



An Roinn Post, Fiontar agus Nuálaíochta
Department of Jobs, Enterprise and Innovation

POLICY FRAMEWORK FOR DESIGN IN ENTERPRISE IN IRELAND

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Design in Ireland: Summary

This paper recognises the role of design within the economy and sets out a 'Policy Framework for Design in Enterprise in Ireland'. The policy framework is focused on enhancing design activities in the enterprise base in Ireland, and was developed as part of the legacy of ID2015.

In recent years, the definition of design has expanded from a more limited view of styling and appearance associated with an end product to a perspective in which design can play an integral role in the innovation process: across all stages of goods/service development and/or in strategic management techniques and processes. This evolution, along with international evidence highlighting the innovation and economic benefits associated with companies undertaking design, has led to an increase in policy focus on design internationally.

The development of the policy framework presented herewith was informed by a series of research studies^{1,2,3} and insights captured via a stakeholder workshop⁴. Key aspects of the research were guided by a Steering Group, chaired by the Department of Jobs, Enterprise and Innovation and included representatives from Enterprise Ireland, IDA, Science Foundation Ireland and ID2015/Design and Crafts Council of Ireland.

The research finds that, based on a broad definition for the 'Irish Design Footprint', design has a significant economic impact on the Irish economy: workers engaged in design roles in Ireland are found to be employed right across the economy and exports from the Design Sectors contributed circa 20% of total Irish exports in 2012 – the majority of exports stemming from less traditional Design Sectors (those associated with Digital Design).

The evidence reveals that for businesses in more traditional Design Sectors related to:

- Architecture
- Specialised Design (including Graphic, Industrial, Interior, Fashion)
- Craft

there are issues related to scale, size, fragmentation, talent and skills. Addressing these issues could lead to enhanced productivity and a strengthening of these Design Sectors.

Analysis also shows that, for the less traditional Design Sector of Engineering Activities and Related Technical Consultancy⁵, Ireland underperforms in terms of contribution to employment and GVA relative to other European countries. This highlights an opportunity to increase economic impact from design in Ireland by focusing on increasing design activity in this Engineering Sector.

¹ The 'Irish Design Footprint': Economic Value and Characteristics, Department of Jobs, Enterprise and Innovation, 2016.

² Profile of Business in the Traditional Design Sectors, January 2016, A Report for the Design and Craft Council of Ireland, by Con Kennedy.

³ A Study of the Role and Importance of Design in Firms in Ireland in Non-Design-Intensive Sectors, December 2015, A report for the Department of Jobs, Enterprise and Innovation by CM International and PDR.

⁴ A stakeholder workshop on design was held on November 16th 2015, and participants included representatives from enterprise agencies, associations and educational bodies responsible for design as well as representatives from firms in the Design Sectors and the Wider Enterprise Base.

⁵ This sector relates to businesses classified specifically under NACE Rev 2 71.12. Businesses that undertake engineering activities in support of other key business functions are included in the cohort of firms in the Wider Enterprise Base.

Furthermore, evidence is reported for the first time that there is a cohort of businesses in Ireland that operate in the Wider Enterprise Base (i.e. in sectors outside of the Design Sectors) but place a strong emphasis on design-related activity. These design-driven firms confirm that design is highly valued as a key contributor to their efforts in developing new/improved goods and services.

However, at an aggregated level, the set of firms in Ireland report a lower level of engagement and a less mature view of design than is reported by the cohort of design-driven firms in the Wider Enterprise Base. This deficit in activity represents an opportunity to further enhance the innovation effort of firms and consequently the competitiveness of the firm base through driving for greater levels of design-driven innovation across the Wider Enterprise Base.

Policy Framework for Design in Enterprise in Ireland

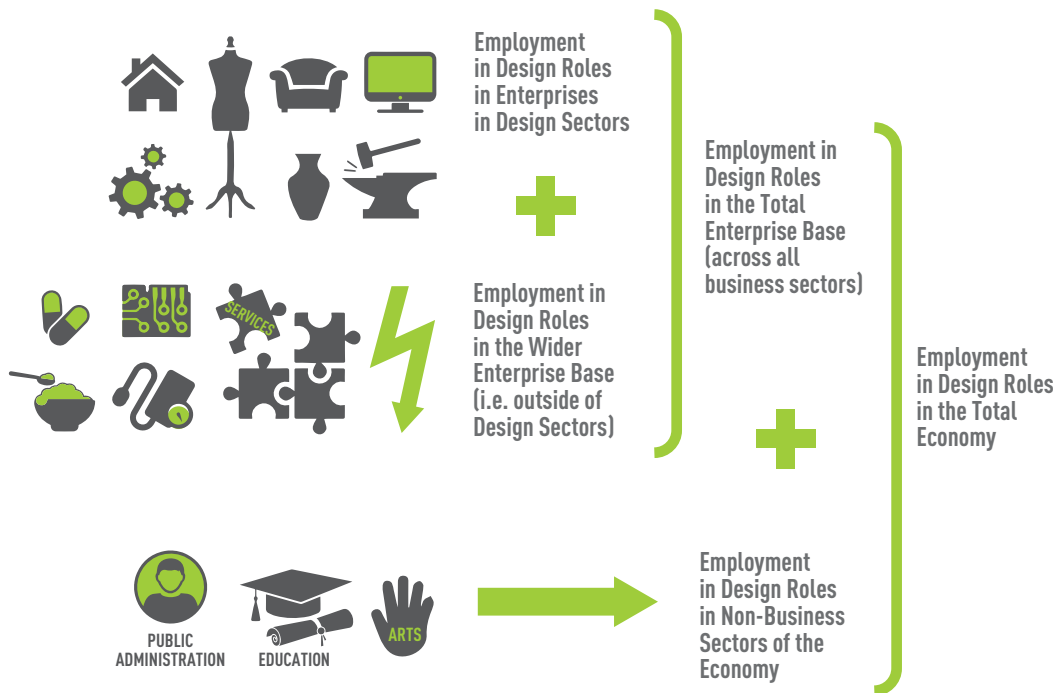
Building on the evidence base, a 'Policy Framework for Design in Enterprise in Ireland' was developed, and it is focused around six key elements:

1. Increased use of Design-Driven Innovation in the Wider Enterprise Base
2. Building Scale in the Design Sector
3. A Step-Up in the Engineering Design Sector
4. Supporting Entrepreneurship in the Design Sectors
5. Developing Skills and Talent in Design
6. More Females in Design Roles

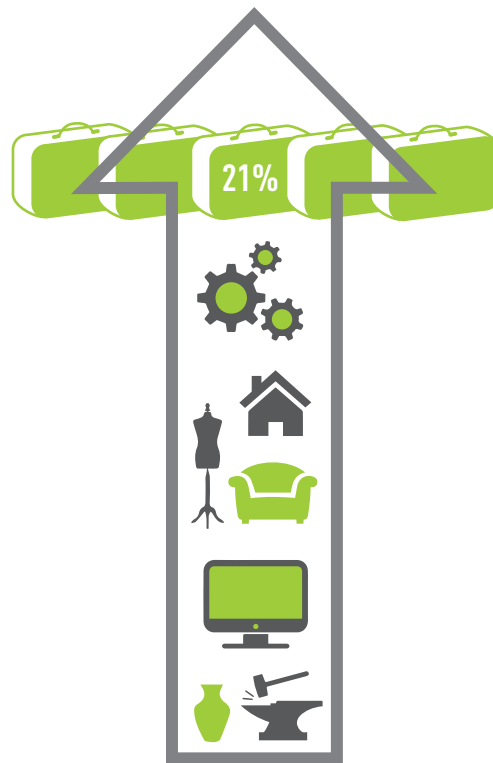
Employment in design roles has increased to 48,000 in 2014 – 2.5% of total employment in Ireland



Workers in design roles are employed across many sectors of the economy



At > €38bn in 2013, exports from Design Sectors account for over 21% of total exports



Design has an important role in the Wider Enterprise Base (enterprises outside of the Design Sectors)



Data is based on a survey of firms in Ireland, by CM International. The survey was focused on firms outside of the Design Sectors i.e. firms in the Wider Enterprise Base.

1. Defining Design

Multi-faceted Nature of Design

The absence of a commonly agreed definition of design leads to an inherent complexity in focusing on design. It is difficult to categorise and measure design and the word is given different meanings in different contexts⁶, which makes the topic a key challenge for policy makers.

In essence design is a multi-dimensional concept in that:

1. Design encompasses a broad range of meanings, including:
 - Development of utility of function and form.
 - Output associated with styling and aesthetics.
 - A process for goods/service development.
 - A methodology to solve complex problems and find solutions (design thinking).
2. Design is associated with a broad variety of activities, including: interior/exhibition design/ architecture, fashion design, design management, strategic design, eco-design, service/user experience design, packaging design, universal design, industrial design, engineering design, communication/graphic design, software design/digital design and craft design.
3. Design is an activity which can pervade all parts of the economy either as the primary output or utilised as part of a productive effort.

Measuring Economic Contribution of Design: Defining the 'Irish Design Footprint'

A definition for the 'Irish Design Footprint' was developed so as to support estimates of economic measurement across the full Irish economy as far as is feasible based on available data. The 'Irish Design Footprint' is represented by six Design Groups and was developed based on consideration of work carried out elsewhere^{7, 8, 9}.

A set of business sectors is assigned to each Design Group – these business sectors are the '**Design Sectors**' and are represented in the inner circle of Figure 1 by their descriptive names as assigned in the NACE Rev 2 classification system. The Design Sectors are considered to be design-intensive with a considerable proportion (~ 30%) of the workers within each sector employed in a design role.

The Design Sectors include sectors more traditionally associated with design – the sectors mapped in the Architecture, Specialised Design, and Craft Groups – and also sectors less traditionally associated specifically with design – the sectors mapped in the Engineering¹⁰ and Digital Groups¹¹.

⁶ Commission Staff Working Document 'Design as a driver of user-centred innovation' Brussels, 7.4.2009, SEC(2009)501 final.

⁷ The Design Economy: The Value of Design to the UK, 2015, UK Design Council.

⁸ Galindo-Rueda, F. and V. Millot (2015) "Measuring Design and its Role in Innovation", OECD Science and Technology and Industry Working Papers, 2015/01, OECD Publishing.

⁹ Creative Clusters: Economic Analysis of the Current Status and Future Clustering Potential for the Crafts Industry in Ireland. Indecon, 2013.

¹⁰ The Design Sectors in the Engineering Group relates to businesses classified specifically under NACE Rev 2 71.12, 16.29 and 26.4. Businesses that undertake engineering activities in support of other key business function are included in the cohort of firms in the Wider Enterprise Base.

¹¹ No business sectors are mapped to the Advertising Group.

In this analysis, estimates for GVA and exports from design-related business activities in Ireland are limited to measurements based on the Design Sectors.

Businesses outside of the Design Sectors are collectively termed the 'Wider Enterprise Base' and estimates of GVA and exports stemming from design activities in the Wider Enterprise Base cannot currently be measured for the Irish case.

Estimates for employment in design are based on two different approaches:

1. Employment in the Design Sectors

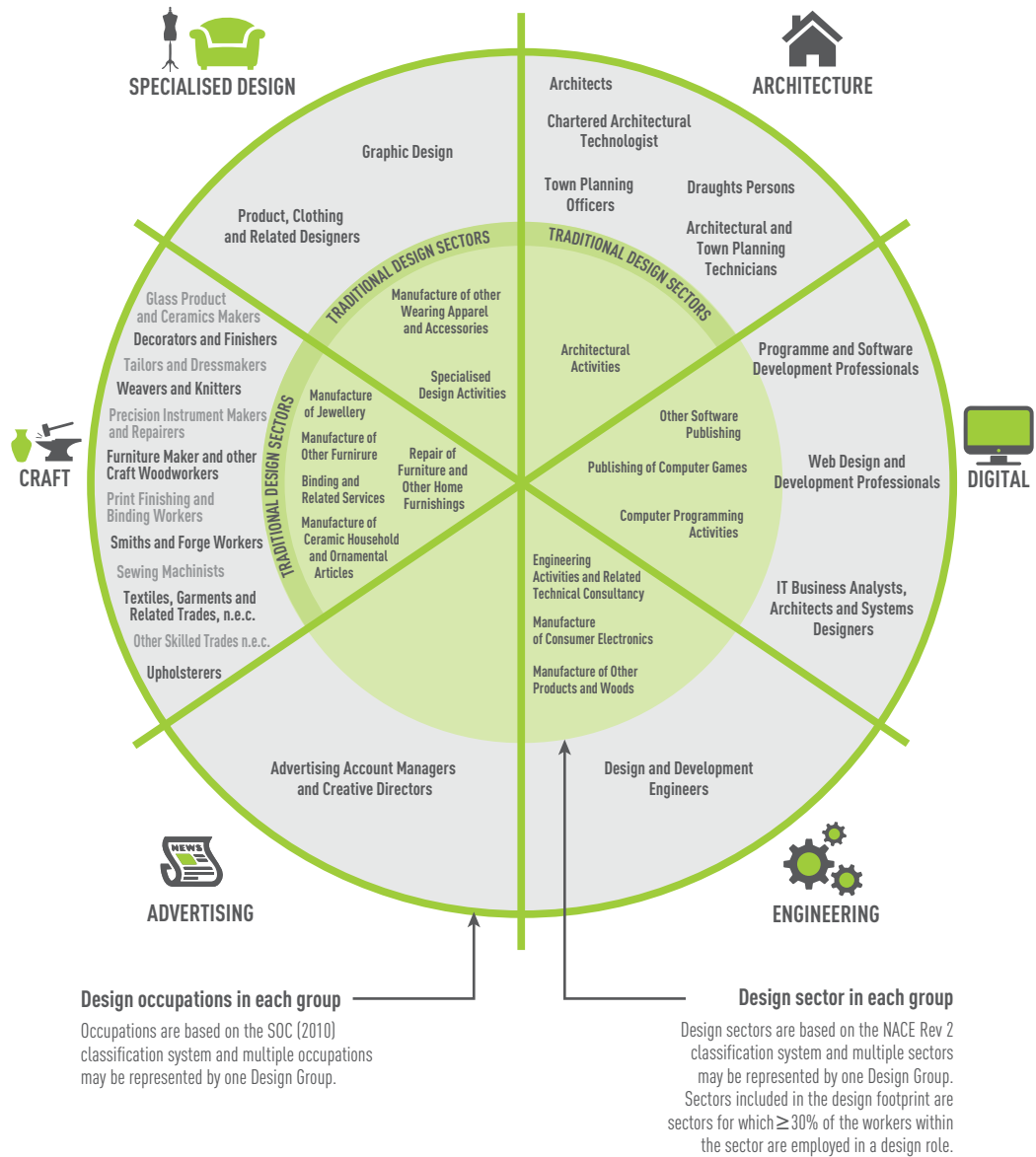
In this case, employment figures quoted relate to total employment in a Design Sector, i.e. employment in design roles plus employment in non-design roles of firms in the sector.

2. Employment in Design Occupations across the Total Economy

In this case, employment is measured based on all workers that are employed in design occupations, regardless of which sector they are employed in: this measure of employment includes employment in design occupations in enterprises in Design Sectors and the Wider Enterprise Base as well as in Non-Business Sectors of the Economy.

To support measurement of employment in design occupations across the total economy, a set of design occupations was assigned to each Design Group in the map of the 'Irish Design Footprint' and these are represented in the outer circle of Figure 1 by their descriptive names as assigned in the Standard Occupational Classification System (2010).

Figure 1: Defining the 'Irish Design Footprint' for measuring the economic contribution of design: map of the Design Sectors and design occupations assigned to each of six Design Groups.



MEASUREMENT OF THE ECONOMIC CONTRIBUTION OF DESIGN

Occupation data allows for estimating total employment of workers in design roles across the whole economy, including employment in design roles in:

the Design Sectors
plus **the Wider Enterprise Base**
plus **Non-Business Sectors of the Economy**

Design Sector data allows for measurement of:

- GVA in a Design Sector
- Exports from a Design Sector
- Employment in a Design Sector: where employment relates to employment in design roles in the Design Sector
plus employment in non-design roles in the Design Sector

Economic measurements of the 'Irish Design Footprint' are based on data from the Central Statistics Office (GVA and employment) and the Department of Jobs, Enterprise and Innovation (exports).

2. The Economic Contribution of Design

Based on measurements associated with Design Sectors and design occupations as mapped for the 'Irish Design Footprint', design has a significant economic impact on the Irish Economy¹².

In summary, the importance of design is demonstrated by the contribution of designers to total employment in the economy (2.48% in 2014) and the contribution of the **Design Sectors** to total exports from Ireland (estimated at 19.5% in 2012, and more than 21% in 2013). This economic impact is heavily influenced by activities associated with design occupations and Design Sectors of the Digital Group; however, non-digital design roles contributed 1.28% to total employment (in 2014) and the remaining Design Sectors contributed more than €0.94bn¹³ to exports (in 2012).

The research indicates that the employment impact for Ireland based on employment in design occupations is comparable to that in the UK when compared on a similar basis. However, design exports are greater in absolute terms for Ireland than for the UK (based on the utilisation of a similar set of Design Sectors in the measurement).

The more detailed set of findings are set out below.

Findings on Employment in Design Occupations across the Total Economy

1. Employment in design occupations in Ireland¹⁴ ranged between 45,000–48,000 over the years 2011- 2014: in 2014 employment in digital design roles accounted for 48% of employment in design occupations in Ireland.
2. The average contribution to total employment in Ireland was 2.48% per year by design occupations over the 2011-2014 timeframe.
3. Growth in employment in design occupations was 6.7% over the 2011-2014 timeframe, thus broadly keeping abreast with growth in employment in the overall Irish economy over this period.
4. The impact on total employment in Ireland by persons working in design occupations is similar to that in the UK when compared on a 'like with like' measurement basis.¹⁵
5. UK data also indicates that a high proportion of employment in design roles is contributed from the occupations associated with the Digital Group: in 2014 employment in digital design roles accounted for 38% of employment in design occupations in the UK.
6. Designers are employed across the Irish economy as demonstrated in Figure 2, which indicates the proportion of designers employed in the NACE Rev 2 categories of economic activity.¹⁶

¹² Full details can be found in The 'Irish Design Footprint': Economic Value and Characteristics, DJEI, 2016.

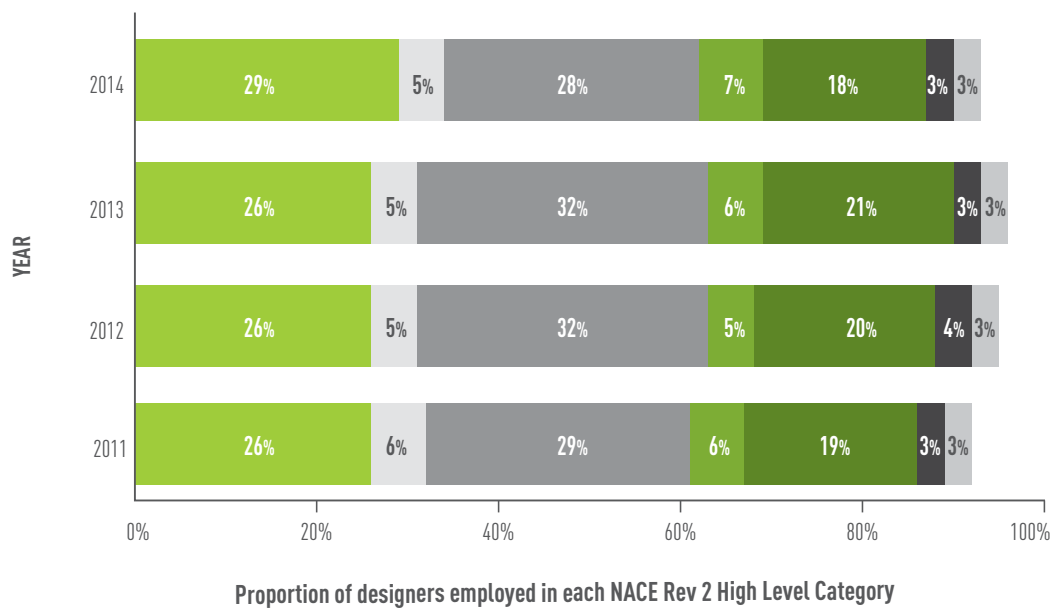
¹³ The estimate of exports was based on exports from firms with 10 or more persons in employment. It is acknowledged that many enterprises in the Design Sectors associated with the Specialised Design and Craft Groups are smaller than 10 person businesses, and so exports from these businesses are not included in the estimates of exports from the Design Sectors.

¹⁴ Excluding the design occupations related to Advertising.

¹⁵ Definitions of the 'Design Footprint' may be varied to encompass a narrower or broader footprint based on the data available/approach taken.

¹⁶ Sectors identified for inclusion in the 'Irish Design Footprint' which are associated with Architecture, Specialised Design and Engineering are included in Category M and B; sectors associated with Digital Design are included in Category J; and sectors associated with Craft are included in Category B.

Figure 2: Proportion of total persons employed in design occupations in each of the different Categories of Economic Activity (based on NACE Rev 2 classification system).



- B - Mining and Quarrying, C-Manufacturing, D-Electricity, Gas, Steam and Air Conditioning Supply, E-Water Supply
- G - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles
- J - Information and Communication
- K-L - Financial, Insurance and Real Estate Activities
- M - Professional, Scientific and Technical Activities
- O - Public Administration and Defence; Compulsory Social Security

Source: Central Statistics Office, Quarterly National Household Survey (QHNS)

Findings on Employment and GVA in Design Sectors

7. Considering the three Design Sectors in the 'Irish Design Footprint' for which data was available for Ireland in 2011/2012¹⁷, it was determined that the contribution to total employment and GVA by firms was highest in the Engineering Activities and Related Technical Consultancy Sector¹⁸, followed by the Architectural Activities Sector¹⁹ and then the Specialised Design Activities Sector²⁰: this is typical across other European countries also²¹.
8. Based on contributions to the economy for both employment and GVA, Ireland performs best for the Specialised Design Activities Sector in terms of ranking position against other European countries: on this basis the next best performer is the Architectural Activities Sector and then the Engineering Activities and Related Technical Consultancy Sector.

¹⁷ Neither total employment nor GVA across all the Design Sectors mapped for the 'Irish Design Footprint' can currently be measured for Ireland based on the available official statistics for Ireland.






¹⁸ NACE Rev 2 71.12

¹⁹ NACE Rev 2 71.11

²⁰ NACE Rev 2 74.1

²¹ Eurostat Structural Business Statistics: Detailed Annual Enterprise Statistics.

Figure 3: Exports from Design Sectors within the Design Groups of the 'Irish Design Footprint'.

Design Groups	Exports from Design Sectors in Ireland					
	2008	2009	2010	2011	2012	2013
	€m	€m	€m	€m	€m	€m
Engineering 	648.8	620.3	623.6	887.0	858.5	952.6
Architecture 	12.7	9.3	9.5	13.5	16.6	<i>c</i>
Specialised Design 	17.2	14.3	21.7	33.4	34.2	41.2
Digital 	25,352.8	24,944.9	26,199.8	30,653.9	33,699.7	37,360.1
Crafts 	44.7	28.0	37.6	38.4	33.4	39.1
	26,076.2	25,616.8	26,892.3	31,626.2	34,642.4	(>38,000)

Source: Annual Business Survey of Economic Impact 2013, Department of Job, Enterprise and Innovation

Findings on Exports (by agency-client firms) from Design Sectors

9. The total exports by agency-client firms in Design Sectors as included in the definition for the 'Irish Design Footprint' was more than €34bn²² in 2012 as indicated in Figure 3: 19.5% of total exports in the Irish economy in 2012²³.
10. Exports from the agency-client firms operating in the Design Sectors increased by 33% over the period 2008-2012, significantly greater than the average export growth rate of 12.6% for agency-client firms across all business sectors in the economy over the period.
11. The Design Sectors that are associated with the Digital Group are a dominant source of exports for Ireland. Agency-client firms operating within the Design Sectors of the Digital Group represent 97% of total exports by agency-client firms within the Design Sectors of the six Groups in the 'Irish Design Footprint'. The Design Sectors in the Digital Group account for 19% of total exports from Ireland in 2012 and these exports are predominantly associated with the FDI base in Ireland.
12. Outside of the Digital Group, exports by agency-client firms in the other Design Sectors was estimated as €0.94 bn in 2012 or 0.54% of total exports in the economy in 2012: the sectors in the Craft, Architecture and Specialised Design Groups accounted for ~ €85 million²⁴, and ~ €860 million was accounted for by the sectors in the Engineering Group.

²² It is noted that exports are only estimated for firms with 10 or more persons employed and only for agency client firms, thus the figures quoted as the export value of the Design Sectors in Ireland underrepresents the total value of exports from these sectors.

²³ 2012 data is reported here, as export data for the Architecture Group was not available in 2013 for confidentiality reasons, and so more detailed reporting of exports at Group level is not feasible for 2013.

²⁴ It is recognised that exports from businesses with less than 10 persons engaged, and non-agency client firms, are not included in this figure for exports. As many businesses in the sectors related to these Design Groups have less than 10 persons engaged, this export figure is an underrepresentation of the contribution from the cohort of businesses in these sectors.

13. Based on a 'like by like' comparison of exports from Design Sectors²⁵ in 2013, it was determined that exports from the Design Sectors were higher for Ireland²⁶ than the estimate of exports for the UK.

²⁵ It is noted that exports related to the Engineering Activities and Related Technical Consultancy Sector (NACE2 72.12) is not included for either the UK or Ireland in this comparison of export value.

²⁶ Exports from Ireland by agency client firms in the Design Sectors were > €37.8bn in 2013 – excluding the Engineering Group. Exports from a similar set of Design Sectors in the UK in 2013 was €9.8bn (though when an estimate was made of the value of exports from the Wider Enterprise Base, then the total value of design-related exports – Design Sectors plus the Wider Enterprise Base – was reported as €34bn for the UK).

3. Characteristics of the Design Workforce in the Total Economy

Based on the design occupations defined in the 'Irish Design Footprint' it was found that individuals working in design roles in Ireland are employed right across the economy, and thus employment in design roles is not limited to employment in the Design Sectors^{27,28}.

Figure 4: Characteristics of the Design and Total Workforce in Ireland in 2014

	Ireland: 2014	
	Design Workforce	Total Workforce
Gender	75:25 male:female	54:46 male:female
Age	91% <55 years	83.6% <55 years
Qualification	66% with third level	54% with third level
Part-time	10%	23%
Nationality	21% non-nationals	14.8 non-nationals
Employment Status	23% self employed	17% self employed

Source: National Skills Bulletin 2015, Expert Group for Future Skills Needs -based on CSO, QHNS data.

As indicated in summary in Figure 4, the designers working in the Irish economy tend to be younger, more commonly male, more engaged in full-time employment, and attain higher levels of third level qualifications when compared to the average of the national workforce in employment (though some deviations from this profile are observed when viewed at the Design Group/occupation level). Outside of the Digital Group, designers also tend to be more entrepreneurial in nature than the general workforce as is reflected by the higher likelihood of designers to be self-employed.

The more detailed set of findings are set out below.

1. Workers across all Design Groups are mostly male at approximately 75% of the design workforce employed in 2014. This compares to the male representation of 54.3% of the total workforce in employment in Q4 2014.
2. Designers mostly work full-time, with approximately 90% of the total design workforce in employment being in full-time employment in 2014. This is higher than the overall proportion of full-time workers in employment across the economy, which was estimated as 77% of the total 1.94 million persons in employment in Q4 2014.
3. Designers are represented by a larger proportion of younger workers than the national average. Overall, the proportion of the design workforce in employment in 2014 that were aged >55 years was 8.7%. In comparison, those aged >55 years accounted for 16.4% of the total in employment in the country in Q4 2014.

²⁷ Full details can be found in The 'Irish Design Footprint': Economic Value and Characteristics, DJEI, 2016.

²⁸ See finding 6 in previous section.

4. One fifth (21%) of the designers in employment in Ireland in 2014 were non-nationals. In comparison, non-nationals accounted for 14.8% of total employment across the full economy in Q4 2014.
5. Designers demonstrate a higher level of third level qualifications than the national average in employment. Overall 66% of the design workforce in employment in 2014 had third level education. This compares to 54% of those in employment in Q4 2014 in the total economy having a third level qualification. However, it was determined that the proportion of workers with third level qualifications in the Craft Design Group are below the national average, as are the workers in web-design occupations.
6. Outside of designers in the Digital Group, designers are more likely to be self-employed than other workers in the total Irish workforce. Furthermore, these self-employed designers are more likely to work alone than workers in other occupations in Ireland.
7. The design workforce characteristics are found to be similar in the UK and Ireland, relative to the national workforce characteristics in each country.

4. Profile of Businesses in Design Sectors

The Design and Craft Council of Ireland, as part of the ID2015 initiative, undertook a business profiling exercise focusing primarily on businesses in the more traditional Design Sectors and sub-sectors, which included:

- Architecture
- Communication/Graphic Design
- Product/Industrial Design
- Animation
- Craft

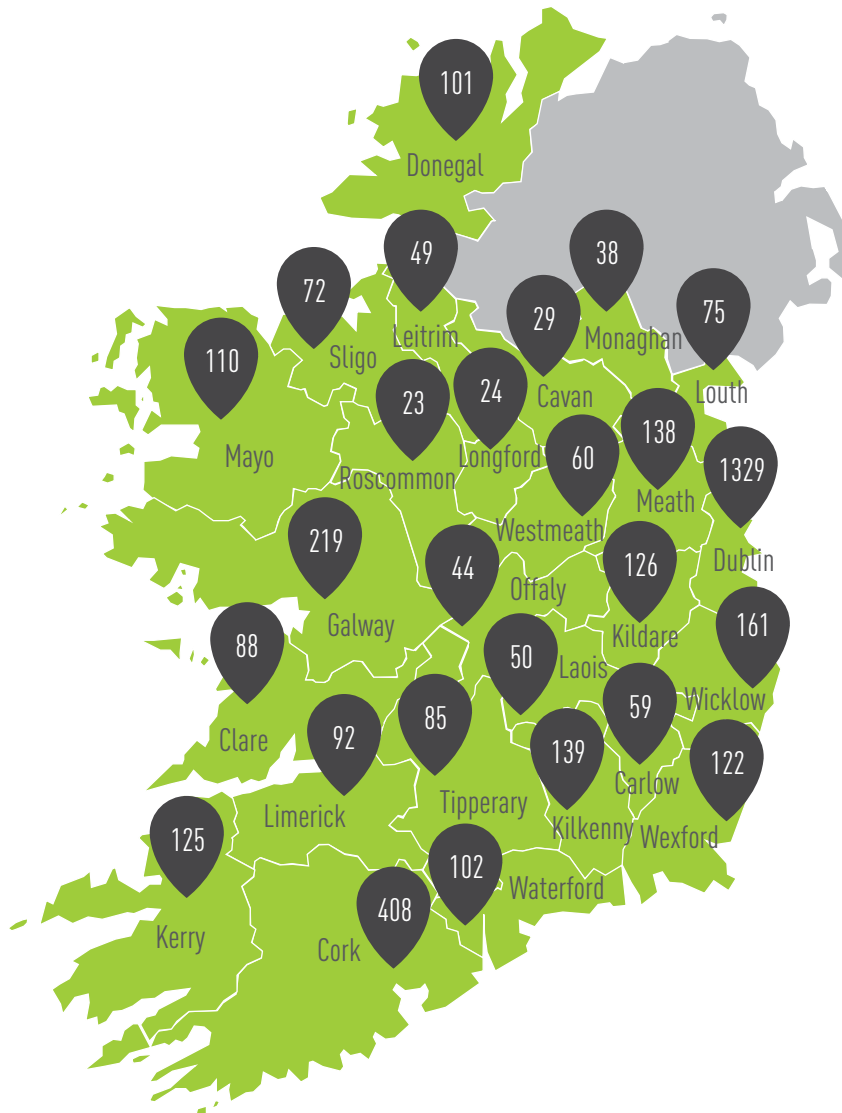
However, a profile of businesses in an emerging sub-sector of design (termed here 'Design for Electronic Media'²⁹) was also undertaken.

The research indicates that there is a strong regional spread of design businesses and a prolific number of start-ups across the segments studied. However, the research also presents a picture of fragmentation and constrained productivity which is related to small business size and scale, and longevity of businesses.

The more detailed set of findings are set out below.

1. The craft-related businesses represent a majority of the design businesses in Ireland, at over 70% of the design businesses in the population studied.
2. Design businesses in traditional Design Sectors and the emerging sub-sector of 'Design for Electronic Media' are spread across the country, but there is a significantly higher density located in Dublin than in other regions as indicated in Figure 5. The notable exception to this is for craft-related businesses which are found to be more evenly dispersed across the country.
3. There is a strong start-up culture across the traditional Design Sectors and the 'Design for Electronic Media' sub-sector: start-ups represented almost 1 in 5 businesses across the population studied.
4. Based on the population studied, design businesses were found to be young with almost 2/3 of them less than 10 years old.
5. The traditional Design Sectors and the sub-sector of 'Design for Electronic Media' are characterised by a high proportion of small and micro businesses.

²⁹ This emerging sub-sector is based on a mix of activities including those associated with Programming and Graphic/Communication design. While both of these sectors/sub-sectors have been considered separately for the economic measurement it is recognised that a new sub-sector 'Design for Electronic Media' is developing which may not be reflected in its own right in the NACE 2 coding system of business sectors, and is thus worth including in the profiling exercise. This sector was defined to reflect businesses in multimedia design, user experience design, web design, app design and interaction design.

Figure 5: Number of Design Businesses in each county in Ireland.

Source: Profile of Business in the Traditional Design Sectors, January 2016, A Report for the Design and Craft Council of Ireland, by Con Kennedy.

5. The Role of Design in Businesses in the Wider Enterprise Base in Ireland

Research was undertaken to examine the role and importance of design in firms in the Wider Enterprise Base in Ireland for which design is not a primary business function (i.e. in sectors outside of the Design Sectors)³⁰. For the purposes of this research, design activities in firms in the following sectors were investigated:

- Advanced Manufacturing
- Food and Drink
- Medical Devices and Pharmaceuticals
- ICT Hardware and Software
- Environment: Construction, Energy Efficiency, Waste
- Services

The evidence highlights that there is a cohort of businesses in Ireland that operate outside of the Design Sectors but place a strong emphasis on design-related activity. There is agreement amongst these design-active firms that design is:

- Key in development of new/improved goods/services
- Important in achieving customer satisfaction
- Important to Ireland's business reputation
- Important to a firm's competitiveness, and that investing in design results in increased profitability and export share.

However, the analysis also reveals that these businesses are much further advanced in their engagement in design than the broader population of firms in Ireland.

The research provides for demonstration of good practices of design in firms, which, if developed in non-design-active firms within the Wider Enterprise Base, could support increased levels of development of new/improved goods and services, thus driving improved competitiveness in the firm base in Ireland.

The key findings in relation to design-active firms in Ireland in the Wider Enterprise Base are summarised as follows:

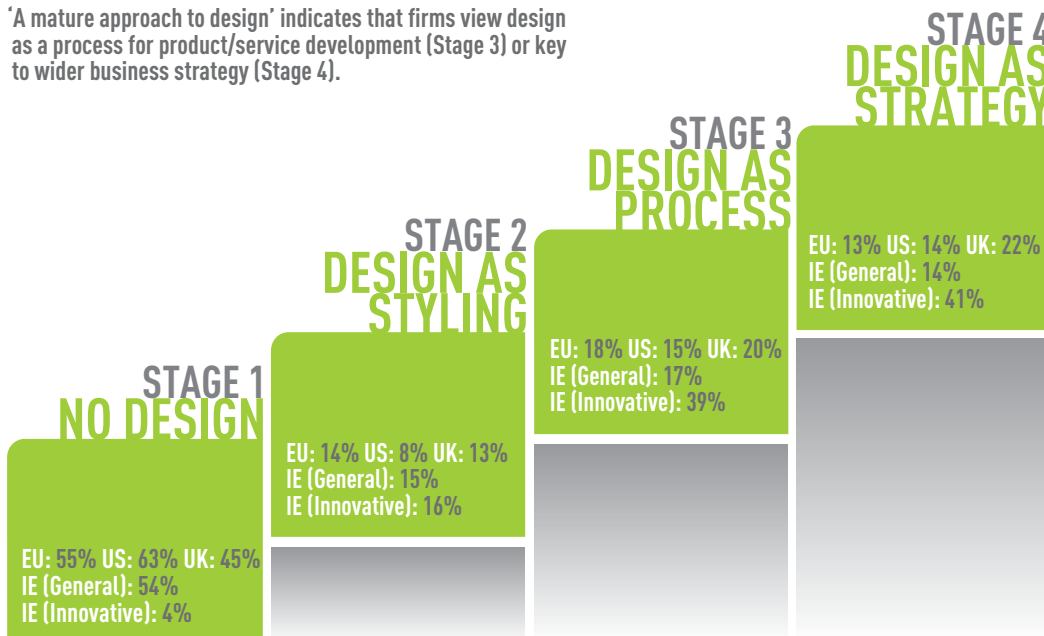
1. These firms consider design as key to competitiveness and innovation, customer satisfaction and important to Ireland's business reputation. A majority of design-active firms responding to a survey considered that design can increase a company's profitability (83% of firms) and export share (73% of firms). These findings are broadly consistent across design-driven firms of different size, sector and ownership.
2. The role of design as an element of the goods/service development process is considered particularly important, with design being employed across multiple stages of the goods/service development continuum from concept to implementation. Furthermore, 77% of the firms responding to a survey considered design to be part of the R&D process.

³⁰ A number of software-related business sectors were mapped as Design Sectors in the 'Irish Design Footprint' due to the higher level of designers considered to be working in these sectors. However, it is recognised that in comparison to the other Design Sectors of significance for Ireland, the primary business functions of the enterprises in these software-related sectors is not one of design. For that reason, software is also included for study in this investigation of the role of design in the Wider Enterprise Base.

3. Design in these companies is characterised by high level strategic commitment, development of internal design capacity, collaboration with external partners in the third level sector, and selective use of external design services.
4. There are subtle differences with regards to the perspective and level of engagement in various aspects of design in accordance with firm size, firm ownership and industry sector.
5. These firms tend to adopt a 'mature approach to design' with 80% of the design-active firms that responded to a survey viewing it as either key to product/service functionality (Stage 3 of the Design Ladder) or wider strategy (Stage 4 of the Design Ladder, see Figure 6).
6. These firms take a much more mature approach than is taken more generally by the total enterprise base in Ireland (31% of firms adopting a mature approach-active at Stage 3 or Stage 4 of the Design Ladder), the UK (42% of firms adopting a mature approach) and across Europe (32% of firms adopting a mature approach) as is indicated in the data presented in the Design Ladder illustration in Figure 6.
7. Given their mature use of design, few of these design-driven firms reported significant barriers to using design in their business. Of those barriers identified, the primary barriers are the availability of time and finance and the difficulty in making the case for design activity internally.
8. The economic impacts of design are evident in its role in generating and safeguarding business activity in these design-active firms and links between design and employment growth in these firms was also demonstrated in the research.

Figure 6: Use of the Danish Design Ladder Model to: A) Benchmark design maturity of the total enterprise base in Ireland [IE (General)], against enterprises in the US, UK and across Europe; and B) Compare design maturity of the total enterprise base in Ireland with that of a cohort of design-active innovative firms in the Irish enterprise [IE(Innovative)].

'A mature approach to design' indicates that firms view design as a process for product/service development (Stage 3) or key to wider business strategy (Stage 4).



The **Danish Design Ladder** was developed as a tool to measure the level of design activity and determine the degree of strategic importance attributed to design in businesses. This measurement system is currently considered the best practice model for international comparisons of design in the enterprise base.

Source: Flash Eurobarometer 41-INNOBAROMETER 2015 - THE INNOVATION TRENDS AT EU ENTERPRISES, European Commission, 2015 and CMI Survey of Irish-based firms IE[Innovative].

6. Policy Framework for Design in Enterprise in Ireland

The evidence confirms that design plays a significant role in the Irish economy in terms of absolute economic impact and from a regional dimension of economic activity. A 'Policy Framework for Design in Enterprise in Ireland' was developed based on the opportunities identified for advancing the role of design in support of business and economic sustainability and growth. The following six elements constitute this 'Policy Framework for Design in Ireland':

1. Increased use of Design-Driven Innovation in the Wider Enterprise Base

There is significant opportunity to further enhance the innovation effort of firms in Ireland and consequently the competitiveness of the firm base through driving for greater levels of engagement in design across the Wider Enterprise Base. The focus should be on driving design activities related to development of goods/services and strategy development.

The State has a role to play in raising awareness of design and its potential impact amongst these firms. Furthermore, barriers cited by companies in the research were finance-related and time-related. Thus, there is a need to ensure that State supports offered for innovation activities are eligible for design activities related to development of products/services. There is a challenge for design, like other knowledge based assets, in securing finance, and alternative funding options need to be kept under review.

2. Building Scale in the Design Sector

The challenges inhibiting productivity across the traditional Design Sectors studied are associated with business survival, size and scaling, and fragmentation. A key opportunity for addressing these issues is through seeking to achieve the benefits of economies of scale.

To address this opportunity, there is a role for the Design Industry, together with the Design and Craft Council of Ireland, in terms of developing a coherent and consolidated mechanism for representation of the various Design Sectors and supporting networking and collaboration activities across design businesses.

3. A Step-Up in the Engineering Design Sector

The research indicates an opportunity for increased economic impact from design in Ireland by focusing on increasing activity in the Engineering Activities and Related Technical Consultancy Sector. Comparison of GVA and employment impact measurements across European countries for the Engineering Activities and Related Technical Consultancy, Architectural Activities and Specialised Design Sectors indicates that Ireland performs best on a comparative basis for Specialised Design, followed by Architecture, and has the lowest ranking for Engineering Design.

Given that in absolute terms the Engineering Activities and Related Technical Consultancy sector is typically the biggest contributor to GVA and employment in each European country (of the three aforementioned sectors), this finding highlights that there is an economic opportunity for Ireland and further attention should be focused on achieving a step-up in this Engineering Design Sector.

4. Supporting Entrepreneurship in the Design Sectors

Design enterprises are broadly based across Ireland and there is a strong cadre of young firms in key traditional Design Sectors. There is a role for the funding bodies in supporting entrepreneurs in design who have ambitious plans: through exports supports from Enterprise Ireland for those considering international expansion; as part of the entrepreneurship programmes of the Local Enterprise Offices; and via programmes of the Design and Crafts Council of Ireland.

5. Developing Skills and Talent in Design

Developing a strong Design Industry and increasing the engagement in design-driven innovation in the Wider Enterprise Base will help to retain, attract and nurture design talent in Ireland. A key element in strengthening any industry is ensuring that the appropriate skillsets are being developed to help the industry to thrive.

Additionally, a number of more specific opportunities were highlighted through the research: connecting and transferring skills of designers across the Design Sectors and the Wider Enterprise Base; and developing improved business skills amongst designers.

To address the opportunities associated with skills, there are roles for:

- Funders in education and training, and policy makers – in reviewing the educational offerings for design courses to ensure that they are fit for purpose and reflect the career opportunities that now exist for graduates in new and emerging areas.
- The Design Industry itself together with the Design and Crafts Council of Ireland – in terms of developing clearer career paths for designers; and supporting networking and collaboration activities with participation from design businesses, designers, and the Wider Enterprise Base.

6. More Females in Design Roles

Based on an analysis of the workforce in design occupations across the economy, the research also indicates opportunities to increase the participation of females in design roles.

To support the shift in the balance of female participation in the design workforce, there is a role for the State to play in increasing awareness and promotion of design roles in Irish-based enterprises. There is also a role for the Design Industry itself together with the Design and Craft Council of Ireland in developing clearer career paths for designers.





An Roinn Post, Fiontar agus Nuálaíochta
Department of Jobs, Enterprise and Innovation

Department of Jobs, Enterprise and Innovation,
23 Kildare Street | Dublin 2

Eircode: D02 TD30

tel: +353 1 631 2121

email: info@djei.ie

web: <http://www.djei.ie>