



Centre for Next Generation Localisation



Dublin City University



Trinity College Dublin



University College Dublin



University of Limerick



NATIONAL DEVELOPMENT PLAN





The Internet is accelerating globalisation and exposing a range of stakeholders to multilingual global audiences. Businesses can no longer afford to think strictly in national terms; however the tools and technologies for effectively engaging international customers have not kept pace with the triple challenges of increasing volume, shifting access modalities, and the personalisation of content delivery.

Localisation is the process of adapting digital content to culture, locale and linguistic environment. Localisation is undergoing fundamental changes, presenting many challenges and opportunities: The amount of content to be localised is growing rapidly beyond today's most advanced localisation and translation capacities. Small hand-held devices supporting instant multi-modal access to digital content anytime and anywhere now outnumber traditional desktop devices worldwide. Information needs to be personalised to user and task to ensure relevance and avoid overflow. Sophisticated technologies need to be integrated into complex localisation workflows supported by standards and metadata to ensure interoperability.

The combined effect of these challenges is that only a small fraction of digital content is currently localised into a restricted set of languages using traditional processes. Vital information is not available in many languages in large parts of the world. This results in missed business opportunities and contributes to the global "digital divide".

## Localisation Innovation in Ireland

Localisation as an industrial process originated in Ireland roughly 25 years ago. Many innovations in localisation were pioneered in Ireland due to the unique ecosystem of content publishers and language service providers that developed.

To build upon this history of innovation the Irish government has invested substantial funding to augment the existing ecosystem with a dedicated research centre exploring the unique technologies that underlie the localisation process, including machine translation, speech processing, digital content management, adaptive hypermedia technologies, and localisation workflows. This unique academic and industry partnership brings together world-class expertise to collaboratively design and develop the next generation of tools that enable value-added global content distribution.

*"Being a partner in the CNGL enables us to collaborate with world-class academics, access a broad range of related study areas and an opportunity to participate in research areas that would be difficult or impossible to undertake individually."*

Phil Ritchie  
CTO  
VistaTEC



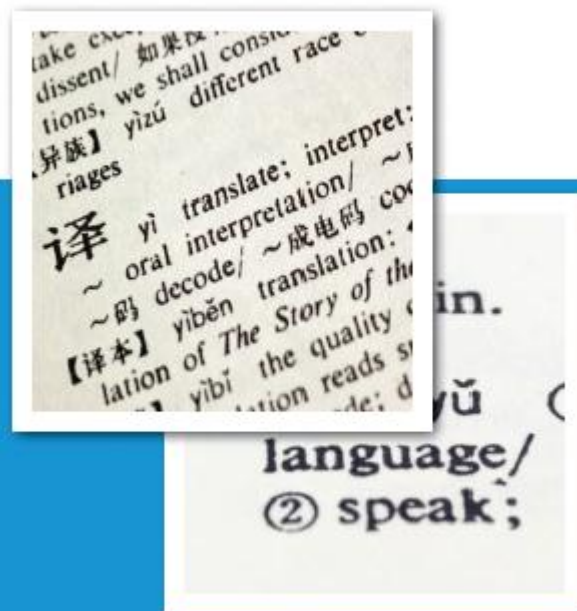
## Translating localisation challenges into global opportunities

The Centre for Next Generation Localisation (CNGL) is a dynamic Academia-Industry partnership with more than 100 researchers developing novel technologies addressing the key challenges of content volume, access, and personalisation. As a world leading multidisciplinary Research Centre, CNGL is perfectly positioned to generate fundamental advances in the state-of-the-art.

Our work is guided by the vision of enabling people to interact with content, products, services and each other in their own language, according to their own culture, and according to their own personal needs. This vision can only be achieved with a strong industry-academia partnership.

CNGL combines four academic partners and ten diverse industry partners, all of whom maintain a strong commitment to the long-term success of our research efforts. Our current partners include multinational companies including Dai Nippon Printing, IBM, Microsoft and Symantec, as well as regional and international SMEs including Alchemy Software Development, Applied Language Solutions, SDL, SpeechStorm, VistaTEC, and Welocalize.

CNGL is working with our industrial partners to deliver a range of solutions to the global market that provide consistently fine-grained analysis and services to an ever more empowered and demanding group of multilingual global consumers. The diversity of our partners is a reflection of the challenges CNGL is tackling as well as the importance of our research to both the Irish economy and the global marketplace.



A successful realisation of the CNGL research programme will help drive not only the development and productisation of novel early stage technologies but also solidify Ireland as the centre of excellence for next-generation localisation research and development.



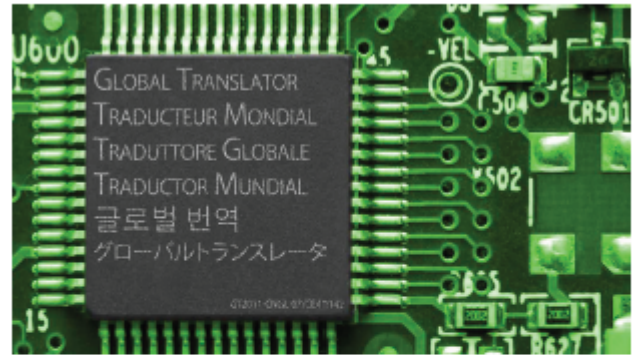
## CNGL Research Priorities

### Language Technology

Automatic language translation is a core competence of CNGL and is a frequently cited bottleneck in the localisation workflow. Advances in machine translation are crucial to tackling the challenges presented by the ever-expanding volume of digital information. CNGL is home to one of the world's largest dedicated groups of academic researchers pushing the frontiers of machine translation. DCU's MaTrEx machine translation system is frequently ranked among the top performing engines in shared tasks and competitions. At the same time CNGL advances in information retrieval, text analytics, and automated meta-data generation have become essential building blocks for next-generation content management and distribution services.

*"Collaboration between Welocalize and the CNGL has already generated significant research outcomes and we are thrilled to offer our technology platform and support to the Centre. We firmly believe that formalizing our productive relationship with the CNGL will accelerate industry advancements in order to revolutionize the industry."*

Smith Yewell  
CEO & Founder  
Welocalize



### Digital Content Management

The development of innovative digital content management strategies is a cornerstone of future advances in the localisation industry, and holds the promise of having significant applications outside of localisation as well. Our digital content research team focuses on and has deep expertise in adaptive hypermedia, information retrieval, personalisation and knowledge management. Recent advances by the digital content research team in the area of adaptive educational gaming and non-invasive personalisation are key opportunities in our commercial development pipeline.

### Localisation & Systems Frameworks

Cloud-based computing holds great promise in the localisation industry, however combining novel technologies and complex workflows across multiple systems poses significant software engineering challenges. Our Systems Framework researchers have developed substantial expertise in the design, integration and management of complex service-oriented architectures. On-going research in our next-generation Localisation team is exploring the frontiers of crowd-sourcing technology, inter-operability and workflow optimisation. In addition the CNGL research team contains several members who are experts in the increasingly important fields of human-computer interactions, ethnography, and design.



## Collaborate with CNGI for Real Commercial Benefits

### What is the best way to start collaborating with CNGI?

All collaboration with CNGI begins with the identification of a problem facing the industry or your particular business unit. The CNGI Commercial Development Manager is available to meet with industry representatives in order to help formulate a problem statement suitable for research in an academic setting. We find that the best collaborations tackle long-term, multi-dimensional problems that are often outside the scope of day-to-day operations.

### Are there specific financial commitments?

Yes, there are financial costs however within Ireland there is an array of funding opportunities, which help facilitate collaboration between Industry and Academia. These supports are available to everyone from indigenous SMEs to large multinationals and can cover up to 80% of fixed costs. The CNGI Commercial Development Manager is familiar with the range of programs and is available to work with industry representatives to identify the ideal funding vehicle based on your corporate objectives and financial resources.

## Intellectual Property Ownership

Any background IP that is brought into the CNGI by an industry party remains their sole property. The ownership and management of novel IP (foreground) generated within a collaboration is negotiated prior to the commencement of research projects and can be structured in a variety of ways depending upon your corporate objectives and financial resources. During standard engagements the University retains ownership of foreground IP while the commercial partner is granted license rights on fair and reasonable terms.

## Tangible Deliverables for Partners

Depending on the original problem statement, deliverables can take an array of forms including algorithms, MT or speech engines, software platforms and/or individual components. It is important to remember that while the CNGI is a commercially focused research centre, the output of collaborations may require a certain degree of reengineering to productise any technology developed.

For more on our collaboration framework and to view case studies on fruitful collaborations, view our website: [www.cngi.ie/collaboration](http://www.cngi.ie/collaboration)



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### Industry Partners:

