined is creative industries policy in your country or region?
- What is the scope of policies and programmes for innovation?
- What is the scope of policies and programmes for design?

The data for 2012 will form a benchmark against which the data for 2014 will be compared to monitor whether the relative importance of design in innovation policy has increased. Since innovation policy is the centrepiece of economic development strategies across Europe, innovation policy is consistently rated as better articulated than policies for the creative industries and design. Innovation policy articulation is perceived by local design stakeholders as being best defined in Denmark and Finland (9 out of 10) and design is a few points behind in both countries (7 out of 10). This is also reflected in the allocated budgets for each policy priority. For example, in Estonia, the expenditure on innovation policy implementation is €143.8M, expenditure on creative industries policy implementation is €7.57M while expenditure on implementing design policy amounts to €0.4M. Nevertheless, design is rising up the political agenda at both national and regional levels. In 2012, both Denmark and Finland were preparing design strategies and Estonia was implementing the National Action Plan for Design. In 2012, the Regional Government of Silesia, the Marshall Office, made design a cornerstone of the 'Regional Innovation Strategy of Silesia Voivodeship for the years 2013-2020' and through the implementation of the Design Silesia Programme. The Welsh Government have also prepared an 'Innovation Strategy for Wales', which included design as a driver of innovation in both the private and public sectors.

The Estonian National Design Action Plan (2012-2013) is the first phase of state support for developing design use, and the purpose of the plan is to establish cooperation among the stakeholders implementing the activities. Further development and implementation of the design policy will continue in the new strategy period (2014-2020). The objectives of action plan can be summarised as: 1) Economic growth through more effective use of design in different business sectors and better products and services with higher export potential. 2) Development of design as an important sector in the creative industries and promotion of design entrepreneurship leading to a design sector with export capacity and that is capable of offering added value to other sectors. The spin-off effect of the implementation is anticipated to include better public services and an enhanced reputation of Estonian design. The action plan will primarily focus on the following target groups: small and medium enterprises, manufacturing companies, service industry companies, design studios, free-lance designers, design field support structures (professional associations and development centres), the public sector as customers, local governments and non-profit associations. In 2013, a review of the policy will be undertaken in order to develop the next design action plan.

The scope of both policies and programmes for innovation and design are expanding. There is a high degree of commonality between the policy and programme provisions for innovation among the SEE consortium. Innovation policies and programmes still focus significantly on R&D, product development, technology, industrial innovation and academia-industry collaboration. Additionally, there are a growing number of initiatives focused on export potential, non- technological innovation, user-driven innovation, service innovation in both the private and public sectors and environmental sustainability. Public sector innovation is a priority in Finland. Policy and programme provisions for design still cover the traditional design domains of product development and industrial design but service design for the private sector features in policies or programmes in 8 of the 11 partner countries and service design for the public sector features in policies or programmes in 7 of the 11 partner countries. Over the next few years, SEE will monitor how the policy and programme landscape for innovation and design evolves.

We are seeing more and more examples across Europe where design is being employed as a user-centred approach for developing or improving decision-making processes, services and policy-making processes within government. More information on design's role in this context is available in the SEE publication 'Design for Public Good'. The government respondents were asked to identify the key barriers to using design strategically in their department by ranking the barriers from 1 to 10 (1 being the most significant barrier and 10 being the least significant barrier). Of the ten barriers identified to the more strategic use of design in government, the two most frequently cited barriers were the uncertainty of the outcome of the process and a lack of understanding about the role of design in this context. Design stakeholders still have work to do to convey the value of a design-led approach to innovation in government.

Table 38: How well defined are policies for innovation, design and the creative industries? (national dimension)

	Innovation	Design	Creative industries
DK	9	7	8
EE	7	6	7
FI	9	7	8
UK	7	3	4

Table 39: How well are the policy priorities for innovation, design and the creative industries defined? (regional dimension)

	Innovation	Design	Creative industries
BE - Flanders	8	5	3
CZ - South Bohemia	6	2	3
FI - Central Finland	4	5	6
GR - Central Macedonia	4	3	2
IE - BMW Region	7	2	4
PL - Silesia	4	3	3
UK - Wales	8	5	6

Table 40: Policy and programme provisions for innovation

	DK	EE	FI	UK	Flanders - BE	South Bohemia - CZ	Central Finland - FI	Central Macedonia - GR	Border, Midland and Western Region of Ireland - IE	Silesia - PL	Wales - UK
R&D	■	■	■	■	■	■	■	■	■	■	■
Product development					■	■	■	■	■	■	■
Technology	■		■	■	■	■	■	■	■	■	■
Industrial innovation	■	■			■	■		■		■	■
Sector specific initiatives (for example the manufacturing or agriculture sector)		■	■	■	■				■	■	■
Export specific initiatives	■	■	■	■					■		
Non- technological innovation	■		■		■		■	■			
User-driven innovation	■		■				■	■			
Service innovation (private sector)			■		■		■				
Service innovation (public sector)			■				■				
Social innovation			■		■						
Intellectual property rights (IPR)			■			■			■		■
Public procurement			■		■						■
Education	■	■				■			■		■
Academic/industrial links	■	■	■	■	■	■	■		■	■	■
Skills			■						■		■
Environmental sustainability	■		■			■				■	■
Industrial / product design		■	■	■	■				■	■	■
Service design (private sector)	■	■	■				■		■		
Service design (public sector)	■	■	■				■				
Design for social challenges	■		■				■				
Design for processes and systems			■				■		■		
Ecodesign	■										
Design management		■									
Design for strategy	■	■	■								
Other (please specify)											

Table 41: Policy and programme provisions for design

	DK	EE	FI	UK	Flanders - BE	South Bohemia - CZ	Central Finland - FI	Central Macedonia - GR	Border, Midland and Western Region of Ireland - IE	Silesia - PL	Wales - UK
Product development	■	■	■	■	■	■			■	■	■
Technology			■								■
Engineering		■							■		
Industrial design		■	■	■	■	■		■	■	■	■
Sector specific initiatives (for example the manufacturing or agriculture sector)			■								■
Export specific initiatives	■	■			■			■			
Non- technological innovation			■	■	■						
User-centred design		■	■	■	■		■				
Service design (private sector)	■	■	■	■	■		■			■	■
Service design (public sector)	■	■	■	■	■		■			■	
Design for social challenges			■	■	■					■	
Intellectual property rights (IPR)			■	■	■						■
Public procurement		■	■		■						
Design education	■	■	■	■						■	■
Academic/industrial links		■	■	■			■			■	■
Designers' skills	■	■		■	■						■
Environmental sustainability					■						■
Graphics and branding					■						
Fashion and textiles			■		■						■
Ecodesign					■						■
Design management	■	■		■	■				■	■	■
Universal design					■						
Design for strategy	■	■	■	■	■						
Design thinking		■	■		■		■				
Promotion of new design roles		■	■								
Other (please specify)											

Table 42: What are the most significant barriers to the better use of design in government?

	BE	CZ	FI	GR	IE	PL	UK	
Uncertainty of the outcome of the process	3	5	4	6	4	1	5	4.0
Cost in relation to other consultants	10	8	9	9	3	3	10	7.4
Lack of experience in commissioning creative services	8	6	8	4	5	4	9	6.3
Lack of examples of successful initiatives	9	1	3	8	2	9	6	5.4
Lack of evidence of the return on investment	7	4	2	7	1	10	8	5.6
Prefer top-down decision-making rather than user-driven decision-making	1	7	10	2	10	5	3	5.4
Lack of understanding about the role of design	5	3	1	5	9	6	2	4.3
Staff resistance to new processes	4	10	7	1	8	2	4	5.1
Risk adverse culture in your department	2	9	6	3	7	8	1	5.1
Lack of availability of relevant design expertise	6	2	5	10	6	7	7	6.1

CONCLUSION

The SEE Design Policy Monitor 2012 seeks to benchmark different components of the SEE partners' design systems. The lack of comparative statistical data on design is frequently cited as a barrier to design forming part of innovation policy. Benchmarking is a methodology concerned with learning by comparison where countries examine the performance of their competitors to develop new policies. By benchmarking design performance in the SEE partner countries; this research seeks to provide empirical evidence to justify government intervention to promote design.

The SEE Design Policy Monitor 2012 reveals both positive trends in design policy as well as a number of pitfalls. Encouragingly, companies and governments across Europe are investing in design and being active design users. For example, in the UK, companies spend more on design (2.92% of GDP) than on R&D (1.07%); whereas in Denmark and Finland, companies spend less on design (0.4% and 0.22% of GDP) than on R&D (2.08% and 2.71%). In Denmark, Finland and the UK, more companies engage in design activities (93%, 57% and 66% respectively) than innovation activities (52%, 52% and 46%). Public expenditure on design is greatest in the UK in actual terms (€9.75M) but the least relative to GDP (0.00057%); whereas in Estonia, public expenditure on design is the least in actual terms (€2M) but the most relative to GDP (0.014%). In Denmark, Estonia, Finland and the UK public expenditure on R&D promotion is almost 500 times greater than spending on design promotion. This raises the question that if governments increased public expenditure on design policies and programmes, could it leverage greater innovation capacity in companies relative to public investment in R&D policies and programmes?

Governments across Europe are also developing programmes and policies for design. In 2012, the Estonian Design Action Plan was implemented and both Denmark and Finland were preparing design strategies. Design became part of the Silesian Government's innovation policy and the Welsh Government was examining the role of design in innovation policy for the 2013 Innovation Strategy for Wales. However, the Design Policy Monitor also revealed that there is a fundamental lack of data on the different components of the European Design System, which is a barrier for governments to integrate design into mainstream innovation policies and programmes. Design has been recognised as a priority for innovation in Denmark, Estonia, Finland, the UK, Flanders, Silesia and Wales and there are many examples of successful programmes available as case studies on the SEE website. SEE will continue to monitor trends in design policies and programmes over the coming years to support policy-makers in integrating design into innovation instruments.

ACKNOWLEDGEMENTS

Thanks from the SEE Platform goes to all the survey respondents:

Gerin Trautenberger – Microgiants – Austria
Ingrid Vandenhoudt – Design Flanders – Belgium
Genoveva Christova – Ligna Group Ltd and Chair of the Bulgarian Furniture Cluster – Bulgaria
Tomás Cílek– Regional Development Agency of South Bohemia (RERA) – Czech Republic
Richard Drury, Jiří Hulák – Institute of Art and Design of the University of West Bohemia in Plzeň – Czech Republic
Jan Pileček– Regional Development Agency of South Bohemia (RERA) – Czech Republic
Jana Vinšová – Czechdesign – Czech Republic
Aase Højlund Nielsen – Central Denmark EU Office – Denmark
Christina Melander – Danish Design Centre – Denmark
Karin Bendixen – Bexcom – Denmark
Steinar Valade-Amland – Three Point Zero – Denmark
Jane Oblikas – Estonian Design Centre – Estonia
Kaire Sõmer – Estonian Design Centre – Estonia
Diana Tamm – Estonian Design Centre – Estonia
Mikko Hartikainen – Curriculum Development Unit, Finnish National Board of Education
Jaana Hytonen – Aalto University School of Arts, Design and Architecture
Leena Koskinen – Aalto University School of Arts, Design and Architecture
Markku Salimäki – Aalto University School of Economy
Silja Suntola – Aalto University School of Economics
Anne Veinola – Design Forum Finland – Finland
René Arnold – Institut der Deutschen Wirtschaft Köln Consult GmbH – Germany
Christina Skoubridou – Business and Cultural Development Centre (KEPA) – Greece
Neoklis Stamkos – Business and Cultural Development Centre (KEPA) – Greece
Zita Zombori – TACTICS Reflection Group – Hungary
Adrian O'Donoghue – Border, Midland and Western Regional Assembly – Ireland
Marzia Mortati – Politecnico di Milano – Italy
Stefano Maffei – Politecnico di Milano – Italy
Daina Vitolina – Design Information Centre (DIC) – Latvia
Ingrid Van Der Wacht – Design Cooperation Brainport – The Netherlands
Ewa Golebiowska – Castle Cieszyn – Poland
Magda Mendrek – Castle Cieszyn – Poland
Ania Pilch – Castle Cieszyn – Poland
Suszanna Marques – Setepé Direcção – Portugal
Christina Leucuta – Ministry of Economy – Romania
Damjan Kavaš – Institute for Economic Research in Ljublijana – Slovenia
Nika Murovec – Institute for Economic Research in Ljublijana – Slovenia
Daniela Pavúková – City of Presov – Slovakia
Ailbhe McNabola – Design Council – United Kingdom
Bel Reed – Design Council – United Kingdom
Gavin Cawood – Design Wales/PDR – United Kingdom
Victoria Jones – Design Wales/PDR – United Kingdom
Mark Lewis – Welsh Government – United Kingdom

Authors:

Anna Whicher - Design Wales/PDR/Cardiff Metropolitan University
Gavin Cawood - Design Wales/PDR/Cardiff Metropolitan University
Andrew Walters - Design Wales/PDR/Cardiff Metropolitan University

Design Wales is part of the National Centre for Product Design and Development Research (PDR) at Cardiff Metropolitan University.

Design Wales / PDR
Cardiff Metropolitan University
Western Avenue
Cardiff Met CF5 2YB
United Kingdom

info@seeplatform.eu
www.seeplatform.eu

BIBLIOGRAPHY

1 UK business expenditure on design: Moultrie, J., and Livesey, F. (2009) 'Company Spending on Design: Exploratory Survey of UK Firms 2008', University of Cambridge, p.6. Business expenditure on R&D: Eurostat (2012) 'Science, Technology and Innovation in Europe 2012', European Commission, p.30. Companies engaged in design activities: Danish Business Authority (2008) 'Design Creates Value', Copenhagen, p.9; Holopainen, M. and Järvinen, J. (2006) 'Muotoilun Toimialakartoitus 2006' (Design Industry Survey 2006), TEKES and Aalto University, Helsinki, p7; Moultrie, J., and Livesey, F. (2009) 'Company Spending on Design: Exploratory Survey of UK Firms 2008', University of Cambridge, p.6. Companies engaged in innovation activities: Eurostat (2012) 'Science, Technology and Innovation in Europe 2012', European Commission, p.74.

2 European Commission (2010) 'Europe 2020 Flagship Initiative Innovation Union', SEC(2010)1161, Brussels, p.18.

3 For more information about the SEE Platform visit: www.seeplatform.eu

4 For more information about the European Design Innovation Initiative visit: http://ec.europa.eu/enterprise/policies/innovation/policy/design-creativity/index_en.htm

5 Huggins, R. (2010). Regional Competitiveness Intelligence: Benchmarking and Policy-making. Regional Studies, 44(5), p.640.

6 Moultrie, J. and Livesey, T. (2009) 'International Design Scoreboard - Initial indicators of international design capabilities', Design Management Group, Institute for Manufacturing, University of Cambridge, UK, p.17.

7 According to the policy 'Europe 2020' the ten year development plan for the EU, '3% of the EU's GDP should be invested in R&D' (European Commission (2010) 'Europe 2020. A European strategy for smart, sustainable and inclusive growth', COM(2010)2020, Brussels, p.3).

8 Huggins, R. (2010). Regional Competitiveness Intelligence: Benchmarking and Policy-making. Regional Studies, 44(5), p.640.

9 Borras, S. & Jacobsson, K. (2004). The Open Method of Coordination and New Governance Patterns in the EU. Journal of European Public Policy, 11(2), p.187.

10 Huggins, R. (2010). Regional Competitiveness Intelligence: Benchmarking and Policy-making. Regional Studies, 44(5), p.641.

11 Huggins, R. (2010). Regional Competitiveness Intelligence: Benchmarking and Policy-making. Regional Studies, 44(5), p.648.

12 Moultrie, J., and Livesey, F. (2009) 'International Design Scoreboard: Initial indicators of international design capability', Cambridge University, UK.

13 Hollanders, H., and van Cruysen, A. (2009) 'Design, Creativity and Innovation: A Scoreboard Approach', Pro Inno Europe Inno Metrics, Maastricht University, The Netherlands.

14 More information about Estonia's design policy is available in SEE bulletin 8, pp.6-7. http://www.seeplatform.eu/docs/SEE%20Platform%20Bulletin%20Issue%208.pdf

15 Danish Action Plan for the Creative Industries and Design: http://www.evm.dk/~/media/oem/pdf/2013/2013-publikationer/07-02-13-vaekstplan-kreative-erhverv.ashx Finnish Design Strategy: http://www.tem.fi/files/36278/Muotoile_Suomi_spreads.pdf

16 European Commission (2009) 'Results of the public consultation on design as a driver of user-centred innovation', Brussels, October 2009 p.8.

17 Whicher, A., and Cawood, G. (2013) 'Reviewing Design Support Programmes in Europe', SEE Policy Booklet 6: http://www.seeplatform.eu/docs/SEE%20Platform%20policy%20booklet%206.pdf

18 New innovation policy currently under development.

19 Danish Ministry of Business (2012) 'Denmark - The Country of Solutions - Strengthened cooperation and a better framework for business innovation', Copenhagen, pp.27-28.

20 Danish Ministry of Business (2012) 'Denmark - The Country of Solutions - Strengthened cooperation and a better framework for business innovation', Copenhagen, p.14. 21 Danish Action Plan for the Creative Industries and Design: http://www.evm.dk/~/media/oem/pdf/2013/2013-publikationer/07-02-13-vaekstplan-kreative-erhverv.ashx

22 http://www.seeplatform.eu/docs/Design%20For%20Public%20Good%20May%202013.pdf

23 Smits, R., Khulmann, S., and Shapira, P. (2010) 'The Theory and Practice of Innovation Policy. An International Research Handbook', PRIME Series of Research and Innovation Policy in Europe, Edward Elgar Publishing, Cheltenham, UK, p.3.

24 Love, T. (2007) 'National Design Infrastructures: the key to design-driven socio-economic outcomes and innovative knowledge economies', IASDR07 international Association of Societies of Design Research, Hong Kong Polytechnic University, 12-15 November, p.3. Thenint, H. (2008) 'Design as a Tool for Innovation', Innovation Policy Workshop 2 Report, pp.6-12. http://grips.proinno-europe.eu/knowledge_base/view/549/. Moultrie, J. and Livesey, T. (2009) 'International Design Scoreboard - Initial indicators of international design capabilities', Design Management Group, Institute for Manufacturing, University of Cambridge, UK, p.17. Raulik-Murphy, G., and Cawood, G. (2009) 'National Design Systems – a tool for policy-making', Research Seminar – Creative industries and regional policies: making place and giving space University of Birmingham, 23-24 September 2009, p.1. http://www3.uwic.ac.uk/English/IIDPS/Documents/Raulik-Murphy%20Cawood%20-%20National%20Design%20Systems.pdf. Swann, P. (2010) 'The economic rationale for a national design policy', Department for Business, innovation and Skills paper no.2, August, p.4. Hobday, M., Boddington, A., and Grantham, A. (2012) 'Policies for design and policies for innovation: Contrasting perspectives and remaining challenges', Technovation 32, pp.273 &277.

25 Whicher, A., and Cawood, G. (2012) 'European Design Systems and Innovation Policy', SEE Policy Booklet 5. http://www.seeplatform.eu/docs/SEE%20Platform%20policy%20booklet%205.pdf

26 Huggins, R. (2010). Regional Competitiveness Intelligence: Benchmarking and Policy-making. Regional Studies, 44(5), p.641.

27 National endowment for Science, technology and the Arts (2009) 'Innovation Index 2009; Measuring the UK's investment in innovation and its effects', London, p.11.

28 National endowment for Science, technology and the Arts (2009) 'Innovation Index 2009; Measuring the UK's investment in innovation and its effects', London, p.11.

29 Hietamäki, T., Hytönen, J., and Lammi, M. (2005) 'Modelling the Strategic Impacts of Design in Businesses', Designium, Aalto University, Finland (http://www.aalto.fi/designium), p.56.

30 Hietamäki, T., Hytönen, J., and Lammi, M. (2005) 'Modelling the Strategic Impacts of Design in Businesses', Designium, Aalto University, Finland (http://www.aalto.fi/designium). p.32.

31 Design Council (2008) 'Design in Britain 2008', London. http://www.designcouncil.org.uk/our-work/Insight/Research/How-businesses-use-design/Design-in-Britain-2008/UK-business-spend-on-design/

32 Eurostat (2012) 'Science, Technology and Innovation in Europe 2012', European Commission, p.30 http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-GN-12-001/EN/KS-GN-12-001-EN.PDF

33 Eurostat (2013) 'European Union Statistics for GDP', http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_gdp_c&lang=en

34 Eurostat (2012) 'Science, Technology and Innovation in Europe 2012', European Commission, p.30

35 Business Expenditure on Design: Danish Business Authority. (2003) 'The Economic Effects of Design'. Copenhagen, Denmark, p.4. [DKK 7 billion]. Public Expenditure on Design: Survey response from Danish Business Authority policy-maker.

36 Public Expenditure on Design: Survey response from Estonian Ministry of Economic Affairs and Communication policy-maker.

37 Business Expenditure on Design: Lindström, M., Nyberg, M. & Ylä-Anttila, P. (2006) 'Ei vain muodon vuoksi ' Muotoilu on kilpailuetu' (Not an Added Extra – Design as a Competitive Advantage), Confederation of Research Institute (Elinkeinoelämän Tutkimuslaitos ETLA), Series B220, Helsinki, p.71. Public Expenditure on Design: Spending on the Helsinki World Design Capital by National Government http://www.hel.fi/hki/helsinki/en/current/wdc-reports

38 Business Expenditure on Design: Moultrie, J., and Livesey, F. (2009) 'Company Spending on Design: Exploratory Survey of UK Firms 2008', University of Cambridge, p.6. Public Expenditure on Design: Design Council (2012) Annual Report and Accounts, p.15 http://www.designcouncil.org.uk/Documents/Documents/Publications/AnnualReports/Design%20Council%20Annual%20Report%202011-12.pdf

39 Eurostat (2012) 'Science, Technology and Innovation in Europe 2012', European Commission, p.74 http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-GN-12-001/EN/KS-GN-12-001-EN.PDF

40 Danish Business Authority (2008) 'Design Creates Value', p.9. http://www.erhvervsstyrelsen.dk/publikationer/design/design_skaber_vaerdi/pdf/design_skaber_vaerdi.pdf

41 Danish Business Authority (2008) 'Design Creates Value', p.10.

42 Danish Business Authority (2008) 'Design Creates Value', p.9.

43 Estonian Design Centre (2013) 'Use of design within Estonian enterprises', Tallinn, Estonia, p.5.

44 Ministry of Economy and Communication (2012) 'National Action Plan for Design 2012-2013 as part of Estonian Enterprise Policy 2007-2013', Tallinn, Estonia, p.12.

45 Estonian Design Centre (2013) 'Use of design within Estonian enterprises', Tallinn, Estonia, p.7.

46 Holopainen, M. and Järvinen, J. (2006) 'Muotoilun Toimialakartoitus 2006' (Design Industry Survey 2006), TEKES and Aalto University, Designium, p7. http://www.taik.fi/images/stories/Palvelut_Designium/TOIMIALAKARTOITUS_06_fix.pdf

47 Holopainen, M. and Järvinen, J. (2006) 'Muotoilun Toimialakartoitus 2006' (Design Industry Survey 2006), TEKES and Aalto University, Designium, p.10.

48 Hietamäki, T., Hytönen, J., and Lammi, M. (2005) 'Modelling the Strategic Impacts of Design in Businesses', Aalto University, Designium, p.33.

49 Moultrie, J., and Livesey, F. (2009) 'Company Spending on Design: Exploratory Survey of UK Firms 2008', University of Cambridge, p.6.

50 Regional GDP value averaged over 2005 to 2010 from Regional Innovation Monitor http://www.rim-europa.eu/index.cfm?q=p.home

51 Business Expenditure on R&D: Regional Innovation Monitor http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=BE2#economy. Public Expenditure on R&D: Survey response from the Flemish Government policy-maker. Public Expenditure on Design: Survey response from the Flemish Government policy-maker.

52 Business Expenditure on R&D: Regional Innovation Monitor http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=CZ03. Public Expenditure on R&D: Survey response from the Regional Development Agency of South Bohemia. Public Expenditure on Design: Survey response from the Regional Development Agency of South Bohemia.

53 Business Expenditure on R&D: Regional Innovation Monitor http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=FI19#economy. Public Expenditure on R&D: Survey response from the Government of Central Finland policy-maker. Public Expenditure on Design: Survey response from the Government of Central Finland policy-maker.

54 Business Expenditure on R&D: Regional GDP value averaged over 2005 to 2010 from Regional Innovation Monitor http://www.rim-europa.eu/index.cfm?q=p.home. Public Expenditure on Design: Survey response from the Government of Central Macedonia policy-maker.

55 Business Expenditure on R&D: Regional Innovation Monitor http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=IE01#economy. Public Expenditure on R&D: Survey response from the Border, Midland and Western Regional Assembly.

56 Business Expenditure on R&D: Regional Innovation Monitor http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=PL22#economy. Public Expenditure on R&D: Survey response from the Government of Silesia policy-maker. Public Expenditure on Design: Survey response from the Government of Silesia policy-maker.

57 Business Expenditure on R&D: Regional Innovation Monitor http://www.rim-europa.eu/index.cfm?q=p.regionalProfile&r=UKL#economy. Public Expenditure on R&D: Survey response from the Welsh Government policy-maker. Public Expenditure on Design: Survey response from the Welsh Government policy-maker.

58 http://www.seeplatform.eu/docs/SEE%20Platform%20policy%20booklet%206.pdf

59 No companies invested in design support through the Extraversion programme in 2012. However, some companies may do so in 2013.

60 http://wdchelsinki2012.fi/en/results/world-design-capital-helsinki-2012-reaches-its-objectives

61 Design Silesia case study in SEE bulletin 8. http://www.seeplatform.eu/docs/SEE%20Bulletin%20Issue%208%20-%20Dec%202012.pdf

62 Henry van de Velder case study in the SEE library: http://www.seeplatform.eu/casestudies/The%20Henry%20van%20de%20Velde%20Awards%20and%20OVAM%20Ecodesign%20Awards%20PRO

63 Includes figures for Design Flanders, FlandersInShape, Design region Kortrijk and Designhub Limburg.

64 http://www.stat.fi/artikkelit/2009/art_2009-12-18_003.html?s=2

65 http://www.tem.fi/files/29157/Luovien_alojen_Tyovoima-_ja_koulutustarvetutkimuksen_loppuraportti.pdf

66 http://www.tem.fi/files/28595/FactSheets_Luovat_alat_2010-3.pdf

67 KEA European Affairs (2006) 'The Economy of Culture in Europe – Study prepared for the European Commission', Brussels, Belgium, p.80 http://www.keanet.eu/ecoculture/studynew.pdf

68 KEA European Affairs (2006) 'The Economy of Culture in Europe – Study prepared for the European Commission', Brussels, Belgium, p.66

69 Survey response from the Danish Design Centre.

70 Survey response from Estonian Design Centre based on a 2007 study of the creative industries in Estonia.

71 Survey response from Estonian Design Centre based on a 2007 study (In 2007, the gross value added of the creative industries was 7.17 billion Estonian kroons (0.46 billion euros), which made up 2.9% of GDP).

72 Survey response from Estonian Design Centre based on a 2011 study by the Estonian Design Centre.

73 KEA European Affairs (2006) 'The Economy of Culture in Europe – Study prepared for the European Commission', Brussels, Belgium, p.80.

74 KEA European Affairs (2006) 'The Economy of Culture in Europe – Study prepared for the European Commission', Brussels, Belgium, p.66.

75 Ministry of Employment and the Economy (2010) 'Työvoiman ja koulutuksen tarvetutkimus 2010. Yhteenveto luovien alojen työnantajahaastatteluiden ja asiantuntijaraadin tuloksista' (Labour and education the need for research 2010. Summary of the creative industries employer interviews and the results of the expert panel) p.7.
76 UK Department for Culture, Media and Sport (2011) 'Creative Industries Economic Estimates', London, UK p.5. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/77959/Creative-Industries-Economic-Estimates-Report-2011-update.pdf
77 UK Department for Culture, Media and Sport (2011) 'Creative Industries Economic Estimates', London, UK p.5.
78 Design Council (2010) 'Design Industry Insights Research', London, UK, p.1. http://www.designcouncil.org.uk/Documents/Documents/Publications/Research/DesignIndustryResearch2010/DesignIndustryResearch2010_FactSheets_Design_Council.pdf
79 UK Department for Culture, Media and Sport (2011) 'Creative Industries Economic Estimates', London, UK p.14.
80 http://www.flandersdc.be/nl/creative-industries-flanders-position-paper
81 http://www.flandersdc.be/nl/creative-industries-flanders-position-paper
82 http://www.flandersdc.be/sites/default/files/FlandersDC%20-%20Creatieve_industrie_n_in_vlaanderen-_mapping_en_bedrijfseconomische_analyse.pdf
83 http://www.flandersdc.be/sites/default/files/FlandersDC%20-%20Creatieve_industrie_n_in_vlaanderen-_mapping_en_bedrijfseconomische_analyse.pdf
84 http://www.idu.cz/cs/jak-vymezit-kreativni-prumysly-v-cr
85 http://www.idu.cz/cs/jak-vymezit-kreativni-prumysly-v-cr
86 Western Development Commission (2010) 'Creative West', p.43. http://www.wdc.ie/wp-content/uploads/reports_CreativeWest.pdf
87 Instytut Badań Strukturalnych (Institute for Structural Research) (2010) 'Znaczenie gospodarcze sektora kultury-wstęp do analizy problemu-raport końcowy' (Report on the economic importance of the cultural sector), pp.52, 53 & 44. http://ibs.org.pl/site/upload/publikacje/ObserwatoriumKultury/znaczenie%20gospodarcze%20sektora%20kultury%20-%20raport%20IBS.PDF
88 Creative and Cultural Skills (2008) 'Creative and Cultural Industries Demographic Footprint', pp.1-5.
89 Design Industry Research 2010 http://www.designcouncil.org.uk/Documents/Documents/Publications/Research/DesignIndustryResearch2010/DesignIndustryResearch2010_Education.pdf p.1.
90 http://www.creativeskillset.org/standards/standards/ProductionDesign/index_1.asp
91 Design Council (2010) 'Design Industry Research', London, p. 4. http://www.designcouncil.org.uk/Documents/Documents/Publications/Research/DesignIndustryResearch2010/DesignIndustryResearch2010_FactSheets_Design_Council.pdf
92 Design Council (2010) 'Design Industry Research', London, p. 3.
93 www.jcq.org.uk/Download/examination-results/gcses/gcse
94 http://www.jcq.org.uk/examination-results/a-levels
95 Estonian Design Action Plan
96 Survey response Aalto University.
97 EXACT http://www.hefce.ac.uk/whatwedo/lt/publicinfo/kis/ Source: http://creative-blueprint.co.uk/statistics/reports/industrystatistics http://www.data-generator.co.uk
98 Survey response from the Danish Design Centre.
99 Estonian Design Action Plan, figures for 2010.
100 Response from Aalto University, School of Art, Design and Architecture (2,137 students graduated with a bachelor's degree in design from Aalto).
101 http://www.cilt.org.uk/home/research_and_statistics/statistics/primary_statistics/how_many_schools_and_pupils.aspx
102 www.jcq.org.uk/Download/examination-results/gcses/gcse
103 http://www.jcq.org.uk/examination-results/a-levels
104 Survey response from the Design Council.
105 Survey response from the Danish Design Centre.
106 Survey response from the Estonian Design Centre.
107 Survey response from Aalto University.
108 Survey response from the Design Council.
109 Survey response from the Estonian Design Centre.
110 Survey response from Aalto University.
111 Response from Aalto University, School of Art, Design and Architecture (186 students graduated with a master's degree in design from Aalto)
112 Response from Aalto University, School of Art, Design and Architecture (6 students graduated with a doctoral degree in design from Aalto)
113 Survey response from Design Flanders.
114 Survey response from the Regional Development Agency of South Bohemia (RERA).
115 Survey response from JAMK University.
116 Survey response from the Business and Cultural Development Centre (KEPA).
117 Survey response from the Border, Midland and Western Regional Assembly.
118 Survey response from Castle Cieszyn.
119 Survey response from the National Centre for Product Design and Development Research (PDR) at Cardiff Metropolitan University.