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# Public consultation on the development of a National Semiconductor Strategy

Submission from American Chamber of Commerce Ireland (AmCham) to the Department of Enterprise, Trade and Employment.

March 2024

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# The American Chamber of Commerce Ireland

## The Voice of US-Ireland Business

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The American Chamber of Commerce Ireland (AmCham) is the collective voice of US companies in Ireland and the leading international business organisation supporting the Transatlantic business relationship. Our members are the Irish operations of all the major US companies in every sector present here, Irish companies with operations in the United States and organisations with close linkages to US-Ireland trade and investment.

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The American Chamber of Commerce Ireland (AmCham) welcomes the opportunity to make a submission to the Department of Enterprise, Trade and Employment in relation to the development of a national semiconductor strategy. The focus of this submission is on key areas in the semiconductor industry and aims to provide insights and recommendations to support the growth and development of the semiconductor sector in Ireland.

AmCham believes Ireland has the potential to serve as a global hub for innovation, research, and development. This would further solidify Ireland's position as a leading destination for semiconductor companies, attracting investment, fostering collaboration, and driving technological advancements that benefit both our economy and wider society.

US MNCs in Ireland regularly cite access to talent, necessary infrastructure, and global competition as important aspects to enable them to expand in Ireland. At the overarching level, Ireland's semiconductor sector must specifically address barriers related to skill shortages, regulatory complexities, and infrastructure constraints to sustain growth and competitiveness in the long term.

#### *Economic Opportunity*

The European Chips Act presents a significant economic opportunity for Ireland, positioning the country to capitalise on its strengths within the semiconductor industry. As a hub for major multinational semiconductor companies, Ireland is well-positioned to leverage the Act's substantial public and private investments, estimated at over €43 billion, to bolster its semiconductor ecosystem. The Act's focus on fostering innovation, enhancing technological capabilities, and addressing supply chain vulnerabilities aligns with Ireland's strategic goals of promoting research, development, and innovation. By tapping into these investments, Ireland can further develop its semiconductor sector, create high-skilled jobs, attract talent, and strengthen its position as a global leader in semiconductor technology. Additionally, Ireland's established infrastructure, supportive regulatory environment, and skilled workforce make it an attractive destination for semiconductor companies looking to expand their operations within the EU.

#### *Talent*

The semiconductor industry in Ireland is a significant contributor to employment, with over 20,000 individuals employed in this sector. Among these, approximately 6,500 are engaged in highly skilled technical roles, while another 3,000 are dedicated to research and development activities.<sup>1</sup> Investing in Ireland's talent and human capital is vital to unlocking the full potential of the semiconductor sector within the country. AmCham

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<sup>1</sup> [https://www.tyndall.ie/contentFiles/Tyndall\\_Ireland's\\_Role\\_in\\_the\\_Global\\_Semiconductor\\_Industry.pdf](https://www.tyndall.ie/contentFiles/Tyndall_Ireland's_Role_in_the_Global_Semiconductor_Industry.pdf)

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members consistently identify talent attraction as one of the three foremost challenges to growth and investment in Ireland. Upskilling and lifelong learning is crucial in future-proofing the global talent pipeline, ensuring that Ireland remains competitive in the evolving semiconductor landscape.

Collaboration between industry and academia is important for nurturing world-class talent, facilitating knowledge exchange, and addressing emerging skills needs. Ireland's highly educated talent pool, coupled with extensive engagement with tertiary education, positions it favourably in attracting and retaining international talent. As Ireland ranks first globally for knowledge diffusion and absorption, it is evident that the country is well-equipped to foster a dynamic and innovative semiconductor ecosystem through continued strategic investments in talent development and collaboration initiatives.

The evolving nature of the semiconductor industry necessitates a focus on skills needs across training, education, and research. A coordinated STEM agenda for schools and universities, developed in collaboration with industry stakeholders, will be important in supplying a pipeline of skilled professionals for the semiconductor sector in Ireland. AmCham recommends appointing a National Champion for STEM to support talent development, build awareness of career opportunities, and support collaboration between industry and academia.

#### *Research, Development and Innovation (RD&I)*

Ireland's potential in Research, Development and Innovation (RD&I) for semiconductors is substantial. While the feasibility of funding a competitive fabrication facility may be limited due to cost and scale constraints, Ireland can capitalise on its strengths in R&D. Certain US MNCs have already demonstrated this potential by heavily investing in the development of RD&I centres in Ireland. Ireland's robust infrastructure, skilled workforce, and supportive regulatory environment position it as an ideal location for further RD&I investment within the semiconductor sector. By focusing on R&D, Ireland can continue to drive innovation, attract talent, and strengthen its position as a leading player in the global semiconductor landscape.

The European Chips Act is designed to stimulate innovation and bolster technological capabilities within the EU. This legislation aims to enhance Europe's competitiveness and resilience in semiconductor technologies, facilitating the transition towards both digitalisation and sustainability. The allocation of additional EU funding to support RD&I endeavours represents an avenue where the Chips for Europe initiative could substantially enhance Ireland's sectoral development, propelling advancements in chip design and manufacturing capabilities.

### *International Supply Chains*

Semiconductor supply chains extend far beyond fabrication facilities, encompassing critical stages such as testing and packaging. Given their global reach, Ireland must engage in collaborative efforts with like-minded governments to craft comprehensive strategies. Attempting to independently establish fabrication facilities in every country is impractical; instead, a holistic approach that addresses the entirety of the ecosystem is essential. By joining forces with other nations, Ireland can pool resources, prevent duplication of efforts, and capitalise on collective strengths to further develop the semiconductor industry.

Furthermore, the existing supply chain, encompassing chip design, production, and distribution across Europe, must be expanded and refined within the broader European ecosystem. AmCham advocates for a regulatory framework that fosters collaboration among businesses of varying sizes and functions within this ecosystem, ensuring optimal outcomes and innovation.

As the European Chips Act focuses on regional development, it is crucial to acknowledge the global nature of supply chains, highlighting the significance of the transatlantic relationship. Collaboration through entities like the EU-US Trade and Technology Council presents opportunities to fortify supply chains and mitigate vulnerabilities.

### *Key Recommendations*

- Prioritise talent attraction and retention efforts to address skill shortages, regulatory complexities, and infrastructure constraints, ensuring Ireland's semiconductor sector remains competitive and sustainable in the long term.
- Implement a coordinated STEM agenda for schools and universities in collaboration with industry stakeholders to cultivate a pipeline of skilled professionals for the semiconductor sector, supported by the appointment of a National Champion for STEM to drive talent development and collaboration initiatives.
- Capitalise on Ireland's potential in Research, Development, and Innovation (RD&I) for semiconductors by focusing on R&D investments, leveraging existing strengths in RD&I clusters.
- Strengthen collaboration and partnerships with like-minded governments to develop complementary strategies and avoid duplication of efforts in semiconductor development, recognising the global nature of semiconductor supply chains and the importance of coordinated action at an international level.
- Improve infrastructure and facilities to support semiconductor manufacturing, testing, and packaging operations, ensuring that Ireland has the necessary capabilities and resources to support the growth of its semiconductor sector in the years to come.