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Denmark

Danish design rests on a long-standing democratic and human-centred tradition that addresses systems, processes and products from the bottom up.

Design has the highest turnover growth among Danish creative sector industries (2003-2010). The government launched the world's first national design policy in 1997 and recently launched a comprehensive growth plan for creative industries and design. This continues support for design as a key driver of innovation.

The Danish Design Centre was established in 1978, and has from the beginning focused on promoting design and the value of design for Danish industry. It has played a key part in the creation of design policy from 1997. In 2013, it launched a radical new strategy of cooperation with the design field, business, industry, research and education.

Finland

The Finnish organisation for design promotion is the Design Forum Finland. Design has been on the national agenda since SITRA, the Finnish Innovation Fund, was founded 1967.

In 2008, design was written into the definition of innovation in the National Innovation Strategy and made an essential part of the National Innovation System. The National Innovation Policy will soon include user-driven innovation.

Helsinki was World Design Capital for 2012 and ran Open Helsinki – Embedded Design in Life. The National Innovation Policy action-plan used this as an opportunity to pilot public service design. The learning from the world design capital experience was written into the renewed national design policy "Design Finland". The new design policy specifies four visions of wider-scale strategic design use and learning, aiming to increase investment in design capabilities and learning over the period to 2020.

UK

The UK design industry is the largest in Europe and one of the strongest globally. NESTA estimates £23bn is spent on design in the UK annually, while Imperial College put the figure at £33.5bn for 2011. Design Council research shows that, despite the recession, the industry grew by 29% between 2005 and 2010.

The Design Council was founded in 1944, then under the name the Council of Industrial Design. Today, design plays an important role in UK innovation and competitiveness. In 2011 the Innovation and Research Strategy for Growth (2011), published by the Department for Business, Innovation and Skills, put innovation at the heart of the UK government strategy for economic growth and rebalancing, with design given a central role. Design is also recognised in the UK National Planning Policy Framework (2011) as a vital part of sustainable development and the Independent Review of Competitiveness (2012) is informed by the considerable potential for design to support both government and business and bolster UK competitiveness.

At both local and central government level in the UK, design is playing an increasingly important role in service development and delivery and there is growing interest in its use for policymaking.

Wales

In 2008, design represented the largest proportion of the Welsh creative industries both in employment and gross value added.[1] The Welsh Government has provided design support to companies in Wales through the Design Advisory Service since 1994. Design Wales, part of the National Centre for Product Design and Development Research at Cardiff Metropolitan University, was established in 1994.

In 2010, the "Design for Innovation in Wales" manifesto was adopted unanimously by the National Assembly for Wales. This resulted in design forming part of Wales's 2010 innovation policy and the 2013 Innovation Strategy for Wales. Two new programmes resulted: the Service Design Programme (training designers in service design and creating demand for it in manufacturing) and SPIDER (piloting service design projects in Cardiff City Council and training public officials in service design methods).

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Foreword

We are moving into a global economy based not just on knowledge but ingenuity. Increasingly success depends less on what material resources we have and more on what we make of them. This is true even in the field of mass-produced consumer goods, where the global harmonisation of labour costs will come to impede emerging economies' ability to compete on price. Quality will be the great differentiator. As those concerned with innovation now widely understand, design is key to this, not as an add-on, but as a way of structuring development.

The UK government fully appreciates the role of design as a driver of economic growth. Successive governments have supported design for over 60 years since the Government set up the Council for Industrial Design in 1944 to aid post-war economic recovery. Design is a source of competitive advantage and can help organisations transform their performance. That is why design forms an integral part of the Government's plans for innovation and growth.

Design and innovation play a particularly crucial role in services. With a certain symmetry, as manufacturing moved to Asia, digital technology has allowed principally European and American businesses to create value through increasingly sophisticated service offerings. This has given rise to vital new design disciplines focused not on objects but services and systems. This is almost entirely about what we do, not what we have. It is about reorganising what we do around an understanding of the needs of the end user, ensuring that we do not waste time and money on anything extraneous.

This capability grew from the private sector, but provides vital cues for the public sector. It is the capability to do more for citizens with less, or do less with greater effect. It has the potential to meet the pressing needs of the present, but also to help governments achieve wider long-term aims of growth and quality of life for its citizens. With governments around the world beginning to recognise it, it is a capability Europe cannot afford to ignore.

Rt Hon David Willetts MP,
Minister for Universities
and Science, Department
for Business, Innovation
and Skills, UK

Annette Vilhelmsen,
Minister for Business
and Growth, Denmark

Design is a key source of innovation and therefore part of the solution to the growth challenge Europe is facing. Every day we see start-up businesses inspired by design and creative thinking, and leading global enterprises using it as a means to boost business development and gain competitive advantage.

Worldwide there is also an increasing focus on how design and other creative skills can contribute to a green transition. A major part of a product's environmental footprint is defined through the early design phase, so many environmental issues can be solved by focusing on reducing environmental impact early in the development process.

Rapid urbanisation is another example. The rise of megacities with millions of inhabitants is increasing the need for design solutions both technical and social that can meet the challenge of creating sustainable urban environments on a huge scale.

Design and creativity also brings value to the public sector by contributing to the development of more user-friendly services and humanising technology. To promote design-driven innovation in the public sector, the Danish Government supports MindLab, a cross-ministerial innovation unit that involves citizens and businesses in creating new solutions for society. Entrepreneurship, climate change, digital self-service, education, employment services and workplace safety are some of the areas the unit addresses.

Denmark is highly aware of the value of design and was one of the first countries in the world to launch a national design policy. Recently the Danish government has made design and creative industries a specific focus area in the national policy for business and growth. Design thinking and creativity can contribute to innovation and economic growth and has a lot to offer in developing sustainable solutions for a better society.

Executive summary

In this publication, members of SEE (Sharing Experience Europe), a network of 11 European partners, present a series of case studies and tools to enhance the understanding of design for public sector innovation and facilitate the integration of its methods into mainstream practice.

Societies today face common challenges in delivering the best possible quality of life in a way that is economically sustainable. Design thinking offers a highly effective methodology for squaring this circle and connecting with citizens – at all levels of the public sector, and from services to policy. Countries such as New Zealand, South Korea, Australia and Singapore are adopting design-led innovation, realising in common with leading-edge companies such as Apple that it is key to growth and competitiveness. The European Union cannot afford to be left behind and, with pioneering work from several of its member states, has a chance to lead the field.

No longer just an add-on, design has evolved into a fully joined-up innovation methodology. There is increasing understanding in the private sector of the enormous value this adds, even in areas not traditionally seen as the preserve of design such as services. Likewise, and for similar reasons, it is increasingly clear in the public sector that design thinking is the way to overcome common structural flaws in service provision and policymaking:

– Design-led innovation is a joined-up process, with no inefficient handover from analysis to solution to implementation.

– Rather than disjointedly patching together incremental solutions to problems as they arise, design thinking looks at the entire system to redefine the problem from the ground up.

– Design thinking starts by understanding user needs in order to ensure solutions are appropriate, waste is avoided and end users buy into them.

– Rather than jumping straight to expensive and risky pilots, design process tests iteratively, starting with low-cost, simple prototypes and designing out risk as prototypes become more evolved.

– Silo structures are a perennial problem in government. While the structural factors that cause this may be stubborn, design methods offer uniquely effective ways of understanding which teams, departments, experts and specialists are relevant to a problem and engaging them in collaboration.

A brief and simplified description of design as a three-step process begins to show how this works. Designers:

1 Research user needs → **2** Visualise solutions → **3** Prototype and improve

This is the spine of the design-led innovation process. It is, as one can see, a joined-up process from analysis to problem solving to implementation. It mitigates risk while increasing the chances of success by using end user needs as a touchstone.

Mapping the system
Application of design to services and policy might seem a leap to some. In fact, part of design's value here is in making seemingly intangible things tangible to the teams working on them. A service or system, for instance, is made up of a series of "touchpoints" (anything from shop counters to web pages to tax forms). A map of these can be sketched, just as an object can.

Meeting the real need
User needs are a quick route to efficiency. By designing a service or policy around them, one can eliminate extraneous elements and cut costs. Policymaking often begins with cost savings and does not engage with the user. This is skipping a step. A measure that does not meet the needs of the people it is intended to serve is no saving, however cheap it appears upfront.

Designers' observations are particularly effective because they go beyond the focus group or survey to observe real user behaviour, often identifying needs and behaviour people are not aware of themselves.

The right team for the right system
Starting with the user also gives designers a direct insight into the system in which they are trying to innovate. By mapping a user's journey around a system's touchpoints, designers are able to see quickly which departments and areas of expertise are relevant, how they might be better joined up and who the relevant personnel are. These individuals can then be included in the design process.

Designers do not seek to supplant other areas of expertise; rather, their techniques facilitate multidisciplinary teamwork. Teams might include representatives from different government departments or agencies, but also experts in fields such as behavioural economics. Designers' visualisations help these teams understand problems collaboratively and synthesise their insights into viable solutions. They get often disconnected individuals and teams working together.

Designing out risk
Prototypes are a low-cost, efficient way to ensure solutions work. One can start with very simple models – an early prototype of a hospital service, for example, might use chalk lines on tarmac to indicate wards. As each prototype reveals more about what works, iterations can become more like a finished product. By the time one arrives at final prototype or pilot, unintended consequences and risk of failure will usually have been designed out.

Design thinking can be applied in the public sector at a number of different levels, visualised here as a ladder. This is proposed as a diagnostic tool for public sector bodies and nations to work out their level of design use and define a roadmap for progress. It is also used to structure the case studies in this report.

The Public Sector Design Ladder

STEP **3** Design for policy

STEP **2** Design as capability

STEP **1** Design for discrete problems
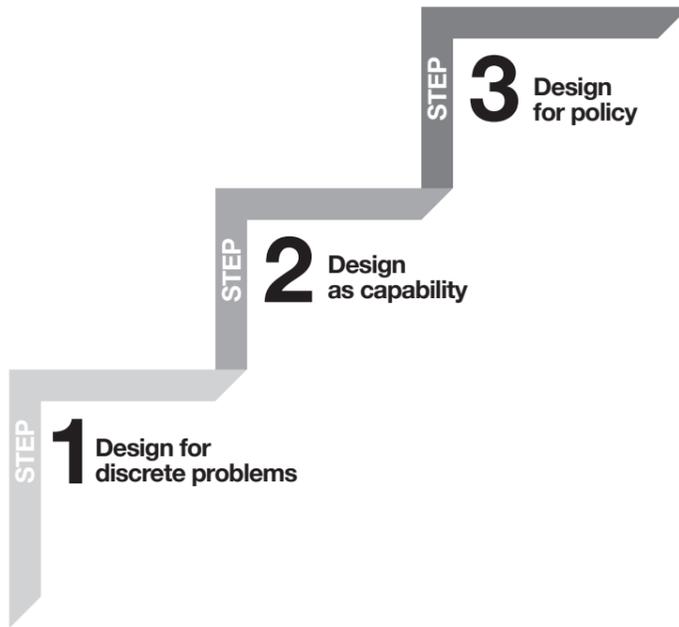
Step 1: Design for discrete problems
At this step, design projects are one-offs and design thinking is not embedded in the commissioning organisations. Public sector service design projects, of which there are numerous good examples, fit into this category. Projects can be very small or have wide systemic implications. They can tackle societal problems such as malnutrition among the elderly, violence in hospitals and worklessness, among many others. This category also covers design's application as a way of making technology useful and usable for people.

Step 2: Design as capability
Here, public sector employees not only work with designers, they understand and use design thinking themselves. Many design techniques are easily transferable to non-designers and can create significant efficiencies as part of day-to-day operations. Staff:

– use the new skills to solve numerous problems too small to merit the hiring of designers.

– gain a shift in perspective in seeing things from the point of view of the citizens they serve.

– become more adept at hiring design teams when required.

Step 3: Design for policy
Here design thinking is used by policymakers, often facilitated by designers. This is a relatively new discipline and much of the work on it so far has been experimental, but the logic of design's application here is strong given that it meets some key policymaker needs:

– A joined up process, from policymaking to implementation

– A low-cost way of mitigating risk through prototyping

– A way of getting an overview of a system

– A way of cutting across departmental silos and engaging people from outside government too.

Recommendations

The following recommendations occur throughout the report.

1 **Recommendation 1:**
Use the Public Sector Design Ladder as a diagnostic tool and roadmap for progression.

The Public Sector Design Ladder can be used to assess one's own position relative to ambitions and needs, other organisations and the big picture nationally and internationally.

– **Member states, municipalities and government departments, and agencies** should use it to monitor their own design use and determine how to progress towards more wide-ranging service and policy design-led innovations.
– **Design organisations** should use it to diagnose design sector capabilities and the degree to which design thinking is embedded in government and help clients improve.
– **The design sector** can use it to assess the effectiveness of its own offerings.

The **European Commission** should promote use of the ladder and fund work on developing it as a diagnostic tool and roadmap for progression. This could take the form of a matrix, allowing specific disciplines on one axis to be plotted against steps of the ladder on the other. This will help create a more detailed picture of the use and effectiveness of design capabilities and related disciplines at each step of the ladder.

2 **Recommendation 2:**
Build design thinking into government and public policy practice

In order for the **European Commission** to promote design thinking in government, it is logical that it embeds it in its own working methods. This should not be a sudden or expensively engineered change but start small, with short designer-led workshops or training sessions showing teams how to apply design thinking to existing challenges.

Successful adoption of these processes will be a direct benefit to European Commission working practices, provide an evidence base and should also help European Commission staff advocate for these methods.

Member States and municipalities should:

– seek out design resource for policy-level work, ideally in their own countries or, if it is unavailable, from expert design organisations and agencies abroad.
– start small, with training, workshops and small-scale service projects.
– share information within the Commission and with other countries trying these design approaches.

Design organisations should actively seek to grow the market by offering the public sector small-scale training sessions, workshops and project leadership in partnership with the design sector.

3 **Recommendation 3:**
Build a strong design sector that can offer strategic and service design to the public sector

The **European Commission** should support this by:

– facilitating the sharing of learning and best practice – such as case studies or evaluation reports – via online or physical networks and events.
– ensuring that design project case studies follow a standard template and are categorised according to the three steps of the ladder so a picture of the effectiveness of outcomes achieved at these levels can be built.
– ensuring design-led innovation projects are eligible for European funding streams focussed on innovation and public sector renewal.

Member States and municipalities wanting to build design capabilities should:

– assess the strengths/weaknesses of their design sector and set targets for improvement (see the design ladder for a framework for this).
– learn from those with experience in design-led public services and policymaking.
– build these skills into design education from school level upwards.

Countries may wish to learn from the Danish or UK experiences of boosting design sector capabilities, or contact the authors of this report for advice, training and direct assistance.

The **design sector and design organisations** should build awareness of and capability in supporting the public sector as follows:

– Design organisations should raise awareness among designers of the public sector as a potential market/client.
– Designers should build knowledge of service and strategic design approaches, ideally through direct contact with those who have pioneered them.
– Given that strategic design is an emerging field, designers engaging with it should also seek to gain direct experience of the policymaking landscape and contribute to the development of the discipline.

4 **Recommendation 4:**
Build the evidence base and impact
measurements for design innovation in
the public sector

The **European Commission** should
support this by:

– initiating a detailed study on
best-practice evaluation of service and
strategic design, so that it can deliver
clear guidelines on this as an integral
part of knowledge sharing.

– making good evaluation integral
to funding applications for design
innovation projects.

– opening research budgets for work
on the impact of design on innovation
and making it a rule that innovation
programmes such as Horizon 2020
include work on this.

This approach is underpinned by the
European Design Leadership Board report,
Design for Growth and Prosperity, which
recommends that design be better embedded
in the EU research, development and
innovation programme, Horizon 2020.

The design sector and design organisations, and
others running design projects, should make
the case for themselves by ensuring that they:

– record information and write case
studies so as to clearly demonstrate both
methods and outcomes (and, where
possible, meeting of objectives).

– begin evaluations at project start to
create a baseline.

– use a control group wherever possible.

Introduction and overview of design process

" *We genuinely believe that public sector leaders need to acquire design skills if they are to stand a reasonable chance of reshaping and refashioning the services for which they are responsible. Design offers a fresh approach to rethinking policy, redrawing professional practice and reshaping service delivery.”*

– Barry Quirk, Chief Executive of Lewisham Council, London [2]

" *Our challenge today lies in our ability to move into uncharted territory, rather than improve the existing. How else will our ageing society be able to meet growing service needs with a diminishing tax base? How will we meet our sustainability challenge within an energy and resource dependent economy? These are not efficiency challenges, but rather redesign challenges. We will have to clarify our attitude towards risk. Doing new things has an associated risk, but doing nothing is arguably much riskier.”*

– Marco Steinberg, Director of Internal Strategic Design, SITRA

Introduction
Design and the public sector

In this publication, members of SEE (Sharing Experience Europe), a network of 11 European partners, present a series of case studies and tools to enhance the understanding of design for public sector innovation and facilitate the integration of its methods into mainstream practice.

Countries such as New Zealand, South Korea, Australia and Singapore are all adopting design-led innovation to solve societal challenges. In common with leading international companies such as Apple, they know that these processes are key to growth and competitiveness.

The EU is not lagging behind. With a strong track-record of pioneering work in this area from countries such as Denmark, the UK and Finland, we have in fact been leading the way for the past decade. To continue to do this, however, we now need to increase use of these practices and close the divide between the advanced EU member states and those for whom these methods are new.

But this is not just a story of pressure from globalisation. It is, predominantly, a story about people and society. Government design projects consistently deliver lower costs, greater efficiency, fulfilled public sector staff and, most importantly, citizens who are both more secure in the present and more empowered and self-reliant long-term. In other words, design has shown its ability to square the circle between two first-order objectives often seen as mutually exclusive: cutting state spending and improving the experience of citizens. It does this by tailoring its solutions to the needs of the end user, the citizen, and trimming off whatever is extraneous.

In the current straitened economic climate, this is vital. However, design-led innovation techniques are no mere emergency measures. Rather, they are ways of working that governments can and should use at any time. Whether one has a lot of resource or a little, what matters is that it be targeted effectively. Design thinking fits solutions to problems with precision. It is a way of being agile, economical and intelligent in meeting both the challenges that are pressing in the present and the new ones that will continually appear in the future. We strongly believe that it has the potential to help societies not only sustain themselves, but flourish.

Nevertheless, trial of these methods need not be a blind – or wild-eyed – leap of faith. One of design's great capabilities is allowing one to start small – both with design solutions and design methodology itself. Organisations new to these techniques can and should begin with quick, low-cost projects and workshops, proving the worth of design methods and helping staff learn design thinking before moving on to larger projects. This will also be likely to deliver efficiency wins almost immediately. Then, as innovations bear fruit and design thinking becomes part of the nervous system of public sector bodies, they can begin to apply it to some of the bigger, more challenging problems of our age and the next one.

So for innovation-minded public authorities looking to deliver a robust, rational public sector, design-led innovation is a set of tools tailored to your needs, waiting to be tried. There is nothing to lose and a great deal to gain.

> " *I think in the past there's been an assumption that if it's in the public sector it doesn't have to be as good as in the private sector. That is ridiculous. As designers, we're working to make people's lives better; we're working to save billions of pounds. The ambition should be sky high.* "
>
> **– Ben Terrett, Head of Design, UK Government Digital Service**

> " *A designer addresses development by looking for a problem – not a solution. There is only one problem, but there are many solutions. Because of the amount of competition and the pressure on finances and resources, we don't have time for mistakes. It is both efficient and risk reducing to identify the problem before developing the solutions.* "
>
> **– David Fellah, CEO main markets, Designit**

Overview of design process

Why use design in the public sector?
Traditional public sector service provision and policymaking commonly encounter a number of stumbling blocks that design thinking addresses:

Disjointed incrementalism
This means that government spends too much time firefighting, patching together seemingly expedient solutions that reengineer what already exists without stopping to ask if the fundamentals are right. Often the driver is cost cutting, but if real needs are not met, savings are a false economy.

Designing for the fundamental need
Designers reframe the question in terms of the real world conditions services and policy seek to affect. They look at the needs of the people in question and tailor solutions accordingly.

High-risk piloting
New government measures are often piloted at too large a scale, incurring considerable risk and costs.

Low-risk prototyping
Design process tests solutions with low-cost, small-scale prototypes initially. It sees failure at this stage as "smart failure" that allows solutions to be improved and risk to be designed out as prototypes progress.

Lack of joined-up thinking
As governments are beginning to recognise, disconnects between analysis of problems, creation of solutions and implementation are inefficient.

A complete innovation process
Design-led innovation is a joined-up process that moves seamlessly from analysis to solutions to implementation.

Lack of citizen engagement
This is a problem on two counts: if citizens have not been consulted about service and policy innovations, there is no guarantee that their actual needs will be met and they are less likely to buy into them when they are imposed from above.

A citizen-centred process
Design thinking starts by identifying user needs and goes on working with users throughout the process to co-design and test solutions. This means that what it delivers not only works for the people affected, but that these people own and promote the new measures.

Poor understanding of citizen needs
Focus groups and surveys are ineffective because of the often huge gap between what people do/want and what they say they do/want.

Direct understanding of citizen needs
Designers observe user behaviour in the real world to identify needs people are often not aware of themselves.

Lack of tangibility
With most government work on service and policy taking the form of written communications, there is a perpetual risk of important information becoming lost in a sea of words and numbers. Text and figures can also feel static and difficult to engage with creatively.

Dynamic tangibility
Design process makes problems tangible and data visual with sketches and diagrams that quickly and clearly convey the relationships between interrelated elements and can easily be altered. Later in the process, prototype models allow people to see how solutions work and try out alternatives.

Silo structures
Government departments often find it difficult to work together and to engage relevant specialists and users from outside government.

Multidisciplinary teamwork
While acknowledging that there can be profound structural barriers here, design offers highly effective ways of assessing which departments, disciplines and individuals are relevant and a wide range of proven techniques for helping multidisciplinary teams collaborate.

Designing for the average
Services and policy are too often designed for a notional average user in an average situation.

Designing for extremes
Design thinking envisages and takes account of extremes, helping to ensure solutions cover a wide range of users and scenarios. Designing for extremes often also makes solutions more innovative and inclusive.

Design without objects
This report is primarily concerned with the design not of discrete objects but of public services and public policy. To many, this notion of design will be unfamiliar and may be difficult to imagine in practice. We therefore begin by explaining some basic principles.

Defining design
On the face of it, design is an extraordinarily diverse field that breaks down into numerous categories. What links them is the creation of things intended for use.

Whether the end product is a physical object or not, the core of the design process is basically the same:

1 Research user needs	**2** Visualise solutions	**3** Prototype and improve

This begins to show how design principles can apply not just to goods such as furniture or packaging, but to products as seemingly intangible as services, systems and policymaking.

For example:

1 A service designer will typically begin by trying to understand the needs of service users – someone claiming benefits for example.

2 Based on insights from user research, the designer can begin to sketch solutions. For a service, the designer will draw a map of the different parts of the service with which the user interacts – its "touchpoints". A benefits claimant, for example, might take a ticket at the benefits office, fill out a form about previous employment and skills, look at a website on job opportunities and meet an advisor. These are all touchpoints.

3 Once a solution has been designed, it can be tested using prototypes. For a service, these will generally be simple, low-cost mock-ups of the service, allowing the designer to quickly and cheaply see what works for the user and what does not and then make improvements.

This is a highly simplified picture of a process that, as we will see, can become hugely complex and involve numerous skills, techniques and processes. However, even in this form, it shows that design thinking offers a complete end-to-end problem solving method.

> **❝**
> *Creativity is the generation of new ideas. Innovation is the successful exploitation of new ideas. Design is what links creativity and innovation. It shapes ideas to become practical and attractive propositions for users or customers.*❞
>
> **– Sir George Cox, former UK Design Council Chairman**

Design and innovation
The basic design process we have outlined effectively describes a complete innovation process, one that approaches problems from the ground up and carries through solutions to implementation. Because of this, the design approaches with which we are concerned here are sometimes grouped under the term "design-led innovation" or "design for user-centred innovation".
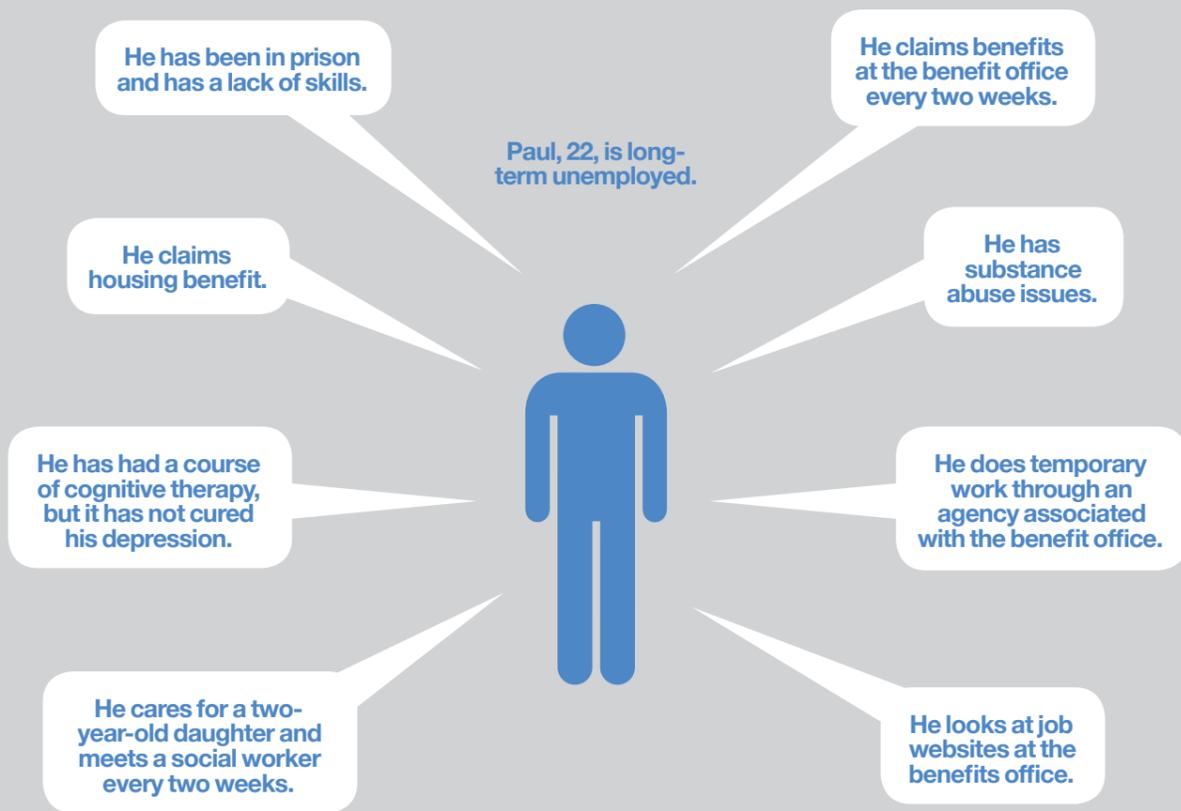
What makes design thinking so effective for innovation is the way it makes problems tangible through direct observation, visualisation and prototypes. In many ways, this is why design thinking is especially useful for service and policy innovations: it renders these things, which can seem so intangible and therefore so difficult to approach, concrete, clear and easily intelligible to a wide variety of stakeholders.

From the user to the system
Design-led innovation can be seen as comprising three types of activity:

– user-engagement
– multidisciplinary teams
– work with systems

A simple "persona" diagram for the unemployed person we referred to earlier can help explain how this works.

He has been in prison and has a lack of skills.

He claims benefits at the benefit office every two weeks.

Paul, 22, is long-term unemployed.

He claims housing benefit.

He has substance abuse issues.

He has had a course of cognitive therapy, but it has not cured his depression.

He does temporary work through an agency associated with the benefit office.

He cares for a two-year-old daughter and meets a social worker every two weeks.

He looks at job websites at the benefits office.

As the diagram shows, starting with user needs leads you to the system and the other people involved.

Once one sees the system whole, one can get people from around it talking and create a system that works better for Paul and avoids unnecessary costs.

"People ignore design that ignores people."

– Frank Chimero, designer and illustrator

User engagement
Designers use a wide variety of techniques to understand user needs, including interviews, user diaries and observations of behaviour. Designers will also often work with ethnographic researchers to gain user insights.
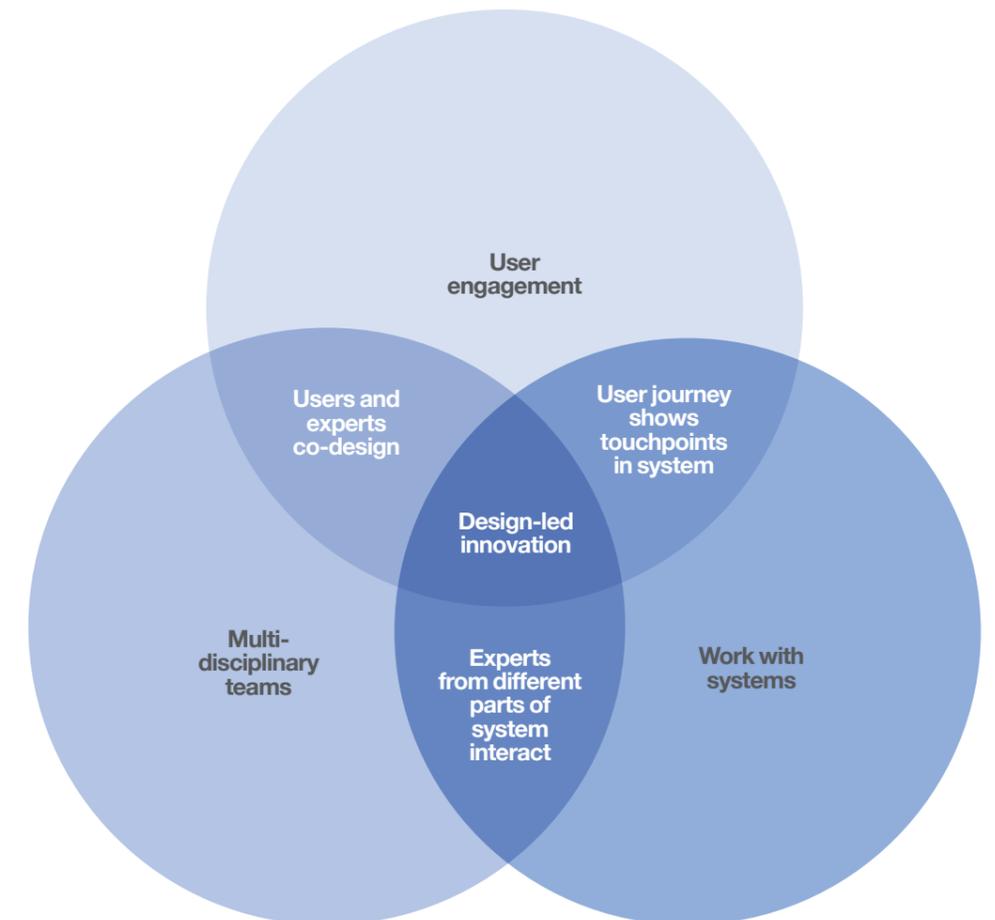
Multidisciplinary teams
Design-led innovation is never about designers supplanting other areas of expertise. Designers facilitate collaboration between stakeholders, synthesising their ideas in sketches and prototypes. Design teams can include end users, people from different departments and experts from disciplines such as ethnographic research and behavioural economics.

Work with systems
We are always already caught up in systems of various sorts, but many of them have grown up haphazardly. They have been designed, but not consciously. By using design process to see the way a system works, we can cut out waste and better join things up.

The three types of activity interrelate as follows

User engagement

Users and experts co-design

User journey shows touchpoints in system

Design-led innovation

Multi-disciplinary teams

Experts from different parts of system interact

Work with systems

A designer's toolbox

The philosopher Isaiah Berlin, taking a cue from the Greek poet Archilochus, famously divided people into hedgehogs and foxes. The former know one big thing, or think they do. The latter know lots of little things. Design is a methodology for foxes – not one big method, but an expandable set of little methods, each geared towards helping those involved understand the material circumstances they are trying to affect.

A few of the key techniques designers use will give an idea of how this works.

Shadowing
There is often a huge gap between what people do and what they say they do. Designers bridge this by watching and recording people in their daily lives, discovering needs and behaviour that people are often not aware of themselves. Interviews and user diaries can also help. New apps that allow users to more easily keep a video or photo diary have been developed by user experience designers.

Personas
Personas are a way of focusing on different types of user and considering their needs. Using the concept of "relevant extremes" – focusing on the needs of people at the extreme of things like physical ability, you ensure you've covered everyone and quite often uncover opportunities that have a wider application.

Visualisation techniques
Visuals are a great way to get to grips with the nature of a problem and to develop solutions. Also, to develop complicated systems, you need to work with groups. Visuals help groups develop a common understanding. For instance, using post-it notes to lay out the touchpoints of a service allows participants to move them around.
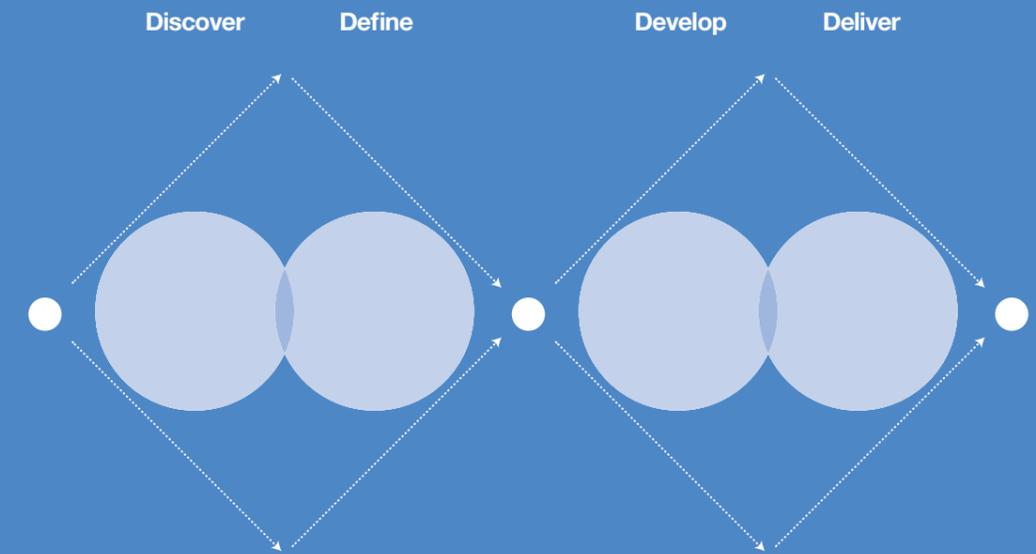

For a more comprehensive survey of design tools, see:
www.designcouncil.org.uk/about-design/How-designers-work/Design-methods

> *Design is the application of intent – the opposite of happenstance, and an antidote to accident."*
>
> **– Robert L. Peters, designer, founder of Circle Design**

Discover **Define** **Develop** **Deliver**

User journeys

A detailed map of user behaviour over time can be used to quickly identify the "pain points" in a service or product. These can inspire everything from small tweaks to farreaching innovation projects.

Service Designers also use these to sketch new services. These maps are called Service Blueprints. These are effectively service designers' versions of product design sketches. Instead of sketching an object, they map the touchpoints that make up a service. They also draw storyboards to show the movement of users between touchpoints.
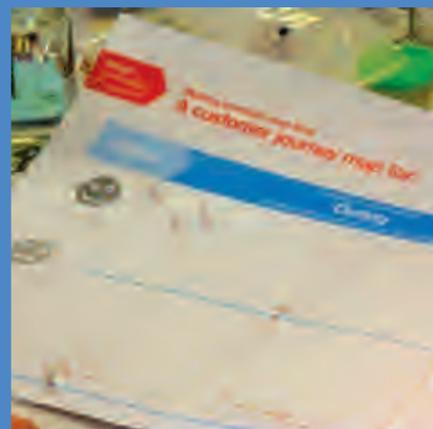
Prototyping

The aim here is always to design risk out, so that by the time you reach a high level of investment, the risk is low. By starting with low or no-cost prototypes, one can learn a lot about what works and what does not before going on to more elaborate iterations and uncover consequences that would otherwise have been unforseen.

Prototyping can include everything from tiny, cheap cardboard models to large, expensive ones with working parts, but it also covers activities like role-playing and live testing. Services can be prototyped as a whole, but you might also simply prototype individual touchpoints, such as forms people have to fill out, web pages etc.
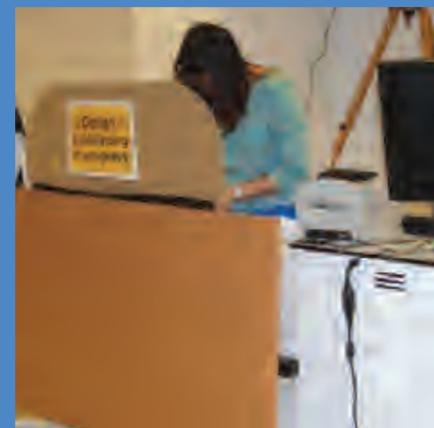
Scenarios

As part of prototyping, specific scenarios about the future use of a design object can be imagined. This is similar to "relevant extremes", described above. One might conceive scenarios in which things go as wrong as they possibly can vs. ideal scenarios.

Double Diamond

In practice, it can be helpful to think of – and plan – the design process according to what the Design Council describes as the Double Diamond.

This basically describes a process of beginning with many ideas – "divergent thinking" – and then sifting down to the best – "convergent thinking". The reason there are two diamonds is that the process happens twice. In the first diamond you examine numerous ways of looking at a problem and then resolve them into a brief. In the second, numerous solutions to the brief are presented, only to be sifted out in the final phase to arrive at the final design.
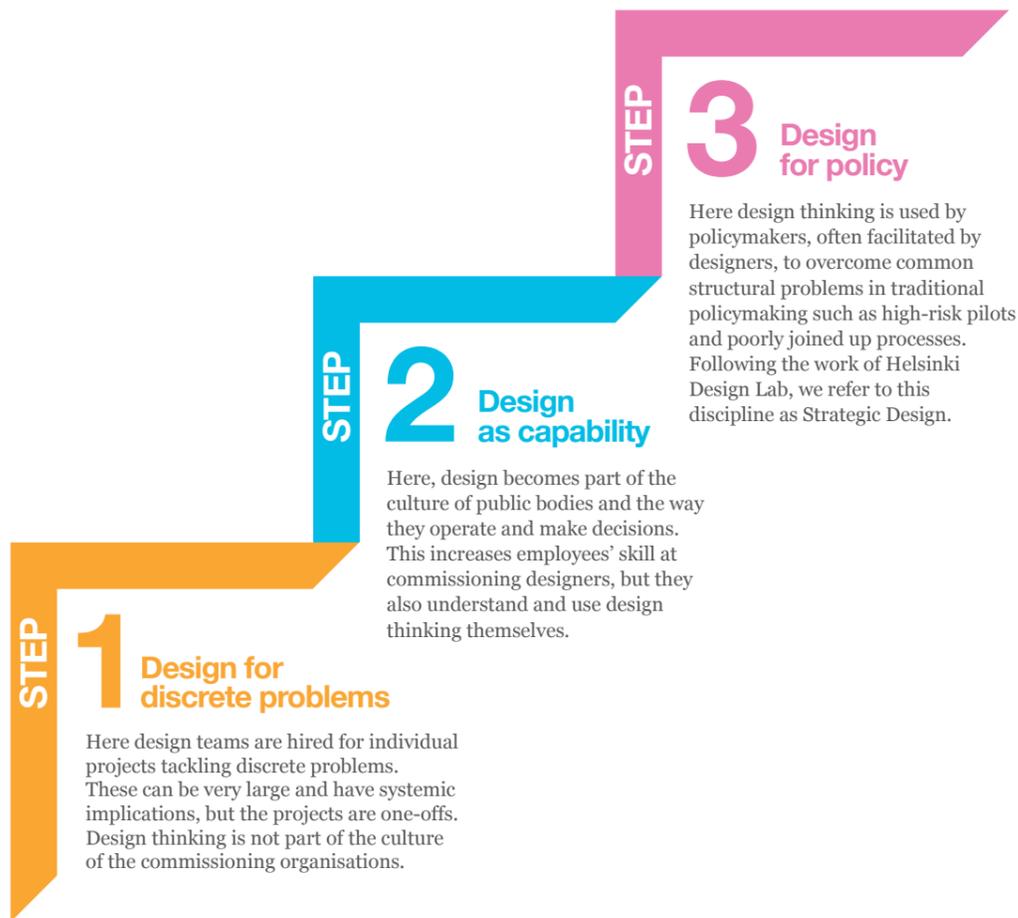
The Public Sector Design Ladder and case studies

The Public Sector Design Ladder

Design-led innovation can be used for everything from relatively small interventions to complex policy decisions. We can visualise the different levels of application using a ladder, as follows:

STEP

3 **Design for policy**

Here design thinking is used by policymakers, often facilitated by designers, to overcome common structural problems in traditional policymaking such as high-risk pilots and poorly joined up processes. Following the work of Helsinki Design Lab, we refer to this discipline as Strategic Design.

STEP

2 **Design as capability**

Here, design becomes part of the culture of public bodies and the way they operate and make decisions. This increases employees' skill at commissioning designers, but they also understand and use design thinking themselves.

STEP

1 **Design for discrete problems**

Here design teams are hired for individual projects tackling discrete problems. These can be very large and have systemic implications, but the projects are one-offs. Design thinking is not part of the culture of the commissioning organisations.

Each step on the ladder is a good place to be, but the higher up a public sector body goes, the more value it can create. Crucially, however, the barriers to use of design also increase. One can see why this is by thinking about how things work at Step 1: organisations here can run discrete design projects without changing their fundamental working practices.

One of the reasons for presenting these design applications as a ladder is to suggest that, by going through the steps in order, organisations may be able to decrease the barriers to design thinking's adoption at higher and higher levels incrementally. It is, then, a roadmap for progression. It can also be used as a diagnostic tool to think about where one is at and where one would like to get to – whether as an agency, department, local authority or nation.

The ladder categories will provide orientation as we go through the case studies.

01 Recommendation
Use the Public Sector Design Ladder as a diagnostic tool and roadmap for progression

The Public Sector Design Ladder can be used to assess one's own position relative to ambitions and needs, other organisations and the big picture nationally and internationally.

– **Member states, municipalities and government departments, and agencies** should use it to monitor their own design use and determine how to progress towards more wide-ranging service and policy design-led innovations.

– **Design organisations** should use it to diagnose design sector capabilities and the degree to which design thinking is embedded in government and help clients improve.

– **The design sector** can use it to assess the effectiveness of its own offerings.

The **European Commission** should promote use of the ladder and fund work on developing it as a diagnostic tool and roadmap for progression. This could take the form of a matrix, allowing specific disciplines on one axis to be plotted against steps of the ladder on the other. This will help create a more detailed picture of the use and effectiveness of design capabilities and related disciplines at each step of the ladder.

Overview of case studies

STEP 1
Design for discrete problems

CASE STUDIES

STEP 1

Design for public services

We start here on step 1 of the Public Sector Design Ladder with a look at design of public services.

Of all the design approaches we will look at in this report, service design is the most established in the public sector. There are numerous good examples beyond the ones we present here.

01

Young people's use of the tax system

A relatively small, targeted user-research project helped service providers communicate more effectively to users, without the need for a major service redesign.

What was the problem/challenge?

In Denmark, taxpayers can take care of their business with the IRS/Treasury digitally. However, some citizens still contact the authorities by phone or visiting the local tax offices.

The Danish Tax and Customs Administration (SKAT) had assumed that young people – the digital generation – would only contact them via the website. In fact, they were approached by many young people who could not figure out how to use it. SKAT therefore asked MindLab for help.

What did they do?

MindLab interviewed nine young people with educational backgrounds ranging from secondary school to university and staff from the Danish Tax and Customs Administration (SKAT) department, regions and local call centres.

They asked the young people about their understanding of tax, who they thought would assist them and how, and about their experience of contact with the tax authorities, e.g. their response to electronic letters and their use of the site. In addition, they did a series of service journey sketches.

In the main, young people expected that SKAT would handle everything for them. They thought about the tax system so little that many could not describe previous interactions with it. MindLab and staff from SKAT therefore visited the young people on the day they received their tax assessment to see what the process was like.

21-year-old Dennis, a car mechanic apprentice from Falser, was typical. He found it almost impossible to update his preliminary tax statement via the SKAT online system. His problem, in common with most of the other interviewees, was that he did not understand tax authority phrases like "pre-printed", "employer-administered pension" and even "back taxes".

What did they deliver?

MindLab made a series of audio recordings of the young people's reactions and played them at workshops to SKAT employees. The employees soon realised they had taken it for granted that the users would understand or figure out their language.

What was the result?

The project was a paradigmatic example of how engagement with end users can help service providers refine their offering both for users and themselves.

SKAT saw that they needed to work with young people both to help them understand what support they could get and make it easier to do things themselves. SKAT now takes account of young people's knowledge in its communications and has made improvements to the self-service site to make it easier for them to use. Details from the study were subsequently used for specific initiatives in cooperation with SKAT staff, including a cross-ministerial project on the improvement of teaching materials for young taxpayers.
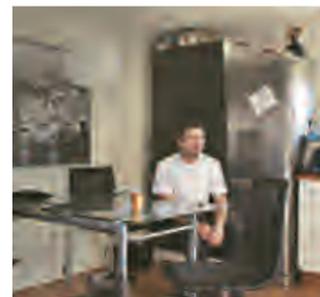
Find out more
mind-lab.dk/en/cases/away-with-the-red-tape-for-young-taxpayers

02

The
Good Kitchen

The redesign of a food service for senior citizens bore unexpected fruit for the municipality that commissioned it: not just more customers and sales of healthy meals, but increased staff pride and job satisfaction and a prestigious design award.

What was the problem/challenge?
More than 125,000 senior citizens are dependent on food services in Denmark today and these numbers are set to soar in years to come. Most senior citizens feel they lose their dignity and become even less active when no longer capable of cooking and shopping. This often leads to a lower quality of life, reduced appetite, and further deterioration in health. Inadequate nutrition is a huge problem among the elderly. 60% in assisted living have poor nutrition and, of those, 20% are actually malnourished.[3]

Holstebro Municipality set out to better meet the needs of its food service users and improve their health and quality of life.

What did they do?
The innovation agency Hatch & Bloom worked with Holstebro to develop a service design solution covering all aspects of their public food service system.

Hatch & Bloom's "design anthropologists" conducted ethnographic research into user behaviour, looking for needs and wishes both spoken and unspoken. By observing and interviewing users, the agency learned that food services relate to many issues beyond the actual food, gaining insights concerning packaging, colours, loneliness, meal sizes and preferred dining environment.

Many interviewees, for instance, were embarrassed at having a van marked in large type "HOLSTEBRO MUNICIPAL MEAL SERVICE" outside their homes.

Workshops were conducted with senior citizens and all other relevant parties, including kitchen staff, using idea development methods such as "radical analogies". This inspires new ways of thinking by referencing something that is different but similar – in this case a restaurant and a meal service for a family with children. Kitchen staff were asked questions such as, "What if the senior citizens were paying guests in a restaurant?"

The designers also invited a gourmet chef to the kitchen to increase staff pride in food preparation and provide tips on things like styling, colour mix and portion sizes to improve the food experience.

New designs arising out of this work were developed through feedback studies in which progressive prototype iterations were tested with users.

The design process lasted around six months. Design spend was limited because Hatch & Bloom was hired on a consultancy basis, so Holstebro Municipality invested a large number of working hours from relevant staff.

Inadequate nutrition is a huge problem among the elderly. 60% living in assisted living have poor nutrition and, of those, 20% are actually malnourished.

What did they deliver?
What had seemed like the relatively simple goal of improving the food service delivered results with far wider reach than anyone at Holstebro initially imagined.

The food service was completely reinvented. Now named The Good Kitchen, it works through more efficient and transparent cooperation between kitchen staff, home carers and the municipality. There are more daily food choices and users can now also order extra meals for guests. Improved menu descriptions give users a clearer sense of how food will taste. (e.g. not just "Liver with gravy, potatoes and vegetables" but "Pan-fried calf's liver with onions and gravy, potatoes tossed in thyme, and butter-roasted vegetables.") The new menus take better account of individual preferences, allowing users to choose not just between overall meals, but side-dishes, e.g. potatoes vs. rice. They can also specify portion size and health requirements relating to conditions such as obesity, malnutrition and diabetes.

The focus on the user, far from just being a methodology for a redesign, has been embedded as an active component of the service. Users can now offer feedback and suggestions at any time using a Good Kitchen postcard. These cards are read aloud at staff meetings and put up in the kitchens.

All of this comes wrapped in an appealing new brand identity implemented on everything from delivery vans to packaging, menus and staff uniforms.

22%
increase
in customers and improved customer satisfaction

78%
increase
in sales of healthy dishes, and improved collaboration across institutions involved in the food service

What difference did it make?
The Good Kitchen won the prestigious Danish Design Award 2008/09 and has been showcased in more than 30 countries around the world. Tangible results include a 22% increase in customers, improved customer satisfaction, 78% increase in sales of healthy dishes, and improved collaboration across institutions involved in the food service.

Holstebro Municipality's image has had a boost both nationally and internationally and its staff are happier. "We receive a large number of unsolicited applications to the kitchen, because of the widespread rumours concerning the happiness and pride of the kitchen staff. And we have experienced a drop in sickness absence among existing kitchen staff," says section leader Anne Marie Nielsen of Holstebro Municipality.

CASE STUDIES

Humanising technology

This is still step 1 of the ladder, but the focus is not on specific services so much as capabilities that can be an important part of the mix.

Technology is still the first thing that many people think of when they think of innovation. Some companies, notably Apple, are increasingly aware that technologists often need to work hand-in-hand with designers in order to deliver innovations that are usable and engaging. Very often, when design thinking is applied to technology, people find that the technology can do more than they first imagined.

Innovation wins in the public sector are not dependent on high level technological innovation or major technological spend, but some of the same principles still apply. And where the public sector does engage with technology, as it sometimes must, design thinking can ensure it is used well and economically.

Design-led innovation's three modes of working are a good way of understanding the link between technology and design:

User engagement
The title of this chapter suggests how fundamental this is. Design's capacity to engage with users, discover their needs and create solutions accordingly is what makes technology into something people can use. The internet is a perfect example of this. Technologists made it happen, but it is web and service designers who create the websites that allow us to use it.

Multidisciplinary teams
When new tech is applied, it will often be in specialised areas. In the field of medicine, for instance, design methodology can be the bridge between technologists, doctors and end users.

Systems
Already and for many years now, technology has provided key touchpoints in systems and services we use every day. When these things work well, people tend to assimilate them easily, quickly forgetting how novel they are. The public sector is currently lagging even in exploiting existing technology. How many journeys to see doctors or public officials, for instance, could be cut out using web video telephony?

Far from advocating major public sector outlay on technology, we are saying that when technology is used, design can significantly mitigate costs. Real user needs will be better identified and met and solutions will be tested with low-cost prototypes to reduce wastage on failed tech implementation.

Conversely, designers may at times actively and creatively seek out tech solutions in order to increase the efficiency of public service delivery, improving user experiences and, again, reducing costs.

03

Designing Faces

Clever implementation of computerised tomography (CT) scans and 3D printing by designers has revolutionised facial reconstructive surgery, cutting the times and increasing the success of operations.

Title:
Designing Faces

Run by:
Medical Applications Group at the National Centre for Product Design and Development Research (PDR) in Cardiff Metropolitan University,

Location:
Cardiff, Wales, UK

30 minutes
Around 30 minutes of surgery time can be saved

£480 per operation
Since surgery costs around £16 (€19) per minute, a conservative estimate would be a saving of £480 (€570) per operation

What was the problem/challenge?
Given the financial constraints faced by the UK National Health Service (NHS), value for money in product adoption is at the forefront of decision-making processes. Surgical planning is a prime example of a clear need for patient-specific solutions that are economically viable, capture innovative ideas and reduce the complexity of introducing new medical technologies. The key challenge is to improve the predictability and efficiency of surgical procedures.

What did they do?
The Medical Applications Group (MAG), based in the National Centre for Product Design and Development Research (PDR) at Cardiff Metropolitan University was formed in 1999 to pioneer patient-specific medical solutions using design to innovate in surgical planning procedures, tackling over 500 cases each year.

Design plays a crucial role in linking the clinician's surgical knowledge to the capability of advanced manufacturing technologies. MAG operates in the areas of facial prosthesis (replacing features such as noses or ears) and cranial reconstruction (skull implants) applying research knowledge to develop design-led solutions based on a state-of-the-art technology platform. It has pioneered the use of 3D computer aided design technologies in these areas and spends significant amounts of time observing current prosthetics practices and identifying opportunities for technology to improve processes.

While product end users may be surgeons or prosthetists, it is the patient who must ultimately benefit. For this reason, design processes are led by those who understand the patient needs best. After initial preparation, MAG typically engages the prescribing clinician via the internet. This collaborative approach is crucial to ensure that the prosthetic device is viable for use in surgery, ensure compliance with medical device regulations and meet each patient's unique set of surgical, prosthetic, rehabilitation and technical needs.

What did they deliver?
Previously, surgeons performing reconstructive surgery would have progressed directly from a CT scan to surgery, cutting and bending the titanium mesh sheet implant to fit on the spot. Based on the scan, MAG instead uses CAD software and 3D printing to create a model of the skull and then a "jigsaw" piece, precisely designed to fit the area needing repair. This is used to fabricate the titanium implant. This makes surgery easier and faster, which is better both for the patient and for costs.

What was the result?
Financial savings are difficult to establish accurately, but are estimated as follows:

– Around 30 minutes of surgery time can be saved. Since surgery costs around £16 (€19) per minute, a conservative estimate would be a saving of £480 (€570) per operation.

– Conventional facial prosthetic techniques can require multiple patient visits over a period of three days. With design-led, clinically viable techniques, this can be reduced to one day, implying significant cost savings. This is in addition to improved patient outcomes, more flexible and efficient working procedures and reduced likelihood of complications and repeat surgeries.

In essence, design here is a means of understanding the needs of a variety of stakeholders (clinicians, researchers, patients and model makers) and connecting them with cutting-edge technology for solutions that are user-centred and viable.

Thank you to Dr. Dominic Eggbeer, National Centre for Product Design and Development Research (PDR) at Cardiff Metropolitan University

Find out more
www.cartis.org

Big
data

The rise of digital technology has made it possible to capture, store and review unprecedented amounts of data, sometimes in entirely new ways.

The technological possibilities for presenting data are huge. With interactive, 3D digital interfaces, data can be rendered dynamic, allowing users to move easily between comparisons of different data sets, combine data from different sources, break it down into sub-categories and view it in relation to other relevant information such as maps.

The Danish Design Centre, in association with the Copenhagen Institute for Interaction Design, are currently working on projects to map, respectively, the design sector in Denmark and innovation and business growth in Denmark.

In creating a picture of national design capacity, one would previously have been hampered by the fact that, where it is relatively easy to acquire data on design agencies and organisations, individual contract workers can more easily slip the information gathering net. A web application such as LinkedIn, where professionals register their skills and specialisations, now makes it much easier to capture this information. Furthermore, one could, in theory, overlay information from LinkedIn and other sources onto a Google Map, providing an easy way of quickly understanding which kinds of design capabilities exist where. This use of social network data is known as web-scraping and offers a level of data richness previously unavailable.

The point is to synthesise the technology and the data into something people can use and that meets their specific needs. Designers can work with data users to determine these needs and then design data displays accordingly, making this complex, dry and ungainly information into something useful, engaging and desirable.
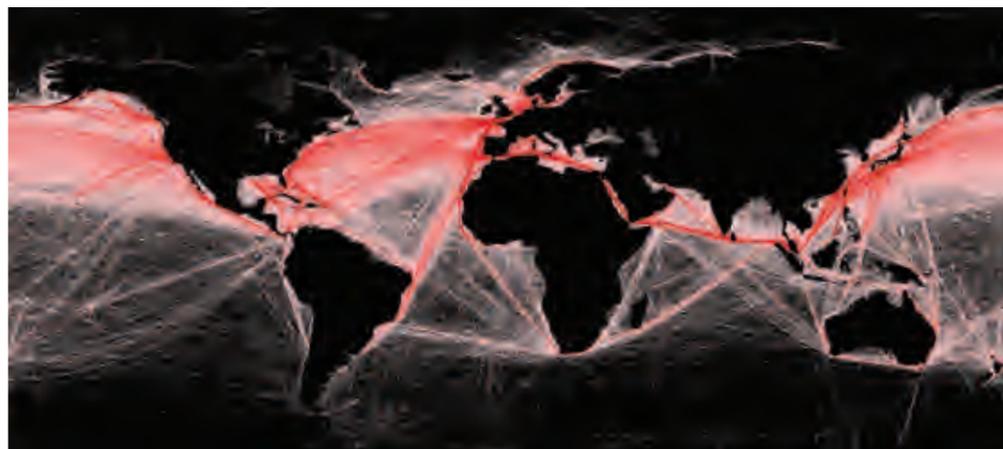
Title:
Mapping the Danish design sector

Run by:
Danish Design Centre, in association with the Copenhagen Institute for Interaction Design and the Ministry of Business

Location:
Denmark

Map over the Internet

Shipping routes

Find out more
www.siliconangle.com/blog/2012/10/30/3d-big-data-visualization-helps-fighting-cancer-with-karios3d
www.wired.com/insights/2012/11/3d-visualization-big-data
www.infoworld.com/d/big-data/fighting-cancer-3d-big-data-visualization-205645

STEP

CASE STUDIES

Systemic
change

Still at step 1 of the ladder, this section presents some larger scale service design projects that entailed a more intensive focus on wider systemic circumstances.

Reducing violence and aggression in A&E

This was a hugely complex project aiming to tackle a stubborn problem not just in a single hospital, but across hospitals nationwide in the UK. The design team used research and intensive observation to accumulate the necessary insights and developed three solutions. It is too early for a complete evaluation, but initial results are promising.

What was the problem/challenge?

As many as 56,000 physical assaults occur in English National Health Service (NHS) hospitals each year.[4] In accident and emergency (A&E) departments the problem of violence and aggression is particularly difficult to solve due to the diversity of patients seen. In 2003, the National Audit Office estimated that violence and aggression towards frontline hospital staff cost the NHS at least £69 million (€81.32 million) a year in staff absence, productivity loss and additional security – and the figure may now be substantially higher.[5] Some hospitals spend tens of thousands on police support to prevent violence.

What did they do?

The Design Council began with in-depth desk research on violence and aggression in A&E. This spanned three months and cost £9,000 (€10,600).

Three NHS Trusts (in Chesterfield, London and Southampton) were selected as partners. Two ethnographic research companies spent over 300 hours in their A&E departments, at a cost of £65,000 (€76,500). They identified nine "clusters" of "triggers" for aggression. For instance, cluster seven, "Perceived inefficiency", cites triggers such as unprofessional signage, impersonal patient handovers and complicated paperwork.

The researchers also identified six "perpetrator characteristics":

– Clinically confused
– Frustrated
– Intoxicated
– Anti-social/angry
– Distressed/frightened
– Socially isolated.

Three overlapping areas for innovation were identified:

– service
– information
– environment.

From this, six briefs were issued in a national design challenge to select a design team. Design agency PearsonLloyd was chosen and awarded a £150,000 (€180,000) inducement grant to develop solutions. They led a multidisciplinary team comprising user-centred and service design knowhow in conjunction with psychological and clinical expertise and capability for evaluation.

Find out more
www.designcouncil.org.uk/our-work/challenges/Health/AE/

The team went back to experience A&E firsthand. Following the Double Diamond approach, they familiarised themselves with environments and processes. They refined the six national design challenge briefs into four overarching themes:

— **Arrival:** creating positive first impressions and managing expectations. This was key because the start coloured the entire experience and was often disorientating.

— **Waiting:** mitigating frustration. Research showed that patients' perception of A&E experience was almost entirely of waiting, often without knowing why.

— **Guidance:** alleviating the stress of the unknown. Frustration is considerably worsened by a lack of information. Survey respondents wanted information above all.

— **People:** building healthy relationships. Research showed that current procedures tended to instill a "me vs. the system" mentality among A&E visitors.

What did they deliver?

The four themes were distilled into three outputs, which are still at prototype stage. The designers felt it was vital that it be possible to use their solutions in any A&E throughout the country.

1 Guidance
A modular signage system to give patients information and reduce anxiety. The central component is large signs explaining where one is, used everywhere from car parks to waiting rooms to the ceilings of ambulance bays. A "process map" leaflet explains the A&E journey. Live information, e.g. about waiting times, appears on digital screens. There is also potential for touchscreens and smartphone apps.

2 People
A new staff-centred reflective practice using cognitive learning to support work with patients, boost morale and help recover from stress. A vertical cross-section of staff are trained and then pass on learning to colleagues. They acquire new ways to greet patients, answer questions and ensure everyone starts the A&E experience positively. In parallel, they are encouraged to notice incident levels, reflect on experiences, and feed back to management.

3 Toolkit
This is about disseminating the research findings throughout the NHS, laying out the causes of aggression and giving advice on how to address them. It is intended for existing A&E staff, but also for architects and designers working on new builds.

"Patients are asking us fewer questions which has freed up our time."

– Emergency Department Receptionist

What difference did it make?
To date, three NHS sites have adopted one or more of the solutions: Newham University Hospital, Southampton General and St Georges, South London. There is feedback from Newham, which is very encouraging:

"Since installing the Guidance signage we've seen patients regulating each other's behaviour, which is saving staff's time. The other day, someone started shouting about not knowing why he was waiting. Another patient got up and told him to read the signs."
– Emergency Department Clinician (Charge Nurse)

"The signs show that we know what we're doing, that we are organised and that we have a plan for people's care. This is reassuring to our patients."
– ED Clinician (Senior Sister)

"Patients are asking us fewer questions which has freed up our time."
– ED Receptionist

"This should be in all Emergency Departments" – Patient

"We should have done this [install the Guidance signage] a long time ago."
– ED Matron

A detailed evaluation framework has been established to assess both the benefits and costs of the design changes. Evaluation study results are expected in Summer 2013.

Thanks to Chris Howroyd, UK Design Council

06
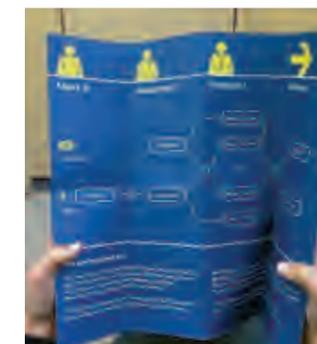
Make it Work

Designers looked at existing support for workless people and found that, while there was a great deal available, it was disconnected and difficult to access. They made it easy for services to communicate and service users to get the help they needed – with impressive results.

Title:
Make it Work

Run by:
live|work

Client:
Sunderland City Council

Location:
Sunderland, UK

What was the problem/challenge?
Six million people in the UK live in households where no one works, costing taxpayers an estimated £13 billion (€16 billion) a year in benefits. The long-term unemployed face barriers to getting back to work that tend to increase exponentially the longer they are out of work. These include health and social problems, lack of skills and drug and alcohol dependency.

In the City of Sunderland, 26% of working-age people were economically inactive, with almost four times as many people claiming Incapacity Benefit (benefits for ill and disabled) as the ordinary Job Seekers Allowance. There was no active attempt to get Incapacity Benefit claimants back into work. Council budgets were being significantly stretched both by benefit payouts and by solutions that had little to no impact.

What did they do?
One NorthEast, the Regional Development Agency for the North East of England, asked service design agency live|work to run a pilot scheme with Sunderland City Council to explore how the long-term unemployed interact with employment services and develop innovative ways to reach and support individuals into work.

Designers from live|work and public sector managers set out to help "hard-to-reach" people (those not attending job centres), including those on Incapacity Benefit, overcome the barriers to employment.

Over a three-month project, the design team talked to and shadowed 12 long-term unemployed people to build up a picture of their needs and experiences. They also talked to service staff, discovering the extensive but sometimes confusing array of support services available.

Creating a map of service users' progress from unemployment to work showed that, while their journeys were similar, their needs were diverse. Relevant support existed for participants, but they all had a problem accessing and combining the right services for them. They needed personal support (e.g. from voluntary sector organisations such as addiction support groups) but also access to opportunities controlled by government agencies (training such as could be got through the job centre). A more coordinated approach was needed in which all the potentially relevant organisations worked together in coalition.

To develop this concept the team asked 250 representatives of public and voluntary sectors organisations to make a proposal for how they could contribute to the coalition. The only requirements were that they collaborate and share data.
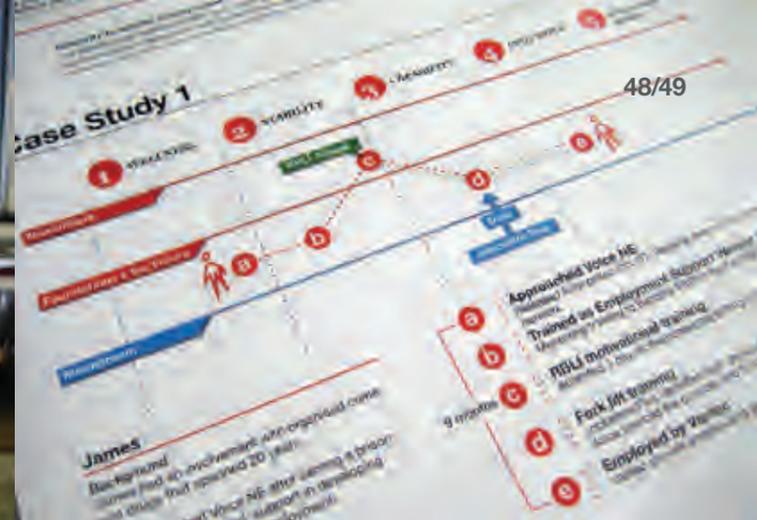
Find out more
www.livework.co.uk/our-work/Sunderland-City-Council
www.designcouncil.org.uk/Case-studies/Northern-Way-worklessness-pilot/

Embedding design process

We here move to step 2 of the Public Sector Design Ladder, Design as capability. This is about public sector bodies adopting design thinking not just for discrete projects, but to change the way they operate – in particular, the way they deliver for citizens.

A joined-up and agile problem-solving capability is as useful for day-to-day issues as for larger design projects. User needs are still the central concern and they still relate to systems and multiple departments. Techniques and tools such as the Double Diamond, visualisation and prototyping can be used by non-designers to quickly work towards solutions.

In addition, understanding of design process makes staff more sophisticated about procuring design services when required.

Department of Work and Pensions says it is economically rational to spend £62,000 (€73,000) on getting the average Incapacity Benefit claimant back to work

The average cost per person for Make it Work is less than £5,000 (€6,000)

This amounts to a saving of 90%

What did they deliver?

Over a nine-month pilot, a number of these organisations worked together to offer coordinated support around five of the main barriers to work: drug and alcohol dependency, mental health issues, long-term caregiving, being over 55 and physical illness or disability.

When a long-term unemployed person registered with any organisation in the programme, the data could be shared easily with the others. Essentially, registering with one meant registering with the entire network. This cut out bottlenecks in the system further down the line (no re-registering each time users started a relationship with another organisation) and made it easier for organisations to share information and spot users to whom they could offer help.

One success was James who joined the programme on leaving prison with substance misuse issues. He was supported by a small rehab and work experience organisation that, through the network, were also able to access training and job seeking services to build James's confidence and capabilities. He trained as a forklift truck driver and found work in the automobile industry.

What difference did it make?

The scheme has supported more than 1,000 people, of whom 275 found work. The total cost of running the programme was £180,000 (€211,000). The return, calculated by an independent evaluation, was that over £360,000 (€422,000) was saved from the public purse through reduction in welfare spend.

According to the Department of Work and Pensions, it is economically rational to spend £62,000 (€73,000) on getting the average person on Incapacity Benefit back into work. The average cost per person for Make it Work is less than £5,000 (€6,000). This amounts to a saving of 90%.

Thanks to Ben Reason, live|work

07

Lewisham Housing Options

Title:
Design Leadership for Public Services

Run by:
UK Design Council /Design Associate, Sean Miller/thinkpublic

Client:
The London Borough of Lewisham

Location:
London, UK

This example was initially thought of by the client as a service redesign (and actually delivered service outputs), but its key output was a cultural change that embedded design skills among staff. This arguably improved the service more than the service design outputs because it made staff better able to meet user needs long-term. It suggests that the ideal way to embed design thinking in organisations is simply to get staff involved in learning by doing.

What was the problem/challenge?
The London Borough of Lewisham's Housing Options Service provides information and advice for people in need of emergency housing. Like every public sector department, it faces pressing challenges: increased demand from service users, reduced budgets for service provision and growing pressure to move towards greater personalisation of services.

The service's Housing Options Centre was often extremely busy and service users could not always determine their entitlement to support quickly or easily enough, causing stress for both visitors and staff.

What did they do?
The borough turned for support to the Design Council's Design Leadership for Public Services programme. Organisations participating in the programme are allocated an experienced Design Associate to guide a strategic service review and identify areas for improvement. Some of these become commissioned projects on which appropriate design agencies collaborate with the organisations.

Frontline staff were armed with tools and techniques so they, rather than the designers, could go out to find and fix problems. This was key, says Miller: "In the current climate, with councils having only limited funds, it makes total sense to invest in training staff to take on things themselves. Engaging them through a design-led approach ensures better buy-in and provides a framework that can be repeated elsewhere."

Lewisham commissioned a design agency to train Housing Options staff in video ethnographic research techniques, giving them the capability to better record, understand, share and get closer to the barriers users were experiencing. Video material was used in an ideas workshop to prompt service improvement suggestions from staff. This session alone generated around a hundred different ideas.

What did they deliver?
Three of the ideas from the workshop were prioritised on the basis of their suitability for design projects. These were developed into prototypes:

— **Right First Time** was about improving first-time interactions between customer and service. This involved "re-scripting" what staff say when meeting a service user. The aim was to reduce repeat visits by improving questions asked and information provided.

— **What Next Doc?** was an information design idea to help customers understand each stage of the Housing Options process. A follow-up letter after each meeting explains what happens next. New fact sheets more clearly and accurately present the housing options available.

— **Storyboards** was about using comic-strip style illustrations to show customers what to expect in various situations. These appear on walls in reception and printed materials. This visual approach would help bridge cultural and literacy divides within Lewisham's diverse local community.

What difference did it make?
The support Lewisham received from Design Leadership for Public Services had far-reaching benefits. Staff morale improved, staff absences reduced, money was saved and customers now enjoy a more efficient and appealing Housing Options Service. Efficiency savings of £368,000 (€433,250) have been identified against the borough's design project investment of £7,000 (€8,250).

Work on the prototypes is ongoing, with storyboards, in particular, delivering promising results. However, the most important change is cultural. Equipping staff with research skills and involving them in co-design fostered strong engagement both with the project and the broader aim of improving service. It helped staff empathise with customers and reflect on the part each played in service provision.

Lindsey Grant, Transformation and Development Manager, says: "Things like prototyping transform how we work. It's not just about jumping to a pilot phase. We can redefine things to make sure it's right before we start investing. Design will be integrated into our methodology as another tool for transformation."

Efficiency savings of £368,000 (€433,250)

Design project investment of £7,000 (€8,250)

Lindsey Craig, Policy and Strategy Officer, says about using video: "We found it's a really good way to get staff bought in. It's much more difficult to argue against than a report. It also allows customers to tell the story in their own words. People obviously feel comfortable being filmed, and I didn't expect that."

In particular, as the borough's own presentation on the project shows, a focus on end users, which it refers to as "customer insight" has become central to their work process.[6]

The model for this success has proved transferrable. Staff members who adopted new methods are now training colleagues. The borough's Transformation and Development team are using the new skills to look further at issues of temporary accommodation.

Peter Gadsdon, Head of Strategy and Performance for Lewisham, says: "In order to improve you need to admit that you get things wrong. So at a strategic level I think design can be helpful to a council or the public sector and at a practical level with staff it is also very useful in empowering them to make changes to the way they work."

Thanks to Peter Gadsdon and Lindsey Grant, Lewisham Council

"Design may seem an upfront cost, but if you engage with it and work with people who do it well you develop lasting skills to take forward into other projects. Design isn't something to be scared of. It's just a new way of looking at things."

– Lindsey Grant, Transformation and Development Manager at the London Borough of Lewisham

Find out more
www.designcouncil.org.uk/case-studies/lewisham-council/
www.slideshare.net/localinsight/putting-customer-insight-into-practice-peter-gadsdon-lewisham-council
www.dansic.org/category/design/
webarchive.nationalarchives.gov.uk/+/http://blogs.bis.gov.uk/publicsectorinnovation/author/peter-gadsdon-head-of-strategy-and-performance-cus/

08

Government Digital Service

In most respects, the UK government's redesign of its digital services is a service design project – albeit a particularly large, complex and impressive one. However, as a best-practice example of government providing services to citizens, it has the potential to spread design knowhow far and wide throughout government.

What was the problem/challenge?

UK online government support services – Directgov and Business Link, plus hundreds of other agency and department websites – had become sprawling, inefficient and often irrelevant. Since they were set up in 2004, the nature and potential of internet usage had changed drastically. Most people now have access to the internet and think of it as the first place to look for information and services. In parallel, technological capabilities for harnessing complex data sets have grown, meaning that user needs can be better understood to create more responsive digital experiences.

As a further incentive to change, the economic downturn is driving government to think about smarter solutions to problems both old and emerging. Now more than ever, public services need to increase efficiency and convenience and be cheaper to run.

Internet entrepreneur Martha Lane Fox's 2010 report, *Revolution not Evolution*, advocated for a new era of government services that would be "digital by default".[7] Lane Fox's recommendations imply high quality design: digital media offers governments a uniquely effective method of engaging with citizens, but only if delivered through well designed channels.

What did they do?

Minister for the Cabinet Office, Francis Maude, led the change. In direct response to Lane Fox's report, he set up a new Cabinet Office team, the Government Digital Service (GDS) with a core purpose of ensuring government offers digital products and services at least equal to the digital experience delivered by the giants of the web. However, as the team of leading designers and developers soon discovered, this was not just a matter of duplicating best-practice commercial work.

As Ben Terrett, GDS Head of Design, says, the site was built with "a relentless focus on the user." The team found that users engaging with government services want simplicity and speed. "It's about looking for the bones of the needs," says developer Frances Berrima, "Users aren't on gov.uk for fun or to be impressed with our web design skills. They need to get something done and they want to get it done as quickly as possible."
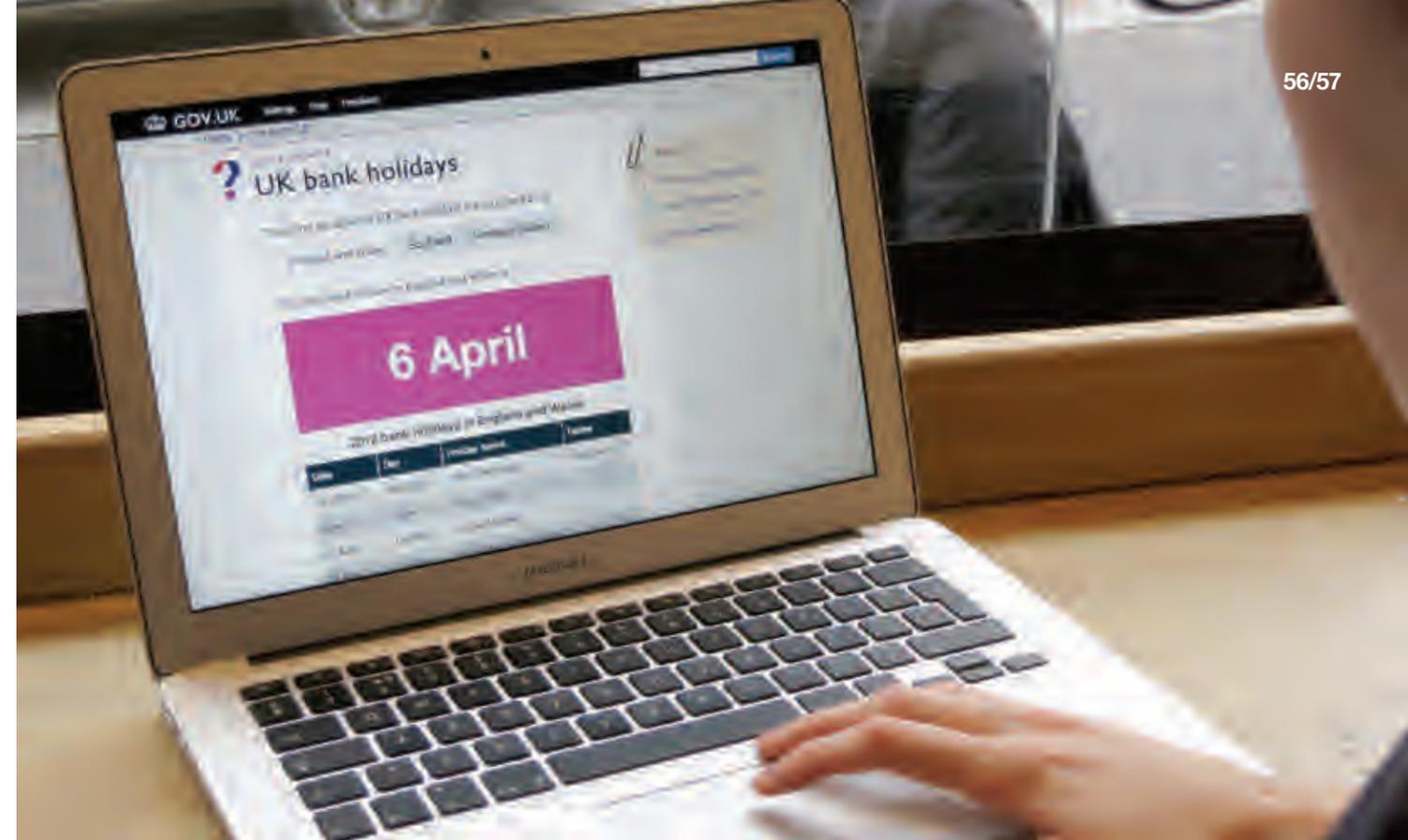
For instance, user research showed that people were often looking for what the team has come to refer to as the "Quick Answer". Most people visiting the VAT page, for instance, would be looking for the standard rate: 20%. The team therefore placed it front and centre. The usability of pages is measured with "bounce rates". The more

"Users aren't on gov.uk for fun or to be impressed with our web design skills. They need to get something done and they want to get it done as quickly as possible."

– Frances Berrima, developer for GDS

people who leave a Quick Answer page without visiting another, the more the design team know users have found what they were looking for. The bank holiday page has a bounce rate of nearly 90%. [8]

The new simplicity was also informed by the principle of designing for extremes. In working to provide a readability option for dyslexic users, the team eventually decided just to make the site simpler for everyone. They were much helped in this by consultation from Léonie Watson, chair of the British Computer Association of the Blind and a screen reader-user herself.

While asking themselves questions about the cutting edge of digital services – "How would Apple do car tax?" for example – the design team also drew inspiration for their stripped back look from the UK's tradition of great public sector design. Margaret Calvert, famous for her work with Jock Kinneir on UK road signage, was enlisted as an adviser. Gov.uk uses a font, New Transport, based on her road signage font, designed to be as clear and readable as possible.

Underpinning all GDS's work are their ten design principles. In line with their own tenth principle, these were issued online and quickly went viral.

1. **Start with needs**
2. **Do less**
3. **Design with data**
4. **Do the hard work to make it simple**
5. **Iterate. Then iterate again.**
6. **Build for inclusion**
7. **Understand context**
8. **Build digital services, not websites**
9. **Be consistent, not uniform**
10. **Make things open: it makes things better**

You can read about these in more detail at **www.gov.uk/designprinciples**

Find out more
www.gov.uk
www.digital.cabinetoffice.gov.uk

Replacing DirectGov and Business Link with the new service has already saved

£55-70m
(€65-82 million)

There are estimated annual savings from a shift to digital by default of roughly

£1.7bn
(€2 billion)[9]

"Just a few days clear of its beta mode, gov.uk already looks to have set the bar high for digital public services across the world."

– Mark Sinclair,
Creative Review

Gov.uk won the UK Design Museum Design of the Year Award for 2013

What did they deliver?

Lane Fox's report recommended having just one domain as the first step in making it simpler, clearer and faster to access government information and services. Gov.uk enacts this consolidation.

Information architecture has been completely rationalised. In the past, for instance, to get a complete picture of government policy on Afghanistan, one had to look in no less than nine different places. It is now all together at one location.

GDS also has a digital engagement team working to improve the way citizens interact with government online as well as introducing digital tools into day-to-day government operations.

Sitting within gov.uk, a new site area called Inside Government will replace over 350 government departments and agency websites.

In line with GDS's ten design principles, the new site looks much simpler than DirectGov, while the back end and the user understanding are much more sophisticated. Unlike most other government websites around the world, gov.uk has very few images, using them only when necessary.

User understanding did not just inform the design, it is on-going with the design team continually accumulating data on user behaviour to refine the experience.

The site's lessons are likely to spread by osmosis, in particular, to the numerous agencies and departments now on Inside Government – and this is very much the intention, with all code for the site made available open source.

What difference did it make?

Overall, gov.uk provides an object lesson in how in-depth design engagement with diverse user requirements, complex data sets and state-of-the-art interaction can create a simple, streamlined service machine that brilliantly answers the needs of both users and government. The site won the 2013 Design Museum Design of the Year Award. UK Prime Minister David Cameron commented that it enhanced "the modern relationship between the public and government."

In March 2013, in the UK House of Commons, Francis Maude said the government was, "committed to ensuring that as we reform the delivery of public services, they are designed around the needs of the user, rather than, as has been far too often the case in the past, designed to suit the convenience of the government."

Meanwhile, as a best-practice example, the site is a trailblazer for government service innovation internationally. In the US, answers.honolulu.gov and utah.gov already show the influence. Tim Brown of IDEO has said, "The UK is leading the way in using design to create a singular digital service for its citizens." Open-source guru Tim O'Reilly has declared the work the most important piece of user interface guidance since the original Mac principles from the 1980s.[10]

Thanks to Ben Terrett, GDS

Find out more
www.gov.uk
www.digital.cabinetoffice.gov.uk

Strategic design in government

We now come to step 3 of the Public Sector
Design Ladder: Design of policy.

Where design techniques are introduced to policymakers,
the response is enthusiastic. This is because these
techniques meet real needs:

1. User focus
Too often at policy level, the first questions asked are about cost savings and not who an application, service or policy is for. This is a paradigmatic example of a false economy. Solutions that do not meet real needs are wasted effort and expenditure, no matter how cheap. Moreover, focusing on user needs rarely increases costs and often creates savings.

2. Visual thinking and communication
Thinking around policies tends to be done in words and numbers, making it difficult to communicate them to stakeholders and also rendering internal communications around them cumbersome. Design mitigates this by showing how ideas work simply and quickly, facilitating quick buy-in from and easier collaboration among diverse stakeholders.

3. A joined-up process
As noted by strategic designer Bryan Boyer policymaking is often shot through with disconnects: one group analyses, another recommends, another implements. Recommendations may be passed from hand to hand with no definite endpoint. Design-led innovation, by contrast is a joined-up, complete innovation process.

4. Risk mitigation through prototyping
Risk is a major consideration for policymakers and can be a great inhibitor of new ideas. Design overcomes risk with prototyping. Distinct from piloting, which tends to be done on a large scale (e.g. a whole town or area), prototyping can be done at tiny scale initially, working up from, for instance, a cardboard house to a real house to a street to a town. This assumes some degree of initial failure, but sees it as "smart failure" from which learning can be applied to the next prototype, designing out risk with each iteration.

5. Inter-departmental working
Policymaking roles are often clearly defined and this tends to prevent policymakers from working across and beyond their departments according to need. Design disciplines such as user journeys quickly identify where different departments need to work together and visual communication facilitates this. To this we can add that design's capability for multidisciplinary team work is highly relevant to policymaking, where such a multitude of different disciplines often informs the process.

So the same principles that work in service design are applicable here. In addition, policymaking is often not quick enough to keep up with policy needs. Design offers real potential for making it more agile.

Significant challenges remain for designers, however, in understanding the challenges of the complex policymaking landscape. This is not a simple matter of transplanting service designers into a policy context.

It must also be admitted that relatively little practical work has been done in this area, though what has has born promising results. The problem is a vicious circle: policymakers are reluctant to try new processes without a strong evidence base and, without trying them, cannot develop a strong evidence base.

We will look at some examples before further reflecting on the challenges. Note that, while the examples are mainly from central government, design thinking can apply at either local or central government level.

09

Helsinki Design Lab

Title:
Helsinki Design Lab

Run by:
SITRA, the Finnish Innovation Fund

Location:
Finland

Helsinki Design Lab was created by SITRA, The Finnish Innovation Fund, in 2009 to advance strategic design within government. The idea was that while strategic design was an accepted discipline in business, it was new territory in government and was going to entail development of new ways of thinking and working.

Helsinki Design Lab was created by SITRA, The Finnish Innovation Fund, in 2009 to advance strategic design within government. The idea was that while strategic design was an accepted discipline in business, it was new territory in government and was going to entail development of new ways of thinking and working.

The lab's rationale had three parts:

– Top-down government responses to problems tend to be reactive, addressing symptoms in isolation rather than engaging with the often complex web of factors that create a problem – what the lab referred to as "the architecture of the problem".

– Government can always find a supplier when it knows what it needs, but has fewer options sourcing support with framing a problem.

– What analysis is available to government, e.g. from management consultants, tends to be separate from execution. This is inefficient.

All this is in line with fundamental service design methodology. The aim now was to apply this to government policy. Bryan Boyer, Strategic Design Lead at SITRA, described the lab's purpose as being "designing decision-making".

"I don't know that Finland needs a policy for design so much as it needs policy by design."
– Bryan Boyer, Strategic Design Lead, SITRA

The lab developed the Helsinki Design Lab Studio Model – a structured engagement between experts and designers aiming to rapidly generate a "sketch" for a systemic redesign. The lab completed three Studios, one on dropouts from the education system, one on sustainability and climate change and one on the ageing population. Subject areas were suggested by government ministries, encouraged by the lab to give them problems "they were fed-up of thinking about."

For the studios, the lab put together multidisciplinary teams small enough to facilitate conversations, but with the expertise to provide a rounded view. So, for example, the Education Studio, which looked at the problem of school dropouts, included a policymaker and practicing physician from the Ministry of Health, a principal from a top secondary school in Sri Lanka, a developmental psychologist, a professor from the Harvard School of Education and an educational software specialist. There were two designers and their main role was to coordinate and synthesise the conversations and engagements.

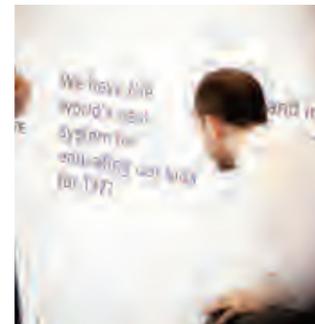*"I don't know that Finland needs a policy for design so much as it needs policy by design."*

– Bryan Boyer, Strategic Design Lead, SITRA

The team members immersed themselves in the challenge over the course of a week. On day one they received a series of lectures from experts. On day two they visited a school and spoke to as many people there as possible, including the principal, teachers, pupils and caretaker. In the afternoon they got to know the wider context, visiting places like family counselling centres and sports clubs. They spent the next two and a half days developing proposals for improvement and the last half day presenting these to a jury of policymakers.

These intensive studios were experiments and not necessarily intended to produce tangible effects. The real result was in understanding how to approach policymakers and get the multidisciplinary teams working together.

In addition to these investigations, the lab piloted a number of more complex and long-term projects. Of particular relevance here are Design Exchange Programme (DEP) and Brickstarter.

Design Exchange was a placement programme, embedding strategic designers as full-time employees for a year in ministries and municipalities. Again, the objective was a shift towards a more citizen-centred approach to policymaking. The first placement put a strategic designer in the town of Lahti's urban planning department. Her role was to engage citizens in the design of the town's train station. The point was to get citizens to help write the brief, not just give them a series of design submissions to evaluate.

In a similar vein, but at a more systemic level, Brickstarter is about improving the often cumbersome interface between citizens and government institutions. The idea is that, with the aid of social media and mobile apps, the potential exists to smooth this process and facilitate genuinely participative governance. The core of the project is a prototype web service through which citizens can work towards building ideas into proposals and projects. Included in this is crowd funding capability adapted from services like Kickstarter.com, potentially creating a new source of project capital.
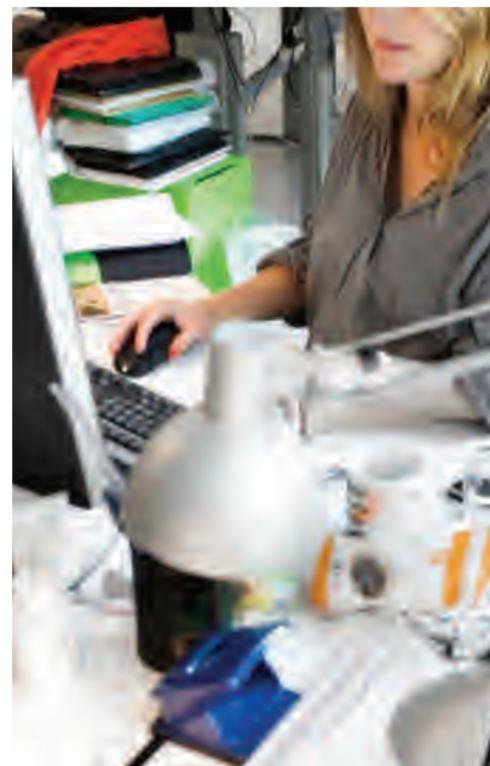
Thanks to Brian Boyer

10

MindLab

MindLab was established in 2002 as a Danish government unit to facilitate use of design methodology by policymakers.

Throughout most of the postwar period, industrial and business policy has been designed in close cooperation with business organisations. In Denmark, as in many other countries, there has traditionally been an assumption that parliament would adopt business organisations' proposals largely wholesale. This works reasonably well as long as known policies are merely being adjusted and there is no need for major policy changes. Larger policy changes, however, are often difficult to implement within existing organisational frameworks. It has been estimated that nearly three quarters of all public projects in Denmark failed, and that many development projects are never presented for political decision-making and subsequent implementation.

The transition from the industrial era to a global knowledge economy made this issue a matter of urgency, raising the need for radical policy rethinks and, therefore, radical new approaches to making policy. In the old model, civil servants facilitated dialogue between industrial organisations and supplied legal and legislative expertise. They did not themselves play a decisive policymaking role. That changed during the early 2000s. They continued to fulfill old roles, but also presented new policy suggestions.

MindLab was established in 2002 to augment this process, staffed with a team of ethnographers, designers and public policy specialists. It was not supposed to develop policy, but use design methodologies to coordinate project teams. On the one hand they could help cut across disciplinary and departmental silos and engage more directly with user needs, sometimes through co-design with ordinary citizens. On the other, through prototyping, they could produce more workable solutions and communicate them to decision-makers so as to have a good chance of implementation.

MindLab was placed in the Ministry of Business Affairs close to the Minister and the Minister's advisers. The MindLab management and team developed the layout of the lab so as to facilitate design activities such as multidisciplinary teamwork and visualisation.

Find out more
www.mind-lab.dk

"Our society in general, and our public sector in particular face grand challenges. The need for innovation has never been more critical. Designers' capability to holistically understand problems, user needs and global trends, need to become a fully integrated method of public sector innovation."

– Lars Mikkelgaard-Jensen, Managing Director, IBM Denmark and Chairman of the Danish Design Centre

MindLab carries out regular surveys of its partners' perception of its services. It is measured on a variety of criteria and partners assess MindLab on a scale from 1 to 5, with 5 being the highest rating.

There is considerable satisfaction with the unit. On the crucial question of whether it contributes to inter-ministerial cooperation and cultural change, it achieved a score of 4 or more. On the question of whether its contribution overall is valuable, the latest score was 4.50 against 4.35 in the previous evaluation.

In 2007, MindLab came under new management, and the primary focus shifted from policy to services.

The lab was established as an internal consulting unit funded by the Ministry's existing budget. For the preparation of each new policy proposal, a ministerial team was established. It was up to each team whether it used MindLab or external consultants.

MindLab got off to a flying start because it offered services that were tailored to policy development and, at least at the time, did not exist elsewhere. Projects in which it participated included educational reform and cutting through red tape for new businesses. It also, more self-reflexively, looked at how to systematically prototype, test, and scale up public sector policy and services.

It was originally intended that MindLab should serve the Ministry of Business Affairs, but other ministries approached to be granted access to its services. Large private companies also showed significant interest in its work.

MindLab's three main areas of activity:

1 Project assistance where MindLab helped colleagues develop and test new ideas with the citizen at the centre

2 Training where MindLab conducted courses and provided methods to colleagues so they could implement user-centered projects.

3 Research where MindLab cooperated with Danish and foreign universities on, among other things, PhD projects where the research takes place in MindLab.

MindLab has a staff of about a dozen employees and handles approximately ten development projects a year.

Steen Østergaard Jensen, Head of The Danish National Board of Industrial Injuries commented, "When you listen to the victim's perspective, it suddenly becomes very clear why all actors must cooperate. Here the partnership with MindLab has been very rewarding, because they can continue to remind us why a shift in perspective is important."

Find out more
www.mind-lab.dk

The Behavioural Insights Team

The majority of government policies are dependent on – or seek to affect – people's judgments and decisions. A range of interventions can be used to influence the population, from regulations that restrict choice to tax incentives and persuasive marketing campaigns. The problem is they are often time-intensive, high-cost and built on an outdated understanding of human behaviour. The result is a range of programmes with a firm rationale but minimal impact.

Illustration of a randomised controlled trial (RCT) to test a new 'back to work' programme

Population is split into two groups by random lot

Intervention

Outcomes for both groups are measured

Control

Looking for work   Found work

The Behavioural Insights Team – commonly known as the "nudge unit" – was set up by the coalition government in July 2010 to "find innovative way of encouraging, enabling and supporting people to make better choices for themselves." A small team of psychologists and economists apply insights and methods from behavioural science to the design of policies, demonstrating how small changes to the context in which people choose can have a dramatic effect on behaviour. The aim is to find low – or no – cost interventions that can have a rapid impact within the current term.

Their process follows four distinct steps.

1 Understand the system in question, e.g. how Her Majesty's Revenue and Customs (HMRC) collect income tax, to identify the outcomes of interest and relevant behaviours.

2 Build your insights around why these behaviours occur and ways to change them, e.g. make a process easier or more social.

3 Design the intervention.

4 Test and adapt the ideas using randomised controlled trials where possible.

The basic principles of this process can be applied to many domains and system, from tax collection to criminal justice.
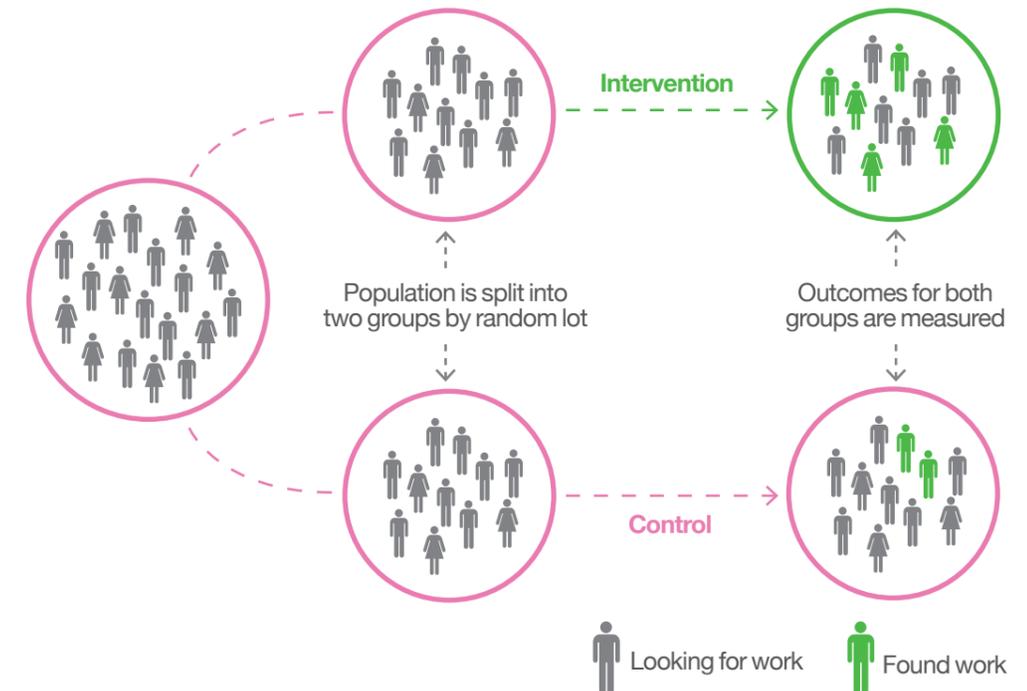
Outputs

The team has worked with almost every government department from health to energy. They have influenced policies to increase the uptake of loft insulation, encourage organ donation, prompt the payment of court fines, reduce fraud and increase the payment of tax debts.

For example, when HMRC made simple changes to tax letters, explaining that most people in the local area had already paid their taxes, repayment rates were boosted by around 15%. Similarly, personalising text message reminders led to greater repayment of court fines.

The outputs are often low-cost changes to existing communications. On a larger scale, the team most recently worked with Jobcentre Plus on redesigning their service at a centre in Essex. Three changes that introduced commitment devices and expressive writing were tested using a randomised control trial over six months, demonstrating a 15% increase in the number of people leaving benefits within 13 weeks. It is early days but a promising start to a wider range of cross-country trials.

The results speak for themselves. Over the past two years, the team has identified public savings of at least £300 million (€353 million). Improving tax repayment rates has already generated £30 million (€35 million) of extra revenue annually, while the text messages have reduced the number of bailiff interventions by 150,000, saving a further £30 million. This goes well beyond the goal of achieving a ten-fold return on the cost of the team and they are continuing to expand.

How embedded is design?

The Behavioural Insights Team have done a great job of raising awareness of the use of behavioural insights – with astounding results – but more could be done to incorporate design thinking.

Many of the team's early projects were constrained by a clear set of required deliverables, leading to small alterations of existing mechanisms. This is a smart strategy for delivering noticeable impact (pick the low-hanging fruit) but it may miss the importance of design going forward if the goal is to support people in changing their own behaviour in order to alleviate pressure on the state. In short, the team is still operating within the traditional policymaking paradigm of patching together expedient solutions for cost savings. There is none of design thinking's reframing of problems by looking at the wider systemic context.

The team is clearly practicing some principles of design, however: the use of behavioural insights ensures a people-centred approach, they have begun using observation to better understand the user experience; the emphasis on randomised controlled trials ensures they are testing, albeit at the end rather than throughout. But although design is an explicit step in the team's process, there is a question about whether its use is more functional or strategic and embedded. There are no designers on the team. Design can be practiced without "designers" per se, but this equates to saying that anyone who has read the book "Nudge" has a good understanding of behavioural science.

As the problems become more complex, these issues will become more important. Understanding the need is only half the challenge. The less well defined the context is, the more important it is to decide – using divergent and convergent thinking – which

interventions are feasible and viable, focusing in on the strongest opportunity. The most traditional design skills – simply sketching concepts – are often a quick and engaging route to doing this and to engaging multidisciplinary teams for a more systemic overhaul.

Academics and policymakers are often accused of underestimating the importance of creativity and overestimating the degree to which, once the knowledge of the problem is in place, the ideas will look after themselves. This blindspot does not avoid design but deploys it inexpertly. Policy is always being designed one way or another. If the Team continues to leave designers out of the equation, they will not avoid design, but rather devise their own haphazardly, and, as a reinvention of the wheel, it will be less effective.

Thanks to Ed Gardiner, Warwick Business School

Design and policy – from theory to practice

The approaches to policy discussed so far have been rightly cautious and experimental. MindLab, in its policy phase, never sought to take the lead in policymaking, but applied design knowhow to coordinate civil servant work. Helsinki Design Lab (HDL), working more methodically to define a design approach to policymaking, also saw designers as facilitators – and learners. In their teams of experts and policymakers, designers were very much in the minority. No designer hubris here.

One way of looking at this, with the benefit of hindsight, might be that HDL and MindLab skipped a step on our ladder: Step 2, in which design process becomes part of the organisational culture. Without this, could they realistically expect to get enough institutional buy-in to get design thinking accepted in high-level policymaking?

This in mind, we conclude this section with a case study that, while it clearly has a logical place in Step 2, has its eye on Step 3 and may point a way forward.

> " *Strategic Design is only possible when design is integrated into the DNA of organisations, creating new opportunities for designers with a strategic aptitude to migrate from studios and ateliers to integrated positions, embedded within organisations and governments.*"
> **– Helsinki Design Lab**[13]

12

Design thinking for the civil service

Workshops for civil servants in design methodologies.

Title:
Design thinking for the civil service

Run by:
UK Design Council

Supported by:
Department of Business,
Innovation and Skills

Client:
UK Government

Location:
United Kingdom

What was the problem/challenge?
There is increasing recognition in government that policy needs to do things differently. Objectives include better understanding user needs, doing more with less and breaking down silos. The UK government's Civil Service Reform Plan calls for the Civil Service to be, "pacier, more innovative, less hierarchical, focused on outcomes, not process," and policy that is "linked to implementation," leverages a "less narrow range of views" and finds "new ways of delivering services." [14]

Despite design thinking's promise of being able to meet these needs, barriers to adoption include:

– low awareness of the benefits of design thinking methodologies and principles among UK civil servants

– the complexity and cost of tendering for government contracts, which is prohibitive for many small design companies

– the limited scale and scope of design-led policymaking so far, meaning there is limited evidence for this kind of work

– lack of networks between local authorities and central government departments for knowledge exchange on successful interventions.

What did they do?
The Design Council has done extensive work over the years to introduce design methodologies to businesses and local government. Through its Design Leadership programme, it has begun to offer training in these methodologies to civil servants from across central government departments and in the Policy Profession. The Policy Profession is the community of professional policymakers within the civil service, headed by Chris Wormald Permanent Secretary at the Department for Education. The Profession's priorities are:

– ensuring everyone involved in policymaking recognises that what matters, ultimately, is change in the real world

– making better, more efficient, innovative and joined-up policy

– making and delivering policy in better ways.

Find out more
www.designcouncil.org.uk/our-work/Insight/Policy/What-were-doing
www.civilservice.gov.uk/networks/policy-profession

What did they deliver?

The Design Council, supported by the Department of Business, Innovation & Skills (BIS), recently partnered with Civil Service Learning. The result was a half-day introductory interactive workshop on applying design to policy challenges, given to a cross-departmental group of senior civil servants from the Policy Profession. The workshop included:

– examples of how design has already been applied to policy challenges

– examples of how design principles have helped both public and private sector organisations to change

– hands-on work with key design methodologies including prototyping, visual mapping and user observation

– an expert-led session on applying design principles to policy development and implementation

– hands-on training in achieving innovative, tangible, people-centred results.

Presentations were given by a mix of guest speakers who have been through design thinking programmes and exercises. The workshop was delivered by two Design Associates, part of a network of expert design facilitators recruited and trained by the Design Council to deliver design-led coaching programmes. The Design Associates are leaders in their field and have experience across a range of sectors, working for organisations such as Philips Design, Tesco and the NHS. They also facilitate a suite of Design Council Design Leadership coaching programmes for universities, SMEs and public sector organisations.

What difference did it make?

Satisfaction rates were measured using a post-workshop survey. Responses were overwhelmingly enthusiastic, with 99-100% participant satisfaction rates and 100% agreeing/strongly agreeing they would apply design to their policy work as a result of the session.

This is a new area of Design Council work and has not yet been fully evaluated. A clear measure of effectiveness will only be possible when enough time has passed to see whether participants take up these processes, whether they pass on the learning to others and, ultimately, how much difference is made to policy effectiveness. However, the initial responses strongly indicate already that these skills meet real needs in terms of civil servants' day-to-day work and long-term aims.

Thanks to Ellie Runcie, Pauline Shakespeare and Camilla Buchanan, UK Design Council

Design and policy – the way forward

Given design thinking's potential to make policymaking more agile and reduce the risk of new policy implementation, it is vital that these approaches continue to be tried. The good news is, this can itself be done with little risk, at low cost on a limited scale.

However, for this to work, no one should be fooled into thinking the process will be without its difficulties. Expertise in designing services, even highly complex ones, will not necessarily translate directly to policymaking. Designers seeking to work in policymaking will need to acquire new skills and understanding. Again, Helsinki Design Lab showed acute awareness of this, their experimental studios essentially being an attempt to understand policymakers' needs so that design can define its methodological offering to them.

How then to proceed? "With care and due diligence" is probably the answer here for both designers and policymakers and possibly, also, "with humility and receptivity."

For designers, this is the same attitude with which they ideally approach the needs of service users. The task remains the same: designers seeking to engage with policy are looking to provide a service to policymakers, not supplant them. As such they will need to devote time to learning from policymakers and understanding their needs as directly and experientially as possible. The question of how work on this might proceed informs one of the recommendations of this report.

Policymakers, for their part, even at their most receptive, will want to see that new methods can meet solid evaluative criteria. Ideally, here at the ground zero of this kind of work, such criteria would be established. Then, as early adopters among policymakers take the first leaps of faith, evaluations of their projects could be used to increase buy-in exponentially.

02 Recommendation

Build design thinking into government and
public policy practice

In order for the **European Commission** to promote design thinking in
government, it is logical that it embeds it in its own working methods. This
should not be a sudden or expensively engineered change but start small,
with short designer-led workshops or training sessions showing teams how to
apply design thinking to existing challenges.

Successful adoption of these processes will be a direct benefit to European
Commission working practices, provide an evidence base and should also help
European Commission staff advocate for these methods.

Member States and municipalities should:

– seek out design resource for policy-level work, ideally in their own
  countries or, if it is unavailable, from expert design organisations and
  agencies abroad.

– start small, with training, workshops and small-scale service projects.

– share information within the Commission and with other countries trying
  these design approaches.

Design organisations should actively seek to grow the market by offering
the public sector small-scale training sessions, workshops and project
leadership in partnership with the design sector.

Build your own design industry for public sector innovation

How do the industries arise that make this kind of innovation possible in the public sector? And how do you build an industry if you don't already have one?

In the UK, service design arose around 2000, with a handful of agencies that effectively created their own demand. Often founded by former web and interaction designers, they discovered a receptive clientele among both corporate clients and local authorities looking to create innovative services.

In Denmark, conversely, the demand was discovered and nurtured by government. In 2006 the Danish government, noting a need not being fulfilled by companies running technological innovation projects, ran the Danish Programme for User Driven Innovation. One surprise result was that design firms or design schools participated in nearly half the projects. Another was that the demand for this kind of design-led innovation work was not just confined to business, but existed in the public sector. This led to a programme for service design. Participating design agencies said this latter programme spurred them to create new service design competencies to improve public services as the Danish public sector market emerged.

There is, obviously, no hard-and-fast method of building up these competencies in a country, but the Danish approach gives some guidance. Service design builds on skills from management consultancy, market research and, as we have already said, web and interaction design. That means many of the relevant skills are present in some form in many countries already. The point may be to give them objectives around which to coalesce.

Meanwhile, existing knowhow in countries like the UK, Denmark and Finland also means there is a wealth of expertise to draw on, both from the public and the private sector.

03 Recommendation
Build a strong design sector that can offer strategic and service design to the public sector

The **European Commission** should support this by:

– facilitating the sharing of learning and best practice – such as case studies or evaluation reports – via online or physical networks and events.

– ensuring that design project case studies follow a standard template and are categorised according to the three steps of the ladder so a picture of the effectiveness of outcomes achieved at these levels can be built.

– ensuring design-led innovation projects are eligible for European funding streams focussed on innovation and public sector renewal.

Member States and municipalities wanting to build design capabilities should:

– assess the strengths/weaknesses of their design sector and set targets for improvement (see the design ladder for a framework for this).

– learn from those with experience in design-led public services and policymaking.

– build these skills into design education from school level upwards.

Countries may wish to learn from the Danish or UK experiences of boosting design sector capabilities, or contact the authors of this report for advice, training and direct assistance.

The **design sector and design organisations** should build awareness of and capability in supporting the public sector as follows:

– Design organisations should raise awareness among designers of the public sector as a potential market/client.

– Designers should build knowledge of service and strategic design approaches, ideally through direct contact with those who have pioneered them.

– Given that strategic design is an emerging field, designers engaging with it should also seek to gain direct experience of the policymaking landscape and contribute to the development of the discipline.

Evaluation: Measuring the impact

Evaluation overview

In the complex process of political prioritisation it can be difficult to maintain focus and attract resources to a specific policy area. This applies in particular to areas such as design that are on the edge of or outside mainstream politics. Good evaluations provide an evidence base that can be crucial in making the case both for specific design policies and for design overall. They also provide a basis for design policy improvements.

Unfortunately, there is no specific literature on evaluating design policy, only material on innovation policies where design policy may be included. Even here it is difficult to find a single state-of-the-art approach. There is a selection of the most interesting literature on the topic at the end of this section.

The Office of Economic Cooperation and Development (OECD) has published material on evaluation of innovation policies and programmes[15]. The basis for its work is that there are two fundamental conditions that must be present for evaluations to be really helpful:

– They must be seen as an ongoing, integral part of improving policy, not a one-off.

– A programme or policy must have clearly specified objectives from which to determine success.

On this basis, the OECD identifies six key principles for good evaluation practice:

1 Evaluation should lead to policy change.

2 Evaluation should relate to current policy (as opposed to old policy).

3 Evaluators should be in at the start.

4 Evaluation techniques should always use the most appropriate method.

5 Evaluation should apply to all policies and programmes.

6 International comparisons should be made where necessary.

Principle 1 might seem obvious, but evaluations are generally aimed at programme managers and government officials, who often fail to discuss results with policymakers.

Principle 2 is essential so that current policy can evolve into better policy in the future.

Principle 3 leads to clearer specification of objectives and evaluation budgets and brings the evaluation criteria to the attention of the policymakers.

Principle 4 in most cases, means organisations in a programme should be compared to similar companies outside it.

Principle 5 addresses existing inequity in the way policies and programmes are evaluated.

Evaluation of Output, Outcome, Objective or Goal

Given the need to establish evaluation criteria alongside the formulation of new innovation policy, it is crucial to agree a vocabulary of categories. Many approaches are in current use, with none having precedence, but the OECD provides a useful glossary.[16]

Here are the key terms, using, for illustration, a hypothetical project in which a leaflet is distributed to small and medium enterprises (SMEs) encouraging increased use of design:

Output – The basic result of an intervention, e.g. the number of SMEs who received the leaflets.

Outcome – The effects of an output, e.g. the number of leaflet recipients who increased their use of design and thereby grew their business.

Objective – The higher-order outcomes to which an intervention is intended to contribute, e.g. increased use of design among SMEs nationwide. The programme might have targeted only a limited number of SMEs directly, but with a view to creating a ripple effect, influencing others.

Goal – The higher-order objectives an intervention is intended to achieve, e.g. increase in exports resulting from more widespread use of design among SMEs nationwide.

An immediate outcome might be so convincing that there is no need for more costly evaluations of objectives or goals. At any rate, evaluation of outcomes is always the first step.

Objectives are key to generating political attention and resource allocation, but difficult to evaluate, perhaps especially in a design context. Design interventions tend to deliver results that look limited: increased use of

design in one organisation, or specific design innovation projects. The truth, as some case studies in this document show, is that such projects can have much broader effects, meaning that the real return on investment is higher than it initially appears.

Goals tend to represent the real desired endpoint of policy: socioeconomic effects such as productivity, exports, employment levels and health. It would therefore seem to make sense to evaluate policy from this point of view. This can rarely be done in advance, however, but previous assessments of socioeconomic impacts for similar policy can inform decisions.

Evaluations can be expensive, so methods must fit needs. It is a good idea to properly define these needs at the beginning of a design project. Evaluation of objectives is usually the ideal, but can be extremely expensive and difficult. For instance, how do you find out, in our hypothetical example, that distribution of the leaflet has had a ripple effect in terms of increasing design use among businesses nationwide – even businesses that did not receive the leaflet? There might have been such an increase during the relevant period, but this is a correlation, not a demonstrable cause and effect.

At the UK Design Council, "logic models" are increasingly being used to map out how activities lead to outputs and outcomes.[17] However you tackle it, there is clear value in mapping the link between a project or programme's input and activities, the outputs delivered and how these contribute to achieving outcomes and objectives. There isn't a clear distinction between outcomes and objectives, as one leads into the other; often it is a case of a wider perspective or of longer time frames.

Evaluation case studies

A comparison of design programme evaluations

The evaluations of two similar schemes in the UK and Denmark, both aiming to increase business's understanding and use of design, help to illustrate how outcomes can be measured.

Design icebreaker scheme

The Danish Design Icebreaker Scheme provided grants to small-to-medium enterprises (SMEs) that had not used design for five years. The scheme ran from 1998 to 2001 and was managed by the Danish Design Centre. From 1998 to 2001 more than 400 companies received design project grants and about 120 different designers or firms participated. It cost around €1m per year.

The stated purpose of the scheme was "to give small businesses incentives to use a designer associated with a development project."

Evaluation

The Business Promotion Agency, which allocated money to the scheme, formulated a quantitative but narrow outcome as a basis for the evaluation: "70% of the participating companies have had a satisfactory yield from using a professional designer and 60% of the participating companies will now regularly use designers to solve design tasks."

The Danish Design Centre, which ran the scheme, evaluated it in 2002 with the supervision of a consultancy firm, Advice Analysis. A questionnaire was sent to all participating companies and no attempt was made to examine possible improvements to the programme or compare with a control group.

The results showed high satisfaction: 41% of companies said they had continued to work with designers and 16% said they planned to. This nearly met the established quantitative outcome. Despite this, the Ministry of Business Affairs closed the scheme. Its original objective was to increase design use in SMEs. The evaluation showed that about 200 SMEs would probably continue to use designers, but according to the ministry this couldn't justify costs.

This shows how managers, in being unaware of policymakers' objectives, can focus on narrow outcomes that are ultimately inadequate for validation. With greater awareness of objectives, the managers might have devoted resources to passing on learning from participating companies to others. But, in looking only at satisfaction and likelihood of using design again, they might also be said to have measured too narrowly. By focusing more on real outcomes for individual businesses, they might have built a case study resource that could have been used to convince other SMEs – regardless of whether Icebreaker was continued.

Designing Demand
The UK Design Council's Design Leadership Programme, Designing Demand, funded by the Department for Business, Innovation and Skills (BIS), is a national coaching programme that promotes strategic design to business to help boost commercial performance. The programme aims to embed design tools, techniques and management within business. Since 2007 it has supported over 2000 SMEs, and intensively coached over 700 of these, to use design as a business development tool.

Evaluation
In 2012, Design Council commissioned an economic evaluation consultancy to evaluate Designing Demand. This is the first picture of the programme impact on business nationally. It builds on three separate evaluations undertaken in parts of the UK between 2011 and 2012, updating them and adding data for the rest of the UK to create a complete picture. The evaluation focuses on outcomes for the businesses that participated, and on outcomes for the UK government relative to its investment.

Business outcomes measured
– Pounds returned for every pound invested by the business in design as a result of the programme, including increased operating profit, revenues and exports

– Strategic Added Value such as impacts on organisational culture and capabilities.

Government outcomes measured
– Gross Value Added and Net Value Added for every £ of public investment

– Full-time jobs created and safeguarded

– Additional exports generated.

Primary research consisted of contacting companies by phone, email or web survey. Additionally, 25 design agencies were contacted to attain a perspective on the impact for the design industry. Secondary research included analysis of the initial meeting reports from the design associates and, where available, end of project reviews. Secondary research also included analysis of the reporting provided by the Design Associates to the delivery partners.

The programme has supported over 700 businesses through coaching. The evaluation included 249 businesses and achieved a response rate of over 80%.

Business outcomes: return on investment, boosted capabilities
The evaluation showed strong returns: For every £1 businesses invest in design, they can expect over £20 in increased revenues, over £4 increase in net operating profit and over £5 in increased exports. In addition, businesses reported boosts to confidence, strategic thinking, brand and business identity.

Government outcomes: returns to the public purse and increased use of design
An assessment of returns to public sector funding that supported the programme showed strong impacts: £5.67 gross value added (GVA) and £3.75 net value added (NVA) for every £1 of public investment.

Businesses were also found to be more likely to use design after the programme. Before the programme 55% viewed design as integral to business, compared with 98% afterwards.

The evaluation also found that 2,460 net full-time-equivalent (FTE) jobs were created, safeguarded, or anticipated as a direct result of the programme. This is the equivalent of six net FTE jobs created or safeguarded per intervention.

Outcomes for the design industry
Finally, the evaluation demonstrated that the programme benefits the design industry. The programme results in businesses continuing to engage design agencies after their design coaching.

– 68% of design agencies that were subsequently engaged or commissioned stated that the programme had brought them additional clients with whom they would not have otherwise connected.

– 57% of design agencies reported that the programme had protected jobs.

– Suppliers expected to generate further fees of over £214k at an average of £25k per firm, emphasising the success of the programme in converting previously inexperienced and reticent design users into continued investors in design.

The feedback from designers reinforces what businesses have said: a significant majority of the programme participants are now committed to ongoing investment in design as a core business function as a result of the programme.

Conclusion
Designing Demand's evaluation gives a clearer picture of its value than the Icebreaker evaluation. By evaluating a wider set of outcomes more clearly reflecting benefits for participants, it more accurately showed whether the programme was making a difference and whether that difference was desirable and cost-effective.

The programme has received continual government investment and is now becoming a self-sustaining business model.

Two healthcare design evaluations

Let's now look at two comparable evaluations for healthcare design projects. These are still about evaluation of outcomes.

Design Bugs Out
Making Britain's hospitals cleaner and safer has become a top UK government priority. Well publicised problems with Healthcare Associated Infections (HCAIs), especially MRSA and C. Difficile, have created demand for new ways to reduce their spread.

Design Bugs Out was initiated by the UK Department for Health and launched in August 2008 in partnership with the UK Design Council.

By September 2009, the project had led to the development of 11 pieces of furniture and equipment designed to eliminate dirt traps, make cleaning quicker and easier and, ultimately, reduce the incidence of HCAIs.

Evaluation
In January 2010, the Design Council commissioned Ekosgen to evaluate the project. Evaluation aims were to assess impact and efficacy and identify benefits and different types of impacts that have occurred or are anticipated in future. Evaluation methods included secondary research, interviews with stakeholders and the design teams. There was no clinical evaluation and the study does not show how much each of the eleven products will reduce HCAIs.

The evaluation found evidence of a good rate of return for public sector investment. From an initial pump priming investment of

£125,000 to the Helen Hamlyn Centre and £108,695 to private sector businesses, the project has secured additional investment of £132,867 from the Helen Hamlyn Centre and £944,805 from the private sector, which would not otherwise have occurred. It is estimated that for every pound of Design Council pump priming, the Helen Hamlyn Centre has invested a further £1.06, and the private sector a further £8.69.

The evaluation also found evidence of "strategic added value"; i.e. non-quantifiable benefits arising from the wider coordinating and influencing role of the Design Council in taking forward the Design Bugs Out project.

Conclusion
The obvious omission here is evaluation of infection rates – and tallying any change here with the work of the project. This would have been impossible due to the sheer number of factors that can be behind infections and the difficulty of attribution. What was eventually possible – and was carried out by the Department of Health – was microbiological tests to evaluate the efficacy with which new products could be cleaned. Results from this were extremely positive, implying huge gains in both sanitation and efficiency. The original evaluation was carried out while products were at prototype stage, meaning this kind of testing could not yet be done.

Reducing violence and aggression in A&E
Working in partnership with the Department of Health (DH), the UK Design Council has completed a programme of work that will "identify and develop ways that design can help tackle the difficult issue of violence and aggression towards NHS staff, with a particular focus on accident and emergency (A&E) departments."

Evaluation
The programme evaluation is currently underway and will be completed late 2013. The approach involves (i) an impact assessment and (ii) an economic evaluation. It has identified the key outcomes for different stakeholder groups, such as the Department of Health, hospital senior management, hospital staff, and patients and visitors. Because cost savings are an important outcome, an economic evaluation and cost-benefit calculation are included. Other outcomes include reduced violence and anxiety, increased wellbeing at work, reduced staff sickness absence and improved staff morale.

The impact evaluation has a three-stage evaluation methodology (baseline, short-term post-test and long-term post-test). Each stage will combine an element of qualitative and quantitative data collection, providing insight into the likely impact of the design interventions from a number of different perspectives including clinical and non-clinical staff, patients and visitors. The methodological approach for the impact assessment compares two "treatment" hospitals that have implemented the design solutions and two "control" hospitals that

have not. Once data from patient exit surveys, ethnographic observation and interviews has been collected, it will be analysed to determine the impacts.

The economic evaluation will estimate the costs and benefits as a result of the design changes. The objective will be to identify the outputs and outcomes associated with the design changes for each hospital – and then to apply an economic value to each of them where possible. A full analysis of costs incurred and costs savings will also be made. A cost-benefit model for each hospital will be developed.

Conclusion
This is a significant improvement on the methodology for Design Bugs Out because it measures the intended outcomes – both reduced violence and cost savings. Bugs measured some important outcomes, but, while its overall objectives were impossible to measure, evaluated too early to capture the measurable value it created. This indicates the care with which evaluation needs must be assessed. While it is generally right for evaluators to be in at the start, each project's needs are different.

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04 Recommendation
Build the evidence base and impact measurements for design innovation

The **European Commission** should support this by:

– initiating a detailed study on best-practice evaluation of service and strategic design, so that it can deliver clear guidelines on this as an integral part of knowledge sharing.

– making good evaluation integral to funding applications for design innovation projects.

– opening research budgets for work on the impact of design on innovation and making it a rule that innovation programmes such as Horizon 2020 include work on this.

This approach is underpinned by the European Design Leadership Board report, *Design for Growth and Prosperity*, which recommends that design be better embedded in the EU research, development and innovation programme, Horizon 2020.

The **design sector and design organisations**, and others running design projects, should make the case for themselves by ensuring that they:

– record information and write case studies so as to clearly demonstrate both methods and outcomes (and, where possible, meeting of objectives).

– begin evaluations at project start to create a baseline.

– use a control group wherever possible.

Endnotes
and credits

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UK Design Council
The Design Council champions great design. For us that mean design which improves lives and makes things better. As an enterprising charity, our work places design at the heart of creating value by stimulating innovation in business and public services, improving our built environment and tackling complex social issues such as ageing and obesity. We inspire new design thinking, encourage public debate and inform government policy to improve everyday life and help meet tomorrow's challenges today.

www.designcouncil.org.uk

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

Design Wales champions design by supporting companies and public bodies to use design more effectively, enabling designers to further their skills, conducting research to support practice and leading networks in the UK and Europe to influence policy.

www.designwales.org

Danish Design Centre
The Danish Design Centre is an independent, government-funded organisation established in 1978. DDC's focus in relation to the design community and business sector is on collecting, communicating and testing knowledge about the main factors that influence design and how design can continue to be a driver for innovation and growth in the future. The DDC's mantra is "design that makes sense", and its key knowledge areas are new materials, new technology, and big data.

www.ddc.dk

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SEE is a network of eleven European partners sharing knowledge and experience on how design can be integrated into regional and national policies to boost innovation, entrepreneurship, sustainability, social and economic development. The aim of SEE is to pool knowledge, share experiences, stimulate debate, develop new thinking and build rapport and credibility in order to influence policy at regional and national levels.

From 2012 to 2015, SEE is operating as part of the European Commission's European Design Innovation Initiative. SEE is led by Design Wales at Cardiff Metropolitan University.

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European Commission
In 2010, design became one of nine priorities for innovation in the European Commission policy, "Innovation Union". As a result, the Commission established the European Design Leadership Board, a committee of 15 members that produced the report, "Design for Growth and Prosperity," and the European Design Innovation Initiative (EDII) composed of six projects, one of which is SEE.

In 2013, the European Commission will be producing an Action Plan for Design in Europe. It is the European Commission's vision that by 2020 design should be a well recognised element of innovation in European, national and regional policy.

www.ec.europa.eu/enterprise/policies/innovation/policy/design-creativity/