Developing the vision for Waterford as an international centre for glass design and making

June 2015
CONTENTS

Executive Summary ........................................................................................................................................3

1. Project Process and Methodology ..................................................................................................................9

2. Project Context ................................................................................................................................................10

   Economic situation in Waterford ..................................................................................................................11

   Tourism in Waterford ....................................................................................................................................12

   Profile of the glass sector in Waterford ..........................................................................................................16

   Analysis of education for glass design and making in Ireland .....................................................................22

   Educational needs and development potential ..............................................................................................23

   Market trends in glass production and assessing the market for glass .........................................................26

   Best practice international models ..................................................................................................................31

3. Rationale for Sectoral Development – Business Case ....................................................................................37

4. Strategic Priorities and Recommendations ..................................................................................................41

   Vision for a proposed international centre for glass in Waterford ..............................................................41

   Key objectives .................................................................................................................................................42

   Recommendations .......................................................................................................................................43

   Diagram 1: National Support Model .............................................................................................................44

   Diagram 2: Regional Support Model ............................................................................................................46

5. Risks and dependencies associated with the project .....................................................................................51

6. Outline Implementation Plan ..........................................................................................................................53

   Appendix 1 - Desk Research .......................................................................................................................57

   Appendix 2 - Consultation Lists ...................................................................................................................59
EXECUTIVE SUMMARY

INTRODUCTION

Karan Thompson Consulting (KTCL) was retained during 2014 by the Design and Crafts Council of Ireland (DCCoI) to carry out research into developing a Vision for Waterford as an International Centre for Glass Design and Making, with a view to identifying a clear path for the development, sustainability, funding and implementation of such a proposition.

This research project is set against the backdrop of the Design and Crafts Council of Ireland’s involvement in the INTERREG IVC funded INNOCRAFTS project. A key ambition of the INNOCRAFTS project is the transfer of good practices in the development of the arts and contemporary crafts sector, based on international models of excellence, and specifically in the case of this report, from the outcomes of a learning journey by key stakeholders in Waterford into successful models of glass development in France – specifically Lalique and Meisenthal.

The championing of the glass sector in the Waterford region by the DCCoI, not least of which in its support of the industry with key agency partners for the Symposium: Future Legacy – Contemporary contexts for Glass in Tourism, Design and Technologies due to be held during September 2015, shows a continued commitment to supporting artistic and industrial practice in the material in a coordinated manner, which has the capacity to impact the economic fortune of the Waterford region over time.

The highly successful DCCoI Year of Irish Design 2015 together with the bid, led by Waterford (on behalf of the Three Sisters region), to win the title of European Capital of Culture 2020 presents an opportunity for the DCCoI to work with key partners to activate the recommendations of this report in the short term.

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1 http://www.innocrafts.eu
2 http://www.dccoi.ie/craftspeople/opportunities/symposium-future-legacy-contemporary-contexts-for-glass-in-tourism-design-a/
3 http://www.irishdesign2015.ie/
4 Waterford is currently leading a bid for the Three Sisters region (Kilkenny, Waterford and Wexford) to win the title of European Capital of Culture 2020. See www.threesisters2020.ie
5 Images used in this report are courtesy of the Irish Handmade Glass Company and J. Hill's Standard, both based in Waterford.
Irish Handmade Glass Company, Waterford, Courtesy DCCol
PROJECT TERMS OF REFERENCE

The terms of reference for the project were defined as providing:

- An assessment of the current situation in Waterford and a business case for the feasibility of and demonstrable need for a centre of excellence based in Waterford
- An overview of the proposed model for glass making and design in Waterford and the impact such a centre could have on business, innovation, skills development, cultural, tourism and economic development of Waterford City and County
- A review of the recent INNOCRAFTS funded visit by key stakeholders in Waterford to the Centre International d’Art Verrier (CIAV) Meisenthal, France and their response to the potential for/appropriateness of developing a similar model in Waterford
- A series of recommendations outlining next steps for implementation of the proposed model
- An outline of resourcing required at national, regional and local level to ensure progress and development of recommendations
- An estimated timeline for development

This report provides a detailed analysis of the outcome of the research process. It responds to the potential for redevelopment of the glass sector in Waterford led by DCCoI, the possibility to reposition the city and its hinterland as a centre of excellence in glass and the investigating the part that glass can play in the future economic development of the region; delivering a high-quality, high value proposition for multiple markets.

How an International Centre for Glass Design and Making might be developed, its sustainability, potential for growth, alignment with strategic priorities for economic development in the region and ultimately its ability to reposition Waterford as a centre of excellence in the medium and which would place it alongside other destinations for glass, e.g. Lalique, Meisenthal, Corning; were questions considered as part of the research process.

Our research has shown that a multi-layered approach to the development of the glass industry is required for a centre of excellence for glass in Waterford to be realised.

An integrated model which responds to the needs of those currently working in micro-enterprises in glass and in tandem focuses on the long-term development potential of a multi-faceted glass industry in the region, we consider is the most appropriate way
forward. Such a model would incorporate studio glass design and production opportunities and position this practice alongside innovation in glass technology across the scientific, architectural and technological spheres. This approach would in turn support the growth and development of art and design-led glass production alongside material application and innovation.

A critical success factor in the delivery of a centre for glass for the region will be the commitment from key stakeholders at national, regional and local level. Referencing international models of best practice, such developments need to be owned by a cohort of committed partners (see Diagram 1) and be designed, developed and delivered against the backdrop of the ongoing economic development and strategic planning for the region in tandem with a response to identified need from those currently working in the sector.

It is our view that embracing the possibility of a new industry in glass production, which references the heritage association and traditional connection of Waterford with glass, will create further opportunities for reinvestment in the artistic, studio and technical applications of glass in the region and in turn enhance Waterford’s re-emergence as a key player in the tableware glass market.

We have outlined below the Vision and key objectives for Waterford in delivering a centre of excellence in glass making and design. The leadership of the Design and Crafts Council of Ireland as the key enabler for this development will be crucial to the success of this proposed glass sector development project.

**Vision for a proposed international centre for glass in Waterford**

Position Waterford as a centre of excellence in glass design and production; a leader in research and innovation for new glass technologies; a hub for clusters of glass practitioners and businesses; and a location where the world’s glass community meet.

**Key objectives**

- Build on and preserve the wealth of skills and current micro-enterprises in glass production in the Waterford region.
  - Increase supports for market development into the international high-end glassware market.
  - Enhance and sustain the capacity and competency of those working within the sector locally to retain legacy skills, develop market share, increase production and improve access to international markets.
Provide appropriate supports to grow and develop the market potential for designed glassware.

Support the ongoing development of existing glass studios in the region.

Develop a new paradigm for glass in Waterford – establishing an identity for new production using innovative technologies and harnessing the potential to grow a new glass industry in the region.

Promote and support the scientific, industrial and artistic elements of glass production.

Work with education partners, specifically Waterford Institute of Technology (WIT) to establish new programmes and research in glass technology to support the potential for a technological-focused glass industry in the region.

Develop and provide access to a bespoke research / production facility which incorporates best practice and learning from international models of excellence.

Utilise the opportunities which arise from the Year of Irish Design 2015 and the region’s bid to win the title of European Capital of Culture 2015 to develop greater international awareness of the region as a centre of excellence in glass.

Enhance the tourism potential and association of Waterford with glass to an international audience.

Revive and re-imagine the story of Waterford and its long association with glass.

Work in alignment with the strategic focus.

Develop a co-ordinated approach to glass tourism in the region, to include, immersive offers for a motivated cultural visitor and a defined glass trail.

**Recommendations**

While we appreciate that developing and delivering a centre of excellence takes time, we consider that much good work has been done and is part of a continuum by key players at national regional and local level to support glass development in Waterford. Notwithstanding this work, the success of such a project will require substantial goodwill and buy-in from a range of key partners at EU, national, regional and local levels. Their willingness to; support the vision and development of the project, provide resources and effective supports and find creative ways to finance the proposition, will be essential for project success.
From the outcome of our research we have outlined the following recommendations for the development of Waterford as a centre for glass making and design.

1. Position the Design and Crafts Council of Ireland, with their attendant expertise, experience and leadership in glass sector development and design, as the key driver/enabler for successful delivery of the project.

2. Set up a working group led by the Design and Crafts Council of Ireland in conjunction with key representatives from national agencies and organisations as outlined in Diagram 1 (page 31) to deliver the vision.

3. Retain an industry leader in glass technology to champion the project and drive the change and development process for glass in the region.

4. Develop an enterprise-focused research and innovation lab for glass design and new technology opportunities to be led by Waterford Institute of Technology.

5. Seek the support of Government partners specifically; the Departments of Jobs, Enterprise and Innovation; Environment, Community and Local Government and Education and Skills

6. Work with the IDA, DCCoI and relevant government agencies to explore the potential for a suitable industry partner in glass (e.g. Google, Corning, Carey Glass) to establish a bespoke research facility and glass innovation centre in Waterford in conjunction with local education partners

7. Target relevant Government Departments to source regional hub funding to assist the development of glass in Waterford.

**IN CONCLUSION**

KTCL would like to take this opportunity to thank all those who took part in the research and consultation process for their input, knowledge, experience and insights which informed this report. We consider that the opportunity for development of the glass sector in Waterford is palpable, and timing for this development sits well against the backdrop of other strategic initiatives across culture, creative industries, tourism, education and economic development of the region at the present time.
1. PROJECT PROCESS AND METHODOLOGY

The research process was completed in four phases as outlined below:

*Phase 1 – Desk Research, Information Gathering, Consultation and Analysis*

**Desk research**

Desk research was carried out on relevant internal and external documentation and online research relating to the subject matter. A full listing of documents accessed during the research phase is included in Appendix 1.

**Consultation Process**

The consultation process phase was carried out using a range of methods which provided opportunities for issue identification and idea generation. These included:

- **Individual interviews** which were held with a range of stakeholders. Internal interviews were held with relevant DCCoI project personnel and external individual interviews with key informants across multiple sectors including glass industry specialists. Interviews were held during October 2014.

- **A Workshop** was held with those who took part in the INNOCRAFTS funded learning journey to the Centre International d’Art Verrier, Meistenthal, France in 2014. The purpose of this workshop was to ascertain learning from the team in relation to elements of the CIAV model which might have resonance for the development of a Centre for Glass for Waterford.

- **A Focus Group** was held with a number of glass designers and artisan makers identified by the project proposers. The focus group provided an opportunity for open discussion and enabled the research team to fully appreciate the range of perspectives held by those working as glass artists and in micro-enterprises in Waterford.

- **Counterpart learning** was carried out via case studies and individual interviews with industry specialist personnel from models of international best practice including the CIAV, Meisenthal, France, the Corning Museum of Glass, New York, USA and the Bornholm Biennales in Glass and Ceramics, Bornholm, Denmark. Other models referenced during the research process included; the Pilchuck School of Glass, Washington; the Leitrim Sculpture Centre Glass Studio and the Shanghai Museum of Glass.

A complete list of those consulted as part of the research project is contained in **Appendix 2** of this document.
Phase 2 – Findings Document
A Findings Document was developed for the project proposers which highlighted key issues identified during the research process and informed the development of this report.

Phase 3 – Prioritisation of Strategic Goals and Key Recommendations
This phase involved review and analysis of the research findings and the prioritisation of strategic goals and key recommendations included in this report.

Phase 4 – Report Development
The phase involved the preparation of this final report as the outcome of the research and development process.

2. Project Context
This research project is set against the backdrop of the Design and Crafts Council of Ireland’s ongoing involvement in the INTERREG IVC funded INNOCRAFTS project\(^7\). A key ambition of the INNOCRAFTS project is the transfer of good practices in the development of the arts and contemporary crafts sector based on international models of excellence and specifically the CIAV in Meisenthal, France. The research was intended to provide the DCCoI and other relevant stakeholders for glass development with:

- an assessment of and business case for the feasibility of and demonstrable need for a glass centre of excellence based in Waterford;
- an overview of the proposed model for glass making and design in Waterford;
- impacts such a centre would have on business, innovation, skills, cultural, tourism and economic development of Waterford City and County;
- a series of recommendations outlining next steps for implementation of the proposed model;
- an outline of resourcing required at national, regional and local level to ensure progress and development of recommendations;
- an estimated timeline for development.

\(^7\) [http://www.innocrafts.eu](http://www.innocrafts.eu)
ECONOMIC SITUATION IN WATERFORD

In Waterford City and County Council’s 2013 report *One Waterford: Delivering Jobs, Efficiency and Growth*, the current economic situation of the region is described as “very stark”. Waterford has a current population and catchment of approximately 114,000 people. Unemployment in Waterford City, at 19% is higher than the state average, while educational attainment of the workforce, economic output and income are all lower than the state average. It is also considered that deprivation levels in the City are relatively high.

As part of the National Spatial Strategy Waterford is highlighted as a Gateway City; to act as a strategically placed engine of growth to enable the region to grow to its potential. However, according to Forfás, Waterford has failed to fulfil this role due to ‘the lack of genuine buy-in to Waterford as the regional gateway’ and ‘competitive dynamics within the region’.

It is widely recognised that the recent amalgamation of the two local authorities in Waterford presents an opportunity for change. The Economic Development Strategy for Waterford City and County recommends some excellent measures to reposition Waterford as a top-class micro-city at European level, of which the following have the most cross-over with this report:

- Encouraging collaboration with surrounding counties to create ‘critical mass’ at a regional level with Waterford as the engine for growth, and present themselves as such to external investors/visitors.
- Developing the human capital in Waterford through progression of the Technological University of the South East and creating a skills activation programme to address the current labour force/skills deficit.
- Increasing Waterford’s connectivity through both an extension to Waterford Airport and broadband improvement.
- Generating increased Foreign Direct Investment.
- Certain specific tourism interventions, e.g. Mount Congreve.

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8 Implementation Plan to the Minister for the Environment, Community and Local Government – One Waterford – Delivering Jobs, Efficiency and Growth (May 2013)
9 Ibid
10 Economic Development Strategy for Waterford City and County, DKM, Colliers International, Brady Shipman Martin (May 2013)
12 Regional Competitiveness Agenda: Volume II – Realising the Potential South East, Forfás (2010)
13 Economic Development Strategy for Waterford City and County, DKM, Colliers International, Brady Shipman Martin (May 2013)
However, within this development strategy there is no distinct mention of the wider glass sector, outside of WWRD’s contribution to tourism, and no reference as to how any development of the glass sector might play a role in Waterford’s economic future.

On a more positive note the recent development of a regional partnership between the local authority councils in Kilkenny, Waterford and Wexford and led by Waterford is working to focus the collective ambition of the region towards the development of a regional identity. The partnership is currently preparing a bid to win the title of European Capital of Culture (ECOC) in 2020. A focus of the bid will be to harness the creative and collaborative potential of both rural and urban areas, foster new ways of working that connect, support and transform the lives of those living, working and creating in the region, against the backdrop of a shared European heritage.

The development of the glass sector in Waterford in conjunction with ECOC the bid process presents an opportunity for the creative development potential of the region to be realised and ultimately to deliver on the vision for a centre of excellence in glass.

**TOURISM IN WATERFORD**

According to Fáilte Ireland’s Regional Tourism Report, in 2013 the south east region attracted 785,000 overseas visitors (of whom 485,000 were holidaymakers), which

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14 Irish Handmade Glass Company, Image courtesy of DCCoI.
developed. Waterford attracted 225,000 of those visitors that year, equating to €49 million in revenue. The same report shows that domestic tourism to Waterford has fallen from 301,000 visitors /€67 million in 2010 to 242,000 visitors /€49 million in 2013. Waterford is currently attracting a higher proportion of visitors from the older age categories than other regions. This pattern of older day tripping coach and cruise visitors, while much needed, points towards the potential for growth in new market segments. For maximum tourism return to the region, any tourism activities embarked upon under Waterford’s Economic Development Strategy should ideally take account of and where possible align with the supporting activity being spearheaded by the tourism agencies:

- Fáilte Ireland and Tourism Ireland recently conducted a detailed segmentation of Ireland's best prospect international visitor markets. This segmentation is providing ever-increasing focus to Ireland's overseas tourism marketing activity.
- A similar segmentation exercise undertaken for the domestic market is informing all of Fáilte Ireland's domestic marketing activity and the new #ThisIsLiving campaign.
- Fáilte Ireland is also in the process of creating an umbrella proposition for the South and East, in order to create critical mass and increase consumer recognition for the destinations in overseas markets, with the priority market being the Culturally Curious segment. It is anticipated that this proposition will be launched before the end of 2014.

The overseas models selected for analysis (CIAV, Meisenthal, France; Bornholm Biennales, Bornholm, Denmark and The Corning Museum of Glass, New York, USA) demonstrated significant success in regard to tourism development, driving direct and indirect economic activity to their respective regions. Indeed, each of the models studied could be considered to be more rural/geographically isolated than our study area:

- Meisenthal is situated in the Moselle region in eastern France. Meisenthal itself has a declining population (703 inhabitants in 2011 and a 10% decline from 2006 - 2011). Despite its population it has managed to reinvigorate its glass-making community with the development of the Centre International d'Art

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15 Regional Tourism Performance 2013. Fáilte Ireland.
19 http://www.linternaute.com/ville/meisenthal/ville-57456/demographie
Verrier in 1978, focusing on the heritage skills and traditions of glass-making for which the region has been renowned since the 18th century and juxtaposing this with new dynamics and innovations in artistic and studio glass and creating a destination for glass tourism to the region. At Christmas-time alone in Meisenthal the CIAV welcomes more than 15,000 visitors to the centre, with evidence of more than 3,000 visitors making glass purchases during their visit.20

- The Corning Museum of Glass, situated in Corning in upstate New York, a small city with a population of only 11,068, is where Corning Inc. (which recorded revenue of almost $8 billion in 2013) employs 5,000 of its 34,000 strong global staff on business and research campuses. Corning’s Museum of Glass attracts over 400,000 visitors per year to the small upstate city. A New York Times Business Day article about the Corning Museum of Glass puts the tourism impact in context: ‘travel industry representatives say much of the Corning region’s $140 million-a-year recreation and tourism industry is linked to the museum and its outreach programs’.21

- Bornholm, a Danish island in the Baltic Sea, took a different approach to tourism development by initiating in 2006 a series of Biennales, alternating between ceramics and glass. A coalition of local authority, education, design and tourism partners are working with the craft reputation of the area to proactively drive niche, yet incremental, inbound tourism to this remote, rural destination. The island has a population of only 40,000 people, yet its glass museum welcomes a similar number of visitors to the island on an annual basis.

These models demonstrate a significant proportional contribution to tourism revenues in their respective regions. Waterford for its part requires a fresh approach to tourism development which is aimed at the independently minded Culturally Curious market for whom immersive and cultural experiences are central and who stay longer in a destination and spend more during their visit. It also needs to determine what niche, incremental target markets it has the potential to attract, in the way that Bornholm has done. This aligning of focus would enhance the overnight and ‘dwell time’ appeal of Waterford for all visitors at present.

A more fully-developed glass tourism experience, which offers the visitor a closer connectivity with the medium of glass and its history in Waterford, is needed. Such an experience needs to respond to the needs of those who are considered to be culturally curious. There is clear potential to develop such a proposition as part of the European

21 A Museum That Just Can’t Contain Itself, Keith Schneider, New York Times, Business Day 14/10/14 http://nyti.ms/1D9SfUM
Capital of Culture programme for 2020 as an addition to the current visitor experience at the House of Waterford Crystal.

Development of a high quality menu of immersive workshops and/or residency programmes in glass for participants with varying levels of interest and proficiency would be a good starting point. The research showed that this would reinforce the association with Waterford as a place connected with glass. The addition of a glass trail as a cultural attraction was considered important to assist tourists to access geographically dispersed glass experiences in the city and its hinterland.

Educational tourism in the form of school groups was found to be a key driver of visitor footfall to the CIAV, Saint Louis and Lalique sites in France was also considered to be attainable for Waterford. The development of educational tours with interactive elements designed for school-going audiences would build awareness of Waterford as a centre for glass and would cultivate a younger audience profile for glass over time. This positioning would in turn create a greater level of awareness of connectivity with glass to the local community and the presentation of a positive glass story.

In terms of story, Waterford’s long-standing association with glass is not particularly well-told at present. An opportunity exists to contextualise Waterford’s place in the global story of glass, and to modernise the narrative to incorporate the living tradition of glass and its future in the region. The Waterford Museum of Treasures was identified as a prime location to tell this story.

It was expressed that developing a Glass Museum similar to the museum model in Lalique was a requirement for the visitor if Waterford was to be considered a true centre for glass. It is understood that a number private glass collections exist locally and that such collections, would provide options for curated and temporary exhibitions in glass. Given Waterford Museum of Treasures’ status, this allows for formal loans and visiting exhibitions to be received from the National Museum of Ireland and international museums, and in the case of the former, providing an opportunity for Waterford to be the home for the nation’s heritage glass collection and complementary exhibitions.

Using Waterford’s history and connectivity with glass as a motivator for audience development and working in alignment with Ireland’s Ancient East, the new Fáilte Ireland strategic tourism proposition for the South and East will assist in driving tourism numbers and a new profile of visitors to the region.
PROFILE OF THE GLASS SECTOR IN WATERFORD

Since the demise of the Waterford Crystal Ltd as a result of the bankruptcy of Waterford Wedgwood in 2009 Waterford’s association with glass production and design has been severely challenged. The research shows the current situation:

- Waterford holds a significant brand profile in the international market for decorative glass and tableware giving the region a unique identity and position in the global marketplace for glass.
- There is a limited understanding locally of Waterford’s long association with glass, beyond the ownership of the Waterford Crystal brand by WWRD Holdings Ltd (WWRD), KPS Capital Partners.
- A lack of cohesion around Waterford’s glass ‘offer’ and little visibility of glass as a sector in itself.
- A visitor experience and crystal manufacturing facility employing 180 people in the city at the House of Waterford Crystal.

- A range of small-scale crystal and glass production facilities (primarily focused on decorative tableware and giftware and incorporating the skills of blowing, cutting, engraving and some colour work) located in the city and county and

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22 Irish Handmade Glass Company, Image courtesy of DCCoI.
using traditional production techniques. For the most part these micro-enterprises were established by former employees of the Waterford Wedgwood factory after the company’s closure.

- A recent WWRD initiative for continuity in glass-making skills in the region, via 10 City and Guilds accredited apprenticeships offered in glass blowing, sculpting, cutting and engraving at the House of Waterford Crystal. These apprenticeships represent the first of their kind to be offered in the city in the last 25 years and will help to maintain the traditional skill set for glass in the region.

The work of the DCCoI in promoting the development of glass in the region can be seen in its current support for Waterford’s Viking Triangle Trust, Waterford City and County Council and Waterford Institute of Technology who have recently come together to present ‘Waterford: The Glass City’ a range of glass exhibitions, design workshops, lectures by leading glass designers, hands-on glass making opportunities and a Symposium: Future Legacy - Contemporary contexts for Glass in Tourism, Design and Technologies, curated and championed by glass artist Róisín de Buitléar and running throughout the summer of 2015 in various locations within the city.

While there are a number of small-scale glass production facilities in the city and beyond (which primarily focus on functional and decorative tableware and giftware) the region shows a lack of design-led glass making or innovations in new glass technologies. A coordinated approach to glass development is required for Waterford to position itself as a centre of excellence in glass.
Master stipple engraver John Coughlan late of Penrose Crystal. Image courtesy of Waterford the Glass City.
The current picture of the glass sector in the city highlights some significant issues which include:

- the lack of a coherent vision for glass development,
- a requirement for increased awareness of the economic development potential for a sustainable glass industry,
- lack of visibility of a connected glass community,
- the need for a champion who is sufficiently passionate about glass to act as a catalyst for change and development,
- an opportunity to crossover beyond tableware and giftware towards new and innovative uses for or applications of the material,
- a need for the development of meaningful business supports to incentivise those working in glass micro-enterprises,
- a lack of succession planning to maintain heritage artisan skills in glass production
- the need for an identified location for glass history, production or design within the city beyond that provided for by the House of Waterford Crystal and a retail outlet for glass in the city
- a need to develop a compelling visitor experience which promotes Waterford’s glass story

Beyond Waterford, the lack of critical mass in Ireland’s glass sector could partly be explained by the perspective of Dr Caroline Madden of the National College of Art and Design who, in her essay ‘Contemporary Glass in Ireland’\(^\text{24}\) cites the following limiting factors:

- A lack of emphasis on training opportunities for the glass discipline (vis-à-vis ceramics and metals in particular).
- The lack of reinvestment by Waterford Crystal over the years in the expansion and development of the wider glass discipline (when compared with Corning inc. etc)
- The lack of ‘an active, well-located glass public access facility’ which could enable those working in glass to continue to research and develop professional practice, and support the evolution of a distinctly Irish glass media.

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\(^{24}\) Contemporary Glass in Ireland. An essay by Dr Caroline Madden, preface to the print material accompanying the 2013 exhibition: Caution! Fragile, Irish Glass, Tradition in Transition by Róisín de Buitléar.
Elements which were perceived as necessary for the development of a sustainable glass industry in Waterford, from those consulted in the sector included:

- A centre of best practice – blending elements of the CIAV, the Corning Museum of Glass and the Bornholm model
- Creation of Waterford as a destination for visiting glass artists from all over the world
- Development of a distinct brand identity for Waterford (Made in Waterford)
- Stimulation for glass training and cross/multi-disciplinary artistic practice
- Development of minimum level of excellence and industry standards
- Developmental and innovative educational programmes around glass technology
- A visitor experience which incorporates the historical story of Waterford and its association with glass for both visitors and educational tourists
- Additional supports for micro-enterprises in bringing their offer to market and the identification of markets and sales channels
- Development of a glass artist-in-residence programme
- Facilities for glass production
- Identified retail facility
Penrose glass decanter, late-eighteenth century. Collection of the National Museum of Ireland
ANALYSIS OF EDUCATION FOR GLASS DESIGN AND MAKING IN IRELAND

According to the Glass Society of Ireland’s (GSoI) Strategic Plan\(^\text{26}\) and the membership of the Design and Crafts Council of Ireland there are 194 individual glass artists in Ireland working across all areas of glass production, from studio and sculptural glass production to engraving and painting.

The educational landscape for artists wishing to develop their craft using glass as their medium is currently confined to formal education programmes via the National College of Art and Design, which offers an Bachelor of Design (Hons) in Ceramics and Glass and a taught Masters of Design in Ceramic and Glass and the Crawford College of Art and Design which offers a Bachelor of Arts (Hons) in Contemporary Applied Art (ceramic, glass and textiles).

In addition to these university programmes the Leitrim Sculpture Centre Glass Studio operates twice per year for two six-week periods. Its main objectives are to provide a workspace for both professional glass artists and artists working in other mediums within a fine art context, and for training purposes for arts practitioners – teaching beginners and intermediate level glass blowing. It provides a range of facilities to hire and affordable rental rates and artists travel from all over Ireland and other parts of Europe to produce their work at the centre.

The Leitrim glass facility is in receipt of funding via a combination of the Arts Council of Ireland, the Peace and Reconciliation Fund, Leitrim County Council and the Leitrim Development Fund. It is located in a rural town with poor transport links which impacts the numbers attending its programmes\(^\text{26}\). In addition she notes that “access to a pool of skilled glass artists who would become regular users (especially if NCAD is not providing hot glass training)” is a challenge for the Centre as is the “increased availability of cheaper small scale furnaces”. Louise believes that the workshops and residency programme and availability of studio and gallery space are key elements in enticing regular professional users to the facility, from her perspective, access to “equipment in itself is not enough”\(^\text{27}\).

The DCCoI provides expert mentoring services which are available for those working in product design and new technologies in glass, a conscious approach towards the continued development of creative makers via its Future Makers Awards and Supports

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\(^\text{26}\) A three year vision: The Future of GSoI. http://glasssocietyireland.wix.com/gsoi
\(^\text{27}\) Insights from an interview with Louise Rice as part of the counterpart learning consultation element of the research process. October 2014
and the National Craft Gallery's programme of conferences, seminars and talks throughout the year.

The GSol has a strong educational focus for glass makers and holds a series of evening lectures with international glass artists visiting Ireland each year. They held an international symposium in 2013 entitled 'Orientate' at the Crawford College of Art and Design which incorporated a range of international speakers from the UK, USA and Slovenia and organise an annual skills-building workshop in a different area of glass production each year.

Ireland does not currently offer any formal programmes in glass technology or innovation in new uses for glass within its formal education sector.

**Educational needs and development potential**

The research highlighted a requirement to develop educational supports which would provide a backbone for the development of a centre for glass design in Waterford. It was believed that a range of educational opportunities needs to exist to connect the historical links of making through the material of glass from artistic and studio glass towards contemporary materials application in relation to scientific, environmental, technological, architectural glass etc. From the research findings required educational supports ranged from:

- Market focussed supports for micro-enterprises and SME’s in the glass sector
- Preservation of skills in traditional glass practices in the city (cutting, sculpting, engraving and blowing)
- Development of a centre within WIT for research excellence / incubator space embracing new technologies in glass and applications for the material which would include architectural, scientific, technological, privacy, security and environmental uses
- Development of a materials library connected to and located within the WIT
- Master-classes, invited artists-in-residence
- Research and innovation
- Programmes for art/design-led glass production
- Programmes to support glass production
- To the potential for the development of a Level 7 capability within WIT for up to 15 students per year to establish a sectoral identity for glass (beyond crystal) in Waterford

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28 Akin to the materials library connected with the London School of Engineering at the Institute of Making
WIT was considered to be the most appropriate agency to lead the educational programme aspects for glass sector growth specifically in terms of its leadership of the proposed multi-campus Technological University of the South East. The establishment of such a university in the south east is a key recommendation in the programme for Government and is ‘seen as a critical component of the infrastructure required to ensure sustainable economic development in the region’.\textsuperscript{29}

This proposed project is currently stalled but it is understood that negotiations are underway between the Department of Education and Skills and the relevant Institutes of Technology, to reach a satisfactory conclusion and conclude the development and presentation of the business plan for the proposed multi-campus to Government by 2016. It’s intended that the Technological University will;

- be a regional multi-campus university and will operate campuses in Waterford, Carlow, Wexford and Kilkenny
- have over 15,000 students and produce more than 4,500 graduates per annum to meet the needs of industry and enterprise across all disciplines including business, engineering, science and the humanities
- employ over 1,300 staff and is estimated to be worth €250m to the regional economy
- focus on research development and innovation, resourced by a €25m per annum budget, will drive the creation of new knowledge and business in key economic activities such as agriculture, information technology, engineering, tourism, and the environmental, biological and pharmaceutical sciences
- through its multi-campus structure, house and nurture up to 100 new and emerging enterprises as well as creating strategic working partnerships with multinational and indigenous business focussed on job creation activities
- will function as a university of international reputation realising up to 1000 international enrolments through the creation of partnerships in 35 countries across all continents

This combined focus for the university, on economic development through research and innovation and the support and establishment of new and emerging enterprises, reflects the outcomes of the research and elements of a proposed solution for a centre for glass in Waterford.

While it was clear from the consultation that WIT was willing to engage in ways to effectively support the development of glass as a sector in Waterford what was less

\textsuperscript{29} \url{http://www.wit.ie/news/details/all_news/south_east_technological_university_moves_closer_to_becoming_a_reality}
obvious was the educational model that might be developed for optimum results. Consideration was given to the development of a multi-faceted approach to education in glass should this be determined as a requirement. Access to and provision of facilities for artists working in the medium of glass was also considered and it was clearly understood that a level of due diligence would be required to develop the curricular programme elements of an effective programme in glass and that this should reference new ways of thinking and innovative applications for the material.

Developing competency within WIT to support education-related glass sector developments was seen as central to sustainability. The opportunity to develop artist-in-residency programmes for glass artists within the WIT (either using the university’s facilities or facilities in other locations) is obvious. Opening these to the international community of leading glass artists, via possible invitation as the first residency programme participants in order to develop a profile for the programme on an international basis might provide a starting point.

Similar residency programmes in The Studio of The Corning Museum of Glass and the Pilchuck School of Glass in Washington provide the most appropriate reference models of best practice in this regard. Corning’s residencies take place on a year-round basis, with up to twelve artist residencies occurring throughout each calendar year. Pilchuck...
on the other hand offers a wider range of educational residency programmes. Throughout the year it offers residencies in their studios for artists of all levels to experiment and innovate with the material and create new bodies of work. They offer a summer residency programme (which was the foundation programme in the Schools development) These summer residencies allow established visual artists to reside on campus for 17 days, with five residencies provided over the summer period. During their time on campus their expertise, experience and insights are harnessed to stimulate the School’s educational programme across different disciplines. In addition a number of other residency programmes are made available at different points in the year. Professional artists-in-residency programmes take place during the academic year September to March. These residencies are aimed at independent artists who have achieved levels of outstanding achievement in their art, providing them with an opportunity to create in the Pilchuck Studios. Their spring residency is open to up to six outstanding artists in working in any medium with its aim to foster collaboration between artists and to support new work or new research. The autumn residency programmes is designed to suit emerging glass artists (again 6) and provides financial, structural and spatial supports to allow them time to develop a body of work in glass.

Additional educational supports were evidenced as being required during the research by the current glass-making sector in Waterford. A range of enterprise-focussed supports including: business skills, marketing, sales and awareness building programmes could be provided by the Local Enterprise Office and would to enhance sustainability of enterprises currently operating in the sector. Additional programmes to preserve the existing traditional skills in glass making, cutting, engraving etc were also seen as a requirement for sustainability of small-scale glass production facilities.

**MARKET TRENDS IN GLASS PRODUCTION AND ASSESSING THE MARKET FOR GLASS**

The research highlighted that the global market for glass is evolving. There would appear to be a lack of market specific information available on the global demand for glass products. Working with Enterprise Ireland’s Market Research Centre the research team were only able to source three country specific reports on the glass (tableware) market, the key findings of which are outlined below:

**THE GLASSWARE MARKET**

*Glassware in the UK (mature market)*[^1]

There is a trend towards purchasing more inexpensive, functional glassware as opposed to decorative, high-end glassware, however, it is extremely difficult to

compete for share in this low cost, mass produced glassware market, given the volume of imports from China in particular. A better position for new market entrants into mature markets is seen to be in the higher/value-added end. This end of the market is also challenging and research shows that modern consumers are less likely to buy the traditional glassware set and UK consumers are hesitant to purchase new glassware, except in the case of pieces being broken. As such there is a prediction of only modest growth of 1.7% for the UK glassware market from 2011-2015. Interestingly, the volume of UK-produced glass exports is higher to Ireland than to France or the US.

Glassware in the Czech Republic\(^{32}\)  (emerging market)
There is an increasing trend towards functionality, personalisation and sustainable/environmentally conscious glassware. Younger urban consumers are seeking more ‘imaginative glassware’ than traditional designs, implying that there is opportunity still at the middle to high end – but with modern appeal. The revenue from production of Czech glassware has shrunk significantly (from €25m in 2008 to €10m in 2010). The majority of key markets for Czech glassware, apart from Germany, are outside the EU and include the United Arab Emirates, Russia and Iran.

Glassware in Ireland\(^{33}\)
Information available for this market dates from 2009. The data covers the four years preceding the economic crisis up to 2009 and only one year into the economic downturn, i.e. prior to any recovery. The most important data for the sector is the picture provided of Irish glass exports before the downturn in 2008:

Between 2004 and 2008, Irish exports of table-and-kitchenware decreased by 11% annually in terms of revenue and 7.5% annually in terms of volume, the main destination countries being the USA and the UK. Of this, the most important product group exported by Ireland was glassware, accounting for 79% of total exports. Glassware exports decreased by 8.2% annually in terms of value and 7.3% in terms of volume from 2004 – 2008.

The changing preferences in glassware consumption coupled with the downward trend in sales of high-end traditional glassware products during the boom years would indicate the Irish glassware market needs to adapt and modernise its appeal and make itself relevant to a younger generation of trendsetting buyers. It would be advisable for the Irish studio glass sector to quantify their market and keep track of changes in buyer...


\(^{33}\)  [CBI market survey: tableware, kitchenware and other household articles market in Ireland, November 2009](http://www.cbi.eu/system/files/marketintel/200920-20Tableware20-20Ireland1.pdf)
behaviours and demand, by regularly seeking out the sales figures of glass from these major shows.

Waterford in this context currently holds a significant brand profile in the international market for decorative glass and tableware giving the region a unique identity and position in the global marketplace for glass. The collaborative working practices with international designers in Waterford-based J. Hill’s Standard has enabled it to position its tableware at the opening of the Nilufar Gallery showroom at the Salone-Milan earlier this year. A requirement to support the development of indigenous companies such as J Hill’s Standard in the production of contemporary tableware design, utilising extant talent in glass and crystal production in the region, is palpable.

The entry of Nasdaq-listed Fiskars, which has recently agreed to the purchase of WWRD from KPS Capital Partners for the sum of €400 million, brings a level of commitment to the continuity of glass making and its association with Waterford. Fiskars has indicated that it intends to respect the ‘heritage’ of the brands and according to Kari Kauniskangas, chief executive of Fiskars, “(Fiskars) will continue to

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34 J Hill’s Standard, Elements Jug. Image courtesy of DCCoI.
DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING

develop all WWRD...brands, as the success of each brand stems from their intrinsic values... The unique offering of each brand is based on a combination of their heritage and history. Fiskars will focus on strengthening these unique brands.”

In addition, the profitability of WWRD Ireland which indicated a pre-tax profit of €1.1 million in April 2014 and sales growth of 13%, shows the resurgence in the global market after and an appetite for glass tableware. This current market situation combined with the commitment to strengthen the heritage and history of the brand of Waterford Crystal (as part of the of former WWRD brand portfolio) outlined by Fiskars when commenting on its recent acquisition of WWRD, highlights confidence in glass manufacturing on a global scale and potential for Waterford to take its place within that global manufacturing space and specifically to respond to identified growth in the Chinese market.

THE GLASS MARKET BEYOND GLASSWARE

What emerged very clearly from the research was the growing demand for glass technology and architectural glass products globally, for example; in 2013 Corning Inc., which employs 34,000 people, had a turnover of US$8 billion. Corning Inc. is at the cutting edge of glass technology, its Gorilla® Glass was chosen earlier this year by Pebble as the cover glass for the newly launched Pebble Steel smartwatch. This trend for ‘wearable tech’ is set to grow exponentially with the emergence of products like Google Glass the Apple iWatch and a recent partnership of Vuzix (video eyewear) with Wikitude (augmented reality technology) and the almost-ready-for-market Oculus Rift. Wearable glass technology is set to disrupt many sectors of society (including the healthcare and charity sectors) in the coming years.

There is in addition a growing demand for new types of energy efficient and responsive architectural glass, safety glass and security glass, currently being responded to by innovations within companies like the Michigan based Guardian Industries, Paris-based Compagnie de Saint-Gobain and Corning Inc. as referenced above.

35 http://www.irishtimes.com/business/manufacturing/waterford-crystal-owner-sold-to-finnish-group-for-about-400m-1.2208042
37 https://www.google.com/glass/start
41 http://www.marketsandmarkets.com/PressReleases/smart-glass.asp
42https://www.guardian.com/AboutGuardian/Newsroom/News/PRO_063054
Taking the Irish market alone, there is a pent-up construction demand that will need to be serviced in the coming years, coupled with the population growth projected by the CSO, which indicates the Irish population could reach 6.4 million by 2046 and which will have a significant impact on this area of glass production.

The well known Swarovski Corporation, with a global workforce of over 25,000 and a 2012 turnover of $2.38 billion, is an excellent example of diversification in the field of glass: ‘Daniel Swarovski Corporation AG manufactures and markets crystalline products. The company offers bonded grinding, cut-off, sawing, drilling, and dressing tools, as well as machines for the construction and stone industry; reflectors for road marking, electronic guidance devices, and warning systems; precision-cut gemstones and synthetic stones; and binoculars, telescopes, rifle scopes, range finders, image intensifier, and optronic devices. The company also provides crystal components and elements for industries in the fashion, lighting, and interior businesses; home decor products, such as from stemware to vases and decorative objects, and desk accessories; figurines and collectibles; miniatures and treasures; and jewellery and accessories, such as collection and couture, jewellery, bags and accessories, and watches. In addition, the company offers figurines and collectibles, such as silver crystal products, miniatures and treasures, and SCS society products; and bridal jewellery, present ideas, and table accessories’.

The glass technology industry is not only highly innovative but also fast-paced and economically vibrant with recent commentary on scale of the market including:

- A 2014 report by Industrial Info entitled Glass Industry Fires up With High Demand for TV Screens, Flat and Float Products states that global demand ‘is skyrocketing as visual-display technology—especially personal electronic products like smartphones and Internet-ready TV sets—grows at a breakneck pace. ...Industrial Info is tracking 30.71bn in active and unconfirmed projects at glass plants worldwide’.
- A 2014 report entitled Global Smart Glass Market 2014-2018 by Infiniti Research Limited points towards a growing demand for architectural and automotive smart glass: “…Technavio’s analysts forecast the global smart glass market to grow at a CAGR (compound annual growth rate) of 19.19% over the period 2013-2018.”

45 http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=2329067
The research would indicate that, if Waterford wishes to position itself as a centre for glass and drive job creation, it must move with the market demand and develop its capability in the area of glass technology as it applies to the evolving needs of the architectural, automotive, entertainment, security and wearable technology markets.

**The market for studio glass**

There is very little by way of comprehensive data available online as to the health of the studio glass market globally, however, sectoral commentators agree that one useful barometer is sales of glass at major shows like SOFA, which attract the global community of glass collectors and buyers. The SOFA website states that they have on average 80 dealers, 35,000 attendees and estimated sales of 15-20 million dollars per show.

There is a cohort of studio glass practitioners working in Ireland and producing one-off or limited edition art pieces. DCCoI has through its Creative Island initiative and Showcase given a platform to such artists, however given the value of the studio glass market globally, it is evident that there is room for development of effective supports (infrastructural resources) for this glass practice in the future as it is costly to produce these pieces.

**Best practice international models**

During the research we identified a number of international models of best practice in glass which had different structures for different glass communities of practice. The three models researched were; the Centre International d’Art Verrier (CIAV) in Meisenthal, France, The Bornholm Biennales, Bornholm, Denmark and the Corning Museum of Glass, New York, USA.

The rationale for this choice of counterparts was as a result of discussions around the potential for Waterford to re-imagine their relationship with the legacy glass industry associations in the region and in this instance it was considered that each of the three models of excellence highlighted different aspects of what a centre for glass design and making might look like for Waterford.

**Centre International d’Art Verrier, Meisenthal, France.**

The CIAV Meisenthal model (incorporating elements of the glass works in Lalique and Saint Louis) has significant parallels with Waterford, not least of which in the way that the region has regenerated itself since the closure of the Meisenthal glassworks in 1969 with the loss of 650 jobs in a rural region dependent on its facility for economic

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48 [http://www.sofaexpo.com/]
stability. Their story echoes the demise in 2009 of the Waterford Crystal factory with a redundant workforce of over 1,500 people and the closure of their visitor centre which welcomed over 330,000 visitors annually to the region.

Meisenthal Glassware was founded in 1704 in the Bitche region in eastern France. In its heyday the facility produced tens of millions of pieces of utility glassware. The unfortunate demise of the company has been put down to the lack of reinvestment in modernisation of production techniques and facilities. The legacy of the glassworks refused to die however and the former glass workers came together in 1975 to set up a Glass Museum on the old site. After many years and many stages of conversion on the site of the old glassware factory, the CIAV – International Centre for Glass Art was founded, as a public institution aimed with (slightly ironically) preservation of the technical heritage of traditional glass production, preserving the story of the region and its historical association with glass making and utilising contemporary design in conjunction with these traditional skills and production techniques to initiate new cultural, economic and tourism elements around the material and craft of glass.

The centre provides a research, education and production facility alongside designer studios and glass-making facilities for established and emerging artists in glass. It enables them space and time to develop their practice and the possibilities of collaboration into new techniques and interpretations for glass. Contemporary designers are brought in to add to the collection and revisit the tradition, taking their inspiration from the heritage traditions in glass making. Meisenthal has rebuilt and reenergised its glass community, finding new ways of working outside of glass production and design and the centre also houses a multidisciplinary exhibition venue and a Museum of Glass.

The CIAV has developed a specific response to tourism by providing demonstrations, tours, lectures, face-to-face meetings with artists etc in its dedicated museum and retail spaces for glass. Their offer provides immersive cultural experiences for visitors and they have combined these visitor elements with diversification of the glass economy in the region in terms of provision of interdisciplinary projects and commissions including architectural and structural glass and design/prototyping, industrial design and a learning dimension for new glass technologies.

Since 1992 almost 350 artists have been in residency in the CIAV and it now provides full-time employment for 16 staff members and 6 seasonal workers. Other spin-off employment opportunities are evident in the ancillary hospitality sector during busy times at the centre and especially at Christmas (given the region’s long association
with making Christmas baubles) with up to 15,000 visitors to the CIAV at that time of year alone.

While the model in Meisenthal remains small in economic terms, what it has provided to the region is a new energy around glass, a people proud of their heritage and traditions in glass making and a focused regional identity. In addition it has taken the carcass of the old glassworks which as viewed as a symbol of the region’s failure to move with changing times and practices (not unlike the former Waterford Crystal Kilbarry site) and changed perceptions by blending, creativity, design, production and innovation in one facility, which has breathed new life into the glass industry in the region.

**Bornholm Biennales in Glass and Ceramics, Bornholm, Denmark.**

The Bornholm model was chosen for its successful engagement of a creative community in a rural area through the establishment of the Bornholm Biennales, which is a bi-annual international symposium in glass and ceramics with exhibitions, workshops, masterclasses and lectures held in the rural island location of Bornholm in Denmark. Bornholm shows commonality with other peripheral / rural regions in its declining population, higher unemployment rate (in comparison to other areas in Denmark) and loss of its youth, with many young people move from the island seeking additional educational and career opportunities. Bornholm itself has a reputation for tourism in that it is seen to offer the ideal holiday destination for Danish and German families with income from tourism representing 7% of GDP in 2012. The island is also widely known for its visual art and craft culture (ceramics and glass).

A close cooperation exists between The Royal Danish Academy of Fine Arts, School of Design and the affiliated school on Bornholm, which offers unique workshop facilities for glass and ceramics. The School enrols approximately 25 students annually within the two craft art forms.49

The Biennales (as they are commonly referred) alternate between the two craft disciplines of ceramics and glass for each event and (as is a feature of the Bornholm model) are supported by a regional partnership made up of local government, the local tourism agency, the chamber of commerce, the Bornholm Art Museum (which provides a venue for exhibitions from established artists) the Bornholm School of Design, the Grønbech’s Gaard Gallery (which supports the masterclass programme and emerging artists exhibitions) and the Museum of Glass in Ebeltoft. The events are designed to

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provide opportunities for trade in glass and ceramics as well as promoting the artistic disciplines themselves.

The choice of Bornholm not only shows the potential for the development of a creative community via an integrated and focussed partnership of relevant agencies and organisations but also considers the potential for Waterford in looking to previous success in developing international events for glass in the city. The first International Glass Art Festival 'Artists-in-Glass' was held in six venues in Waterford City (July - October 2002) with glass artists from 12 countries represented by over 300 works in glass.

**Corning Museum of Glass, Corning, New York, USA.**

The Corning Museum of Glass was chosen to represent the enormous potential for development of a multi-faceted model for Waterford which has at its core the potential to drive inbound tourism to the region and create sustainable employment in a rural region of similar scale to Waterford. Conceived of initially as an educational institution it was founded in 1950 by Corning Glass Works (now Corning Incorporated) a gift to the nation for the company's 100th anniversary. The Corning Museum of Glass has never been a showcase for the company or its products but was and is a not-for-profit museum dedicated to telling the story of a single material and preserving and expanding the world's understanding of glass. Their vision is, *'to be the international leader in the pursuit and dissemination of knowledge about the art, history, science, and technology of glass and glassmaking.***

The Absolute Charter from 1951, under which the Corning Museum of Glass operates for and on behalf of the New York State Education Department, states as one of its aims:

*'To establish and maintain a museum and library with respect to glass and the history, art and science of glass and glass-making; and to promote and encourage the study of glass and glass-making, the application thereof to commerce, industry, science and the arts, and the general knowledge of glass, its uses and applications’*

The first Museum building was part of the Corning Glass Center complex, which included an auditorium for the community, a Hall of Science showcasing the technology of glass, and a windowed wall behind which guests could watch glass working in the Steuben factory. Since that time the Museum has undergone extensive extension programmes and currently includes a new Sculpture Gallery and Contemporary Glass Gallery, a hot glass demonstration stage and a hands-on innovation centre for the material application of glass. Such is the success of the facility that at the beginning of

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50 [http://www.cmog.org/about](http://www.cmog.org/about), accessed 3/11/14
2012, the Museum announced a $64 million expansion project to expand the contemporary gallery and Hot Glass Show space.

Corning welcomes almost 400,000 visitors from around the globe annually. 40% of the tourism numbers to Corning are first-time visitors to the facility and are directly motivated to visit the region as a result of the Corning Museum of Glass. Over the past decade, the Museum’s collection, programmes, and global impact have grown significantly. The Corning model represents how the tourism potential of a region can be tremendously enhanced by the development of such a museum facility and the ongoing expansion of the Museum of Glass in this rural and isolated region with a small population of 11,068. When the Museum opened to the public in 1951, it contained a significant collection of glass and glass-related books and documents: there were 2,000 objects, two staff members, and a research library. More than 60 years later it has grown into a collecting, exhibiting, teaching, and research facility. It is now home to the world’s largest collection of glass, containing nearly 50,000 objects representing 3,500 years of glass history. The Museum and Library actively acquire materials, curate special exhibitions and conduct extensive research.

Corning Museum’s parent company Corning Inc. has been at the forefront of innovation in scientific glass technology for over 100 years and it is this continued drive towards providing innovative solutions and new patented technology which drives Corning Inc and subsequently the funding support to the Museum of Glass. In recent years the Museum opened an Innovation Centre which highlights the most famous of the Corning Inc. inventions from the 19th to the 21st centuries. The Innovation Centre is central to the visitor experience and the area of greatest interest to the visitor. During 2015 Corning intends to further support this developmental area through the establishment of the role of Curator of Science and Technology in the Museum.

Corning owes its incredible success (as evidenced by its visitor numbers) in the first instance to maintaining its original vision but also to expanding this vision over time to incorporate new technologies and ways of working with glass, celebrating this through its collection and providing clarity and relevance in its visitor offer. In the second instance success has been possible as a result of the level of funding provided both by Corning Inc. itself and substantial philanthropic donations for the development and renovation of the facility over time.

While we fully appreciate that a model such as Corning may not be viable on a similar scale in Waterford, primarily as result of the lack of a philanthropic culture of giving in Ireland, the Corning model presents an opportunity to look at how WWRD might work with Waterford over time to present an offer for glass which does not seek to replicate,
but adapts pertinent elements of the Corning model, or indeed how Waterford might seek funding from combined Government, agency and philanthropic sources to develop a dedicated public access facility for glass in the city.

Finally the rationale for the Corning choice was in understanding how through their Studio they approach the development of artist residencies as a year-round concept which has natural linkages for development of Waterford as a centre for those working through the medium of glass and associated connectivity with the wider international glass community and associated glass tourism. 40% of the tourism numbers to Corning are first-time visitors to the facility and are directly motivated to visit the region as a result of the Corning Museum of Glass.
3. **RATIONALE FOR SECTORAL DEVELOPMENT – BUSINESS CASE**

From the research there exists a respectful understanding of the history of connection between Waterford and glass, but no sentimentality towards it. It was felt that the story of Waterford and its long association with glass, as far back as the Penrose Family’s establishment of Penrose Crystal in 1783, was not well told and that this heritage association with glass still has resonance and presents a value proposition for Waterford as a centre for glass design and making to this day.

Given the economic backdrop of Waterford and the challenges it faces at the current time in providing employment for its population, the underlying metric for any proposed development in the glass sector in Waterford has to be around the potential for development of employment opportunities and retention and further development of a highly-skilled workforce. According to the research findings a new approach for glass in Waterford is required and within this approach, a widening of the understanding and scope of what glass means for Waterford.

The best prospect economic development opportunity clearly lies in stimulating Waterford’s indigenous glass industry and attracting increased Foreign Direct Investment for glass technology to the region.

**STIMULATING INDIGENOUS INDUSTRY**

In order to stimulate the existing glass sector in Waterford a coalition of agency partners led by DCCoI need to come together to create a suite of supports to assist existing/new indigenous companies to broker new product and design development, partnerships with research institutions and global technology players who have a requirement for innovation around glass materials. For example, Carey Glass, based in Nenagh, Co. Tipperary, is a market-leading architectural glass company with 420 employees and a turnover of €55m in 2013. They have the largest single-site architectural glass processing facility in Europe and remain competitive through ‘a policy of continuous investment in people, technology and systems’.

Both Google and Apple are extremely active in this crossover space between glass and technology and have headquarters in Ireland. It would make sense for ‘Ireland Inc.’ to develop its capability to meet their evolving needs of these tech giants and to broker relationships with them on behalf of Irish companies.

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52 [www.careyglass.com](http://www.careyglass.com)
DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING

**Stimulating Foreign Direct Investment**

The recent Budget 2015 announcements\(^5^3\) regarding the phasing out the ‘double Irish’ tax arrangement and the introduction of a ‘Knowledge Box’ to incentivise international companies to base their R&D functions in Ireland present an enormous opportunity for Waterford to work with the IDA to drive investment to the region, as stipulated in Waterford’s Economic Development Strategy.

There are numerous international players who could potentially consider relocating their R&D functions to Ireland, if the right package was made available. For example, the global players Pilkington Glass\(^5^4\) and Schott\(^5^5\), who must undertake significant levels of research to maintain their position as market leaders in their respective glass niches, not to mention Corning Inc., referenced throughout this report, who employ over 30,000 people worldwide, have a deep presence across Europe\(^5^6\) and a vast body of research annually\(^5^7\).

**Repositioning Waterford**

Akin to the Charter established for the Corning Museum of Glass, New York\(^5^8\) the repositioning of Waterford as a centre for glass requires an integrated approach which makes connections with the artistic, scientific, technical and architectural use of the material alongside a visitor experience which tells the story of glass in Waterford.

The regeneration of glass as a potential economic driver for Waterford requires a different focus from that which is currently in evidence, such a development in the sector would need to look beyond the heritage proposition of crystal in the region to a new connection with making and glass production, incorporating the possibility of making in an industrial fashion and utilising new technologies.

The use of the Brand of Waterford and its historical association with glass is a moot point and one which needs to be addressed should Waterford move forward in developing its glass sector. According to Bernard O’Connor, Visiting Professor at Bocconi University and the University of Milan, the debate around Geographical Indications – names linking a product with a specific region – has become a topic for consideration in Brussels, and questions are being asked currently as to whether the extension of European Law which protects geographical indications for foodstuffs

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\(^{53}\) http://budget.gov.ie
\(^{54}\) www.pilkington.com
\(^{55}\) www.schott.com
\(^{56}\) http://www.corning.com/about_us/locations.aspx

38 | Page
should be extended to non-foodstuffs and industrial products. This conversation has relevance for Waterford in relation to the future development of its glass sector and around its historical links with glass.

The research highlighted a strong opinion that ‘one entity should not own the (glass) space’ and that the possibilities for development within the sector need to span a range of integrated facilities/services which enable facilitation and interconnectedness between agencies, businesses and individuals and which bears reference to both the international excellence models of CIAV and Corning.

A multi-faceted approach to the development of the glass industry would support the growth and development of art and design-led glass production alongside material application and innovation. The concept of a ‘centre for glass’ when broadened out to take in the city and its hinterland highlights the potential for development of a range of facilities, dispersed over a number of locations and catering for multiple audiences (artists, designers, skilled-workers, educators, researchers and innovators). Such facilities include those required for research and development, educational programmes, glass production, artistic development and creative collaboration, public access and engagement, historical associations with glass and exhibition, enterprise development and innovation in glass technology.

**DEVELOPING WATERFORD’S GLASS TOURISM PROPOSITION**

It was appreciated that Waterford’s association with glass remains a key driver for visitors to the region. Cooperative capital development planning has seen excellent additions to the visitor experience in the city, with the Waterford Viking Triangle incorporating the Waterford Museum of Treasures and the WWRD House of Waterford Crystal all mentioned in this context.

Waterford needs to proactively stake its claim as a hub for the artistic glass discipline – a place and space for the global glass community to connect via high-quality events, lectures and symposia. Different aspects of this development would provide an excellent motivator for niche sectoral, educational and cultural tourism, akin to that achieved by the Bornholm Biennales, CIAV Meisenthal and The Corning Museum of Glass, all of which are distinct motivators and offer immersive cultural experiences for visitors to rural regions with relatively small populations; however, a credible and appealing positioning of Waterford amongst the global glass community is first needed, in order to build a sustainable tourism proposition around glass.

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Creating a destination focus for Waterford as an international centre for contemporary applications for glass (via educational seminars, master classes, residencies and symposia) would provide a stimulus for the global glass community to visit the region. Such a development should ideally span artistic, innovation, design and tourism agendas. Utilising the opportunity presented by the European Capital of Culture bid to create a demonstration project to initiate such a development would be beneficial at this point in time.

A longer-term possibility which could be developed is the opportunity for Waterford to look at the possibility of connecting with the Corning Museum of Glass GlassLab team, who are likely to visit Ireland during 2016. Such a visit could provide the touch-paper for Waterford’s reinvention and repositioning of itself within the glass space incorporating involvement from the wider design, architecture and art communities.

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60 Kite Studios, Waterford, Image courtesy of DCCoI.
4. **STRATEGIC PRIORITIES AND RECOMMENDATIONS**

Our research has shown that a multi-layered approach to the development of the glass industry is required for a centre of excellence for glass in Waterford to be realised.

An integrated model which responds to the needs of those currently working in micro-enterprises in glass and in tandem focuses on the long-term development potential of a multi-faceted glass industry in the region, we consider is the most appropriate way forward. Such a model would incorporate studio glass design and production opportunities and position this practice alongside innovation in glass technology across the scientific, architectural and technological spheres. This approach would in turn support the growth and development of art and design-led glass production alongside material application and innovation.

A critical success factor in the delivery of a centre for glass for the region will be the commitment from key stakeholders at national, regional and local level. Referencing international models of best practice, such developments need to be owned by a cohort of committed partners (see Diagram 1) and be designed, developed and delivered against the backdrop of the ongoing economic development and strategic planning for the region in tandem with a response to identified need from those currently working in the sector.

It is our view that embracing the possibility of a new industry in glass production, which references the heritage association and traditional connection of Waterford with glass, will create further opportunities for reinvestment in the artistic, studio and technical applications of glass in the region and in turn enhance Waterford’s re-emergence as a key player in the tableware glass market.

We have outlined below the Vision and key objectives for Waterford in delivering a centre of excellence in glass making and design. The leadership of the Design and Crafts Council of Ireland as the key enabler for this development will be crucial to the success of this proposed glass sector development project.

**VISION FOR A PROPOSED INTERNATIONAL CENTRE FOR GLASS IN WATERFORD**

Position Waterford as a centre of excellence in glass design and production; a leader in research and innovation for new glass technologies; a hub for clusters of glass practitioners and businesses; and a location where the world’s glass community meet.
DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING

KEY OBJECTIVES

- Build on and preserve the wealth of skills and current micro-enterprises in glass production in the Waterford region.
  - Increase supports for market development into the international high-end glassware market.
  - Enhance and sustain the capacity and competency of those working within the sector locally to retain legacy skills, develop market share, increase production and improve access to international markets.
  - Provide appropriate supports to grow and develop the market potential for designed glassware.
  - Support the ongoing development of existing glass studios in the region.
- Develop a new paradigm for glass in Waterford – establishing an identity for new production using innovative technologies and harnessing the potential to grow a new glass industry in the region.
  - Promote and support the scientific, industrial and artistic elements of glass production.
  - Work with education partners, specifically Waterford Institute of Technology (WIT) to establish new programmes and research in glass technology to support the potential for a technological-focussed glass industry in the region.
  - Develop and provide access to a bespoke research / production facility which incorporates best practice and learning from international models of excellence.
- Utilise the opportunities which arise from the Year of Irish Design 2015 and the region’s bid to win the title of European Capital of Culture 2015 to develop greater international awareness of the region as a centre of excellence in glass.
- Enhance the tourism potential and association of Waterford with glass to an international audience.
  - Revive and re-imagine the story of Waterford and its long association with glass.
  - Work in alignment with the strategic focus.
  - Develop a co-ordinated approach to glass tourism in the region, to include, immersive offers for a motivated cultural visitor and a defined glass trail.
DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING

RECOMMENDATIONS

While we appreciate that developing and delivering a centre of excellence takes time, we consider that much good work has been done and is part of a continuum by key players at national regional and local level to support glass development in Waterford. Notwithstanding this work, the success of such a project will require substantial goodwill and buy-in from a range of key partners at EU, national, regional and local levels. Their willingness to; support the vision and development of the project, provide resources and effective supports and find creative ways to finance the proposition, will be essential for project success.

From the outcome of our research we have outlined the following recommendations for the development of Waterford as a centre for glass making and design.

1. Position the Design and Crafts Council of Ireland, with their attendant expertise, experience and leadership in glass sector development and design, as the key driver/enabler for successful delivery of the project.

2. Set up a working group led by the Design and Crafts Council of Ireland in conjunction with key representatives from national agencies and organisations as outlined in Diagram 1 (page 31) to deliver the vision.

3. Retain an industry leader in glass technology to champion the project and drive the change and development process for glass in the region.

4. Develop an enterprise-focused research and innovation lab for glass design and new technology opportunities to be led by Waterford Institute of Technology.

5. Seek the support of Government partners specifically; the Departments of Jobs, Enterprise and Innovation; Environment, Community and Local Government and Education and Skills

6. Work with the IDA, DCCoI and relevant government agencies to explore the potential for a suitable industry partner in glass (e.g. Google, Corning, Carey Glass) to establish a bespoke research facility and glass innovation centre in Waterford in conjunction with local education partners

7. Target relevant Government Departments to source regional hub funding to assist the development of glass in Waterford.
DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING
GOVERNANCE, MANAGEMENT AND ADMINISTRATION

The regional structural model which we believe would deliver success for Waterford comprises a number of key stakeholders all of whom have an integrated and supporting role to play in the repositioning of Waterford as an international centre for glass. A formal partnership between a range of identified organisations and agencies which support the development of glass as a key economic driver for the region is required and should be supported by an Implementation Steering Group who is charged with the design, development and implementation of the Glass Centre project.

An internationally renowned industry specialist potentially in large-scale destination planning and industrial design (and possibly supported by an individual with a clear understanding of project management and regional development) to champion the project, communicate with the wider glass sector on behalf of the Steering Implementation Group to ensure clarity of project focus and delivery of the project will be required to bring the various stakeholders at national and regional level to project realisation.

The diagram on the following page outlines the regional partner agencies required to realise the potential of Waterford as a centre for glass.
DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING

Diagram 2: Regional Support Model

Faile Ireland
- Providing advocacy and awareness of Waterford as a destination for glass tourism
- Provision of industry expertise to ensure Waterford's glass story is aligned with key strategic priorities for tourism development in Ireland and to drive international visitors to the region

Waterford Institute of Technology
- Development of curricular programmes in materials application for artistic, scientific and technological glass.
- Capital support to provide research and design facility for glass innovation on/off campus

Local Enterprise Office
- Development of bespoke programmes for business marketing, sales and sustainability for micro-enterprises operating in the glass sector
- Provision of mentoring supports for development of glass enterprises

Waterford Museum of Treasures
- Redevelopment of Waterford's glass story for public consumption
- Investigation into potential for visiting international exhibitions in glass

Glass Industry Specialist
- Input into the development of a Glass Museum

Glass Development Project Steering Group
- WAVT input as required into the communication process and potential for integration, partnership

Waterford Viking Triangle
- Identification and potential provision of spaces for innovation and to facilitate exchange and as required by the project development.
- Inclusion in the development of central retail space for glass in the city

Glass Industry in Waterford
- Representation from those in micro-enterprises in glass

Waterford City and County Council
- Capital support and assistance for short, medium and long-term development of glass as an economically viable industry in Waterford

Economic Development Office
- Working in partnership to support the project development against the backdrop of current regeneration and industry development programmes

Design and Crafts Council of Ireland
- Providing networking opportunities to connect the glass community and create the potential for partnerships

Diagram 2: Regional Support Model

- Diagram 2: Regional Support Model
In terms of structural resources and the potential for capital investment into the glass sector in Waterford, we propose that the model outlined should be built so that the investment in technical and research supports would in time generate funding to be reinvested in the cultivation of a modern artistic glass discipline in Waterford.

A phased approach to this development is required and there are parallel strands of activity which could be activated at similar points in time and which not unlike the Meistenthal model could start small and grow over time.

We have outlined below what we consider is required in terms of developments to suit the different elements of glass design and making, education, research and production, economic and tourism development.

- **Development of a specialist centre for action-research, education, design and materials application** – supporting innovation and development in artistic, architectural, scientific, technological, privacy, security and environmental materials application. This specialist centre would incorporate the following elements:
  - a glass workshop (production facility) incorporating both a hot and cold glass facility
  - an incubator space for new and emerging glass enterprises
  - third level programme development (Level 7 – primary degree) in glass design and innovation – to incorporate artistic glass
  - Dedicated commercialisation supports (possibly through Enterprise Ireland) to assist researchers in bringing innovations to the marketplace.
  - A materials library connected to and located within the WIT
  - An artists-in-residence programme to enhance the international reputation of Waterford with glass
  - Development of symposia in glass production and innovation

Extant to this facility would be additional provision for glass sectoral development via;

- Programmes developed to preserve traditional skills in glass practices in the city (cutting, sculpting, engraving and blowing) and small-scale glass production (and possibly in association with WWRD).

---

61 Akin to the materials library connected with the London School of Engineering at the Institute of Making
Joint partnership programmes with the LEO for a range of market-focussed business development supports aimed at micro-enterprises and SME’s operating in the glass sector

- **Provision of a dedicated glass hub and public access facility** as part of the longer-term strategy for development and which, depending on the scale of resourcing and need at the outset may be located within an existing space or a within new facility and which would provide the following services:
  - a public access element which supports activate engagement with glass production skills and participatory learning
  - a dedicated museum facility which presents Waterford’s history and association with glass
  - an exhibition space for fine art practice in the material
  - a retail facility for glass production from Waterford – Made in Waterford

**Personnel resources**

It is understood that industry development in glass, on the scale that would be required for Waterford, will require the commitment of personnel from stakeholder agencies, organisations and specialist additional personnel as the project develops over time.

In the initial stages the representatives from the key partner agencies as outlined in Diagram 1 will be required to develop commitment at high level for the project to succeed,

Beyond this phase we recommend a model of resourcing which allows for a phased approach to development, commencing with input into a Project Steering Group and as outlined in Diagram 2 (page 37).

Such a team would need to meet on a regular basis (monthly at the initial stage) to drive the project forward and create a workable plan for Waterford and the path it will take within the range of glass sector opportunities available to it. We consider that these meetings should be facilitated by an individual with expertise in facilitation/project management (possibly from within one of the partner agencies – or provided for through a short-term external contract for services and certainly in the initial stages) in order to keep track of project progress and maintain project momentum.
It would be our recommendation, that the retention of an industry specialist, a quantum thinker from the glass industry who has the vision, passion and capability to deliver the project to an international standard, ensure connectivity with international partners via their network, and drive the project to success, would be required by the key partners. Their role would be to develop the overall vision for long-term industry development in glass and deliver a successful and sustainable model for glass design and making which reflects the needs of Waterford and sits alongside other best practice models.

We consider that the resourcing of the project in terms of manpower beyond the Specialist and potentially project management facilitator will rise and fall in direct correlation with the elements of the project that are being progressed at any given time and will be initially driven by the key representative from the relevant participating agency.

**Funding resources**

While the research did not specifically request stakeholders to either commit to funding a proposed centre or indeed to quantifying what any potential funding possibilities might entail, the funding consideration for any development for glass within the region was central to the conversation.

We consider, and given the backdrop of reduced funding within Local Authorities and resource organisations in recent years, that new ways of thinking about financial supports may well be required to get such a project off the ground and should it be deemed a requirement for Waterford. A phased approach to development in the glass sector is required. There are strands of activity which could be activated in parallel, and financed by different partners, but with an over-arching strategic vision for sectoral development driving these elements towards a cohesive proposition for glass in the region.

These elements and those organisations and entities which are most appropriate funding partners at regional development level and an outline for the phased development of the project is provided in the table on the following page.

Potential funding sources (whether monetary or in provision of supports) were identified as including:

- Department of Jobs, Enterprise and Innovation
- Department of Education and Skills
- EU Structural Funds
- Creative Europe Fund (2014 – 2020)
DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING

- Industrial Development Authority
- Enterprise Ireland
- Design and Crafts Council of Ireland
- Waterford City and County Council
- Waterford Institute of Technology
- Waterford Viking Triangle
- Waterford Museum of Treasures

- Waterford Local Enterprise Office
- Fáilte Ireland
- Tourism Ireland
- Culture Ireland
- Philanthropic donations
- Industry partnerships
5. **Risks and Dependencies Associated with the Project**

**Governance**

- Clear communication of the vision of the project is required at the outset in order to secure initial buy-in from the necessary partner agencies.

- This report identified a number of potential areas for development, spanning economic development, education, tourism and development of glass as an artistic discipline. To ensure clarity of direction and assist decision-making, there must be consensus on the appropriate prioritisation of activities, with commitment to job creation and economic development as the bedrock upon which related areas can develop sustainably (tourism, studio glass etc).

- Clear terms of reference and an appropriate inter-agency governance model must be established from the outset between the participating partners, outlining the commitment from each in terms of time and resources.

- Clear thought leadership should be displayed, with direct and tangible support/involvement from government to ensure alignment with ongoing government strategy over the lifetime of the programme.

- Given the complexity of the proposed programme, all planning activity should be project managed in a highly structured way (possibly by an external party), with clear timelines, targets, risk analyses and communications plans in place for each phase.

**Personnel**

- A dedicated time commitment is required from any key agency personnel involved in planning and implementation with corresponding targets, deadlines and KPIs. These people must be equipped with the tools to deliver in order for the project to succeed therefore any heavy time commitment should not be demanded on top of their existing ‘day job’.

- Care is required in the selection and recruitment of additional key personnel (namely the proposed Quantum Thinker or Project Management resource) and this will be critical to project success. Their responsibilities, reporting lines and available resources must be clearly scoped prior to engagement in order to equip them to deliver. Contingency plans should be set in place in event of any key member of personnel being unable to fulfil their contract, i.e. there should be no ‘single point of failure’.
**DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING**

**STRUCTURAL**

- Any key structures put in place such as the proposed Innovation Centre or Public Access Facility should have a clear business and financial plan in place, outlining their purpose, operational model, activities and their context vis-a-vis other structures and bodies.

**FUNDING**

- The recommendations in this report have been aligned to the key priorities of the Programme for Government and, therefore, increased both the likelihood of securing government support and eligibility for current funding avenues. In order to ensure the ongoing financial viability of any programme initiated in Waterford, it must continue to align with national government priorities and keep abreast of evolving EU funding opportunities. Over time, the private sector industry in Waterford will hopefully become sufficiently buoyant to reduce the levels of public funding.

**OTHER**

- The issue of ownership of the 'Waterford' name will need to be clarified prior to embarking on any development planning. Usage of the name will be paramount to success of the primary glass industry and in driving secondary industries such as tourism.
## 6. Outline Implementation Plan

<table>
<thead>
<tr>
<th>Project Element</th>
<th>Funding partners</th>
<th>Resource requirement</th>
<th>Project Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High level engagement with National agencies and Government Departments</strong></td>
<td></td>
<td></td>
<td>Q3 &amp; Q4 2015</td>
</tr>
<tr>
<td><strong>Development of funding requirements for project development</strong></td>
<td></td>
<td></td>
<td>Q1 &amp; Q2 2016</td>
</tr>
</tbody>
</table>
| **Creating buy in from key stakeholders at regional level**                    | WCC – further engagement and consultation process                                 | Waterford City and County Council – EDU and Tourism Development  
Waterford Institute of Technology  
Waterford Museum of Treasures  
Waterford Viking Triangle  
International strategic glass specialist  
Representative from the glass design sector in Waterford  
Fáilte Ireland  
WWRD | Phase 1 – Q1, 2016 |
| **Development of Project Steering Group**                                      | WCC                                                                              | Facility to meet and administrative individual to schedule and collate outputs from meetings                                                        | Phase 1 – Q1, 2016 |
| **Strategic Visionary** Retention of a quantum thinker from the glass industry sector to work with key partners to develop the overall vision for long-term industry development in glass** | Waterford City and County Council – Economic Development Unit  
Waterford Institute of Technology  
Design and Crafts Council of Ireland  
Potential to seek EU funding supports to assist this development | Funding to retain this specialist expertise. Provision of a working space within the WIT | Phase 1 – Q2, 2016 |
## Define Strategic Vision for glass development in Waterford

- Waterford City and County Council – EDU and Tourism Development
- Waterford Institute of Technology
- Design and Crafts Council of Ireland
- WWRD
- Fáilte Ireland
- Waterford Museum of Treasures
- International strategic glass specialist
- Representative from the glass design sector in Waterford
- Waterford Viking Triangle

**Resource requirement:** Monthly meetings to define approach to be taken by Waterford and project implementation

**Project Timeline:** Phase 1 – Q3, 2016

## Define and tie in local funding partners

- Waterford City and County Council – EDU and Tourism Development
- Waterford Institute of Technology
- Design and Crafts Council of Ireland
- WWRD
- Fáilte Ireland
- Waterford Museum of Treasures
- Waterford Viking Triangle

**Project Timeline:** Phase 1- Q3, 2016

## Communicate the vision and create local buy-in

- All partners

**Resource requirement:** Develop awareness campaign and advocacy around development programme to defined audiences

**Project Timeline:** Phase 1 – Q4, 2016

## Third level programme development for glass design and innovation

- Waterford Institute of Technology
- Department of Education and Skills
- Higher Education Authority
- Potential to seek EU funding supports to assist this development

**Resource requirement:** Curricular team to develop specialist programme which responds to potential economic opportunities around glass in the region

**Project Timeline:** Phase 1 – Q4, 2016
## Project Element

<table>
<thead>
<tr>
<th>Project Element</th>
<th>Funding partners</th>
<th>Resource requirement</th>
<th>Project Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enterprise supports for existing glassworkers</strong></td>
<td>▪ Waterford Local Enterprise Office (WLEO)</td>
<td>Phase 1 – Q2 2016 and ongoing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Design and Crafts Council of Ireland</td>
<td>Phase 2 - Q1, 2018</td>
<td></td>
</tr>
<tr>
<td><strong>Roll-out third level programmes in glass innovation and design</strong></td>
<td>▪ Waterford Institute of Technology</td>
<td>Phase 2 - 2018</td>
<td></td>
</tr>
<tr>
<td><strong>Glass research/innovation facility to include studios for glass working</strong></td>
<td>▪ Waterford Institute of Technology</td>
<td>Phase 2 - 2018</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Design and Crafts Council of Ireland</td>
<td>Phase 2 - 2018</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Potential to seek EU funding supports to assist this development</td>
<td>Phase 2 - 2020</td>
<td></td>
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<tr>
<td></td>
<td>▪ Waterford Viking Triangle</td>
<td>Phase 2 - 2020</td>
<td></td>
</tr>
<tr>
<td><strong>Establishment of a dedicated Museum of Glass and exhibition space</strong></td>
<td>▪ Waterford City and County Council</td>
<td>Phase 2 - 2019</td>
<td></td>
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<tr>
<td></td>
<td>▪ Waterford Museum of Treasures</td>
<td>Phase 2 - 2019</td>
<td></td>
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<tr>
<td></td>
<td>▪ WWVT – House of Waterford Crystal?</td>
<td>Phase 2 - 2020</td>
<td></td>
</tr>
<tr>
<td><strong>Dedicated retail facility for glass</strong></td>
<td>▪ Waterford City and County Council</td>
<td>Phase 2 - 2019</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Waterford Viking Triangle</td>
<td>Phase 2 - 2019</td>
<td></td>
</tr>
<tr>
<td><strong>Development of artist in residency programmes, international exhibitions and glass symposia</strong></td>
<td>▪ Design and Crafts Council of Ireland</td>
<td>Phase 2 - 2019</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Waterford City and County Council</td>
<td>Phase 2 - 2019</td>
<td></td>
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<tr>
<td></td>
<td>▪ Waterford Institute of Technology</td>
<td>Phase 2 - 2019</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ WWVT</td>
<td>Phase 2 - 2019</td>
<td></td>
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<td></td>
<td>▪ Waterford Museum of Treasures</td>
<td>Phase 2 - 2019</td>
<td></td>
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<tr>
<td></td>
<td>▪ Potential to seek EU funding supports to assist this development</td>
<td>Phase 2 - 2020</td>
<td></td>
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<tr>
<td></td>
<td>▪ Inclusion in the EU Capital of Culture programme (if won be the region)</td>
<td>Phase 2 - 2020</td>
<td></td>
</tr>
<tr>
<td>Development of a materials library</td>
<td>Waterford Institute of technology</td>
<td>Facility space and ongoing collection to support industry innovations in materials application</td>
<td>Phase 3 - 2025</td>
</tr>
</tbody>
</table>
APPENDIX 1 - DESK RESEARCH

The following is a listing of documents accessed during the research phase of the project:

Strategic Plans, Industry and Education Reports from DCCoI

- **Indecon Crafts Industry Report 2013.**

- **Strategic Plan CCoI 2013–2015.**

Local Development Plans, Waterford City and County Council

- **Waterford City Development Plan 2013-2019**

Economic Development information

- Implementation Plan to the Minister for the Environment, Community and Local Government – **One Waterford – Delivering Jobs, Efficiency and Growth** (May 2013)

- **Economic Development Strategy for Waterford City and County.** DKM, Colliers International, Brady Shipman Martin (May 2013)

- Waterford Wexford Training Services in conjunction with WWRD: [http://www.waterfordvisitorcentre.com/Careers](http://www.waterfordvisitorcentre.com/Careers)

- Demographic statistics in relation to Meisenthal and Moyenne region, France.

Tourism Development Information

- **Regional Tourism Performance in 2013.** Fáilte Ireland.
- **South East Holidaymaker Study 2012.** Fáilte Ireland.

Available glass market information sourced with assistance from Enterprise Ireland Market Research Centre staff and additional online research

- **CBI Product Factsheets:** [www.cbi.eu/marketinfo](http://www.cbi.eu/marketinfo)
- **CBI Market Survey - Glassware in the Czech Republic**
DEVELOPING THE VISION FOR WATERFORD AS AN INTERNATIONAL CENTRE FOR GLASS DESIGN AND MAKING - FINAL REPORT

- CBI Market Survey - Glassware in the UK
  http://www.cbi.eu/system/files/marketintelp_platforms/PFS%20Glassware%20in%20the%20UK%20for%20HD.pdf

- CBI Market Survey: Tableware, kitchenware and other household articles market in Ireland, November 2009.


- Glass Industry Fires up with High Demand for TV Screens, Flat and Float products. Marketwired, (January 2014). Sourced on EBSCO, item: B2IDMKE1148380

- The Glass Society of Ireland Strategic Plan: A Three Year Vision: The Future of the GSoI.

- Dr C. Madden. Contemporary Glass in Ireland. Preface to the print material accompanying the 2013 exhibition: Caution! Fragile, Irish Glass, Tradition in Transition by Róisín de Buitléar.


### Appendix 2 - Consultation Lists

#### Key Informant Interviews

<table>
<thead>
<tr>
<th>Name</th>
<th>Position / Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louise Allen</td>
<td>Head of Innovation and Development Programmes, DCCoI</td>
</tr>
<tr>
<td>Gary Breen</td>
<td>Head of Programme South and East, Fáilte Ireland</td>
</tr>
<tr>
<td>Stephen Hughes</td>
<td>Consumer Retail Manager, Enterprise Ireland</td>
</tr>
<tr>
<td>Mary McCarthy</td>
<td>Director, National Sculpture Factory</td>
</tr>
<tr>
<td>David McCoy</td>
<td>Head of Sales and Marketing, House of Waterford Crystal</td>
</tr>
<tr>
<td>Eamonn McEnaney</td>
<td>Museum Director, Waterford Museum of Treasures</td>
</tr>
<tr>
<td>Brian McGee</td>
<td>Acting CEO, Design and Crafts Council of Ireland</td>
</tr>
<tr>
<td>John Tynan</td>
<td>Head of Education, Training and Development, DCCoI</td>
</tr>
</tbody>
</table>

#### CIAV, Meisenthal – Study Visit participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Position / Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom O’Toole</td>
<td>Head of Business School, Waterford Institute of Technology</td>
</tr>
<tr>
<td>Fiona McHardy</td>
<td>CEO, Waterford Viking Triangle</td>
</tr>
<tr>
<td>Lar Power</td>
<td>Director of Services, Waterford City and County Council</td>
</tr>
<tr>
<td>Brian McGee</td>
<td>Acting CEO, Design and Crafts Council of Ireland</td>
</tr>
<tr>
<td>John Tynan</td>
<td>Head of Education, Training and Development, DCCoI</td>
</tr>
<tr>
<td>Roisin de Buitlear</td>
<td>Glass artist</td>
</tr>
</tbody>
</table>

#### CIAV, Meisenthal – workshop participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Position / Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom O’Toole</td>
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</tr>
<tr>
<td>Fiona McHardy</td>
<td>CEO, Waterford Viking Triangle</td>
</tr>
<tr>
<td>Lar Power</td>
<td>Director of Services, Waterford City and County Council</td>
</tr>
</tbody>
</table>

#### Stakeholder Focus Group

<table>
<thead>
<tr>
<th>Name</th>
<th>Position / Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derek Chestnutt</td>
<td>Irish Handmade Glass</td>
</tr>
<tr>
<td>Fred Curtis</td>
<td>Glass Designer / Sculptor, Fred Curtis Crystal</td>
</tr>
<tr>
<td>Sean Egan</td>
<td>Glass Engraver, Self-Employed</td>
</tr>
<tr>
<td>Tony Hayes</td>
<td>Owner / Glass Cutter, Handmade Glass Company</td>
</tr>
<tr>
<td>Leona Walsh</td>
<td>Emerald Crystal</td>
</tr>
<tr>
<td>Walter Walsh</td>
<td>Artisan Glass Maker / Owner, Emerald Crystal</td>
</tr>
</tbody>
</table>

#### Industry Specialist Interviews

<table>
<thead>
<tr>
<th>Name</th>
<th>Position / Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debbie Dawson</td>
<td>Chair of the Irish Glass Society of Ireland</td>
</tr>
<tr>
<td>Karen Donnellan</td>
<td>Irish Glass Artist</td>
</tr>
<tr>
<td>Susanne Jøker Johnsen</td>
<td>Project Manager, Bornholm Biennales in Glass and Ceramics, Denmark</td>
</tr>
<tr>
<td>Louise Rice</td>
<td>Irish Glass Artist, Leitrim Design Centre</td>
</tr>
<tr>
<td>Prof. Xiaowei Zhuang</td>
<td>Professor of Fine Arts, College of Shanghai University, and Director of Shanghai Museum of Glass</td>
</tr>
</tbody>
</table>
**Case Studies/ International Benchmark Models**

<table>
<thead>
<tr>
<th>Case Study</th>
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<tbody>
<tr>
<td>Bornholm Biennales in Glass and Ceramics, Bornholm, Denmark</td>
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<tr>
<td>Centre International d’Art Verrier, Meisenthal, France</td>
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<tr>
<td>Corning Museum of Glass, Corning, New York, USA</td>
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<tr>
<td>Leitrim Sculpture Centre Glass Studio, Co Leitrim, Ireland</td>
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