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Global Design Watch 2010

Design Policy and Promotion Programmes in Selected Countries and Regions

Aalto University
School of Art and Design

SHARING EXPERIENCE EUROPE
POLICY INNOVATION DESIGN

Global Design Watch 2010

Design Policy and Promotion Programmes in Selected Countries and Regions.

The aim of this survey is to examine and compare public and/or political innovation programmes from Finland, and various other countries and regions, in order to evaluate how creativity, creative industries (CI), such as design, is utilized.
In addition, this survey examines how creative potential is in evidence in leading industrial companies and more generally, in the national competitiveness.

This is the fourth time that Designium examined national design policies of countries selected for this study.

Designium's surveys in 2003, 2006 and 2008 aimed at laying a foundation for long-term evaluation and analysis of the development of national design policy and design promotion programmes.

Global Design Watch 2010 report examines the current situation and compares it to the situation in 2008.
The factors in this survey examined the main objectives and implementation of national design programmes, the measures used for promoting national design, and the organisations they are targeted at.

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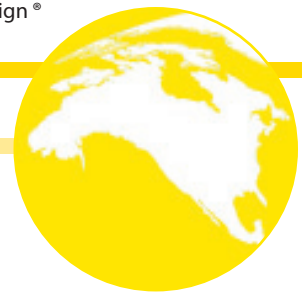

EXECUTIVE SUMMARY

The survey is divided into three parts. The first section examines the National Design Programmes and Strategies for Design Promotion. At the second section, we have sought a combination of design- related indexes from the WEF report and drawn up a design competitiveness ranking on that basis. In this survey, we have added the third section, which addressed with the situation in Finland.

First part of the survey provides an initial comparison of nations based on available data from public sources on the Internet. We have tried to find the newest data available in the year 2010, and wherever it was possible, the data has been sourced from the relevant national bodies' and EU's webpages and resent surveys. Specific statistics about design programmes were in some cases hard to find and one can say that information is rarely collected in many countries. In most nations, design programmes are run by different government bodies. Differents aspects of Design programmes are normally under different government departments (e.g. departments related to culture, media or arts). Some aspects of design promotion and implementation of the programme can also be under departments of industry, technology or innovation. Some countries have an official body to promote Design in regional or even on national level. In some countries, professional associations have similar responsibilities and ambitions as national bodies in other countries.

At the second section, we have sought a combination of design- related indexes from the WEF report. In 2002, the New Zealand Institute of Economic Research (NZIER) published a study called "Building a case for added value through design" with a design ranking drawn up using indicators from the World Economic Forum's Global Competitiveness Report . According to the NZIER report, the competitiveness of design is based upon the use of design by businesses and upon the maximization of economic performance. The 2002 NZIER design ranking included the indexes Extent of branding and Uniqueness of product design listed by the WEF.

However, uniqueness of product design was dropped from the list after the 2001/2002 competitiveness report and extent of branding was last included in the WEF report to 2004/2005.

Compared with the original ranking list of New Zealand, we have included design-related indexes on a broader front in the 2006 survey. The purpose of the new ranking is to take into account also the impact of immaterial spending on design competitiveness.

The seven selected indexes (The company spending on research and development, Nature of competitive advantage, Value chain presence, Capacity for innovation, Production process sophistication, Extent of marketing and Degree of customer orientation) measure the elements of competitiveness on a broader scale: the status of production processes, the effects of product design, marketing and after sales services on the international competitiveness of export companies and their placement in the value chain. We have used the same indexes in the present survey and the survey 2008.

In the survey, we have compared the national competitiveness of leading countries against their desigranking to show the correlation between national competitiveness and level of design. We have also compared the national competitiveness of leading countries against their design ranking to show the correlation between the national competitiveness and level of creativity.

The aim of the third section is to analyze the profitability of contents, practical measures, and actors in Finland.

1. PREMISES

GDW 2010

This report looks at design policies and programmes of countries selected for this study. The principal objective of the study was to compare the effects of national design programmes on national competitiveness in the design sector. In 2002 the New Zealand Institute of Economic Research (NZIER) published a study called Building a case for added value through design[1] with a design ranking drawn up using indicators from the World Economic Forum's Global Competitiveness Report [2].
According to the NZIER report, the competitiveness of design is based upon the use of design by businesses and upon the maximisation of economic performance.

2. GOALS

GDW 2010

The previous report[3] by Designium on national design programmes was published in 2008. The present report covers all the countries included in the previous report, and **Belgium, France, Spain and Switzerland as a new.**

The aim is to monitor the design policies of these countries and the strategic content of the programmes, drawing up design competitiveness rankings using selected indicators at intervals of a few years.

3. RESULTS

GDW 2010

The data for this report on national design programmes and design promotion was gathered from public sources on the Internet.

For this and the previous reports in 2006 and 2008, we at Designium have sought a new combination of design- related indexes from the WEF report and drawn up a design competitiveness ranking on that basis. Design Competitiveness Ranking 2010 is based on an average of seven design competitiveness related indexes.

1 Building a case for added value through design, NZ Institute of Economic Research 2003
2 World Economic Forum, The Global Competitiveness Report 2001/2002
3 Global Design Watch 2008
4 http://www.seeproject.org/

3.1 National Design Programmes and Strategies for Design Promotion

This is the fourth time that Designium examined national design policies. Designium's reports in 2003, 2006 and 2008 aimed at laying a foundation for long-term evaluation and analysis of the development of national design policy and design promotion programmes. The next table displays emphasis on five different aspects of national design programmes in selected countries in alphabetical order. The aspects are (1) scope of promotion, (2) funding of design policy and promotion programmes, (3) main objectives (4) implementation, (5) related facts and figures and (6) main actors programmes.

TABLE 3.1 NATIONAL DESIGN PROGRAMMES AND PROMOTION

COUNTRY/FOCUS	FUNDING / APPROPRIATION	MAIN OBJECTIVES	IMPLEMENTATION	RELATED FACTS & FIGURES	MAIN ACTORS
AUSTRALIA					
+ National and regional promotion of design + Regional design programmes + Standards Australia (promote excellence in design and innovation through the Australian International Design Awards)	Government Victoria state/ State Councils Standards Australia	Standards Australia - Promoter of excellence in design, innovation and product assessment through design awards and other design promotion initiatives - National design promotion initiative established including implementation of a national and international design promotion website focused on promoting Australian design nationally and internationally	Standards Australia Australian International Design Awards	- Estimated 350 industrial design companies in Australia - Around 50 000 Australian businesses are involved in art, advertising and architecture - Up to 1900 associated designers - Contemporary designers include architects and interior designers, graphic artists and web developers, jewellers, industrial designers, fashion designers, furniture makers and textile artists.	"In the absence of a national design body, the Australian International Design Awards is responsible for raising design and innovation awareness in the country... Developments towards a national design policy are in their early stages, led by the Australian Design Alliance, a collective body of various design organisations. At the state level, the Victorian government has invested over AU$25 million in design initiatives since 2002 and Queensland has also recently launched its design strategy. Part of these state government initiatives is Design Victoria, delivered by RMIT University, which strives to foster innovation and design in industry, improve design sector skills and expand the market for design and designers."[1]
BELGIUM					
+ Design Vlaanderen (Design Flanders)	Belgium's government (Ministry of Economy)	- To promote design as added value for economy - To promote designersin Flanders and abroad - To promote design as management instrumentfor companies	- Design Flnders organises fairs, competitions, exhibitions, studies and workshops -International cooperations (for.ex. WCC Europe) - European projects (for.ex. SEE-project) - Advice, Documentation centre, Magazine -Belgian Design Club	- Around 500 design graduates annually - 11,000 design industry jobs, with a further 220,000 that can be described as design-related. - Flanders: *12,000 design businesses. The turnover of these businesses is almost €16bn.	Design in Belgium is supported and promoted by Design Flanders. Vlaanderen (Design Flanders) is Belgium's government-funded design organisation, with a remit to promote design in business and public life, and support designers. Design Organisation is under the authority of the Flemish Minister of Economy[1].

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DENMARK +Design Denmark, 2007 - Collaboration between: * Ministry of Economic and Business Affairs *Danis Design Centre *Danish Patent and Trademark Office *Ministry of Culture *Ministry of education *Ministry of Science, Techonology and Innovation *Danish Trade Council Ministry of foreign Affairs * Comission of Danish Design Promotion	Governmet Firms	- To generate growth in the design industry - Boost growth in the rest of the corporate sector - To be restored to the intrenational design elite: *A better functioning market for design services * Commercially oriented and international design competencies *Better international use of design	Initiative: 1. Danish Design Centre activities to be made industry-specific and regionalise 2. Design public sector services 3. Development of Danish fashion zones 4. Rights protection, icluding design, patent and trademark rights 5. Commercial and international orientation of further education design study programmes 6. The commercially orientattd education design study programme must be able to match the best counterparts abroad and meet corporate sector demand 7.Boost competencies og qualifield designers in the workforce 8.Intrenational design week and travelling exhibitions 9. Strenghened internationalisation of Danish design	- Annual Design Graduates 450 - Number of Design Firms: approximately 5 000 (graphic design 32%, product design 26%) - State cultural expenditure: by sector, in million DKK, 2009: Direct expenditure (state) Architecture and design 434.6 - Public ivestment in design (2007) *Total Invetsmet US S M 2007 prices 2.25 - WIPO design registrations: Total number 1,166 (2002) -WIPO registrations 10,042 (2002)	"The most recent policy initiative was in 2007, with the launch of the publication Design Denmark by the Danish government.The primary objectives articulated were to generate growth in the design industry and to make better use of design to encourage growth in the wider business sector. This ambition is underwritten by an explicit vision from the government for 'Denmark to be restored to the international design elite' and for Denmark to be 'amongst the world's best nations at applying design in the development of products and services'. The policy is the result of a collaboration between four ministries: culture, business, education and research.[1]"
ESTONIA +National design policy +"Estonia – design country? Proposals for the development of applied design in Estonia" +Second round of this policy document is under work. By the end of the year 2010 an action plan for design in Estonia will be launched by the Ministry of Economic Affairs and Communications.	Government (proposal prepared by Danish Ministry of Economic and Business Affairs)	Developing the design sector to strengthen the competitiveness of businesses and the economy and to improve the quality of life	- Estonian Design Information Centre - Department of Development in the Estonian Academy of Arts - Estonian Design Centre (non-profit organisation . The centre was founded by the Estonian Art Academy, Tallinn University of Technology, Estonian Association of Designers and Estonian Institute of Design) - 2007 was the Year of Design and offered public programmes, awards and exhibitions	- The Law proposal aims to regulate the space design in and around public buildings and engage artists in these activities. According to the law proposal, one per cent of investments made for new public buildings should be earmarked for objects of art or interiordesign.	National design policy. A report on design was launched in 2004 by the Ministry of Economics and Communication, and it has been followed by the creation of a working group on culture industries at the Ministry of Culture, with participation from different experts and stakeholders. Second round of design policy document is under work. By the end of the year 2010 an action plan for design in Estonia will be launched by the Ministry of Economic Affairs and Communications.

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FINLAND					
+ In 2008, design was writen into the definition of innovation in the National Innovation Strategy and is emerging as a component of the National Innovation System(NIS). + In 2009, the Finnish NIS was evaluatedby a team of national and international experts. + Finland is expanding the scope of National Innovation Policy (action plan 2012-2015,-points 2011) to demand- and user-driven innovation.	Government, national institutions, businesses	- To improve competitiveness by raising the standard of design education and research - To safeguard the sustainability of research - To invest in the internationalisation and structural change of design consultancies and strengthening of the design business sector - To develop design communications - To monitor the development of design system	- As part of the implementation of Finland's National Innovation Strategy, the Ministry of Employment and the Economy hasoutlined an action plan and policy framework. The action plan running through the years 2010 - 2013 covers the action points that promote policy implementation in the private and public sectors. - The International Council of Societies of Industrial Design (Icsid) designated Helsinki as the World Design Capital for the year 2012 - A practical example of design within the NIS is the way design is integrated into Aalto University, the 'Innovation University' that merged three Universities in Helsinki.	- Design industry employs a total of 2,000 professionals in the formulation and consultants employed by another, independent designers as well as small-scale entrepreneurs. -The majority of jobs is located in southern Finland.	Since the Government's Design Policy Statement 2000 the current Innovation Policy is now seeking the efficiency from design as one of user-driven innovation tools, in services or a strategic tool for business and management purposes. The action plan introduces The World Design Capital Helsinki 2012 project (2010-2012) as an opportunity for wider use of design thinking and piloting the service design methods in the renewal of public services.
FRANCE					
+ Primary national body responsible for design support is APCI - Agence pour la Promotion de la Creation Industrielle	- APCI - around 1 million euros (2003) - Turover in Design sector betwwen 2,2-3 billion euros	- Bring culture, research and industry together - Collaboration with its members and its partners - Develop tools and group actions that provoked the economic, social and cultural aspects of French design in France and abroad.	- A biannual French/English guide to developments in French design Observeur du Design - Annual award and exhibition recognising collaborations between companies and designers - A newspaper, publications - International actvities - The AFD (Alliance Française de Designers)	- 1, 000 design registrations per million people - Around 4,750 design services sector firms, approximately 25,000 employee	Many geographically large nations, policy, support and ivestments for design is managed at a regional level. The primary national body responsible for design support is APCI (created by the ministers for industry and culture in 1983 – independent organisation since 1993.)[1]

TABLE 3.1 NATIONAL DESIGN PROGRAMMES AND PROMOTION

COUNTRY/FOCUS	FUNDING / APPROPRIATION	MAIN OBJECTIVES	IMPLEMENTATION	RELATED FACTS & FIGURES	MAIN ACTORS
GERMANY Promotion of design in national level: German Design Council	Government, businesses About £1,4 million (2004)	Exporting design know-how and expertise to the economy, politics, culture and public life	-The German Design Council -The Design Zentrum Nordrhein Westfalen -Red dot design award		"Many separate bodies, both privately and publicly funded, promote the importance of design and provide support to industry in the use of design. The main national body is the German Design Council. Individual design centers in each of the country's 16 states[1]."
HONG KONG + National design programme + DesignSmart Initiative	Government, DesignSmart Initiave HK $ 250 million	DesignSmart Initiave - Help industries move up value shain by switching the production mode from original equipment manufacturing to original design manufacturing and thence original brand manufacturing	DesignSmart Initiave - Design support programme with four funding schemes: 1.Design Support Programme (DSP) Design-Business Collaboration Scheme (DBCS), which aims at promoting collaborations between design and Small and Medium Sized Enterprises (SMEs). 2. Design Research Scheme (DRS), which aims at supporting worthwhile research in design or branding-related areas.w 3.General Support Scheme (GSS), which aims at promoting and honoring design excellence in Hong Kong. 4.Professional Continuing Education Scheme (PCES), which aims at developing professional continuing - InnoCentre Programme to support the operation of Hong Kong Design Centre and design incubation at InnoCentre - education courses in design and its application, awards - Programmes include finance for businesses to access specialist design skills	- Public investment in design Total investment (HK $ M) 20.00 (2007) Total investment US $ M 2007 prices - Employment in the design services sector Total number per 5,659 million population 84	"Policy relating to design issues is driven by several different players. The Home Affairs Bureau (equivalent to the UK Ministry of Culture) is responsible for the creative arts. The Central Policy Unit is responsible for policy research. The Hong K ong Trade Development Council aims to facilitate opportunities in international trade for HK companies. The Hong Kong Design Centre is the primary means of delivering the national design policy and views design as a professional business activity that can add value and increase competitiveness of products or services by interfacing with aesthetics, science and technology.[1"]

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COUNTRY/FOCUS	FUNDING / APPROPRIATION	MAIN OBJECTIVES	IMPLEMENTATION	RELATED FACTS & FIGURES	MAIN ACTORS
INDIA					
+National design policy	Government	- Strengthening quality design education at different levels - Encouraging use of designs by small scale and cottage industries and crafts - Facilitating active involvement of industry and designers in the development of the design profession - Branding and positioning of Indian design within India and overseas - Enhancing design and design service exports - Creating an enabling environment that recognizes and rewards original designs.	The Action Plan for implementation of the National Design Policy have various components, e.g. - Design Council - Design Centres/Innovation Hubs - Plan for training of trainers and for organizing training programmes - Creating mechanisms for sustainable quality improvement in designs in India. - special focus on up-gradation of existing design institutes and faculty resources		India Design Council (IDC) is India's design policy execution organization
IRELAND					
+ National design programme	Government	- To develop design infrastructure - To promote the use of design by SMEs in innovation and product development - To increase professionalism in design industry	- Design Ireland - The Designers Training Skillnet programme 2006-2008	- Value of the cultural and creative industries EUR 11.8 billion or 7.6% of GNP. It estimates employment at 170 000 or 8.7% of total employment. All this constitutes the return on direct exchequer expenditureof EUR 330 million	Government Design professionals
ITALY					
+ Local design programme and programme for the promotion of design	Government Economics	To support local businesses and design consultancies in creating local production and brands	design.italia portal		Regional businesses and design universities . ADI - Associazione per il Disegno Industriale (Association for the Industrial Design)

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JAPAN +National Design programme (2003)	Government, industry	- To promote international exchange through design - To support the strategic use of design in brand building - To support the use and development of design - To establish and develop the infrastructure of design information - To strengthen design rights - To manage human resources in practice - To promote general interest in design	- International Design Business Promotion Projects promoting design-related activities and industries - fostering public awareness of design values, presenting future visions, and accelerating international understanding and cultural development through global exchange programs. (JDF) -Good Design Awards	- WIPO design registrations 31,503 (2003) - WIPO trademark registrations 104,440 (2006) - around 28,000 design graduates per year - Design consultancies in Japan: graphic design agencies account for around 65%, with interior design at 17% and industrial design at 14% of the total	"The Japanese Ministry of International Trade and Industry (MITI) is responsible for industrial development and views design as strategically important to the economy. MITI founded the Japan Industrial Design Promotion Organisation (JIDPO) in 1969 to promote industrial, packaging and interior design. 27 Other agencies support different design disciplines, and in many of the 47 prefectures, regional governments also take responsibility for promoting design, for.ex. The Japan Design Foundation (JDF), International Design Center NAGOYA[1]"
KOREA, Rep. + National design programme 1993-2007	Government	- Increase the number of firms with in-house designers from 20,000 to 100,000 - treble the value of the design - To train world-class designers - To strengthen local capability for design innovation - To strengthen the capability of design research and product development - To develop international design exchange and strengthen co-operation in North-East Asia	-To establish, maintain and finance design infrastructure -International Design School for Advanced Studies - The KIDP Centre opened in 2006 - designdb.com portal - GD Award (Good Design) - e-Design Academy - 16 Design Innovation Centers and 3 Regional Design Centers	- Public investment in design : *Total investment US $ M 2007 prices 68.80 - WIPO design registrations 27,235 (2002) -WIPO trademark registrations 69,359 (2007) - Number of design firms 2,500 (2006) - Employment in the design services sector 112,000 (2006)	"The government's Committee for Globalisation Policy develop design agenda (starting with the first of three fiveyear plans; 1993–1997, 1998–2002 and 2003–2007). These initiatives were the remitof the Ministry of Commerce, Industry and Energy, administered through the Designand Brand Policy Division. An underlying ambition has been to improve 'brand Korea' and the reputation of Korean goods in export markets and raise design awareness in the general public. "[1]

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COUNTRY/FOCUS	FUNDING / APPROPRIATION	MAIN OBJECTIVES	IMPLEMENTATION	RELATED FACTS & FIGURES	MAIN ACTORS
NETHERLANDS					
+ **Designworld Premsela Policy Plan 2009-2012** (National cultural institute Pramsela)	The structural funding comprises the Cultuurnota subsidy of €4 million from the Ministry of Education, Culture and Science (OCW) and an accommodation subsidy of €150,000.00 from Amsterdam Municipal Council. The target for fundraising is €400,000.00 (10% of the national government funding), to be raised in equal amounts through public and private funding. Budget 2009 4,700,000 e 2010 4,550,000 e 2011 4,550,000 e 2011 4,550,000 e	- the improvement of the cultural design climate in the Netherlands Themes: - Globalisation - Amateurism - Symbolic economy - Consciousness-raising - Cultural identity - Popular culture	Pramsela: • (inter)national promotion and representation; • information, reflection, debate and education; • cataloguing and classification of and providing access to heritage; • documentation and archiving; • consultation and coordination. • forming networks and partnerships; • agreeing common goals; • pooling resources and manpower; • exchanging information, knowledge and experience * FreeDesigndom * Platform21 *Streetlab * Spacesoup *Morf * Design Den Haag 2010-2018	- The value added by design and fashion to the Dutch economy is estimated at €2.6 billion. -More than 46,000 designers in the Netherlands - Approximately 2,500 individual designers and 200 design studios and design departments of companies are affiliated to the Association of Dutch Designers (BNO) ->The total turnover in 2006 was €726 million, of which more than €100 million came from the arts and culture sector.	In general there has been increased interaction between the cultural and economic sectors since the publication in 2005 of the policy document 'Ons creatieve vermogen' by the Ministry of Economic Affairs and the Ministry of Education, Culture and Science. In the period 2009-2012 Premsela wishes to combine the roles of a platform with the supportive roles of a national cultural institute. The aim is 'the improvement of the cultural design climate in the Netherlands'. The cultural agenda will thus be combined with an economic and/or social agenda. As a producer of design and fashion, the Netherlands is rapidly becoming part of a borderless, partly virtual, design world. Globalisation is the most important theme in this policy plan.
NEW ZEALAND					
+ National design programme 2003-2008	Government	- To use design to acquire better competitiveness -To integrate design into decision making in all areas - boost economic growht trough better use of design	- Better by Design * programmes connect companies with leading business experts and design practitioners. The Design 360, part of our Design Integration Programme, provides an independent assessment of a company's fundamental strengths and weaknesses, identifies opportunities, and recommends a plan of action for improvement. * leadership conferences * educational seminars. - Best use of design in business-award - Design Directory		In 2003 a Design Taskforce, consisting of designers, academics and business leaders, developed a strategy that would boost New Zealand's economic growth through the better use of design . The Design Taskforce's report, Success by Design, recommended ways New Zealand businesses could become more design-capable. In 2004 a Better by Design team was established to deliver the recommended programme to export-focused businesses and the design community. It is overseen by an independent group of design-led business experts who sit on the Better by Design Advisory Board. The programme is administered by New Zealand Trade and Enterprise.

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COUNTRY/FOCUS	FUNDING / APPROPRIATION	MAIN OBJECTIVES	IMPLEMENTATION	RELATED FACTS & FIGURES	MAIN ACTORS
NORWAY + Norwegian Design Council (NDC) + Innovation Norway + Norsk Form (Private foundation)	- Public investment in design: Total investment (Euro M) 15.00 (2006)	- Promote the use of design as a strategic tool for innovation, in order to achieve greater creation of value in Norwegian trade and industry - To increase the market share on global markets - Raise awareness of the value of design and architecture	- Cross disciplinary research centre - Good Design Label and awards - National design campaign - Innovation Norway - Design Awards	- Approximately 2,300 businesses in the Norwegian design industry (2003): 1,173 architecture firms, 186 interior design and decoration firms, 741 general design firms, and about 200 industrial design firms. - the design industry turnover of 2,790m NOK (£250m), 2003. - Small to medium sized firms dominate the industry: 89% of firms employ fewer than 5 people. - Oslo is the hub for the design industry, being home to 48% of design businesses - WIPO design registrations, total number 683 (2001) - WIPO trademark registrations: Total number 8,088, 2006	"Two national bodies are influential in the development of design, the Norwegian Design Council (NDC) and Innovation Norway. NDC, like the equivalent design councils in other countries, provides both promotion and support for design, targeted at firms. The primary goal of NDC is to increase the competitiveness and profitability of Norwegian industry. Innovation Norway provides direct financial support and information to firms engaged in innovation. NDC and Innovation Norway are both involved in developing policies relating to the use of design. There is no explicit or coherent national policy, and instead there are several smaller initiatives relating to design. Privat foundtaionNorsk Form works to raise awareness of the value of design and architecture"[1]
SINGAPORE Design Singapore + DesignSingapore Council (national agency for promotion and development of Singapore design) + The Industry Development Panel (IDP) + The International Advisory Panel (IAP)	Government EU, Government, Regional, businessesSVID €2.7m, projects €3.2m (2007-2009) - Public investment in design: Total investment (Singapore $ M) 40.00 (2007)	- Nurture a Vibrant Integrated Design Services Cluster - Establish Singapore's Status as an International Design Hub - Develop World-class Expertise - Develop Design "Killer Apps" - Promote Design Excellence in Enterprise -Foster a Design-savvy Culture - Raise Professional Standing of Designers	- PIC for Design (New tax incentive-scheme introduced in the Singapore Budget 2010 to provide significant tax deductions for businesses that invest in design) - Overseas Promotion Partnership Programme (OPPP) - Design Capabiilty Development Programme (CDP) - Industry Association Development Scheme (IADS) - Singapore Design Alliance - Design Sector Straw Poll - Singapore designf estival (2009) - Awars, competitions, events - Grants, Resources	- Approximately 185 graduates per million population (a total of around 760 annually) - The design services sector has a total of around 3,600 firms (or nearly 900 per million population), - employing around 5,000 people (or nearly 1,250 people per million population). - WIPO design registrations, total number 1,473 (2002) - WIPO trademark	The Singapore government's most significant recent strategy is called Design Singapore, administered by the Design Singapore Council within the Ministry of Information, Communications and the Arts. Its goal is to make Singapore the gateway to Asia through the development of a cluster of integrated design services with improved design research and design education. The design industry and design capabilities of firms is nurtured by two government agencies – the Economic Development Board (EDB) and International Enterprise Singapore (IES). The EDB is charged with developing industrial design companies in Singapore. The IES promotes and develops design as a strategic tool for the competitiveness and internationalisation of businesses.

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COUNTRY/FOCUS	FUNDING / APPROPRIATION	MAIN OBJECTIVES	IMPLEMENTATION	RELATED FACTS & FIGURES	MAIN ACTORS
SPAIN + Nationally, support and promotion of design is provided by DDI: Development of Design and Innovation (DDI). - body of the Ministry of Science and Innovation -> innovation and design policies +Local and regional authorities have their own design promotion bodies	State	- implement public policies to promote and disseminate design and innovation, both of them strategic factors for the competitivity of Spanish companies - Stimulate the generation of knowledge in the field of innovation through design.	- Collaborate with the public authorities. - Contribute to the internationalization of Spanish design - Provide technical assistance for public bodies and decision-making centres for the management and evaluation of innovation programmes. - Provide backup for designers. - Cooperate with public and private agents.	- Madrid is one of the most active design regions, with around 1,000 design firms, employing around 2,500 designers (2001) - The most significant client base for design services is the private sector, which generates 55.5% of sales; individuals make up 28.7% of the total. Public bodies represent 6.9% of the sector's overall sales, and they tend to use the larger design companies. -Catalonia, the other major design hub in Spain, is home to 1,607 design businesses, making up 37.9% of the national design sector.	"National support and promotion for design in Spain is highly dispersed, with several agencies at a national and regional level. Nationally, support and promotion of design is provided by a publicly-owned body called DDI: Development of Design and Innovation (DDI). DDI is financed by the Ministry of Science and Innovation. DDI is financed by the Ministry of Science and Innovation,and aims to promote and disseminate design and innovation as key factors in the competitiveness of Spanish firms, and for the wellbeing of society. In addition to DDI, there are around 15 autonomous regional and local authorities which promote design. These bodies are collectively represented by the Federación Española de Entidades de Promoción del Diseño (FEEPD)"[1]
SWEDEN + National design programme 2006-2010, SVID + Innovative Sweden, a strategy for growth through renewal, Ministry of Industry Employment and Communications, 2004	Government will fund ten national three-year projects that started in 2005, €6.8m SVID is financed by the commissions it receives, primarily from the Ministry of Enterprise, Energy and Communications. In addition to the annual government commission, SVID runs projects funded by industry, regional bodies such as the county administrative boards and regional societies, and the EU.	-To improve the understanding of SMEs regarding design methods and their utilisation -To take the needs of buyers into consideration in the acquisition of design services -To create competitive advantage on strategic growth areas	Design för Innovation -Design for all -Forum for design information exchange	Public investment in design: * Total investment US $ M 2007 prices 5.59 - According to 2005 figures produced by SVID, there are 340 industrial design agencies in Sweden (5,631 graphic design firms, 2,740 architecture firms, and 2,828 design firms.)	"Sweden's national design policy comprises several design-related initiatives that fall under the jurisdiction of different ministerial agencies. The national approach to design is that it can help to serve the dual goals of innovation and improvement in the quality of life. There is no single agency responsible, and measures relating to design are administered by the ministries of culture, industry and education. Several public bodies have responsibility for the promotion of design, including the Council for Architecture Form and Design, the Swedish Society for Crafts and Design and the Swedish Industrial Design Foundation (SVID). SVID was formed by the Swedish Business Development Agency, the Swedish Academy of Engineering Sciences and the Swedish Society of Crafts and Design."[1]

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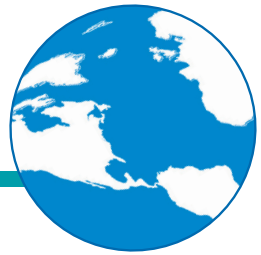
COUNTRY/FOCUS	FUNDING / APPROPRIATION	MAIN OBJECTIVES	IMPLEMENTATION	RELATED FACTS & FIGURES	MAIN ACTORS
SWITZERLAND					
+ cultural policy (no design policy)		cultural policy•: - cultural policy (i.e. on all federalist levels) focuses on the broad population, on artists,on cultural institutions and projects; • cultural policy means more than promoting culture. It stands for public discussion on culture, for adequate basic conditions, and for the interests of the artist; • cultural policy is linked to other policy areas, such as urban planning, financial and fiscal policy, tourism, cultural industries, etc; and • cultural policy means more than structuring a determined area in that it always affects society as a whole.	Swiss Federal Office of Culture: Federal Competition for Design	- 40 553 businesses in the creative industries, including the freelance cultural and creative professions (2005). In the creative industries in Switzerland, these include 13 submarkets: music, books, art, film,broadcasting, the performing arts, design, architecture, advertising, software and games, handicrafts, media and recording. All taxable enterprises are included in the creative industries that are active on an operational basis. - The creative industries produced a total turnover of CHF 61.7 billion (2005). - The share of the total creative industry turnover of the otal Swiss economy is 2.5% (2005).	Failing a single, unified national definition of culture, it is difficult to point to cultural policy objectives reflecting the attitudes of the major players in Swiss cultural policy (mainly the cities and cantons) at the same time. Nevertheless, in the discussion on the new Federal Law on the Promotion of Culture, which was passed at the end of 2009, several papers outlining cultural policy objectives were developed
UNITED KINDOM					
+ National design strategy 2008–2011 The Good Design Plan	Government, industry Annual grant from the Department for Innovation Universities and Skills (DIUS)	- Build the UK's capacity to innovate and deliver world-class brands, products and services by supporting the effective use of design in business and the public sector - Drive the development of new solutions to UK social and economic challenges and involve communities in designing local services - Boost high-level skills in design to support a competitive creative economy and a thriving UK design sector - Champion the value of good design and its importance to social and economic success - Be recognised as an exemplar design institution for our influence, impact and enterprise	- Extending Designing Demand to benefit business across the UK - Develop a specialised version of the Designing Demand Innovate service for universities to enable technology transfer - Develop a transformational programme to support public service innovation - Ensuring that Designs of the time (Dott) has local and national impact and legacy - Launching a National Design Skills Alliance in collaboration with Creative & Cultural Skills and the design sector - Deliver an annual review of existing and new design policy - Raise awareness of sustainable 'good' design through a public promo-	- Public investment in design: * Total investment US $ M 2007 prices 11.89 - Design graduates 13,270 (20079 - Number of design firms 12,450 (2005) - Turnover of the design services sector: Total turnover US $ Bn 2007 prices 8.29 - Employment in the design services sector 61,680 (2007) - 232,0001 designers - 65,900 freelances - Industry concentrated in London and South East The capital accounts for almost a quarter (23%) of design businesses.	National design strategy 2008–2011: The Good Design Plan (Design Council). Mission is to inspire and enable the best use of design to make the UK a more competitive, creative and sustainable nation. Design Council run practical programmes for business, the public sector, design and education and use our knowledge and evidence to influence national policies[1]. Although the Design Council is the best-known body supporting design in the UK, there are several other important agencies. Design Wales and the Lighthouse in Scotland are important regional bodies support-

TABLE 3.1 NATIONAL DESIGN PROGRAMMES AND PROMOTION

COUNTRY/FOCUS	FUNDING / APPROPRIATION	MAIN OBJECTIVES	IMPLEMENTATION	RELATED FACTS & FIGURES	MAIN ACTORS
UNITED STATES + Promotion of design in organisations on a national scale + The U.S. National Design Policy Initiative - Design Policy proposal: U.S. National Design Policy Summit, 2009 (U.S. Federal Government, Professional Design Organisations, Design education accreditation bodies)	Design companies, private and corporate donations, several federal sources	Promote the benefits, awareness, and value of design in business and society (IDSA) -To expand design awareness of corporate management, design professionals and the public sector through education and training (Corporate Design Foundation) -Sponsor, conduct and promote research -Make accessible a design management body of knowledge -Educate and foster interaction among design managers, organizational executives and managers, educators, and public policy makers -Be a public advocate for the economic and cultural (societal) importance of design (DMI)	-Develop an umbrella plan to promote the value of design to business and society (IDSA) -Influence and develop collaborations between design, business and others schools or disciplines to further the understanding of design through multidisciplinary courses -Conduct research that examines the relationship between design and business success -Promoting individual design and business success stories -Demonstrate design's value to businesses by offering conferences, workshops and other educational programs (Corporate Design Foundation) -Organizing seminars and conferences, conducting research and case studies, training design professionals - Establishment of an annual research grant for research in the area of design management (DMI)	- Employment in the design services sector: Total number 141,390 (2007) - The USA produces the largest number of design graduates internationally, at around 38,000 per annum. - Universities within the USA have recently been leading the development of design education through the creation of multi-disciplinary courses bringingtogether designers, technologists and business students. This new approach is being widely copied in other nations. - Some of the world's best-known brands hail from the USA, and more than 50% of the Interbrand top 100 brands are US-based.	"In the USA, there is no direct support for firms in the use of design, or promotion of the value of design at a national level. Some support exists regionally. There are no public bodies supporting design, but there are several high-profile private organisations: — The Industrial Design Society of America50 (IDSA) is vocal in its support fordesign and the creation of a coherent industrial sector. — The Design Management Institute51 (DMI) is a professional body, with membership from consultancies, industry and academia. — The American Institute of Graphic Arts52 (AIGA) is the largest communication design organisation in the world, with 20,000 members."[1]



3.2 Creativity Compentitiveness Ranking

Creativity Competitiveness Ranking 2010, Design Competitiveness Ranking 2007 and 2005 is based on an average of seven design competitiveness related indexes, on a scale of 1 to 7. As originally in NZIER 2002 and the DESIGNIUM 2003 and 2006 reports, the indexes were sought from the WEF report to describe the state of design competitiveness. The design ranking components are listed on next page (18).

CREATIVITY COMPETITIVENESS RANKING 2010, DESIGN COMPETITIVENESS RANKING 2007, 2005 and DESIGN RANKING 2002

CREATIVITY COMPETITIVENESS RANKING 2010	
1. Switzerland	6.1
1. Japan	6.1
2/3 Germany	6.0
2/3 Sweden	5.9
3/4 United States	5.7
3/4 Denmark	5.7
5. Finland	5.5
5. Netherlands	5.5
5. France	5.5
5. Austria	5.5

Source: World Economic Forum 2009

DESIGN COMPETITIVENESS RANKING 2007	
1. Germany	6.1
2. Switzerland	6.1
3. Japan	6.0
4. Sweden	5.9
5. Denmark	5.9
6. Austria	5.7
7. United States	5.7
8. Finland	5.7
9. Korea, Rep	5.7
10. France	5.6

Source: World Economic Forum 2007

DESIGN COMPETITIVENESS RANKING 2005	
1. Japan	6.2
2. United States	6.2
3. Germany	6.1
4. Switzerland	5.9
5. Denmark	5.8
6. France	5.7
7. Finland	5.7
8. Sweden	5.7
9. Belgium	5.6
10. Austria	5.6

Source: World Economic Forum 2007

DESIGN RANKING 2002	
1. Finland	6.3
2. United States	6.2
3. Germany	6.1
4. France	6.1
5. Japan	6.1
6. Switzerland	6.0
7. Netherlands	6.0
8. Sweden	6.0
9. Denmark	5.8
10. United Kingdom	5.8

Bibliography: World Economic Forum 2002, Building a case for added value through design, NZ Institute of Economic Research 2003

3.3 DESIGN COMPETITIVENESS RANKING COMPONENTS

The 2002 NZIER design ranking included the indexes Extent of branding and Uniqueness of product design listed by the WEF. Uniqueness of product design was dropped from the list after the 2001/2002 competitiveness report, and extent of branding was last included in the WEF report for 2004/2005. Compared to the original ranking list of New Zealand, we have included design-related indexes on a broader front in the preport 2006. We have used the same indexes in the present report and the report 2008. The purpose of the new ranking is to take into account also the impact of immaterial spending on design competitiveness. The design competitiveness ranking above has seven indexes instead of five. The selected indexes measure the elements of competitiveness on a broader scale: the status of production processes, the effects of product design, marketing and after sales services on international competitiveness of export companies and their placement in the value chain.
The indexes used in the ranking are listed below, together with the questions put to the evaluators of the countries selected in the WEF report.

Company spending on research and development

Companies in your country (1 = do not spend money on research and development, 7 = spend heavily on research and development relative to international peers)

Nature of competitive advantage

Competitiveness of your country's companies in international markets is primarily due to (1 = low cost or local natural resources, 7 = unique products and processes)

Value chain presence

Exporting companies in your country are (1 = primarily involved in resource extraction or production, 7 = not only produce but also perform product design, marketing sales, logistics, and after sales services)

Capacity for innovation *

Companies obtain technology (1 = exclusively from licensing or imitating foreign companies, 7 = by conducting formal research and pioneering their own products and processes)

Production process sophistication *

Production processes use (1 = labour-intensive methods or previous generations of process technology, 7 = the world's best and most efficient process technology)

Extent of marketing *

The extent of marketing in your country is (1 = limited and primitive, 7 = extensive and employs the world's most sophisticated tools and techniques)

Degree of customer orientation

Firms in your country (1 = generally treat their customers badly, 7 = are highly responsive to customers and customer retention)

* These indexes were included in the NZIER report from 2002 plus the following two indexes were included in the NZIER report from 2002

Extent of Branding

Companies in your country that sell internationally (1 = sell into commodity markets or other companies that handle marketing, 7 = have well developed international brands and sales organizations)

Uniqueness of product designs

Product designs are (1= copied or licensed from abroad, 7= developed locally)

Table 3.2 Top 20 of Grotwh Competitveness Index Ranking, Creativity Competitiveness Ranking 2010 and Design Competitiveness Ranking Indexes 2007

Country	Growth Competitiveness Index ranking 2010	Growth Competitiveness Index ranking 2007	Creativity Competitiveness ranking 2010	Design Competitiveness ranking 2007	Design average 2010	Design average 2007
Switzerland	1	2	1	2	6.1	6.1
United States	2	1	5	7	5.7	5.7
Singapore	3	7	11	15	5.3	5.3
Sweden	4	4	4	4	5.9	5.9
Denmark	5	3	6	5	5.7	5.9
Finland	6	6	7	8	5.5	5.7
Germany	7	5	3	1	6	6.1
Japan	8	8	2	3	6.1	6
Canada	9	13	23	23	4.7	4.9
Netherlands	10	10	8	11	5.5	5.6
Hong Kong SAR	11	12	20	20	4.9	5.1
Taiwan, China	12	14	13	18	5.2	5.2
United Kingdom	13	9	14	13	5.2	5.5
Norway	14	16	17	19	4.9	5.1
Australia	15	19	28	27	4.5	4.5
France	16	18	9	10	5.5	5.6
Austria	17	15	10	6	5.5	5.7
Belgium	18	20	12	12	5.3	5.5
Korea, Rep	19	11	15	9	5.2	5.7
New Zealand	20	24	31	29	4.4	4.5

Sources: Global Design Watch 2006 and 2008, World Economic Forum, The Global Competitiveness Report 2009/2010, 2007/2008 and 2005/2006,

TABLE 3.3 Creativity Competitveness Ranking components

Country	Growth Competitiveness Index ranking	Company spending on research and development	Nature of competitive advantage	Value chain breadth	Capacity for innovation	Production process sophistication	Extent of marketing	Degree of customer orientation	Design average	Design Competitiveness ranking
Switzerland	1	6.0	6.4	6.0	5.8	6.3	6.0	6.0	6.07	1
United States	2	5.6	5.5	5.4	5.5	5.9	6.4	5.7	5.71	5
Singapore	3	5.1	5.5	5.4	4.4	5.6	5.4	5.6	5.29	11
Sweden	4	5.9	6.0	5.9	5.7	6.2	5.9	5.8	5.91	4
Denmark	5	5.5	6.1	5.6	5.3	5.9	5.8	5.7	5.7	6
Finland	6	5.3	6.1	5.5	5.6	6.0	5.0	5.2	5.53	7
Germany	7	5.8	6.4	6.2	5.9	6.4	5.8	5.6	6.01	3
Japan	8	5.9	6.3	6.1	5.9	6.4	5.6	6.3	6.07	2
Canada	9	4.2	3.6	4.1	4.4	5.3	5.6	5.5	4.67	23
Netherlands	10	4.8	5.8	5.6	4.9	6.0	5.8	5.4	5.47	8
Hong Kong SAR	11	3.7	5.2	5.4	3.4	4.9	5.6	5.8	4.86	20
Taiwan, China	12	5.0	4.9	5.2	4.8	5.6	5.3	5.7	5.21	13
United Kingdom	13	4.7	5.5	5.2	4.7	5.3	6.0	5.0	5.2	14
Norway	14	4.4	4.8	4.1	4.8	5.7	5.3	5.5	4.94	17
Australia	15	4.2	3.8	3.4	4.0	5.1	5.5	5.5	4.5	28
France	16	4.8	5.6	5.9	5.1	5.7	5.9	5.2	5.46	9
Austria	17	4.4	5.8	5.6	4.8	5.8	5.7	6.1	5.46	10
Belgium	18	4.6	5.7	5.1	4.8	5.8	5.4	5.5	5.27	12
Korea, Rep	19	4.9	5.4	5.4	4.7	5.1	5.1	5.5	5.16	15
New Zealand	20	3.8	3.3	3.8	4.1	4.9	5.3	5.5	4.39	31
Luxembourg	21	4.6	5.5	4.8	4.4	5.4	5.3	5.3	5.04	16
Qatar	22	3.0	2.9	2.8	2.5	5.5	5.3	5.2	3.89	19
Unit. Arab Emirates	23	3.8	4.4	4.4	3.5	4.7	5.4	5.7	4.56	26
Malaysia	24	4.3	4.2	4.7	4.1	4.5	4.9	5.2	4.56	27
Ireland	25	4.2	5.3	4.8	3.8	5.3	5.3	5.3	4.86	21

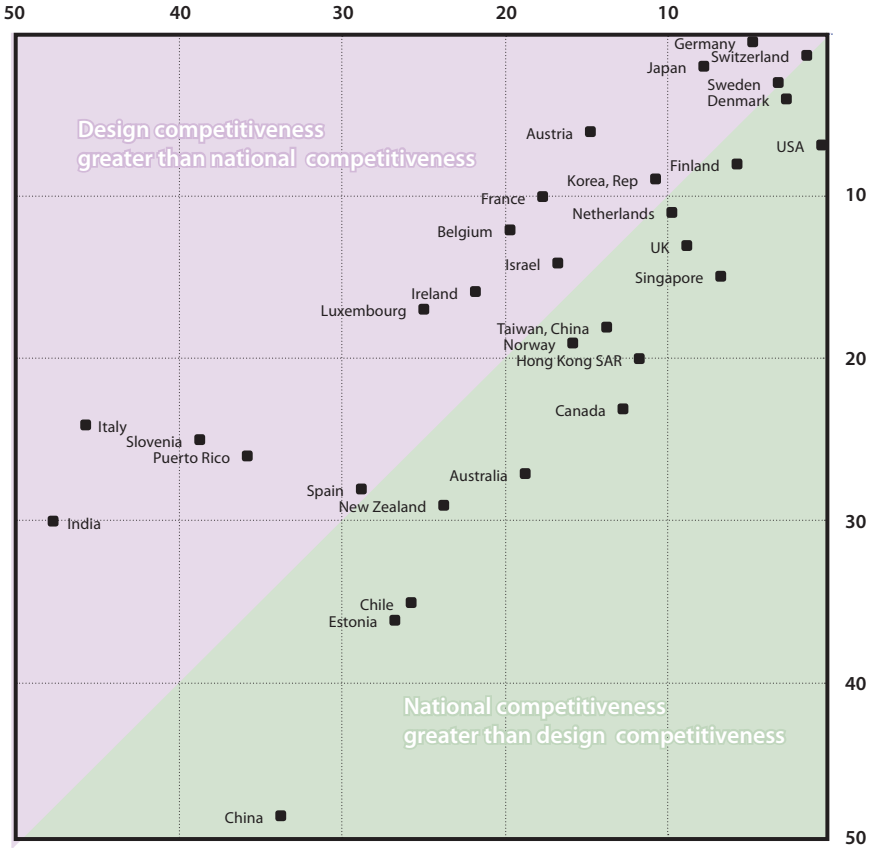
TABLE 3.3 Creativity Competitveness Ranking components

Country	Growth Competitiveness Index ranking	Company spending on research and development	Nature of competitive advantage	Value chain Breadht	Capacity for innovation	Production process sophistication	Extent of marketing	Degree of customer orientation	Design average	Design Competitiveness ranking
Iceland	26	4.1	4.4	4.3	4.2	5.6	5.2	5.6	4.77	22
Israel	27	4.9	5.8	4.5	5.2	5.1	4.2	4.8	4.93	18
Saudi Arabia	28	3.6	3.8	4.3	3.7	4.7	4.7	5.1	4.27	35
China	29	4.2	3.5	3.9	4.2	3.9	4.6	4.5	4.11	36
Chile	30	3.2	3.0	3.7	3.1	4.5	5.3	4.9	3.96	40
Czech Republic	31	4.1	3.9	4.7	4.2	4.7	4.9	4.9	4.49	29
Brunei Darussalam	32	3.0	3.6	2.6	2.7	3.2	3.6	4.7	3.34	50
Spain	33	3.6	4.2	4.6	3.7	4.5	5.1	4.8	4.36	32
Cyprus	34	3.6	4.8	4.1	3.5	4.4	4.8	5.2	4.34	33
Estonia	35	3.3	3.6	3.8	3.6	4.4	4.5	5.1	4.04	38
Thailand	36	3.3	3.5	4.0	3.1	3.6	4.6	5.3	3.91	42
Slovenia	37	3.9	4.4	4.7	4.5	4.5	4.9	5.1	4.57	25
Bahrain	38	2.8	2.8	3.3	3.1	4.0	4.7	5.2	3.7	47
Kuwait	39	2.6	3.6	3.5	2.7	3.8	4.4	4.7	3.61	49
Tunisia	40	3.3	3.5	4.3	3.3	3.9	4.2	4.9	3.91	43
Oman	41	3.1	3.4	3.6	2.7	4.3	4.0	5.0	3.73	46
Puerto Rico	42	3.2	4.8	4.2	3.2	5.0	5.2	4.7	4.33	34
Portugal	43	3.3	3.6	4.0	3.6	4.3	4.7	4.6	4.01	39
Barbados	44	3.0	5.2	3.9	2.8	3.7	4.4	4.4	3.91	44
South Africa	45	3.6	3.1	3.3	3.6	4.3	5.3	4.4	3.94	41
Poland	46	3.2	3.6	4.6	3.1	4.1	5.0	4.8	4.06	37
Slovak Republic	47	3.2	2.9	3.9	3.1	4.4	4.7	4.6	3.83	45
Italy	48	3.4	5.6	5.3	3.9	4.7	4.6	4.7	4.6	24
India	49	3.6	3.4	4.4	3.6	4.3	4.9	4.8	4.4	30
Jordan	50	2.6	3.6	3.8	2.9	3.9	4.2	4.8	3.69	48

TABLE 3.4: National Compentitiveness and Creativity Competitiveness Ranking 2008 and 2010

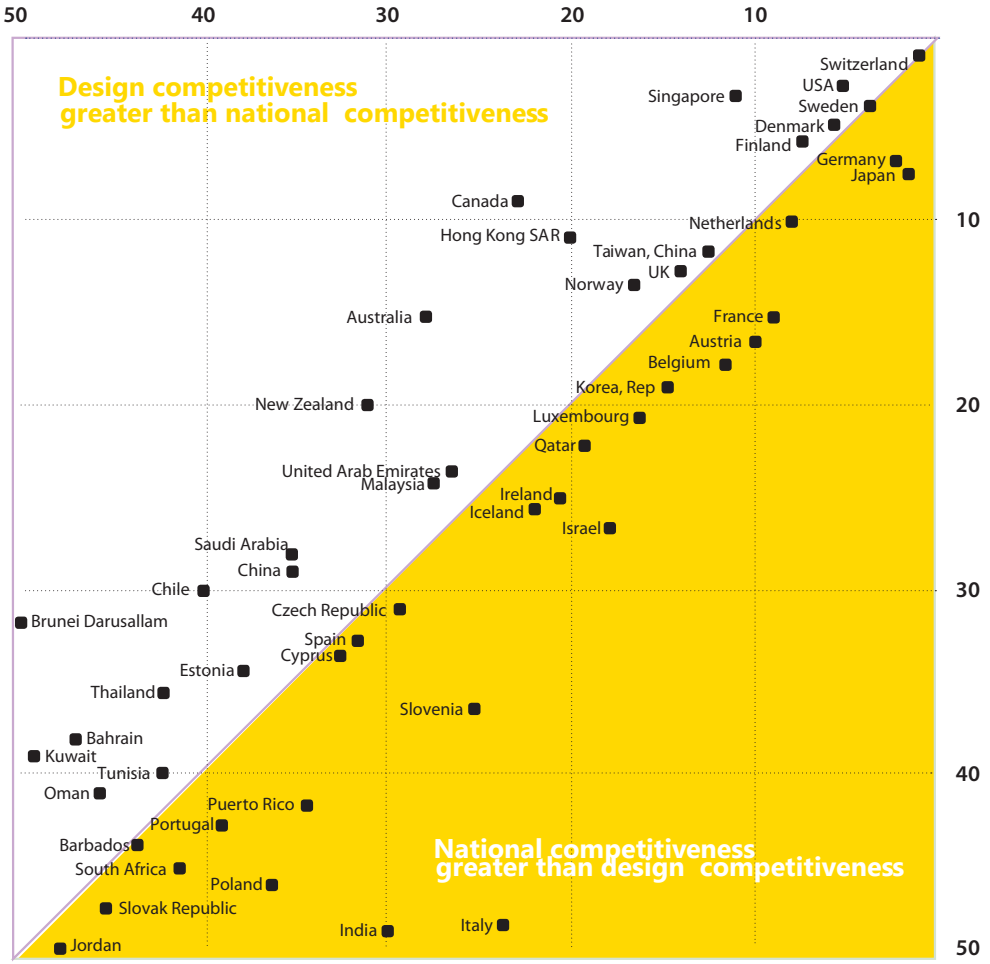
In the figures we have compared the national competitiveness of leading countries against their design ranking to show the correlation between national competitiveness and level of design.

GDW 2008



Source: World Economic Forum, The Global Competitiveness Report 2007/2008

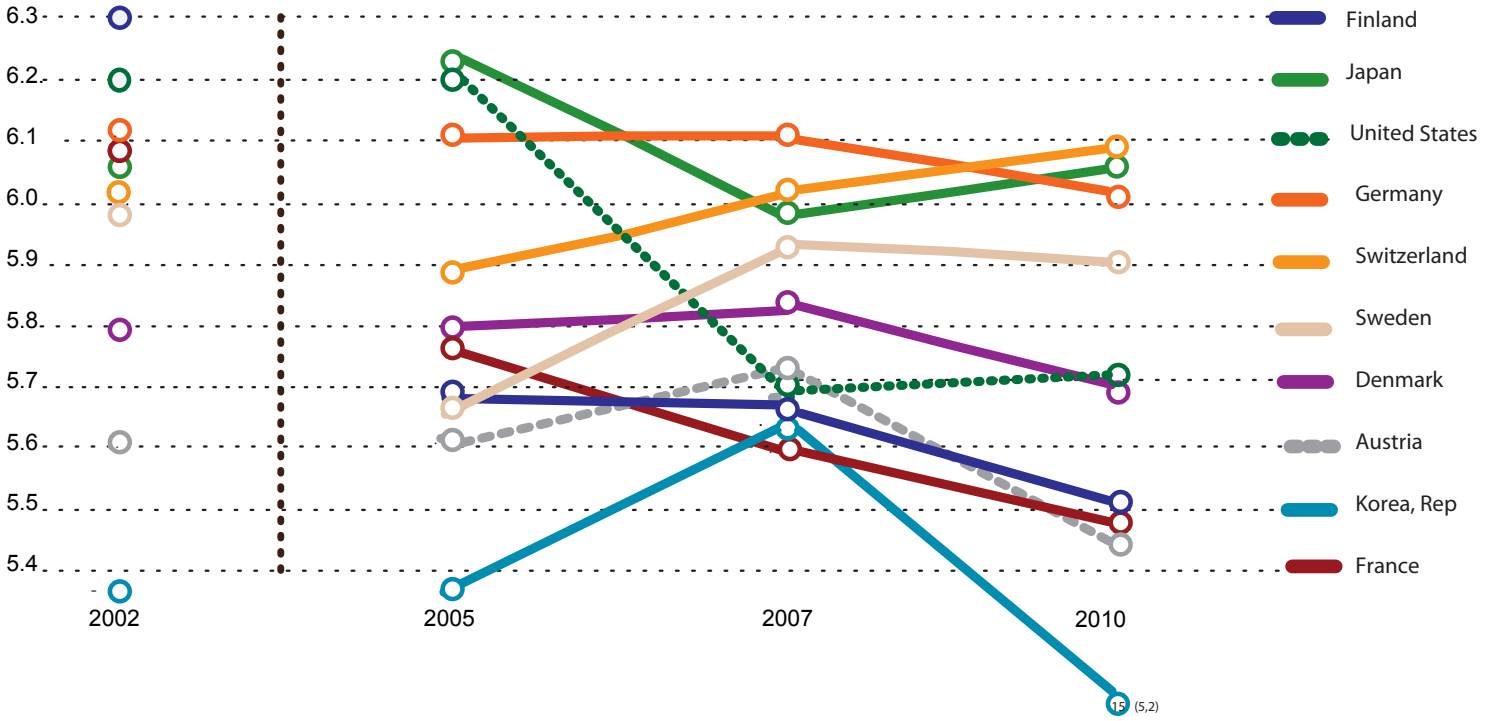
GDW 2010



Source: World Economic Forum, The Global Competitiveness Report 2009/2010

TABLE 3.5: Creativity Competitiveness Ranking 2010 , Design Competitiveness Ranking 2005, 2007 and Design Ranking 2002

In the figure below we have compared the national competitiveness of leading countries against their design ranking to show the correlation between national competitiveness and level of creatitivy.



CLOSING WORDS

Creative potential is evidence in leading the national competitiveness.

In many countries design is increasingly being recognized as important for national competitiveness. However, to enhance the understanding of the economic potential of design and Creative Industries in general, their concepts should be clarified. While the concept of Creative Industries is slightly unambiguous, The UK Department of Media, Culture and Sports (DCMS) definition from 1997 "those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property" is widely accepted and has remained remarkably well as the general concept of CI. The DCMS category of Creative Industries consists of the following thirteen sectors: advertising, architecture, arts and antique markets, crafts, design, fashion design, film, interactive leisure software, music, television and radio, performing arts, publishing, and software. All of these industries have a potential for wealth and job creation through the generation and exploitation of intellectual property. In this context, design thinking, has a considerable role to play in tackling some of the most urgent issues such as climate change and helping industry unlock the value of technology breakthroughs.

Design thinking and innovation are among the focus areas of the European Commission Europe 2020 Flagship Initiative

According to the European Commission, the biggest challenge is to adopt much more strategic approach to innovation. Hence, the heart of the Europe 2020 Flagship Initiative strategy is innovation. The strengths in design and creativity must be better exploited, while social innovation must be championed. As the Initiative suggests, well-performing national research and innovation systems rely in pursuing a broad concept of innovation, which goes beyond technology and its applications. Among other aims, the Europe 2020 Initiative stresses that there is a need for a broad concept of innovation, including, among others, user-driven innovation, innovation in services and design and public sector innovation. These challenging tasks also open a wide variety of possibilities where user-centred design innovations can be utilized in order to make a substantial influence in building an environmentally and societally more stable and competitive European Community.

4 PROGRESS TOWARDS A KNOWLEDGE -VALUE SOCIETY

The technology barometer, published by the Finnish Association of Graduate Engineers TEK and VTT Technology Studies, is an annually published instrument that measures the state of technological and scientific expertise and development in a given country.

The technology barometer indicates the development of a society from an information society to a knowledge society and further to a knowledge-value society.
Since the turn of the millennium the Finnish Association of Graduate Engineers TEK and the Technical Research Centre of Finland VTT have co-operated for the purpose of developing a technology barometer. The barometer is an instrument for monitoring the stage of technological development within the society, resembling the role of indicators widely used in economics.

The results have challenged some widely accepted perceptions, and introduced a new point of view to the discussion on the state of the society.
The first barometer was published in 2004. Having now reached its fourth round of implementation it is now possible to see what type of development trends are currently in progress in addition to the key numbers of each individual study. The barometer has proven to be capable of casting additional light on bottlenecks and problem areas within the innovation environment.

4. 1 THE BAROMETER INDICATOR

The Technology Barometer measures information society development with the aid of young peoples' reading literacy skills, mathematical and scientific skills (PISA surveys) and in terms of investment in education, research and development.
Knowledge society development is measured by higher education, the share of high technology and competence-intensive services, the application of ICT, the number of patents, the share of scientific publications, and per capita GDP per working hour.
Development towards a knowledge-value society is measured by entrepreneurial activeness, the share of nascent companies, innovative SME companies or those engaged in innovative cooperation, risk capital investment, investments made by the private sector, incoming direct foreign investment, and the share of foreign trade in per capita GDP.
Sustainable development is the Technology Barometer's fourth object of analysis. Sustainable development is a continual, controlled process of societal change that takes place on the global, regional and local scales, towards securing adequate living conditions for the current and future generations. The Technology Barometer measures the objectives of sust ainable development with the aid of three indicator entities: social cohesion in the society in question, environmental protection action taken by businesses and authorities, and the actual state of the environment.

Source: TEKbaro 2010

Figure: TEKbaro 2010

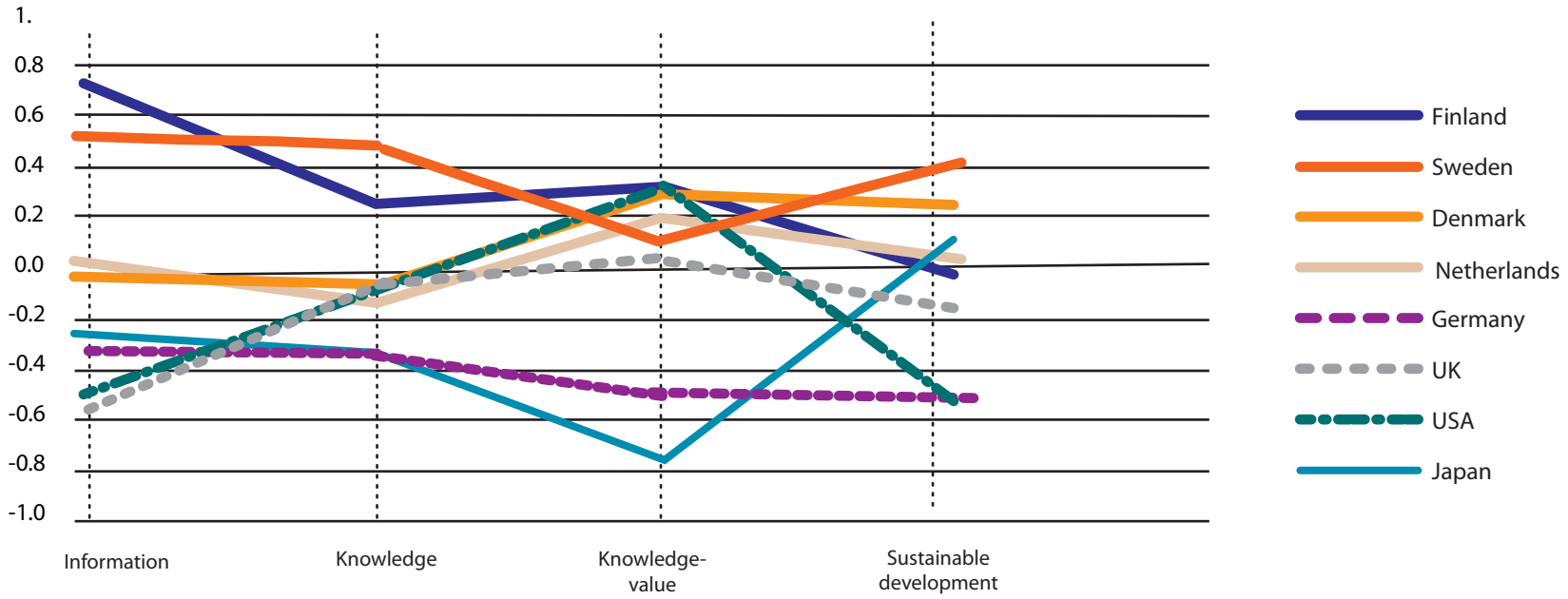
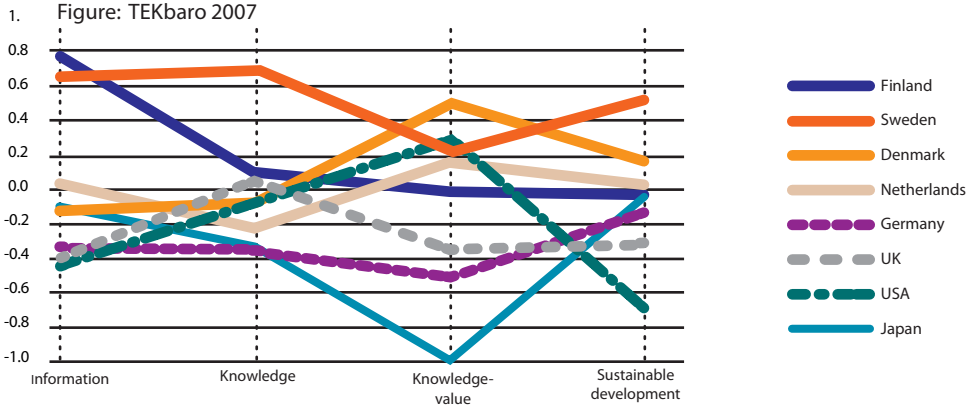


TABLE 4.1: Profiles of sample countries on their transition from an information society to a knowledge society and sustainable development

Sample nations' performance with respect to information society, knowledge society and knowledge-value society measures. The value describes average performance.

The more positive/negative the value of a country, the better/inferior its position is relative to the other countries for that measure.

Figure: TEKbaro 2007



4.2 APPLICATION OF NEW KNOWLEDGE

The Technology Barometer uses three indicators to measure the application of new knowledge. These are the SME companies' share of public-funded research projects in the business enterprise sector, the share of companies producing their own innovations from all companies, and the share of SME companies participating in innovation cooperation from all SME companies. The cooperation indicators focus on SME companies, due to the fact that almost all large companies participate in innovation activities and operate globally, with their operating methods being copied from one country to another. According to the results of the European Union's innovation study CIS 2006, the proportional share of SME companies engaged in innovation activities, compared to the total number of SME companies (excluding micro-sized enterprises), is highest in Germany and second highest in Finland, amounting to about 50 percent. Unlike the reference group countries, the SME companies' participation in innovation cooperation has clearly increased in Finland according to CIS 2006, compared to the previous survey. The latest survey indicated that it is about 28 percent. The result of a GEM assessment indicates that the predominantly innovative activities (having unique products, and/or no competitors, and/or using the latest technology) of starter entrepreneurs only amounted to the average level of about 11 percent in Finland in 2007. This rating is the Nordic countries' lowest in the comparison (GEM 2007). The results of the CIS 2006 community innovation survey indicate that the average rating of all SME companies is about 21 percent: of the SME companies, 21 percent reported that they had developed new products for the market during the years 2004 –2006.

Source: TEKbaro 2010

TABLE 4.2: The share of SME companies engaged in innovation activities of the total number of SME companies, excluding micro-sized enterprises, percentage (Community Innovation Surveys CIS 2004 and 2006, Eurostat)

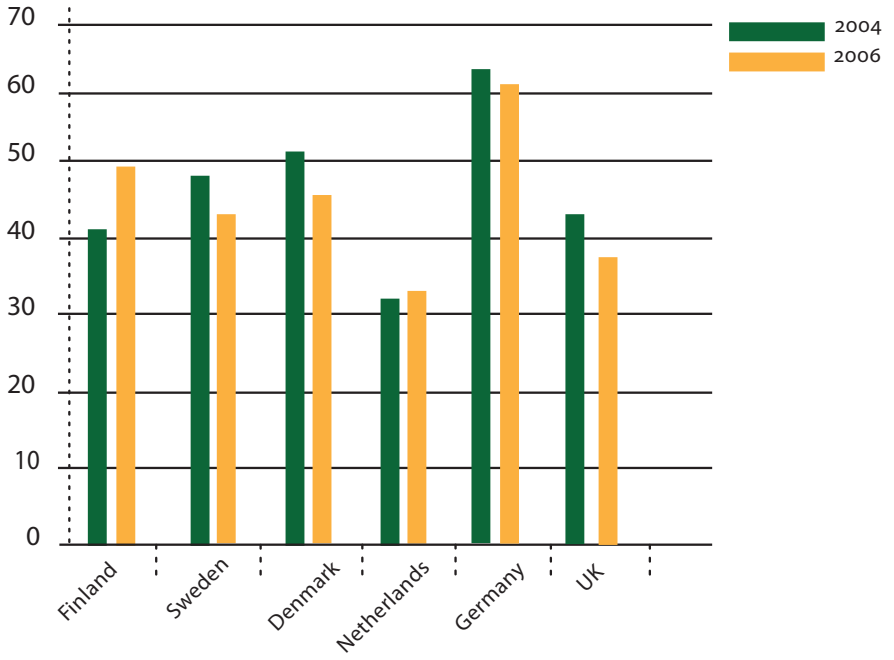


Figure: TEKbaro 2010

TABLE 4.3:
The share of SME companies engaged in innovation activities of the total number of SME companies, percentage (Community Innovation Surveys CIS 2004 and 2006, Eurostat)

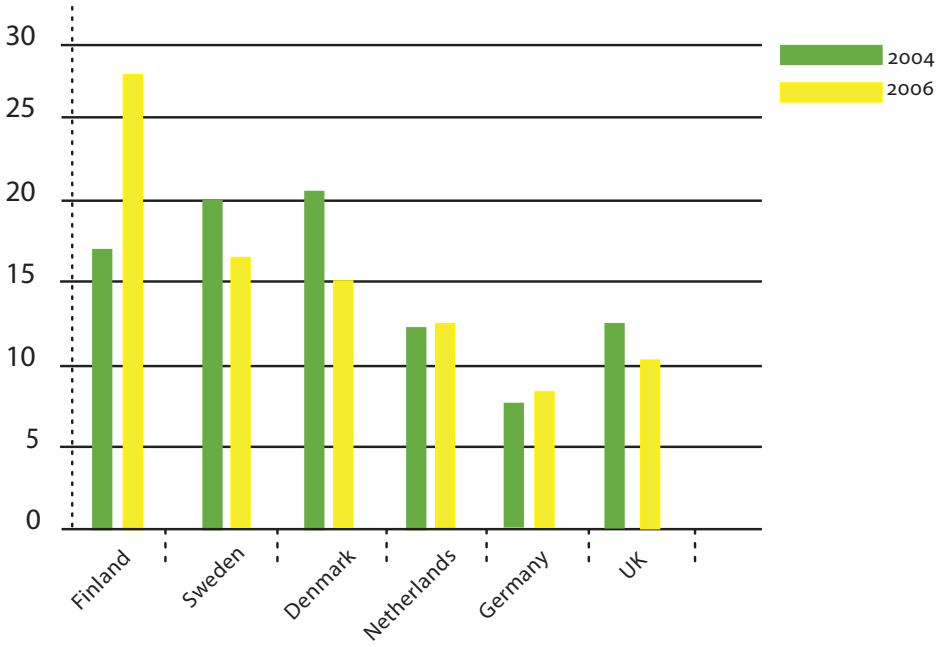


Figure: TEKbaro 2010

TABLE 4.4:
The proportional ratings of the countries being compared in the application of new knowledge, measured by the SME companies' share of public-funded research projects in the business enterprise sector, the share of companies producing their own innovations from all companies, and the share of SME companies participating in innovation cooperation from all SME companies.

According to this combined index, Finland rates top in the application of new knowledge, with Sweden's and Denmark's rating being average and that of the Netherlands and Germany being below average. The USA's and Japan's data were missing.

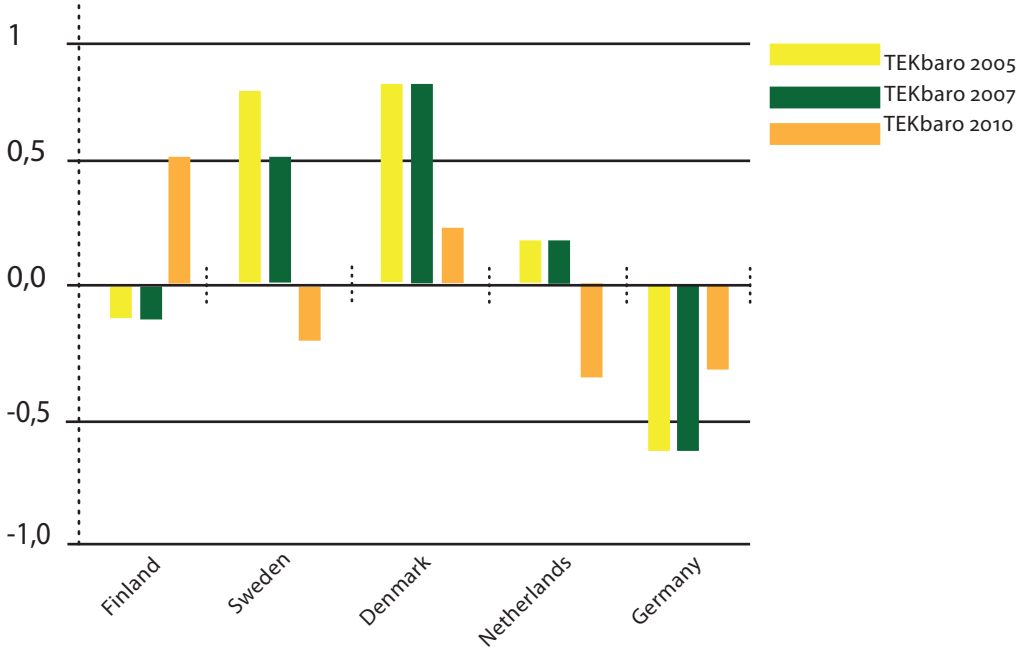


Figure: TEKbaro 2010

5 DISCUSSION: Finland

Five years since implementation of the Finnish policy´Design 2005!´ and design is reasserting itself on the political agenda in Finland.

In 2008, design was written into the definition of innovation in the National Innovation Strategy and is emerging as a component of the National Innovation System (NIS). The NIS is based on a systemic approach aligning the business and policy sectors (horizontal) and their relevant activities at different levels (vertical). In order for design to boost the operating system, different sectors and actors need to cooperate both at the policy-making and delivery stages to engage stakeholders and implement the key concept of the 'borderless innovation policy'. A practical example of design within the NIS is the way design is integrated into Aalto University, the 'Innovation University' that merged three Universities in Helsinki.

In 2009, the Finnish NIS was evaluated by a team of national and international experts. A specific challenge that emerged was the inclusion of creativity in the promotion of innovation activities. Consequently, the new demand- and user-driven innovation policy emphasizes customer needs in developing products and services and the participation of end-users in the innovation process (National Innovation Policy[1]. As part of the implementation of Finland's National Innovation Strategy, the Ministry of Employment and the Economy has outlined an action plan and policy framework. The action plan running through the years 2010 - 2013 covers the action points that promote policy implementation in the private and public sectors. The Ministry of Employment and the Economy is implementing the action plan in cooperation with several other ministries and a broad range of stakeholders, such as Tekes, VTT, the National Consumer Research Centre and local and regional authorities are responsible.

Finland is expanding the scope of National Innovation Policy (action plan 2012-2015, -points 2011) to demand- and user-driven innovation. Finland is expanding the scope of National Innovation Policy to demand- and user-driven innovation [2]. Since the Government's Design Policy Statement 2000 the current Innovation Policy is seeking the efficiency from design as one of user-driven innovation tools, in services or a strategic tool for business and management purposes. The action plan introduces for example The World Design Capital project (2010-2012) as an opportunity for wider use of design thinking and piloting the service design methods in the renewal of public services.

The International Council of Societies of Industrial Design (Icsid) designated Helsinki as the World Design Capital for the year 2012 on November 25th, 2009. Design is a factor deep-rooted in the urban lifestyle of Helsinki. Design is manifested in the everyday lives of Helsinki citizens in many ways, ranging from home furniture and items that represent old Finnish design traditions to modern urban solutions in the city and contemporary interior design.

International Design Foundation has been established at June 2010 to manage the World Design Capital Helsinki 2012 project[3] . The core idea of World Design Capital 2012 is Open Helsinki – Embedded Design in Life. Embedded Design extends the area of applicability of design from goods to services and systems. It brings the methods of design and the needs of users to planning from the beginning.

The creative sector is re-shaping Helsinki's economy and enhancing the citizens' quality of life. Design seen from a broad perspective – in city planning, architecture, industrial design and service design – plays an integral role in the development of Helsinki, city services and consumer products.

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[1] *http://www.tem.fi/?l=en&s=2411*
[2] *http://www.tem.fi/index.phtml?l=en&s=2382*
[3] *http://wdc2012helsinki.fi/en/ideointipaiva2011)*

5.1 Finland - Progress towards a knowledge-value society

TEKbaro 2010: KEY RESULTS

The first Technology Barometer survey was carried out at the turn of the year 2003 – 2004. Contrary to the prevailing notion, the results indicated that Finland was not a model country in terms of knowledge society development. The second barometer survey was conducted at the turn of the year 2004 – 2005, the third at the turn of the year 2006 - 2007, and the most recent in autumn 2009, each with similar results. However, Finland had improved its rating in the most recent survey, according to the indicators applied. This was the situation, at least prior to the global recession that started in the autumn of 2008.

In the information society indicators Finland was still placed at the top. In the knowledge society indicators Finland rated second after Sweden. In the knowledge-value society indicators Finland has improved its rating and has overtaken Sweden, the Netherlands and the UK. The said countries have lost their proportional lead compared to Finland.

The change is explained by the increased share of innovative SME companies and their expanded innovation cooperation.

This change has been most dramatic in Finland. According to the most recent measurement results (GEM 2009), the proportional share of business angels in the population has clearly increased in Finland. In 2005 – 2007, the per capita GDP share in the total amount of direct inbound and outbound investment stocks increased clearly, compared to the corresponding figures of the previous Technology Barometer survey. During the period in question, the proportional share of foreign funding increased clearly in the private sector's R&D investments. In 2007, the per capita GDP share in foreign trade was also higher compared to the previous survey, especially in the service sector. However, Finland lagged far behind Denmark, Sweden and the Netherlands in this respect. In entrepreneurial activity Finland is now second after the USA. When taking into account the proportional share of new companies, risk capital investment, and the private sector's investment level in the combined index of entrepreneurial activity, Finland currently rates as third after the USA and Denmark.

In the sustainable development indicators Finland continually remains at the reference group's average level. Sweden is by far the best. The USA is the laggard in terms of sustainable development, but has improved its proportional rating in the sustainable development indicators. This is due to the fact that Germany has reduced its per capita GDP share in greenhouse gas emissions more slowly than all others, and that the USA has increased the share of renewable energy sources. Germany's development has been most positive in its per capita GDP share in the amount of nitric oxides, in addition to its lowered energy intensity. With regards to greenhouse gas emissions, Finland is now next to last after the USA. In the per capita GDP share in sulphur oxide and nitric oxide emissions, Finland rates as last when the USA and Japan are excluded from the comparison. The USA has successfully reduced its energy intensity in this millennium. Finland's energy intensity is the highest among the reference group. Finland's low index value in environmental protection is probably explained by the country's energy intensive production structure, even if the value of our environmental protection investment is the highest among the countries compared. Regarding the share of renewable energy sources in the total energy production volume Finland lags clearly behind Sweden. In the environmental state indicators Finland's rating is of the average level.

Our country's score in the population's health is not praiseworthy either. Finland is last in terms of the population's life expectancy, healthy life expectancy in particular. In 2007, the population's healthy life expectancy was 67 years in Sweden and Denmark, and almost 10 years shorter in Finland – 57 years for men and 58 for women. In 2008, Denmark and the Netherlands had the largest share of employed people in the working age group. The two countries also had the lowest unemployment figures in the reference group. Finland currently rates as next to last in this comparison.

Source: TEKbaro 2010

Figure 5.1 Finland's strengths and weaknesses in comparison to the reference group countries.

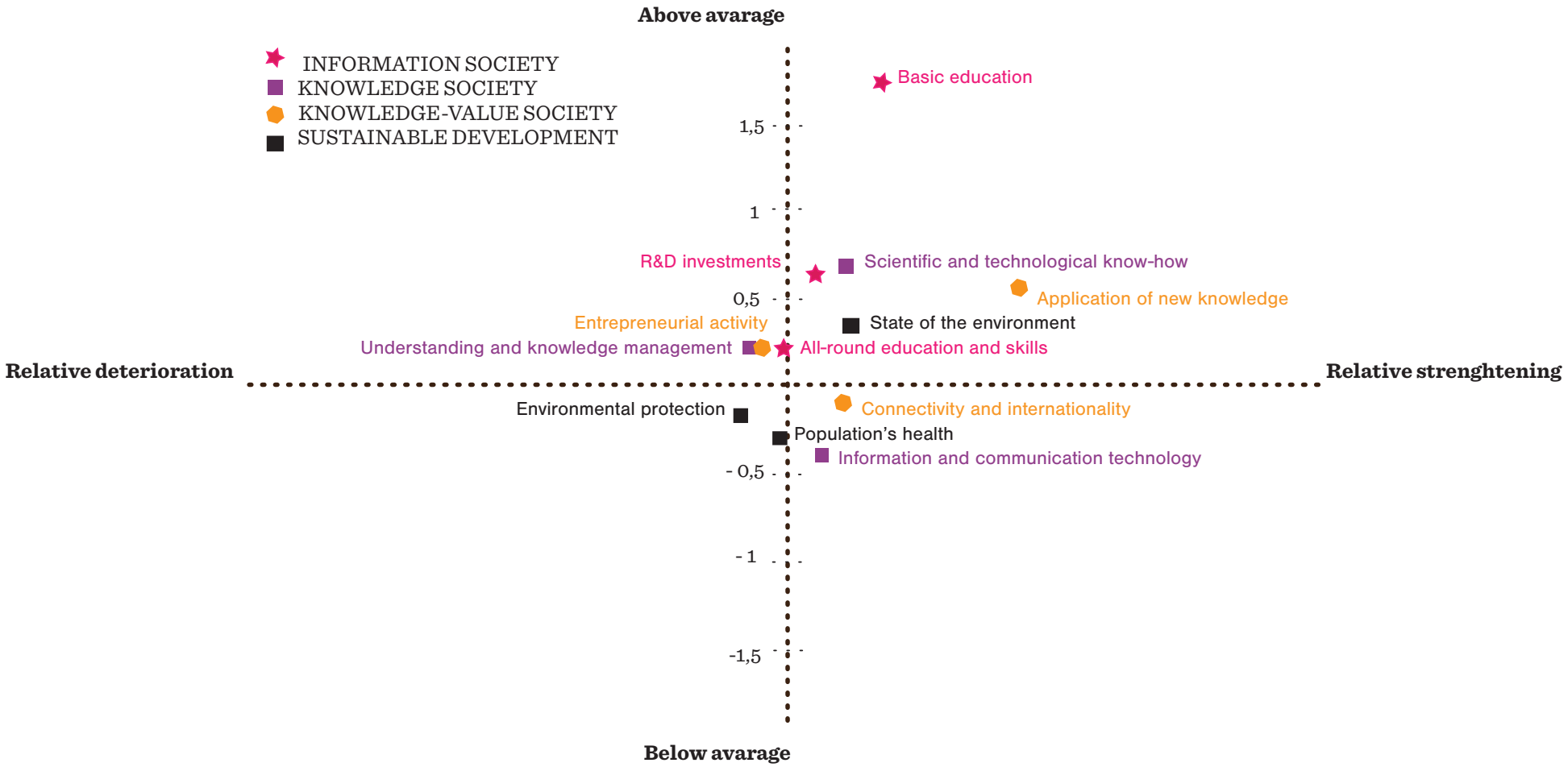

Figure: TEKbaro 2010

6 APPENDIX: 6.1 SOURCES: National and regional programmes and design promotion.

NATIONAL/REGIONAL	SOURCES	ACCESSIBLE AT:
Australia	[1]Australian Government Design award Standards Autralia SEE project	http://www.dia.org.au http://www.dfat.gov.au/facts/design.html http://www.designawards.com.au/ http://www.seeproject.org/map
Belgium	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 Design Flanders	http://jump.dexigner.com/news/17604 http://www.designvlaanderen.be/en http://www.seedesign.org/seedesign/uploaded_files/EWDS%20Prague%20-%20Design%20Flanders%20new%20compressed.pdf
Denmark	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 Design Denmark, 2007 International Design Scoreboard: Initial indicators of international design capabilities, 2009 EU, Cultural Policy database, county profile Denmark	http://jump.dexigner.com/news/17604 http://www.ebst.dk/file/7260/designdenmark.pdf http://ddc.dk http://www.seeproject.org/docs/SEE%20Bulletin%20Issue%201%20-%20Aug%202009.pdf http://www.culturalpolicies.net/web/countries.php?pcid=1140 http://www.culturalpolicies.net/down/denmark_042010.pdf http://www.designcouncil.org.uk/resources-and-events/Schools-and-education/For-schools/Design-around-the-world1/Denmark/
Estonia	Estonian Association of Designers (EDL) EU, Cultural Policy database, country profile Estonia, 2010	http://vana.edl.ee/en/ http://www.disainikeskus.ee/ http://www.culturalpolicies.net/web/countries.php?pcid=1150 http://www.culturalpolicies.net/down/estonia_012010.pdf
Finland	International Design Scoreboard: Initial indicators of international design capabilities, 2009 Global esign Watch 2008	http://jump.dexigner.com/news/17604 http://www.taik.fi/palvelut/innovaatiokeskus_designium/julkaisut.html http://www.mol.fi/avo/alat/0733.htm
France	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 Agency for the Promotion of Industrial Creation EU, Cultural Policy database, Country profile France, 2010	http://jump.dexigner.com/news/17604 http://www.francedesigninnovation.fr/l_apci_uk/index.php http://www.designcouncil.org.uk/resources-and-events/Schools-and-education/For-schools/Design-around-the-world1/France/ http://www.culturalpolicies.net/web/countries.php?pcid=1170 http://www.centredudesign.fr/accueil.aspx
Germany	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 The German Design Council Red dot design award IFDesign	http://jump.dexigner.com/news/17604 http://www.culturalpolicies.net/web/countries.php?pcid=1190 http://www.german-design-council.de http://www.ifdesign.de http://www.red-dot.de www.designpreis.de
Hong Kong	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 Government DesignSmart Initiave Inno Center Design Smart	http://jump.dexigner.com/news/17604 http://www.designsmart.gov.hk http://www.info.gov.hk/info/hkin/innovation.pdf http://www.hkdesigncentre.org http://www.innocentre.org.hk http://www.designsmart.gov.hk/1-eng/doc/leaflet-200812.pdf
India	National Design Policy	http://nid.edu/download/national_design_policy.pdf http://www.designinindia.net/design-now/design-policy/index.html
Ireland	ICSTI Statement Design and Development Ireland Culture policy The Centre for Design Innovation (CDI)	http://www.forfas.ie/icsti/statements/0304_des_dev_stmt/030414_icsti_design_development_statement_s.pdf http://www.culturalpolicies.net/down/ireland_092009.pdf http://www.designinnovation.ie/who.aspx

6 APPENDIX: 6.1 SOURCES: National and regional programmes and design promotion.

COUNTRY	SOURCES	ACCESSIBLE AT:
Italy	ADI	http://www.polimi.it http://www.adi-design.org/homepage.html
Japan	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 Japan Industrial Design Promotion Organization (JIDPO) Design as the Short Route to Brand Establishment —A Design Policy Renaissance— 2003	http://jump.dexigner.com/news/17604 http://www.meti.go.jp/policy/mono_info_service/mono/human-design/design-report-sammry1.html http://www.jidpo.or.jp/en/ http://www.idcn.jp/
Korea, Rep.	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 3rd Five Year Plan	http://jump.dexigner.com/news/17604 http://designdb.com/english/kidp/policy/down/The3rdFiveYearPlan.pdf http://www.gd.or.kr/eng/index.jsp
Netherlands	Premsela's 2009–2012 policy plan Design Council UK	http://www.culturalpolicies.net/web/countries.php?pcid=1340 http://www.premsela.org/en/premsela_1/projects-and-publications/downloads_1/ http://www.designcouncil.org.uk/resources-and-events/Schools-and-education/For-schools/Design-around-the-world1/Netherlands/ http://www.designdenhaag.eu/en/mission-0
New Zealand	Success by design, Better by design program	http://www.nzte.govt.nz/common/files/design-strategy.pdf http://www.betterbydesign.org.nz/
Norway	Design som drivkraft for norsk næringsliv. Rapport fra Utvalget for Næringsrettet Design, 2001. Period: 2002-2010. Norwegian Design Council [1]International Design Scoreboard: Initial indicators of international design capabilities, 2009	http://www.norskform.no/System/Norsk-Form-in-english/ http://www.designcouncil.org.uk/resources-and-events/Schools-and-education/For-schools/Design-around-the-world1/Norway/ http://jump.dexigner.com/news/17604
Singapore	The DesignSingapore	http://www.mica.gov.sg/mica_business/attachment/ERC_SVS_CRE_Chapter3.pdf?sid=131&cid=1300 http://www.designsingapore.org
Spain	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 Design Council, UK	http://www.icograda.org/members/members/member_list499.htm http://www.designcouncil.org.uk/resources-and-events/Schools-and-education/For-schools/Design-around-the-world1/Spain/
Sweden	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 Design för innovation Långsiktig satsning på design som utvecklingskraft för Sverige Förslag till verksamhetsinriktning för SVID, 2006–2010.	http://www.svid.se http://www.designcouncil.org.uk/resources-and-events/Schools-and-education/For-schools/Design-around-the-world1/Sweden/ http://jump.dexigner.com/news/17604
Switzerland		http://www.culturalpromotion.ch/content.php?language=e&ext=project
United Kingdom	[1]The Good Design Plan 2008-2011 [2]International Design Scoreboard: Initial indicators of international design capabilities, 2009 The Department of Trade and Industry, The Design Policy Unit Design Council British Design Initiative	http://www.designcouncil.org.uk/Documents/Documents/Publications/TheGoodDesignPlan_Design_Council.pdf http://www.designcouncil.org.uk/Documents/Documents/Publications/Research/DesignIndustryResearch2010/DesignIndustryResearch2010_ExecSummary.pdf http://jump.dexigner.com/news/17604 http://www.britishdesign.co.uk http://www.dit.gov.uk.design, http://www.globaldesignonline.com
United States	[1]International Design Scoreboard: Initial indicators of international design capabilities, 2009 Design Management Institute (DMI) Corporate Design Foundation Industrial Designers Society of America, IDSA Policy Manual - June 2007	http://jump.dexigner.com/news/17604 http://www.designpolicy.org/usdp/policy-proposals.html http://www.dmi.org http://www.cdf.org http://www.idsa.org

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Access: www.taik.fi/palvelut/innovaatiokeskus_designium/julkaisut.html

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Acces: http://www.tek.fi/ci/pdf/julkaisut/TEKbaro2010.pdf

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Global Design Watch 2010

DESIGNIUM - Centre for Innovation in Design ®

About Designium

Designium Innovation Centre provides consultation services in all matters relating to the identification, analysis and protection of innovations.
The services are available for both the University's students and researchers, as well as outside design entrepreneurs. Innovation services focus on producing new information about the identification and management of innovations.

From January 1, 2011 Designium was selected by the European Commission, Directorate General for Enterprise and Industry, to become the Secretariat for the European Design Innovation Initiative.