Danish Chips Competence Centre

The

Danish Chips Ecosystem

Version 1, May 2026
Ecosystem Mapping Report

Contents

Section 1

Introduction

Chips are a foundational technology of the modern society. They are present in virtually every electronic device, including computers, smartphones, cars, medical equipment, industrial machinery, telecommunications networks, and power grids.

The EU dependency and potential vulnerability on chips was acknowledged by Ursula von der Leyen in her 2021 'state of the union' address [1.1]:

" There is no digital without chips... We depend on state-of-the-art chips manufactured in Asia. So, this is not just a matter of our competitiveness. This is also a matter of tech sovereignty."

This realisation eventually led to the European Chips Act [1.2], in which three separate 'Pillars' address the critical aspects mentioned above:

- Competitiveness, where the Pillar I focuses on innovation and growth.
- Tech sovereignty, where Pillar II and III address resilience, security of supply and provide coordination and crisis response mechanisms.

This report is published by the Danish Chips Competence Centre (DkCCC), an initiative under Pillar I with the purpose of mapping the Danish chips ecosystem. The chips ecosystem mapping is a direct expression of the Pillar I: providing an overview of existing players and their capabilities with the ambition of stimulating discussions within the ecosystem on potential areas for innovation and growth.

DkCCC is not the first to map a national chips ecosystem. The Chips Act entered into force in 2023 and in that same year, Norway published a chips ecosystem mapping [1.3]. In 2024, Sweden [1.4] and Finland [1.5] published reports where they combined mappings and strategies [1.6].

This document is a mapping and not a strategy. A good map, however, is a very useful tool for all stakeholders when planning a route through existing territory and discussing how to address unused opportunities.

1.1 Report structure

Figure 1 gives a visual presentation of the Danish chips ecosystem. This format is inspired by how the Danish Quantum Community (DQC) depicts the quantum ecosystem.

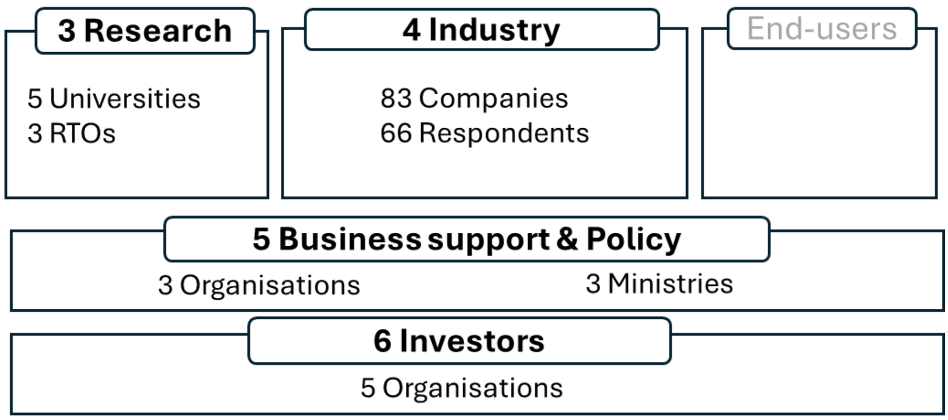

Figure 1: *Overview of the organisations included in this mapping of the Danish Chips ecosystem. The numbers in the headlines refer to the relevant chapters of this report. The numbers in the boxes show the number of actors included in the report. It is noted that where DQC included end-users in their mapping of the quantum ecosystem, this report does not include end-user in the mapping of the chips ecosystem. This is discussed further in section 2.4.1.*

The chips ecosystem mapping report is structured to reflect the four groups of actors, shown in bold in figure 1.

- Research (Section 3): Universities and research and technology organisations (RTOs) working within chip technologies
- Industry (Section 4): Companies offering products and services for chip development, fabrication, and key support functions across the value chain.
- Business Support and Policy (Section 5): Business support organisations and ministries that interact with and support the chips ecosystem.
- Funding (Section 6): Private investors and funding instruments supporting chip companies.

Before diving into the sections describing the actors, Section 2 'Background Structures' provides introductions to concepts relevant to the following sections.

1.2 Methodology and data

The report combines a quantitative description of the chip industry with qualitative descriptions of the broader ecosystem. The quantitative data is based on individual surveys sent to 83 companies. Feedback from 66 companies has been received, corresponding to 80% of those contacted. These companies are listed in appendix 8.3.

Readers are encouraged to treat this edition as a working document. If your organisation works with chips, or in areas related to chips, and is not included in this report, please contact us at info@dkccc.eu.

1.3 This report and next steps

This report is Part 1 of a two-part publication. Part 1 is primarily intended for stimulating opportunity and policy discussions within the Danish chips ecosystem.

Part 2, planned for Q4 2026, will provide a comprehensive directory of companies and actors with an international agenda within the Danish chips ecosystem. Where Part 1 maps the landscape, Part 2 is being designed as a practical resource for those seeking collaboration and investment opportunities, primarily from abroad.

Together, the two parts are intended to serve as a foundation for international engagement and national growth for Danish chips activities and actors.

Section 2

Background Structures

This section covers four topics, two technical and two descriptive sections. Section 2.1 introduces four key chip technologies and section 2.2 presents six main areas of the chip value chain used throughout the report. These concepts underpin the description of the Danish chips industry in section 4 and are important for understanding the dynamics within the chips industry described in section 2.3. Finally, section 2.4 gives more insight into the European Chips Act and how it can help to stimulate growth in the Danish chips ecosystem.

The term ”chip” is a non-technical word used in everyday language to describe a range of small, highly specialised semiconductor devices that process, store, sense, transmit, or control information and electrical signals. Chips are fabricated from specialised materials through precise manufacturing processes at a microscopic scale. A single chip can contain millions or even billions of sub-components, such as transistors, all working together to perform complex functions, often faster, more efficiently, and at lower cost than would be possible with larger, discrete systems.

In many contexts, the term ”semiconductors” is used to describe what this report refers to as ‘chips’; and in most cases the two terms can be used interchangeably. However, ”semiconductor” in its original sense denotes a class of materials with specific electrical properties that are widely used in chip fabrication. Most chips are made from semiconductor materials, although some devices referred to as chips may rely on other materials or technologies. To avoid ambiguity, this report uses ”chips” to describe devices and ”semiconductor” to describe a class of materials.

2.1 Chip Technologies

When chips are discussed in the broader public, the term usually refers to an Integrated Circuit (IC). An IC is a semiconductor-based electronic component of the kind found inside a computer or a smartphone. ICs are by far the dominant chip type worldwide. However, to better describe the activities and areas of specialisation in Denmark, this report differentiates between four chip technologies as described in more detail below:

Integrated circuits (ICs) are the globally dominant chip technology and the foundation of most modern electronics. An IC contains a complex network of transistors and other electronic components fabricated on or in a semiconductor substrate/wafer, most commonly silicon. The number of transistors that can be packed onto a single chip has roughly doubled every two years since the 1970s, a pattern referred to as Moore’s Law.

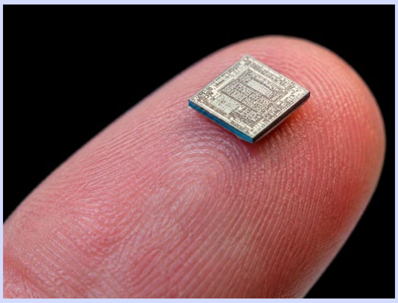

Image 1: *AI-generated illustration of an integrated circuit.*

ICs enable increasingly powerful and cost-effective electronics and data processing functions underpinning everything from smartphones to data centres. ICs are used across virtually every sector of modern society, including consumer electronics, automotive, telecommunications, industrial automation, and medical devices. The global IC market in 2025 is estimated to be USD 785 billion with a projected annual growth rate (CAGR) of 9.9% [2.1].

Photonic chips – or photonic integrated circuits (PICs) – use light to transmit and process information, while conventional ICs primarily rely on electrical signals. By integrating various optical components onto a single photonic chip, complex optical signal processing is possible. Photonic chips are often, but not always, built on a semiconductor platform.

Photonic chips are used widely within telecommunications and data-communications, where they transmit large volumes of data at high speed and with low power consumption. The recent surge in AI-related data traffic has led to increased focus on advanced photonic chips. The global photonic chip (PIC) market is estimated to be USD 17 billion in 2025 with a projected annual growth rate (CAGR) of 20.8% [2.2].

Image 2: *AI-generated illustration of a photonic chip.*

Microfluidic and sensing chips – sometimes called lab-on-a-chip devices – manipulate tiny volumes of liquid through networks of microscale channels etched onto a chip surface. Rather than processing electrical or optical signals, they handle biological or chemical samples by mixing, separating, and analysing fluids in a highly controlled environment. Their primary applications are in diagnostics and chemical detection.

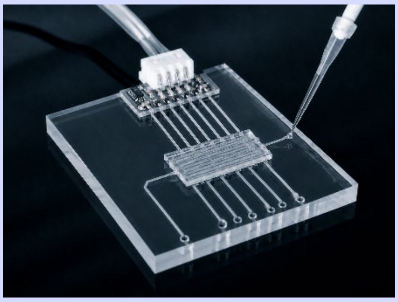

Image 3: *AI-generated illustration of a microfluidic chip.*

As microfluidic and sensing chips share closely related fabrication approaches and application domains, this report treats them as a single chip type. The global microfluidic chip market for 2025 is valued at USD 9.1 billion with a CAGR of 12.5% [2.3].

Quantum chips are the core component of quantum processors (QPUs), which use quantum mechanical properties – superposition and entanglement – to perform certain specific computational tasks far more efficiently than conventional computers.

Quantum chips are also increasingly developed for quantum sensor applications, where quantum properties enable sensitivities unachievable by conventional technologies. The term 'quantum chips' presently covers a broad range of technologies which are at an early stage of commercial development but represent a significant area of research and investment globally and in Denmark. Market estimates vary and are uncertain, but a recent report estimated the 2025 quantum chip market to USD 0.22 billion with projected CAGR of 38% [2.4].

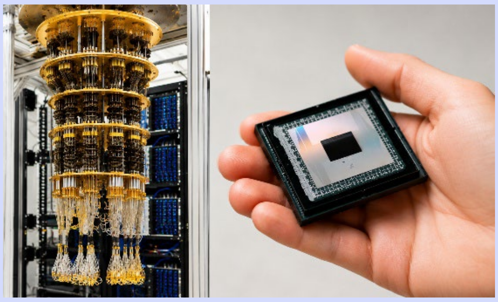

Image 4: *AI-generated illustration of a quantum chip.*

Market size and annual growth rates the four chip technologies are summarised in figure 2 and figure 3 respectively.

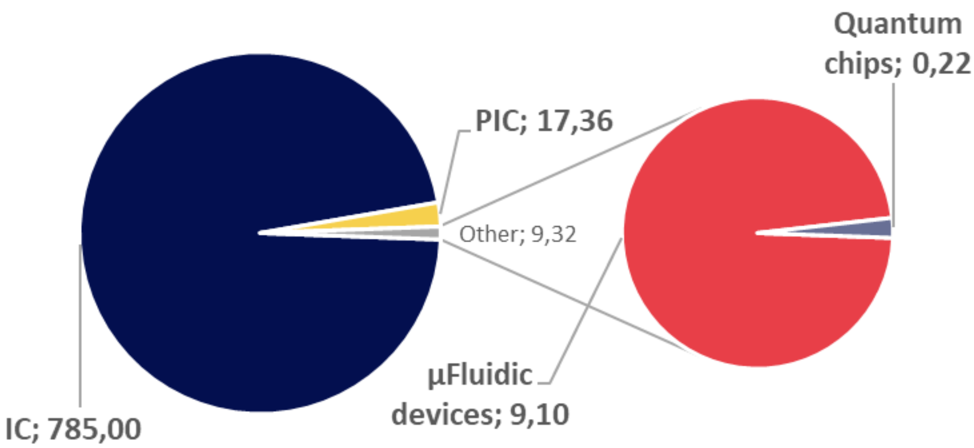

Figure 2: *Overview of year 2025 world markets sizes of the four key chips technologies, Refs. [2.1] - [2.4].*

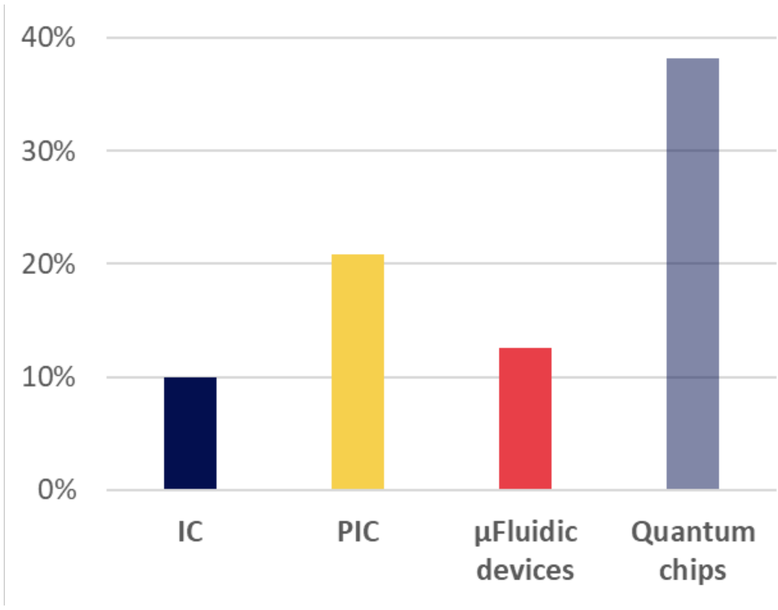

Figure 3: Overview of annual growth rates of the four key chips technologies.

When comparing these figures with the number of companies active in the Danish chips ecosystem (see figure 15 in section 4.3), it is notable that Danish industry is relatively strong in the two technology areas with the highest projected growth rates, i.e. Photonics and Quantum. This is discussed further in section 4.3.2.

2.2 The Chips Value Chain

Chips are designed and produced through a series of highly specialised processes using advanced tools and materials. These processes, tools and materials can be divided into six main areas, which this report refers to as "The Chips Value Chain".

Producing a functional chip involves three main stages: 1) Design, 2) Fabrication, 3) Test and Packaging. Each stage relies on highly specialised inputs: 4) Design software - referred to as EDA, 5) Advanced materials from which the chips are made and 6) Specialised equipment used to fabricate the nanoscale and highly complex features on the chips.

These building blocks are shown schematically in figure 4 and are in general common to the four chip technologies mentioned in section 2.1.

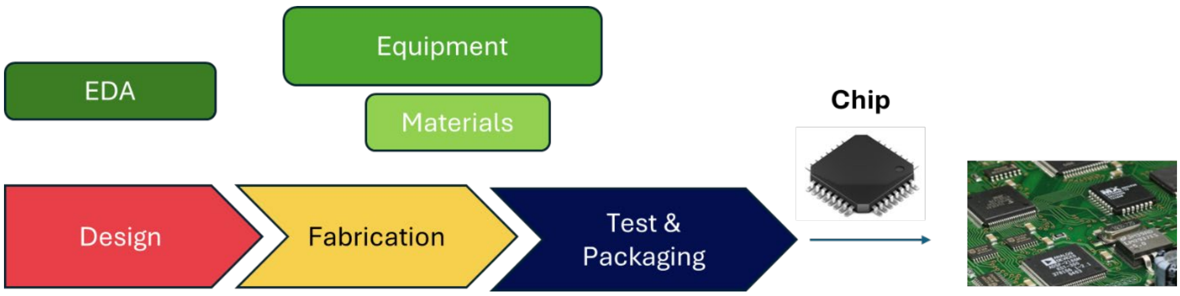

Figure 4: The six main links in the chips value chain shown together with a block representing electronic systems, where chips are typically used.

Design is the process of defining the intended function, architecture, and physical implementation of a chip or chip-based device in a form that can guide fabrication. For IC-design in particular, the design process relies heavily on the use of highly specialised **Electronic Design Automation (EDA)** tools. These software tools are both technically complex and often relatively costly to license but are indispensable in practically any IC design project.

Fabrication is the process of physically building the chip from the design blueprint. It depends on two crucial inputs: materials, the semiconductor substrates and chemical compounds, gases, photoresists, metals, dielectrics, wafers, specialty chemicals, etc. used during production, and the equipment, used to apply the designed structures to the chip. Chip structures are typically fabricated at nanometre scales, where even a single dust particle can ruin an entire batch. Fabrication therefore takes place inside cleanrooms, ultra-controlled environments with strict air filtration and handling protocols.

During fabrication, large numbers of identical chips are fabricated simultaneously on a single wafer: a thin disc of typically semiconductor material. Once all the functional structures have been implemented on the wafer, individual chips (or as they are called at this stage 'dies') are cut from the wafer. As an illustration of scale, dies of 2 x 2 mm fabricated on a 300 mm (diameter) wafer yield more than 10,000 dies from a single wafer.

Test and packaging are the final steps. Once wafers have been fully fabricated, the fabricated devices are tested to verify functionality and performance before dicing and packaging. During packaging**,** dies are mounted onto substrates used for electrical connection and to enhance specific mechanical and thermal characteristics. The dies are then mounted in protective casings with electrical, optical or fluid connections for assembly onto typically printed circuit boards (PCBs) used in e.g. computers, medical devices, or cars. The packaged end-product is what we typically refer to as a "chip."

The "Danish chips industry" introduced as a term in section 1.1, in this report refers to any company active in one or more of these six areas: EDA tools, Design, Materials, Equipment, Fabrication, or Test and packaging.

2.3 Dynamics of the chip sector

The chip sector is highly dynamic, with new products and technologies continuously being introduced. This pace of change is often illustrated through Moore's Law, which observed that the number of transistors on an integrated circuit doubles approximately every two years (figure 5). This pattern has approximately held since 1970 -nearly four decades. To put it in context: if the automotive industry had developed at the same pace as ICs, a car today would be capable of circumnavigating the globe ten times on one litre of fuel, and a fully functional vehicle would fit inside a briefcase.

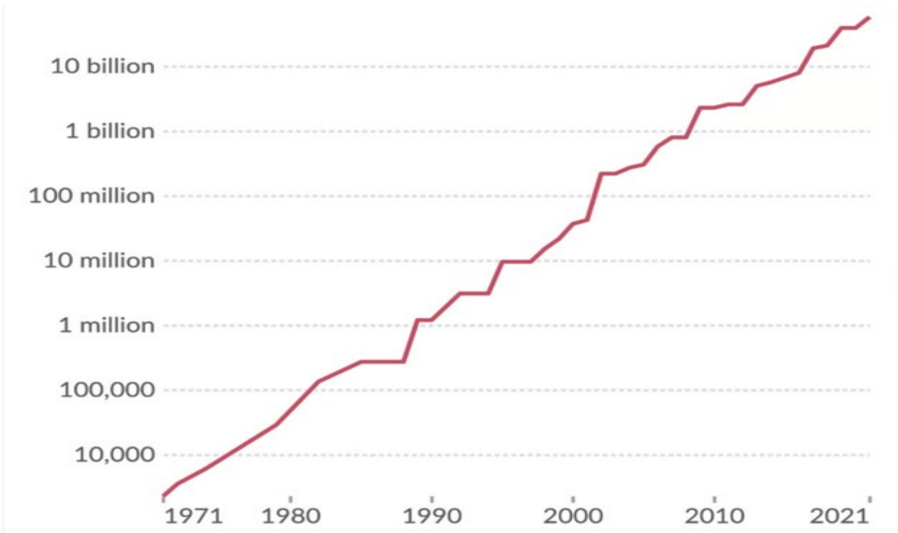

Figure 5: Number of transistors per microprocessor by year [2.5].

Sustaining this rate of technological progress over such an extended period has required massive and continuous investment in increasingly advanced equipment and processes.

Two examples illustrate the scale and costs involved. First, the latest (so-called "High NA EUV") lithography system from ASML, the leading Dutch lithography equipment company, costs approximately 400 million USD per unit [2.6]. Second, the investment cost of a high-end IC-factory (fab) today is in the range of 10-20 billion USD [2.7], the equivalent cost of three (3) Great Belt bridges. Furthermore, the costs of next generation fabs are expected to almost double in the foreseeable future.

The large costs involved in high-end chip fabrication have led to global value- and supply chains where highly specialised equipment and factory services might only be offered by a few or even just a single company worldwide.

As described in the two following sections, this pronounced specialisation of the supply-chain of the chip industry has consequences for both chip company business models and national security strategies.

2.3.1 Cost and complexity of chip design and fabrication – company perspective

The cost and complexity of the chip value chain affect companies very differently depending on the maturity of the technology they are working with.

For mature chip technologies such as most ICs, the relevant value-chains are highly specialised, well-organised and streamlined to a degree that allows the companies in the chip value chain to focus their activities on a single part of the value chain. A prominent example is the 'fabless chip company' in which a company concentrates their activities almost entirely on chip design. A group of specialists can design a chip using EDA tools and outsource fabrication, testing and packaging to dedicated sub-suppliers using well-defined hand-over processes and interfaces. This business model is used for example by global companies such as Nvidia and by local Danish chip 'giants' like the hearing aid companies. However, the fabless chip model also enables start-up companies to let a few dedicated engineers develop a highly specialised chip.

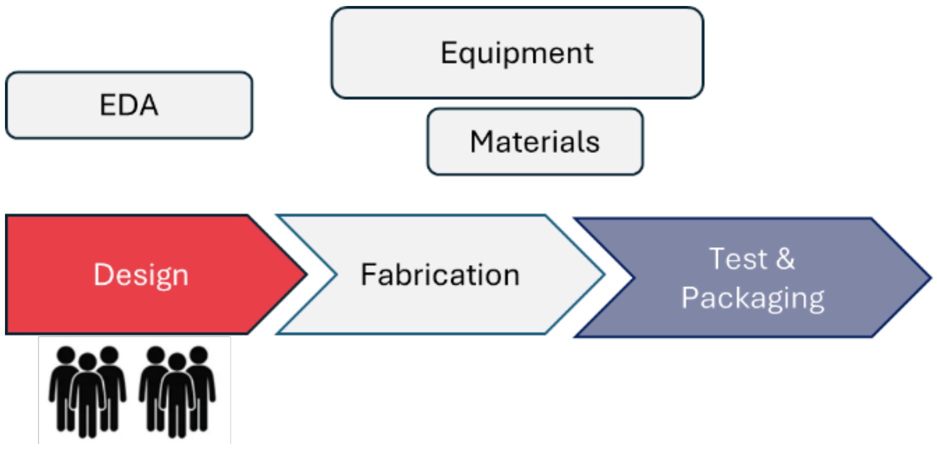

Figure 6: For fabless chip (IC) companies, resources can be concentrated on chip design.

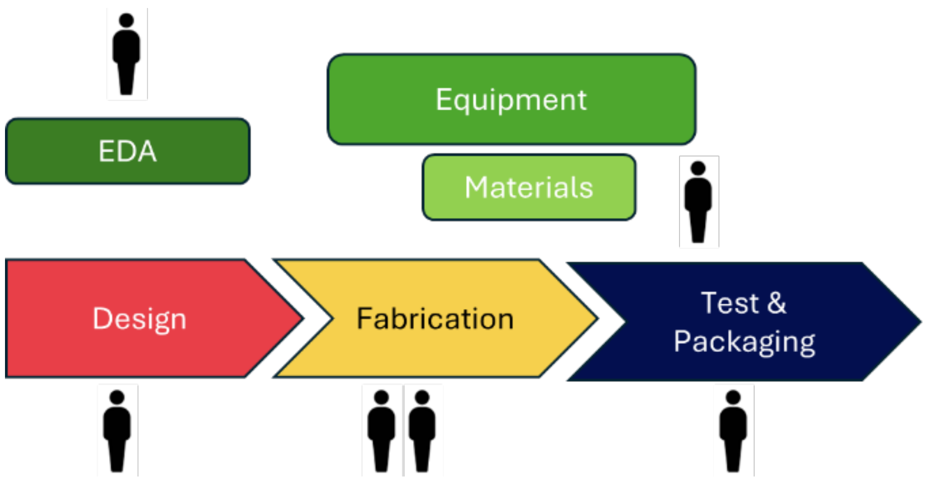

Figure 7: For new chip technologies, resources must often be invested in many areas of the value-chain.

For less mature chip technologies such as quantum chips, highly specialised supply-chains do not yet exist. Companies developing these chips must often engage in development activities across many areas of the chip value chain simultaneously, including fabrication, test, packaging and materials. As the cost of establishing individual facilities for each company is prohibitive, open-access infrastructure is critical. On a national Danish level these infrastructure needs are reflected in the recent substantial fabrication investments at for example Quantum Foundry Copenhagen and DTU Nanolab Phase 4.

2.3.2 Cost and complexity of chip design and fabrication – a resilience perspective

The rapid developments in chip technologies have required huge investments. For decades, this rapid technological development was supported by commercially viable investment models, enabled by growing global specialisation and access to large international markets which has led very few entities to offer highly specialised chip services to the entire global market. However, the vulnerability of such concentrated global supply chains is an increasing political concern. As Canadian Prime Minister Mark Carney stated at the World Economic Forum in January 2026, great powers have begun "using economic integration as weapons, tariffs as leverage, financial infrastructure as coercion, supply chains as vulnerabilities to be exploited." [2.8]

This has motivated political ambitions to enhance strategic resilience by focusing on national and regional capabilities. However, given the cost of chip fabrication such ambitions can only be realised at larger regional scale and through close cooperation between governments and private actors as reflected in both the EU and US Chips Acts.

When examining the Danish chips ecosystem, it is therefore not to be expected to find a coherent and coordinated national ecosystem where the different Danish actors are cooperating in synergistic ways with local partners. The Danish chips ecosystem is deeply embedded in the global chips value chain rather than a self-contained national system. Potential synergies and future growth opportunities are therefore likely to be found at the regional, European, or dedicated partnership level.

2.4 The EU Chips Act

During the COVID-19 pandemic, Europe experienced directly how critical global chip supply chains are to the European economy. In 2021, the European Central Bank found that the semiconductor shortage "severely affected suppliers' delivery times" across the euro area, with 23% of manufacturing firms reporting a lack of materials and equipment as a factor limiting production" [2.9].

It thus became evident how few alternatives existed when a critical link in the chip value chain failed. This happened in parallel with on-going European competitiveness discussions, which eventually resulted in the Draghi report in 2024 [2.10].

These combined experiences led to the launch of the EU's Chips Act in September 2023, designed to reinforce the semiconductor ecosystem in the EU, ensure the resilience of supply chains, and reduce external dependencies, with the target of doubling Europe's global market share in semiconductors from

10% to 20% by 2030 [2.11]. The Chips Act is expected to mobilise more than EUR 43 billion in public and private investment by 2030, combining EU and Member State funding with long-term private investments.

The Chips Act pursues these objectives through three pillars of action. Pillar II and III address resilience, security of supply, and coordination and crisis response. Pillar I, the Chips for Europe Initiative, focuses on technological capacity building and innovation. To support chip innovation, Chips for Europe includes 4 main initiatives (shown as coloured boxes in figure 8):

1. Five pilot lines for next-generation chip fabrication and packaging, plus six smaller dedicated quantum chip pilot lines
2. A design platform to accelerate chip design
3. A Chips Fund to support funding for chips SMEs and scale-up companies
4. Chips Competence Centres in each member state, connecting these initiatives to the local ecosystems

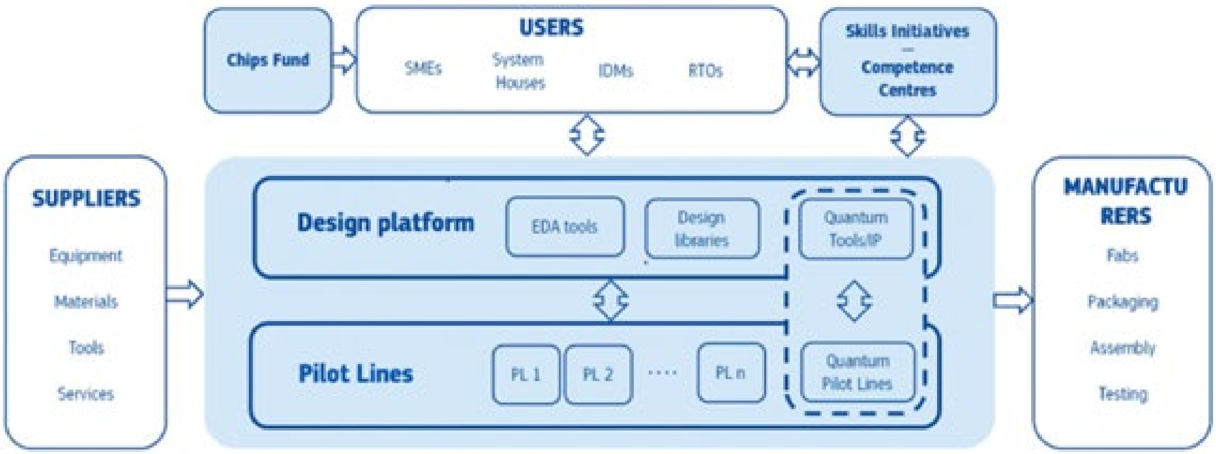

Figure 8: *A visual overview of the Chips for Europe Initiative. These initiatives are shown as the coloured blocks interfacing the existing chips ecosystem (white blocks).*

When discussing growth opportunities for the Danish ecosystem, it is important to bear these 'Chips for Europe' initiatives in mind. The design platform and the pilot lines are tools which can both directly and indirectly support the growth opportunities within the national chips ecosystems.

2.4.1 Chips Act 2.0 and end-user opportunities

The Commission's proposal for the EU Chips Act 2.0 is scheduled for publication in June 2026. The proposal was not publicly available at the time this report is being printed. During the preparation for the final Chips Act 2.0 proposal, it has been intensely debated to introduce requirements or incentives for strategically critical sectors to increase their use of EU-developed and EU-produced chips. Such critical sectors could for example be defence, space and telecommunications among others.

If Chips Act 2.0 eventually does include such 'buy EU chips' initiatives, this could provide chip opportunities for the Danish chips 'end-users' as well. This is a group of companies hitherto not included in this chips ecosystem mapping.

The background is that practically any company developing electronic hardware are using chips. However, these chips are typically commodities bought on the open market through standard commercial channels like electronic component distributors. In areas where cost-effective chips are commercially available for the relevant functions, almost no end-users will have ambitions to enter the challenging and potentially expensive path of chip development.

This picture could however change dramatically if EU-chips eventually will be preferred for equipment used for critical sectors. For their next generation products, end-users selling to these sectors might then see commercially relevant opportunities in entering chip development, either on their own or in collaboration with European partners. A simplified illustration of this potential mechanism is shown in figure 9 below.

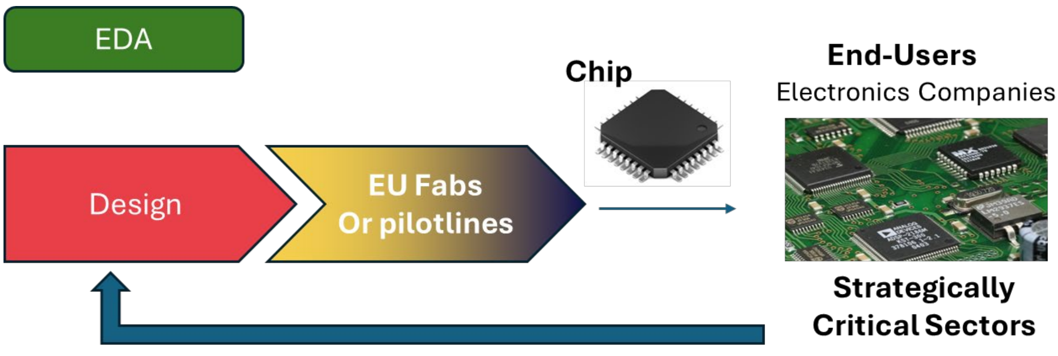

Figure 9: *Sketch of in-house development and European fabrication for Danish companies operating within critical sectors.*

Section 3

Research

Research institutions form a critical part of the Danish chips ecosystem. They provide the research base, trained workforce, and fabrication infrastructure that underpin innovation and commercial activity across all areas of the value chain. The main chip-relevant research activities are concentrated at four universities and supported by several Danish Research and Technology Organisations (RTOs). These are described individually in more detail in this section.

3.1 Technical University of Denmark - DTU

3.1.1 IC Design

DTU has been Denmark's main academic centre for IC design for nearly 50 years. Its core teaching and research areas are analogue and mixed-signal design, digital circuit and system design and high-speed RF design.

DTU has historically educated the majority of Danish engineers active in IC design. Currently, almost 20 different IC design courses are offered at three institutes: Electro, Compute and Space, with more than 60 students following the most popular courses on analogue and digital design.

In 2025 8 full-time researchers and 4 Ph.D. students were active in IC design and about 20 students made their master theses on topics relating to chip design. DTU is participating in 6 international (EU) projects on a wide range of topics for example "6G applications at frequencies >100 GHz", "Software Defined Vehicles" and "Open-source EDA". Several spinout companies have recently originated from DTU chip-design research, e.g. Skycore, Lotus Microsystems and IC-optimize.

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3.1.2 Photonic Chips

DTU Electro, the Department of Electrical and Photonics Engineering at DTU, cFonducts research across all levels of Photonic Integrated Circuit (PIC) development: design, simulation, fabrication, packaging, testing, and application. Application areas include LiDAR, optical computing, bioimaging, optical communication including new areas like optical free-space and underwater optical wireless communication.

Furthermore, DTU Electro pursues the realisation of on-chip sources of single indistinguishable photons based on semiconductor quantum dots operating at telecom wavelengths and near-infrared wavelengths for quantum communication and photonic quantum computing applications.

In 2026 more than 30 full-time researchers and more than 20 Ph.D. students are active in research fields related to (PICs). DTU Electro is participating in numerous National and EU-funded research projects on photonics and PICs.

Several PICs related companies have recently originated from DTU electro e.g. Bifrost Communications and Phanofi.

3.1.3 Quantum chips

DTU is active in research on quantum technology at several institutes with a strong and growing focus on quantum chips particularly at DTU Physics and DTU Electro. Here activities cover the entire spectrum from photonic quantum computing over quantum communication to quantum sensing. DTU is at the forefront of quantum technologies with the research centres *bigQ* and *NanoPhoton* dedicated to developing photonic quantum hardware and integrated chip-scale systems.

In quantum communication, DTU is active in research on both continuous-variable (DTU Physics) and discrete-variable (DTU Electro) systems. In solid-state Quantum sensing, DTU Physics has a strong position on diamond (Nitrogen Vacancy) NV-center based technologies. NV-centers represent a promising platform for highly sensitive chip-scale quantum sensors capable of measuring minute magnetic fields in biological environments such as cells or brain tissue. DTU Physics explores photonic integrated circuits based on thin-film lithium niobate for chip-scale quantum information processing with continuous variables. Here, the main focus is on the generation of quadrature squeezed states and states with non-Gaussian distributions, applied for photonic quantum computing, sensing/learning and communication.

Several companies commercialising chip-based quantum technologies have recently spun-out from DTU including Alea Quantum Technologies, Celare and DIASENSE.

3.1.4 Fabrication and Characterisation – DTU Nanolab

DTU Nanolab is the Danish national centre for nanofabrication and characterisation, offering a 1,350 m^2 cleanroom facility with over 150 advanced tools. Key services include access to equipment, expert advice and process development. DTU Nanolab operates an open-access model and currently supports more than 60 companies using the facility for full or partial chip fabrication.

In 2025 DTU Nanolab had a total of 100 staff members. The majority are engineers and technicians offering cleanroom processing services, however the staff also includes researchers working on, for example, new process development and device fabrication. DTU Nanolab is participating in more than 10 EU research projects and close to 20 national projects.

More than 20 bachelor, master and Ph.D. courses are offered on nanofabrication and characterisation, often in collaboration with other DTU institutes. A total of 15 Ph.D. students are presently enrolled at DTU Nanolab and about 20 students made their master theses here in 2025 on topics related chip fabrication, chip characterisation and packaging.

Image 5: Cleanroom at DTU Nanolab

To meet the growing focus on test facilities and chip fabrication, DTU Nanolab is currently expanding.

Another 700 m2 of cleanroom space (DTU Nanolab Phase 4) is currently under construction, with a budgeted cost around 350 MDKK. Similar investment levels are anticipated for initial equipment in the new cleanroom. Nanolab Phase 4 aims to support advanced fabrication including quantum chip test and demonstration, and the building is expected to be completed by the end of 2027.

Project related investments in (quantum) photonic chips and packaging on the order of several hundred MDKK are presently being planned based on the ChipsJU Quantum Pilot line 'Q-Pilot' and the Danish 'PHODESIK' research infrastructure project. Both projects supports a development towards photonic and assembly design kits, PDK/ADK. These allow for more efficient demonstration of new ideas and scale-up to product level.

3.2 University of Copenhagen - Niels Bohr Institute (NBI)

The Niels Bohr Institute (NBI) at the University of Copenhagen is one of Denmark's oldest and strongest quantum research environments, covering quantum information, quantum optics, and quantum hardware.

Novo Nordisk Foundation Quantum Computing Programme (NQCP) is a cutting-edge mission-driven quantum research programme located at the Niels Bohr Institute, with a total budget of roughly DKK 1.5 billion. The long-term mission of the programme is to develop fault-tolerant quantum computing hardware and quantum algorithms that solve life-science-relevant chemical and biological problems.

The POEM Technology Centre, also located at the Niels Bohr Institute, is a collaboration between NQCP/NBI and the French company RIBER to establish leading-edge wafer production capability based on 300 mm photonic wafer technology, which is significant for photonic quantum chip development.

In 2025, 75 full-time researchers, research technicians, and engineers, and 18 Ph.D. students were active in research fields related to quantum chips and approximately 20 students made their master theses on these topics. In addition, more than 75 employees contributed with theoretical work on Quantum chips activities in such areas as applications, algorithms and simulations.

Several spinout companies have recently originated from NBI research, including Quantum Machines, Sparrow Quantum and Qfactory.

3.2.1 Fabrication and Characterisation - NBI Cleanroom

The NBI cleanroom is a dedicated research facility supporting nanofabrication and characterisation for semiconductor and superconductor devices, including quantum devices. The facility is open to researchers from UCPH/NBI and external groups, including industry collaborators such as Microsoft Quantum and Sparrow Quantum.

3.3 University of Southern Denmark - SDU

3.3.1 IC-Design - Microelectronics group

In 2025, SDU established a new research group in IC design, SDU Microelectronics group, following the relocation of the ICE-Lab from Aarhus University. Key research areas at SDU Microelectronics are biomedical ICs, power management, cryogenic CMOS, analog mixed-signal IC design, and chips for space and security. The key technological focus is on neuromorphic computing, spintronics, in-memory computing, and AI-on-the-edge.

The Microelectronic group is growing fast and currently (2026) comprises 13 fulltime researcher/engineers including full professors, associate-assistant professors, postdocs and engineers, eight Ph.D. students and several visiting researchers.

The SDU Microelectronics group is actively involved in both national and international research projects with 2026 participation in 6 National projects and 6 EU projects mostly on advanced computing and biomedical applications.

ICELab at SDU Microelectronics is equipped with all chip characterisation tools, EDA tools for chip design and simulation, a Pick&Place machine for PCB assembly, Cryogenic setup for Quantum applications, and a spintronic device characterisation setup.

SDU Microelectronics offers seven specialised courses in IC design starting August 2026. Examples of such courses are Integrated Circuits, Analog Circuits and Systems, VLSI, RF IC Design, Neuromorphic Computing, etc.

Image 6: ICELab at University of Southern Denmark (SDU).

In addition, spinout companies from the former Aarhus University ICE Lab include CENEXUM focusing on biomedical ICs, and SensifAI Edge developing AI hardware solutions.

3.3.2 Chip and materials Characterisation - SDU NanoSYD

SDU NanoSYD is an ISO 5 nano- and microfabrication cleanroom located at the NanoSYD centre in Sønderborg. It is the second largest academic cleanroom in Denmark. The facility supports chip fabrication, prototyping, packaging, simulation, and materials characterisation for both academic and industrial users.

NanoSYD focuses on applications including semiconductor and microelectronic chips, MEMS devices, microfluidic and lab-on-chip systems, thin-film electronics, sensors and biosensors, plasmonic and nanostructured devices, and energy technologies including solar cells and organic optoelectronics.

The facility serves researchers from SDU and other universities and research institutions, as well as external industrial partners and SMEs for R&D, prototyping, consultancy, simulation, and device testing.

3.4 Aalborg University - AAU

Aalborg University (AAU) has its main chip-research focus on high-power semiconductor devices and modules for renewable energy applications. The university has more than ten years of experience with wide bandgap materials, including silicon carbide (SiC) and gallium nitride (GaN), and recently started research on gallium oxide (Ga2O3) power devices. AAU hosts dedicated power module packaging and megawatt-scale testing facilities, and maintains long-standing collaborations with Vestas, Danfoss, Siemens Gamesa, and Topsil.

Key research capabilities include chip characterisation, device modelling, and power module packaging. In 2025 around 20 full-time researchers and 4 Ph.D. students were active in power semiconductor chip design, characterisation and packaging and every year around 10 students make their master theses on these topics.

AAU is participating in national research projects on power chip packaging, Heavy Duty Power Electronics and MHz operation of solid-state devices for electrification of high-power systems. International (EU) projects include MoWiLife focusing on stability analysis and gate-control methods to ensure robust and stable operation of high-power chips and modules.

The spin-out company "Aalborg Power Group" (APG), supplying services and design of power modules, originated from AAU research activities.

3.5 Aarhus University – AU

The Group of Integrated Photonics at AU works on chip based photonic technologies across nonlinear optics, integrated frequency conversion, narrow linewidth lasers, quantum photonics, optical sensing, and telecommunication. A central activity is to use photonic integrated circuits (PICs) to translate mature laser technologies into spectral regions otherwise difficult to access, enabling a broad range of applications out of the lab., and reflects a strong focus on translating Danish photonic chip research from university labs into industrial applications.

The spintronics activities at AU cover energy-efficient computing, sensing, and circuit/system integration based on spin-based devices such as magnetic tunnel junctions and spin-torque devices. The work includes spintronic computing for neuromorphic and non-von-Neumann architectures, including in-memory computing, reservoir computing, Hopfield/oscillatory neural networks, RF signal classification, and ultra-low-power edge-AI hardware. It also includes spintronic sensing, with emphasis on miniaturized MTJ-based magnetic and proximity sensors, low-noise readout circuits, sensor characterisation, and analogue/mixed-signal CMOS interfaces.

Multiple companies have been started from the work from the integrated photonics research group, lately UVLaser and Qversion.

3.6 Force Technology (RTO)

FORCE Technology is an RTO acting as a bridge between scientific research and practical industrial application. FORCE Technology employs approximately 1,100 to 1,200 people worldwide. A significant portion of the staff consists of highly specialised experts, including many with Ph.D.s and Master's degrees.

FORCE Technology concentrates on strategic core areas such as defence, space, life science, green transition, digitalisation, and product lifecycle and safety. FORCE Technology contributes to Danish companies' chip and semiconductor activities by ensuring product reliability, compliance, and faster time to market. Specific services and facilities relevant to the chip sector are:

Testing and Validating Hardware. FORCE Technology has extensive environmental and test laboratories that are essential for testing chips and integrated systems under realistic and extreme conditions. Test capabilities include EMC-, climate and mechanical testing as well as shoch and vibration assessment.

For **materials characterisation**, FORCE Technology offers several advanced analysis services such as surface characterisation (the use of 3D microscopy, electron microscopy, and X-ray analysis to examine complex surfaces and microstructures) and failure analysis and troubleshooting (specialised help to identify causes of component failures or weaknesses in the production process).

Compliance and market access. FORCE Technology acts as an impartial third party, whose approval provides the companies with the necessary documentation to be able to sell their chip-based products globally. This includes advising on standards in specific industries such as the maritime, medical, or defence industries

Related to these activities, Force Technology hosts the Nordic IoT Centre: A hub of excellence in electronics and software development, connecting businesses with specialists and facilities for wireless technology.

3.7 Danish Technological Institute – DTI (RTO)

The Danish Technological Institute (DTI) bridges scientific research and industrial application. Within the Danish chips ecosystem, DTI contributes through its dedicated Printed Electronics activities and its Tribology / PVD coatings platform, together covering the full value chain from nanomaterial synthesis and ink formulation to printed component prototyping, thin-film deposition, pilot production, and testing/validation.

Image 7: Danish Technological Institute (DTI)

Examples of key activities within printed electronics include:

- **Materials and ink developing** – DTI synthesises and characterises a range of functional nanomaterials relevant for printed and hybrid electronics. Printing, integration, and pilot production.
- **Printing, integration and pilot production**
- **Testing and validation -** DTI offers comprehensive testing and validation services that are highly relevant for chip-enabled products entering the market such as Material, ink, electrical and environmental characterisation

In addition to printed electronics, DTI operates a dedicated Tribology centre with extensive capabilities within Physical Vapour Deposition (PVD) thin-film coatings, complemented by plasma nitriding, ion implantation and evaporation technologies. For the chips ecosystem, this means that DTI can deposit and qualify **electrically conductive coatings** (e.g. metallic thin films for contacts, interconnects and electrodes), **non-conductive / dielectric and barrier coatings** (e.g. wear-, corrosion- and diffusion-barrier layers, decorative and optically functional layers), and **superconductive and cryogenic-compatible thin films**, relevant for quantum chip components and cryo-electronics packaging.

3.8 Danish Fundamental Metrology - DFM (RTO)

Danish Fundamental Metrology (DFM) is the Danish National Metrology Institute. For chips related activities, two main areas for DFM are: 1) quantum chips and materials and 2) test facilities for photonic integrated chips.

The main focus on the quantum activities is within superconducting qubits. This is a leading platform for scalable quantum computing; however, the fabrication- and material-dependent factors governing their performance remain poorly understood and is very challenging to quantify. Here DFM can assist both with theoretical understanding and experimental characterisation.

For photonic integrated chips (PIC), DFM provide test and demonstration facilities on all key parameters (incl. chip coupling efficiency, OFDR, power, and frequency etc.). A central objective for DFM's PIC activity is the standardization of measurement procedures to ensure they are highly repeatable and cross-platform compatible. This is realised through development of an advanced metrological toolbox. In addition, the PIC activities synergize with the quantum initiative at DFM, which involves continuous variable (CV) measurement, quantum metrology, and quantum sensing.

Quantum Denmark is also part of DFM. Quantum Denmark is a central hub for turning quantum science into real-world impact, through assisting companies with business support and test facilities (incl. a flip-chip wire bonder) to assist in product development.

Section 4

Industry

For the mapping of the Danish chips industry, a quantified approach was chosen to allow statistical analysis and discussion of key characteristics such as location, revenue, full-time employees, value-chain position, and verticals/market-segments served.

The quantification has also facilitated a comparison with the chips ecosystems in other countries. In this chapter, we compare with the Nordic countries where possible. In addition to their individual ecosystem mappings [1.3] – [1.5], the three countries published a combined chips mapping and opportunity analysis [1.6] in 2025[i].

Finally, the quantification has been found to be a relevant tool when aiming to identify potential growth opportunities. These are listed in this chapter and subsequently discussed further in section 7.

For data gathering, questionnaires have been sent to all companies known to have activities in one of the six areas of the value chain. The organisations contacted were identified based on DkCCC contacts combined with contact lists of DTU Nanolab customers, DTU Chip Day participants and members of Dansk Industri's Committee for Smart Electronics and Systems.

The companies that have responded are listed in the appendix (section 8.3). We are confident that we have received feedback from most of the ecosystem but are also aware that we have not been able to reach out to or receive responses from all relevant companies. If you know of additional relevant companies to be included in the next edition of the chips ecosystem mapping, please contact us at info@dkccc.eu.

4.1 Location

The regional location of Danish chips companies, including regionally accumulated values of revenue and Full Time (Chip) Employees (FTEs) can be seen in figure 10 below. It is evident that across all parameters, Danish chips company activities are concentrated in the Greater Copenhagen area, while only a small share of activities is located in Zealand, Northern and Middle Jutland.

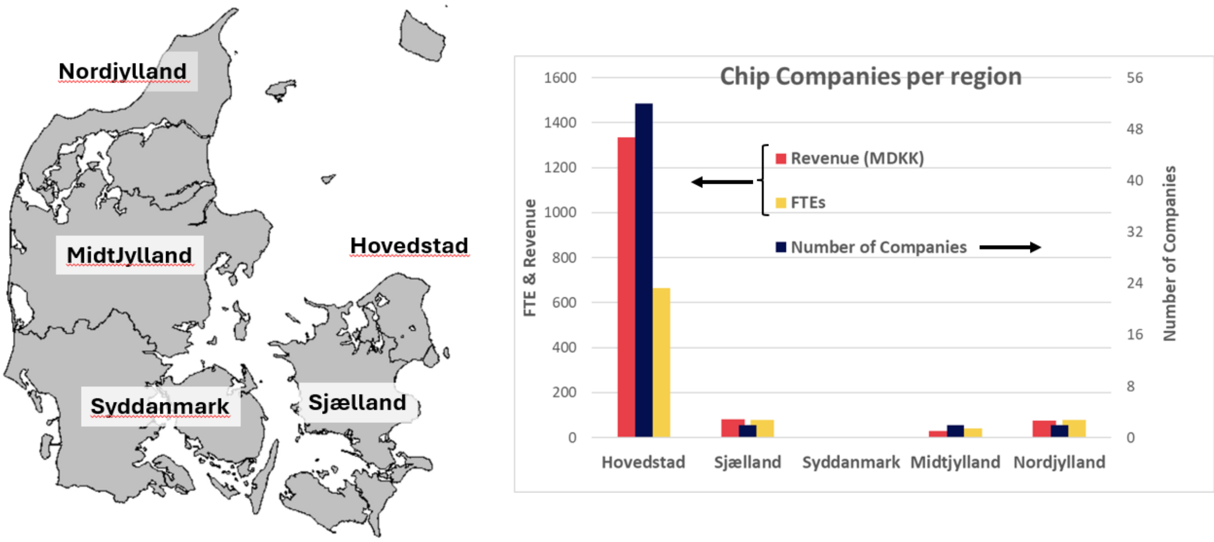

Figure 10: Regional distribution of Danish chips companies, including the regionally accumulated values of revenue and FTEs working in the chip value-chain.

This concentration around the capital region is not unusual for Danish deep tech more broadly. The Technical University of Denmark (DTU) has historically shaped both research and education within chip design and fabrication, and its open-access cleanroom infrastructure at DTU Nanolab has naturally contributed to chip fabrication in the area. More recently, a significant number of quantum chip companies have emerged around research at the Niels Bohr Institute at the University of Copenhagen.

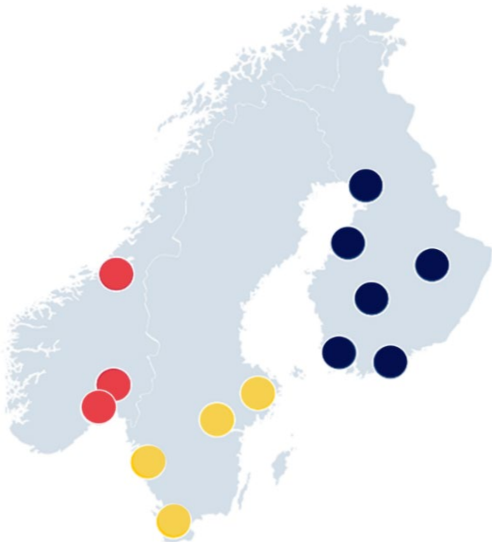

Figure 11: Nordic Chip Clusters [1.6].

A similar pattern of strong chip activities within the capital regions also holds across the other Nordic countries

However, in contrast to the situation in Denmark, the other Nordic countries have multiple chip clusters outside their respective capital regions. This is illustrated in figure 11 above showing the key chip clusters in Sweden, Finland, and Norway.

4.1.1 Opportunities

Outside the capital area, two regions stand out as having the most obvious potential for expanded chip activities:

Northern Jutland has previously had a well-established chip cluster. The region developed a strong mobile and wireless technology industry from the 1960s onwards, specialising in radio communications for ships and later evolving into 5G, IoT, and satellite technology. Recently, commercial chip activities have declined in the region; however, a pool of skilled chip talent is present in the region.

Additionally, there exists a strong community within power electronics. Here major players in the power electronics industry are involved in several projects headed by the dynamic chip and power module research group at Aalborg University (see section 3.4).

Southern Denmark offers an emerging opportunity for significant growth in the chip industry. Danfoss has existing chip activities in Flensburg and the NanoSYD Cleanroom (see section 3.3.2) supports regional activities in advanced material characterisation.

At SDU in Odense, the Microelectronics research group (see section 3.3.1) has recently established substantial and growing chip design activities alongside plans for a full chip design education programme. Combined with Odense's dynamic robotic industry, this creates a strong foundation for broader commercial chip opportunities in the region.

4.2 Company maturity

The chip industry is inherently dynamic as described by Moore's Law. To meet the constant market demands for more powerful and more complex chips, rapid innovation and the introduction of new technologies are a constant requirement.

The constant technological advancement creates a natural environment for startups. This is also the case in the Danish ecosystem as shown in figure 12, which shows the relative number of Danish start-ups, SMEs and large enterprises as well as their relative revenue. 62% of all Danish chips companies are start-ups, while 26% are established large companies and 12% are SMEs older than 10 years.

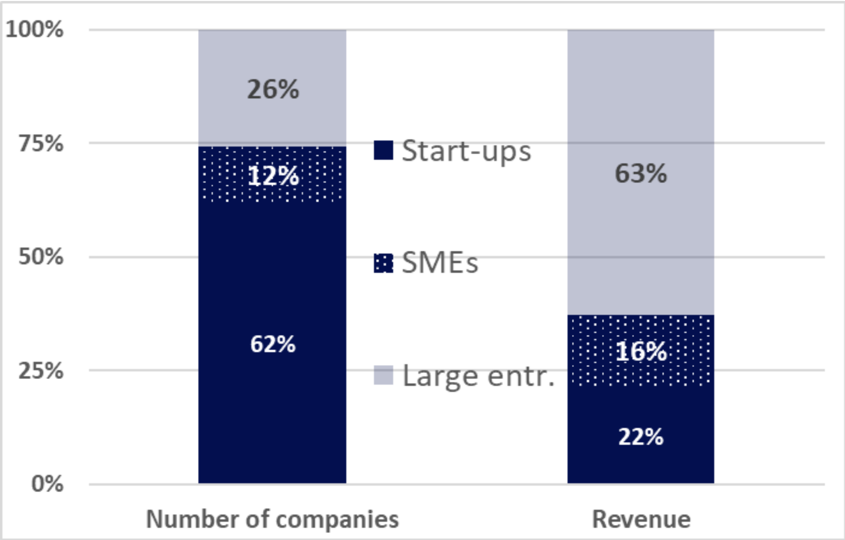

Figure 12: *Relative number of Danish start-ups, SMEs and Large enterprises as well as their relative revenue.*

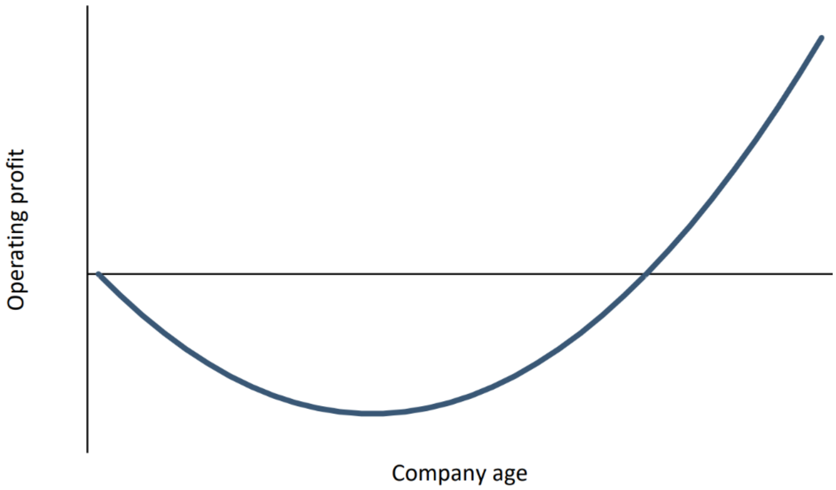

Figure 13: *"J-curve" reflecting that chip start-up companies typically have negative profits while they invest in developing their products and services.*

Figure 12 also shows the relative revenue and here it is evident that the large companies, with 63% represent most of the turnover in the industry, which is consistent with the long road to profitability often seen in the chip business. This phenomenon can be visualised through the so-called "J-curve", shown in figure 13. Chip startups typically have losses for a sustained period where they invest in developing their products and their organisation and still have little market penetration.

4.2.1 Nordic perspectives

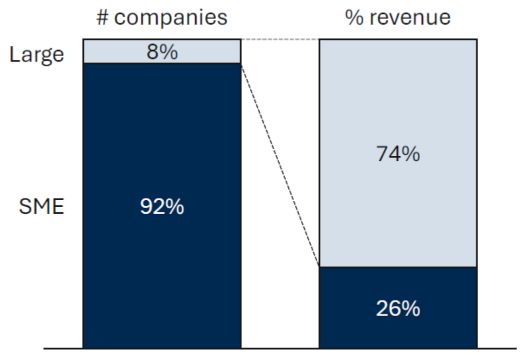

Figure 14: Relative number of Finnish, Swedish and Norwegian SMEs vs large enterprises as well as their relative revenue.

It is interesting to compare figure 12 with recent Nordic (Finnish, Swedish and Norwegian) findings on the same topics; please see figure 14. In an analysis of the chips ecosystem of these three countries, more than 300 chip companies were identified of which 92% were SMEs (and start-ups) while only 8% were large enterprises. Compared to the Danish case, it is noticeable that in Denmark, large enterprises constitute a three times larger share of the chip companies than for our Nordic peers.

At the same time, large enterprises are responsible for a larger share of the revenue in the Nordics than in Denmark.

4.2.2 Opportunities

It is important to be careful when comparing two independently produced statistics such as those shown in figure 12 and figure 14. However, if we are bold and assume that the numbers are comparable to some degree, they could indicate that the chip industry consolidation in Finland, Sweden and Norway has led to larger companies than in Denmark. This seems plausible when thinking about companies like Nokia, Ericsson and Nordic Semiconductor. Furthermore, there are indications of a higher fraction of start-up companies the other Nordic countries. A significant number of quantum start-ups have been established recently in Denmark, however, the discussion in this section could suggest there are opportunities to enhance Danish start-up activities in fields such as ICs, Photonics and microFluidics.

4.3 Chip Technologies

Figure 15 shows the distribution of chip technologies among Danish chip companies. It shows that Danish chip companies are active across all four key technology areas described in section 2.1. Integrated circuits (ICs) are the most common with 35 companies, followed by photonics with 19 companies, while microfluidics and quantum also play significant roles with respectively 17 and 14 companies active here.

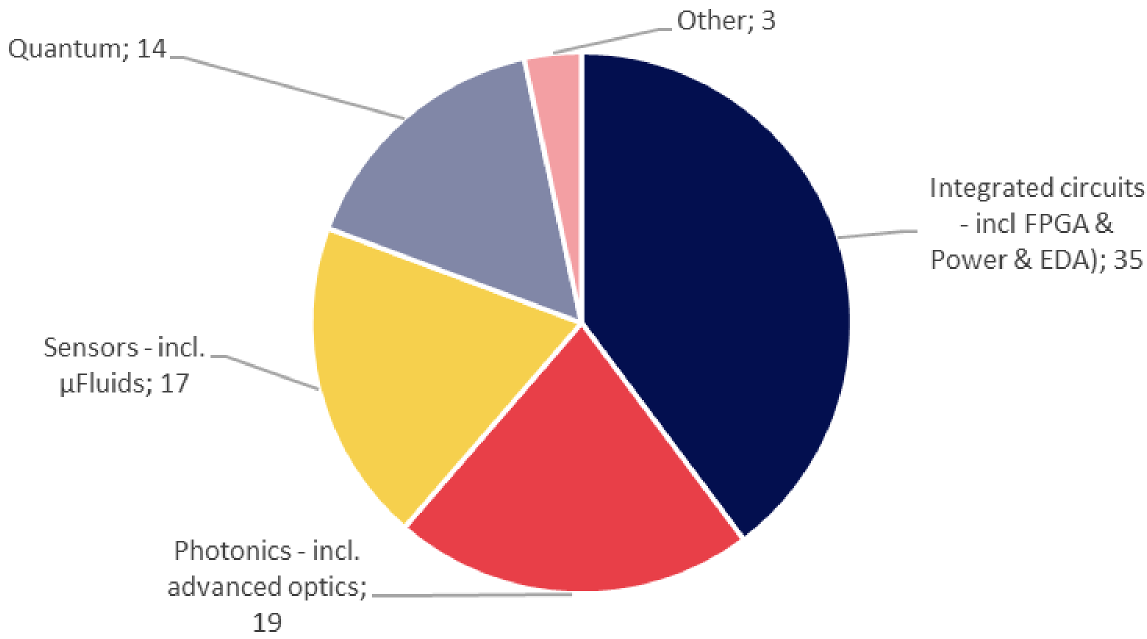

Figure 15*: Distribution of chip technologies in which the responding Danish companies are involved in.*

It is important to note that several companies are involved in more than one technology area as shown in figure 16. This can, for example, be the case for companies that provide equipment or materials for chip fabrication. These are often involved in several chip technologies, as the same equipment and materials are seldom exclusive to a single chip technology.

The co-integration of different technologies is a trend worth highlighting. At least seven Danish companies are actively working on the close integration of two chip technologies in a single chip or package. This can for example be the integration or co-packaging of ICs and photonics for high-speed communication, or IC and sensor integration for compact sensor products.

Furthermore, most quantum companies are active in more than one technology, most commonly in photonics-based quantum chips.

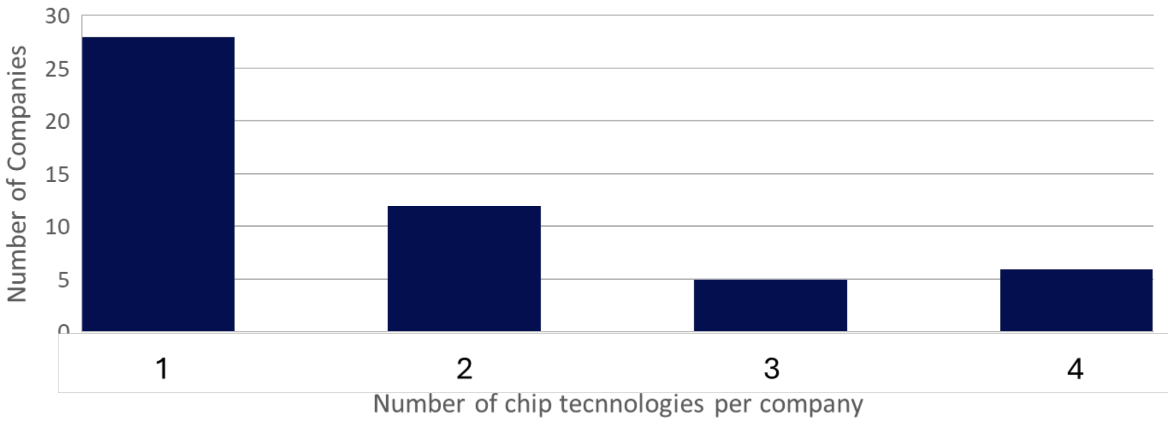

Figure 16: *Distribution of the number of chip technologies in which a given company is involved.*

4.3.1 Nordic perspective

Chip technologies for Nordic companies have not been mapped in a way that matches the Danish questionnaire directly. A relatively close match, however, is figure 17 which maps the more loosely defined 'Nordic Strengths'. Here, it is noticeable that the first four Nordic strengths listed (design, microelectronics, power electronics, and MEMS) are areas that in this report are categorised as IC and sensors/MEMS. Photonics is listed as number 5, where it is clearly number two in Denmark.

This observation can qualitatively support the general view within the Danish chips ecosystem that Denmark has a strong position in Photonics.

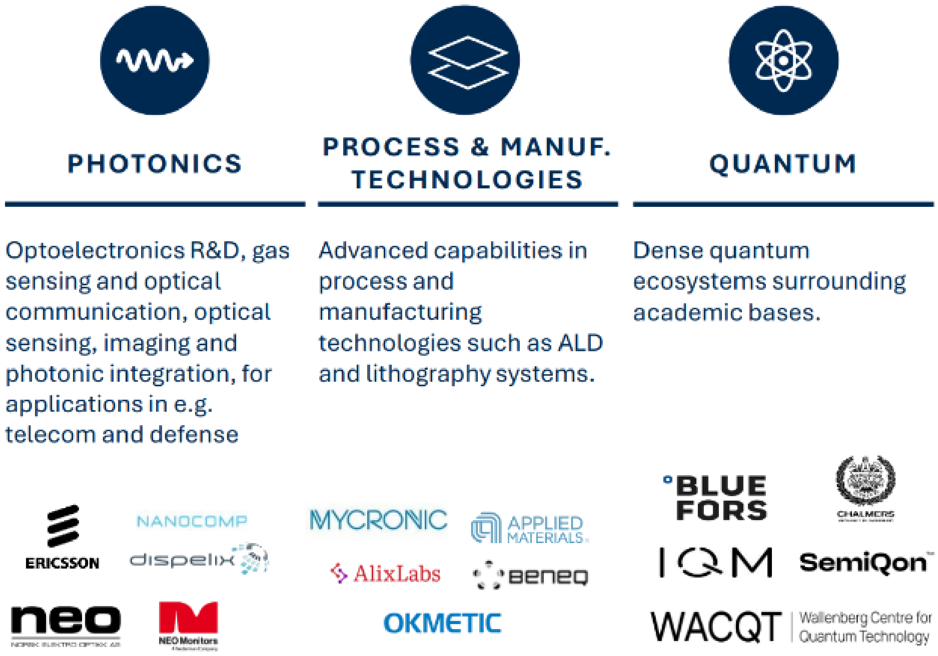

Figure 17: Mapping of Nordic Technology and Value-chain strengths [1.6, Slide 12].

4.3.2 Opportunities

It is not meaningful to assess specific technological opportunities for growth based solely on industry activities. Growth opportunities will also arise from macro-trends in society and industry and from research activities and investments. However, based on existing industry activities identified in this chapter combined with substantial recent Danish research investments (see section 3.2.0) and general technology growth trends (see figure 3) it seems fair, and hardly surprising, to point towards:

a. Quantum (significant company presence, CAGR >40%, infrastructure investments of more than 1 BDKK)
b. Photonics (large company presence, CAGR > 20% and infrastructure investments of several hundred MDKK)
c. Quantum Photonics as an obvious combination of a. and b.
d. IC design (where there are very significant company presence) for high-growth technologies like Quantum and Photonics.

4.4 Verticals served

Danish chip companies supply chips and supporting equipment that are used within a wide range of verticals, i.e. specific industry sectors. Figure 18 shows the number of companies supplying products for a given vertical[1].

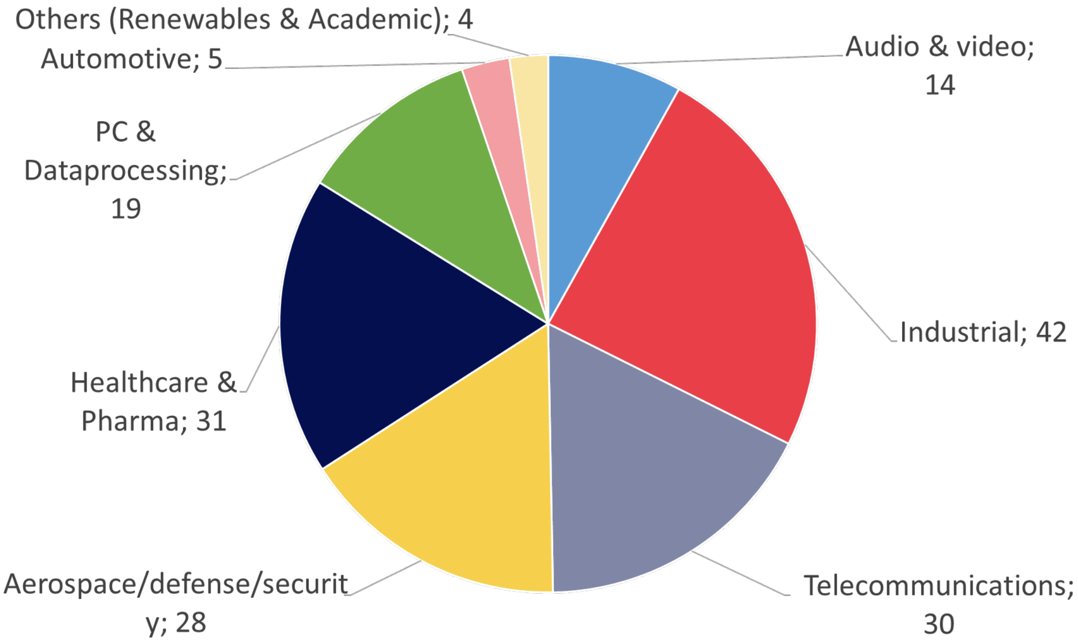

Figure 18: *Number of companies in the Danish chips ecosystem supplying products for a given vertical.*

One immediate observation from figure 18 is that Danish chip companies are supplying many verticals and that no specific vertical dominates. However, four important verticals stand out, i.e. Industry, Telecommunication, Aerospace/defence/security and Healthcare & Pharma.

It is important to notice that most companies are involved in more than one vertical. This is evident from figure 19 depicting the number of companies serving a given number of verticals.

Many companies (in this case 20) make very specialised chips for one specific application and are typically only supplying to one vertical. Important examples here are the three Danish hearing aid companies Demant, GN Hearing and WSA, who develop specialised chips used only for their own hearing aids, i.e. only for the Healthcare vertical.[2]

[2] The vertical categories used here are identical to those used in EU documents preparing for Chips Act 1.0, https://ec.europa.eu/newsroom/dae/redirection/document/86690

Other companies make specialised components, e.g. a laser or a power supply chip, that are technically focused but applicable across several verticals. A third group, such as consultants, equipment manufacturers, and design tool suppliers, offer services and products that are applicable across a wide range of verticals.

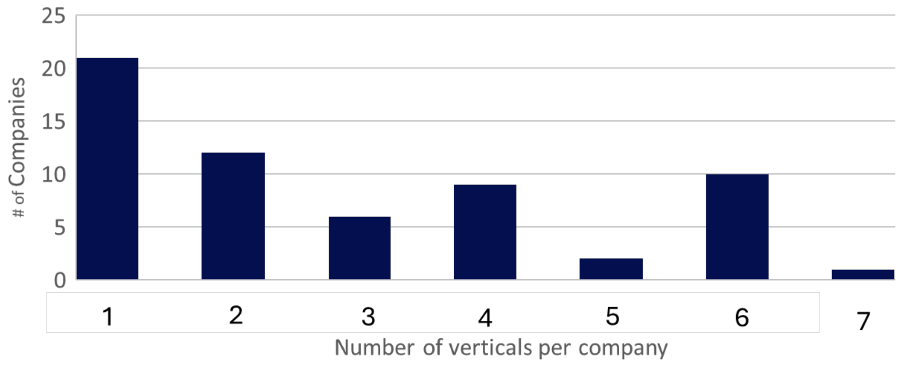

Figure 19: Distribution of numbers of different verticals which companies are involved in.

A relevant way of assessing Danish chip activities targeting a given vertical is to show the number of people engaged in activities for a given vertical. One way of quantifying this is shown in figure 20. Here, chip activities measured in full-time employees (FTE) of a given company are normalised with the number of verticals in which this company is active. Two simple examples:

- A hearing aid company has 150 FTE working directly in the chip value chain. The chips are used only for healthcare applications, which adds 150 FTEs to the Healthcare vertical.
- An equipment manufacturer has 40 FTEs engaged in activities on chip-fabrication equipment which is relevant for chips in six different verticals. This equipment manufacturer will add 40/6 = 6.67 FTEs to each of the relevant verticals.

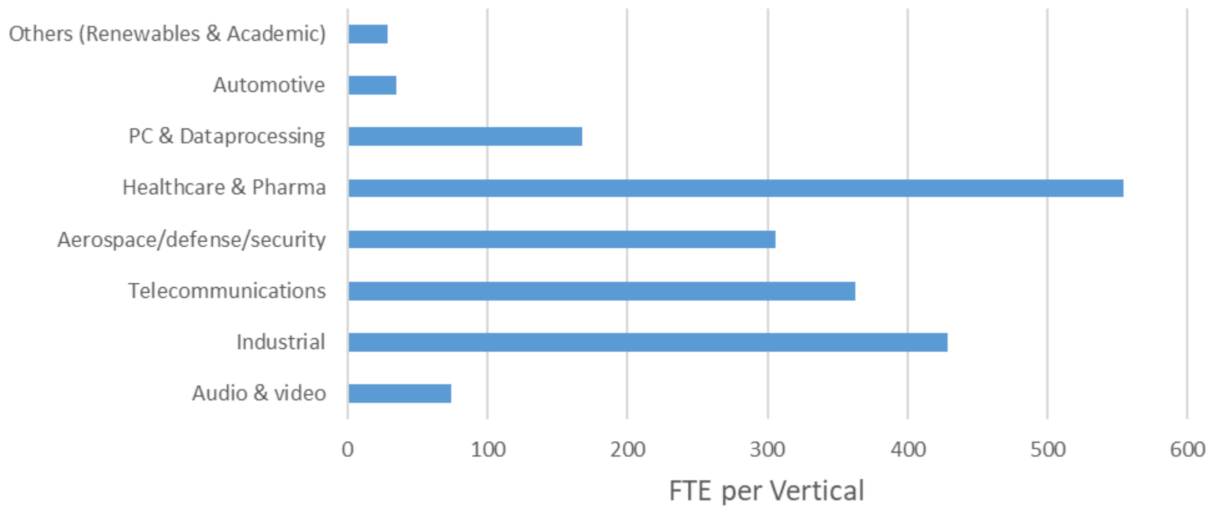

Figure 20: Danish chip industry FTE (Full Time Employee) activities relating to different verticals.

Figure 20 clearly shows that Healthcare & Pharma is the dominant vertical served by the Danish chip industry. This reflects largely the engagement of the hearing aid industry in developing chips for their own devices. Measured in FTE engagement, the three verticals Industry, Telecommunication and Aerospace/defence/security are also the focus of significant Danish chip activities.

4.4.1 Opportunities

From the previous discussion, it is interesting to note that there are significant Danish activities in both Aerospace/Defence/Security and Telecommunications. With respect to the Chips Act 2.0 and the ambition to use EU-based chips in strategic verticals, this indicates that Danish chip companies in general are well positioned to utilise the opportunities that might arise from the 'Buy European Chips' strategies expected to be implemented in strategically critical sectors as a result of the Chips Act 2.0.

4.5 Value chain activities

The "Danish chips industry" mapped covers companies which are active in one or more of these six value-chain areas: EDA tools, Chip design, Materials, Equipment, Fabrication, or Test & packaging. This subsection will provide an analysis of the distribution of the value chain activities within the Danish chips industry.

Figure 21 below shows the fraction of questionnaire respondents that have activities within a given area of the value chain. It is evident that most companies are active in chip design. This is to some degree expected. Any company with an ambition to develop and sell 'their own' chips must have some activities within chip design. The companies that are not active in chip design are primarily providing materials or equipment.

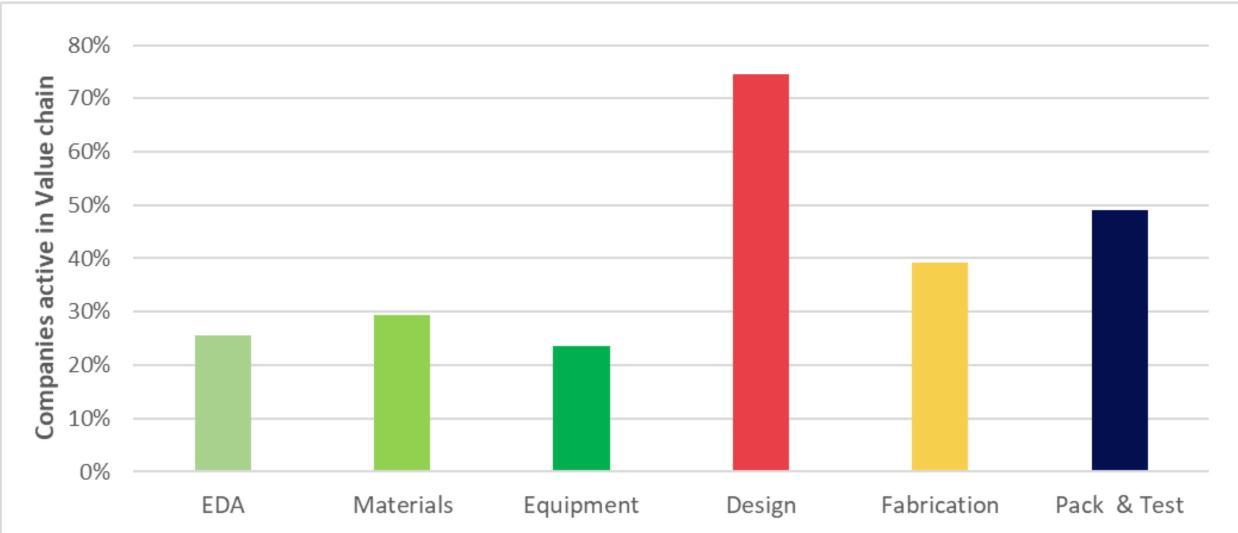

Figure 21: *Distribution of feedback to the question "Please indicate each area of the chip value chain where your company has activities (of the order of 1 FTE or more)".*

A relevant way of examining the numbers in more detail is to acknowledge that the chip value chain is much more mature for Integrated Circuits (IC) than for the other chip types, as described in section 2.3.1.

Figure 22 shows the accumulated FTE distribution within the value-chain for the 32 companies that have activities in the chip technology category 'Integrated Circuits' (see figure 17).". As expected, chip design is by far the dominant activity here, while fabrication is the activity in which the least workload is invested. It is interesting to notice that there are significant 'Test and Packaging' activities in the IC part of the Danish chips ecosystem. This is to a large degree due to two companies. Presto Engineering has dedicated activities in IC testing as a service, and GN Hearing has an in-house group focusing on sub-module and chip packaging for their hearing aids.

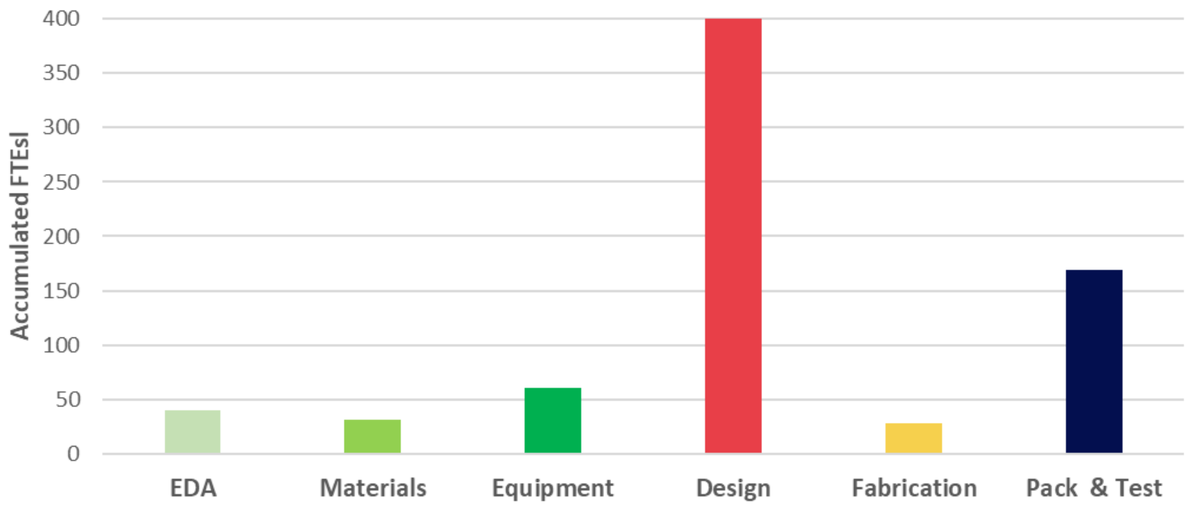

Figure 22: *Accumulated number of FTE activities for the 32 companies which have responded that they have activities in "Integrated Circuits", please see figure 15.*

A similar FTE vs value-chain analysis for the non-IC companies is shown in figure 23. Companies developing chips are shown solid, while dedicated EDA, Material and Equipment companies are shown with lines.

In this case, it is evident that for chip developing companies, fabrication and materials are the dominating activities in terms of workload. This indicates the existence of relatively immature supply chains for non-IC chip technologies such as photonics, quantum, microfluidics/sensors.

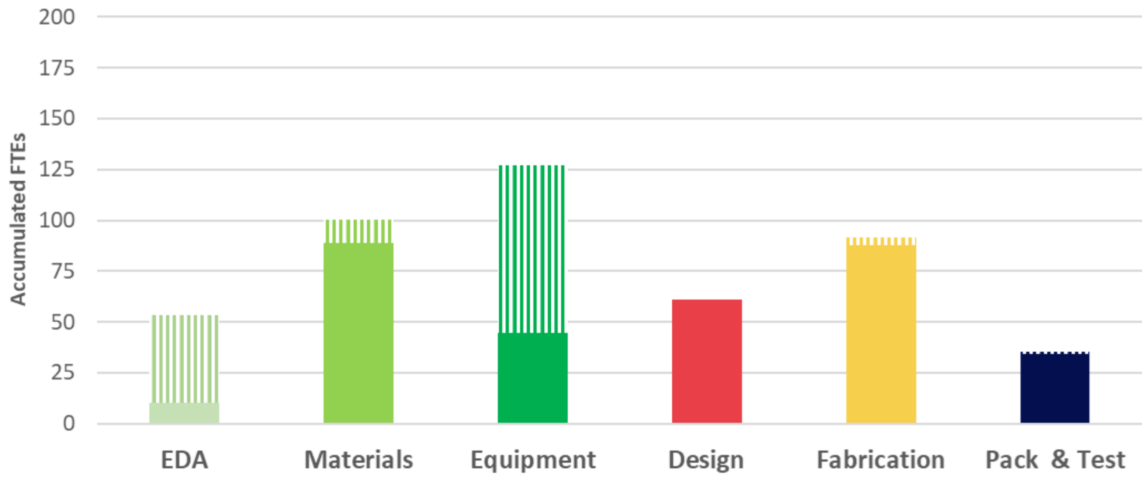

Figure 23: Accumulated number of FTE activities for the 30 companies which do NOT have IC activities. Companies developing chips are shown solid, while dedicated EDA, Material and Equipment companies are shown with lines.

From the analysis above, the main observation is that two relatively separate ecosystems coexist within the Danish chip industry:

1. An IC design fabless chips ecosystem benefitting from mature global supply-chains, which allows the companies to focus development efforts on chip design.
2. A non-IC ecosystem where supply-chains are less mature and the companies must engage in development activities in several areas of the value-chain, most notably fabrication.

An example of these currently very separate ecosystems is the annual 'DTU Chip Day', which in 2026 had more than 200 participants. This event only addresses the fabless chip design part of the Danish chips ecosystem.

4.5.1 Opportunities

Realising that two separate chips ecosystems exist raises two (very obvious) ideas for possible growth opportunities. These will be discussed in more detail in section 7.

1. Can 'synergistic growth opportunities' be realised by combining selected areas of the two ecosystems?
2. Can growth within each 'sub-ecosystem' be enhanced be dedicating different growth instruments to the different ecosystems?

Section 5

Business Support & Policy

5.1 Business Support

Several organisations play an active role in connecting, supporting and developing actors within the Danish chips ecosystem.

5.1.1 Danish Chips Competence Centre – DkCCC

The Danish Chips Competence Centre is Denmark's national hub under Pillar1 of the EU Chips Act offering services to promote growth in the Danish chip industry and targeting to link ChipsJU initiatives with the Danish chips ecosystem. DkCCC started operations in January 2025 and is organised as a consortium led by DTU Nanolab, with partners including the University of Southern Denmark (SDU), the Niels Bohr Institute at the University of Copenhagen, the Danish National Metrology Institute (DFM), Aalborg University and Dansk Industri.

DkCCC's services include networking events and technical and business-development services targeting the entire ecosystem with focus on companies. Furthermore, DkCCC works actively towards linking Danish chip actors to Nordic, European and international opportunities and actors. This includes for example coordination and connection in relation to research, fabrication, design and funding activities such as:

- Connecting potential consortium partners for international research programmes
- Providing access to EU pilot lines and the European Chip Design Platform
- Inviting companies to and organizing regional and international funding events

5.1.2 Danish Quantum Community - DQC

The Danish Quantum Community (DQC) is the largest quantum cluster in Denmark with more than 75 partners. It was launched in 2021 as a cross-sector initiative to unify stakeholders and strengthen national capabilities.

The community builds on Denmark's strong legacy in quantum physics, rooted in institutions such as the Niels Bohr Institute. It brings together universities, RTOs, startups, large corporations, investors and ecosystem enabling organisation with the aim of fostering collaboration, innovation, and international positioning in quantum.

Importantly, DQC is the joint voice of the Danish quantum ecosystem providing long term policy input to policymakers in Denmark and the EU on how to secure the best framework conditions for quantum research and innovation in Denmark.

DQC works closely with Danish authorities on building quantum awareness and readiness and to strengthen international pathways to open new business opportunities for Denmark-based companies. Furthermore, DQC supports new international companies setting up sites in Denmark with strategic advice on integration in the ecosystem.

DQC is also organising, or co-organising, the majority of quantum conferences and events in Denmark - including delegations to international conferences.

The organisation is privately funded and non-political.

5.1.3 Dansk Industri - DI

DI Digital, including the Committee for Smart Electronics and Systems, constitutes a key stakeholder in the Danish electronics ecosystem. The organisation engages in policy advocacy, facilitates industry networks, and promotes knowledge exchange across the sector. It serves as a representative body for the industry in its interaction with public authorities and decision-makers and contributes to the development of favourable framework conditions through analysis, policy development, and structured dialogue at both national and European levels.

The Committee for Smart Electronics and Systems brings together leading companies engaged in the development and manufacturing of electronic solutions. It works to strengthen the competitiveness and positioning of the electronics industry. Through policy recommendations, dissemination of knowledge, and targeted initiatives, the committee supports the development of a robust and integrated electronics ecosystem, including key competencies within embedded software, design, testing, and production.

5.2 Policy Landscape

In Denmark, several ministries hold chips-relevant responsibilities, each with a distinct focus.

5.2.1 Ministry of Higher Education and Science - UFM

The Danish Agency for Higher Education and Science support Danish participation in the EU's research and innovation programme, Horizon Europe, as well as its related partnerships, which include funding opportunities in areas such as semiconductors and quantum technologies. The Agency assists research and innovation communities in preparing proposals and provides guidance on the programme, while also representing Denmark's research policy interests in relation to Horizon Europe. In this regard, the Agency acts as the Danish representative in the Chips Joint Undertaking (Chips JU) and leads Denmark's implementation of Pillar I (the "Chips for Europe" Initiative) of the European Chips Act.

The Ministry of Higher Education and Science allocates funds to several dedicated national collaborations on research infrastructure, such as Danish e-Infrastructure Cooperation (DeIC), which support initiatives in the field of quantum technologies and participates in quantum activities under EuroHPC. The EuroHPC-partnership also includes a Chips programme. The Ministry works to strengthen bilateral cooperation with like-minded countries outside the EU as highlighted in the national quantum strategy, including the United

States, the United Kingdom, Switzerland, South Korea, Japan, Australia, Canada and Israel. This work is implemented by the Agency, for instance through bilateral cooperation agreements and activities under Innovation Centre Denmark (ICDK).

The Ministry was the lead author of Part 1 of the National Strategy for Quantum Technology (2023), which aims to prepare Denmark for the development and application of quantum technologies. Furthermore, the Danish Agency for Higher Education and Science and the Danish Business Authority are collaborating with the Novo Nordisk Foundation to establish a national test centre under Quantum Denmark. The centre is intended to strengthen the applied quantum technology ecosystem by bringing together a broad range of stakeholders in a shared physical environment, offering access to office space, testing and measurement facilities, business development support, as well as opportunities for networking, collaboration, and knowledge exchange.

5.2.2 Ministry of Industry, Business and Financial Affairs - EM

The Ministry of Industry, Business and Financial Affairs (EM) works to create favourable and competitive framework conditions for the benefit of Danish businesses. EM led Denmark's negotiations of the original Chips Act and remains actively engaged in its ongoing revision (Chips Act 2.0). As a first step, the Ministry signed the SemiCon Declaration on behalf of Denmark in 2025, joining the collective commitment of all EU Member States setting out ambitions for the Chips Act 2.0. Under the current Chips Act, the Danish Business Authority, an agency under EM, serves as the national competent authority and represents Denmark in the European Semiconductor Board (ESB).

ESB is the central governance body responsible for coordinating and supporting the implementation of European semiconductor policy, including acting as a coordination platform in the event of supply chain disruptions. EM also has overall responsibility for Part 2 of Denmark's National Quantum Strategy, which focuses on commercialisation, security, and international cooperation. In this context, quantum chips are a key enabling technology, forming the hardware foundation for quantum computing, sensing and communication.

5.2.3 Ministry of Foreign Affairs - UM

Invest in Denmark is Denmark's official national investment promotion agency, operating under the Ministry of Foreign Affairs of Denmark, and part of the Trade Council. It serves as a free, confidential "one-stop shop" aimed at attracting, retaining, and expanding foreign direct investment, particularly in sectors like cleantech, tech, and life sciences.

Within the Ministry of Foreign Affairs, the Office of Denmark's Tech Ambassador works to strengthen Denmark's and Europe's position in critical and emerging technologies. This includes engaging in constructive dialogue with the semiconductor and chip industry, mapping strategic dependencies and opportunities, and addressing issues such as supply chain resilience, advanced manufacturing, quantum technologies, AI, and energy-efficient computing.

Section 6

Investors

Denmark benefits from a combination of public innovation instruments and private capital to support chip and deep-tech development, with a notable concentration of private funding in the quantum segment.

6.1 PSV Hafnium

PSV Hafnium is an early-stage venture fund investing in pioneering scientists, engineers, and entrepreneurs in deep tech across the Nordics. The fund is established based on the lack of specialised early-stage capital for science- and engineering-based companies. Deep tech founders often face long R&D cycles, technical risk, and uncertain routes to market, yet they are building the technologies that can reshape industries and address global challenges (like Finland-based Sisusemi). PSV Hafnium invests at the earliest stages, where the commercial path is still forming, and helps founders turn technological breakthroughs into impactful global solutions.

With EUR 60 million in backing from investors including the European Investment Fund (EIF) and EIFO, PSV Hafnium supports Nordic teams with global ambitions. In relation to the Danish chips ecosystem, PSV Hafnium contributes by backing enabling technologies and companies working in areas such as future compute, advanced materials, photonics, quantum technologies, semiconductor-adjacent solutions, and other deep tech domains relevant to Europe’s technological sovereignty.

6.2 55 North

55 North is a Copenhagen-based venture capital fund dedicated exclusively to quantum technologies with a focus on the enabling infrastructure and critical technologies required to scale them. The firm targets €300 million for its inaugural fund and held a first close of €134 million, anchored by Novo Holdings and EIFO. 55 North invests globally, with Denmark and Europe as an important and strategic base, across quantum computing, sensing, communications, and the broader quantum technology stack. In the context of the Danish chips ecosystem, 55 North is particularly relevant because many quantum technologies depend on advanced semiconductor, photonic, cryogenic, control, and packaging capabilities. Scaling quantum systems will require innovation not only at the qubit level, but also in enabling components such as cryogenics and cryo-electronics, integrated photonics, microwave and RF control, interconnects, materials, packaging, and systems integration.

55 North has announced 5 investments to date, including: IQM, a leading European quantum computing company that is planning to go public summer 2026; kiutra, an advanced cryogenic cooling company that does not rely on the scarce resource of Helium-3; QMatter, a quantum chemistry company building synthetic data sets for AI; Groove Quantum, an early-stage quantum computing company that aims to scale by utilising the existing semiconductor infrastructure; and Monarch Quantum, a world-class integrated photonics producer and manufacturer that will enable quantum computing and sensing at scale.

These investments illustrate the fund's focus on mutually reinforcing technologies across the quantum stack, from core systems to enabling hardware. For Denmark, 55 North adds a specialist source of private capital for deep-tech companies operating at the intersection of quantum and advanced chip-related technologies. The fund can help Danish and European startups bridge the gap between research excellence and industrial-scale commercialisation, building a synergistic ecosystem and building upon the foundational capacity being developed by the public-private-partnerships in Denmark. By combining patient capital, technical expertise, and international networks, 55 North supports the development of category-defining quantum companies from Europe.

6.3 Novo Nordisk Foundation - NNF

Novo Nordisk Foundation (NNF) is an independent, Danish enterprise foundation that supports scientific, humanitarian and social causes. A strategic focus area of NNF is the Life Science Ecosystem, where its mission is to *invest in scientific research, education and innovation to enable a world class life science ecosystem*. To this end, NNF is supporting research and infrastructure within a broad range of topics including AI and quantum technology. Notably, NNF, together with Export and Investment Fun of Denmark (EIFO), launched the Gefion AI supercomputer in 2024 and commissioned the Magne quantum computer for 2027. Additionally, NNF established Quantum Foundry Copenhagen to develop tools and processes for quantum chip manufacturing in parallel to its DKK 1.1B funding of the NNF Quantum Computing Program (NQCP).

The mission of NQCP is to enable the development of fault tolerant quantum computing hardware and quantum algorithms that solve life-science relevant chemical and biological problems.

6.4 Export and Investment Fund of Denmark - EIFO

Export and Investment Fund of Denmark (EIFO) is Denmark's national sovereign fund and public investment bank, supporting equity and loans to deeptech companies including those active in chip and quantum sectors. EIFO acts as a financial lever that can be activated when a chip-related project reaches national strategic relevance or industrial scale.

EIFO is also the planned host of the Quantum Fund established under the National Quantum Strategy.

6.5 BioInnovation Institute – BII

BII Foundation is a Copenhagen-based private non-profit foundation accelerating early-stage deep tech and life science startups. Through their Venture Lab programme and collaboration with NATO DIANA, BII back quantum technology companies many of which work with integrated photonics, electronics, and semiconductor chip design. BII work in close partnership with Denmark's leading research institutions translating world-class academic research into commercial ventures.

Through a collaboration with NATO DIANA, BII have worked with leading quantum companies from across the alliance. They provide convertible funding of up to 500 k€ + 1.3 M€ per startup, plus access to a support program, mentorship, and unique network access.

Section 7

Summary & Possible Next Steps

The previous sections 2-6 introduced the key concepts and the main players of the Danish chips ecosystem. Various growth and innovation opportunities were mentioned along the way, and the following sections will summarise and discuss these more systematically as well as propose possible next steps for the Danish chip ecosystem.

7.1 Growth and innovation opportunities

Section 2 introduced growth and innovation opportunities related to EU policy. The 'Chips for Europe' programme established a range of initiatives offering technical, innovation, and funding opportunities for Danish companies and organisations. As illustrated in figure 8, these encompass: 1) pilot lines and access to next-generation chip fabrication and packaging technology, 2) the design platform (EuroCDP) and access to design tools (EDA and IP), development grants, and design consultancy, and 3) the Chips Fund and access to funding.

Chips Act 2.0 is expected to introduce incentives for the use of EU-based chips in strategically critical sectors such as defence, space, and telecommunications.

Section 3 described Danish chip research institutions and several major public and philanthropic investments made in this area. While growth opportunities were not discussed in this section, significant investments in facilities and research covering materials, fabrication, test, and packaging will generate a range of innovation opportunities, particularly in emerging fields such as quantum and PIC (photonics).

Section 4 provided a quantified overview of the Danish chip industry based on questionnaire responses from 66 companies, identifying growth opportunities across several areas.

Sections 4.1 and 4.2 indicated room for additional chip start-up companies – both in terms of numbers relative to Nordic peers, and in terms of geographic distribution.

Half of Danish chip companies focus on a single chip technology, while the other half work across multiple chip technologies. This approach is expected to unlock future innovation opportunities in areas such as integration and packaging of ICs with quantum components - or co-integration of ICs and PICs. Advanced materials developed for one technology (e.g. quantum) may also offer advantages for others, such as photonic chips. One example is the Riber equipment described in section 3.2.

Danish chip companies serve a wide range of verticals and end-user applications, positioning them well to pursue opportunities across most strategically critical sectors.

The chip value chain is characterised by a high degree of maturity and specialisation for IC technology. However, companies working on less mature technologies – such as quantum and photonics – are typically required to invest significant resources across multiple stages of the value chain. Some actors, particularly in quantum, have expressed a need for access to more specialised value chains, which would allow each company to concentrate more of its efforts on its core value-creating activities and key areas of future differentiation. Strengthening value chain collaboration and specialisation across broader regional and European ecosystems could create opportunities for all involved companies and organisations to deepen their specialisation and potentially become global leaders within their respective areas of the value chain.

Sections 5 and 6 introduced Danish actors within business enablement, policy, and investment for chips. While new opportunities were not addressed directly, the question of national chip strongholds is frequently raised by these actors. A clearer picture of potential national strongholds would better equip these organisations to champion Danish chip interests in policy discussions and in attracting foreign investment.

7.2 Possible Next Steps

The previous discussion has shown that there are plenty of opportunities for innovation and growth in the Danish chip ecosystem. Without going deep into how to address the individual opportunities it is, however, evident that different opportunities in many cases must be addressed differently.

a. EU Chips Competence Centres (including DkCCC) are established with the explicit purpose of implementing 'Chips for Europe' initiatives in the individual member states. See Figure 8.

b. The opportunities listed in section 4 cover a wide spectrum and should therefore be pursued in several fora. Two examples: 1) Creating more chip spinouts from universities could be a collaborative effort between individual universities and selected business enablement organisations. 2) Discussions of how to get more EU-based chips into strategically critical sectors have already started between individual companies, DI, DkCCC, and selected ministry actors.

c. Danish Chips strongholds have been discussed on many occasions, yet without much progress towards conclusions. It is evident that to reach a first level of conclusion, broad discussions involving most of the actors in the chips ecosystem are needed.

To address the different innovation opportunities in the Danish chips sector, a framework for organizing the next steps could be the so-called 'Triple Helix Model'.

The Triple Helix Model was introduced in 1995, "explaining how interactions between universities, industries, and governments could spark innovation, economic growth, and entrepreneurship in a knowledge-driven economy" [7.1].

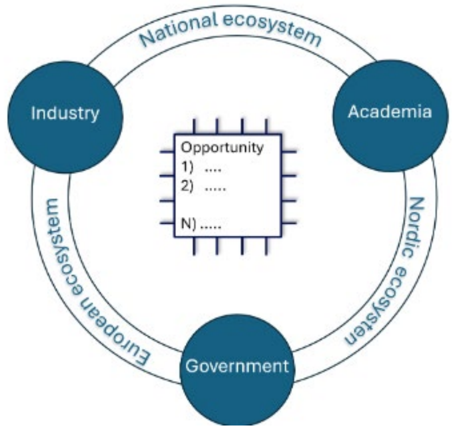

Figure 24: PossICLRible Triple Helix Model for the Danish chips sector [7.1].

The triple helix model acknowledges that interactions between various types of actors are highly advantageous to stimulate innovation and growth opportunities. Furthermore, to address different opportunities, it will be necessary to engage different actors.

Table 1 below shows examples of actors that could possibly be engaged when pursuing the various chip opportunities mentioned in section 7.1. The table clearly illustrates that active engagement of practically all actors in the Danish chips ecosystem will be needed to pursue the various opportunities discussed in this section.

Please note that table 1 is included only to exemplify that concrete ways forward do exist. This table is not seen as neither a complete nor a prioritised list of Danish chip opportunities to be pursued.

DkCCC will be happy to organise a framework for pursuing innovation and growth opportunities within the Danish chips ecosystem. Initially, this could be done by engaging the relevant stakeholders on a selection of the opportunities listed in table 1.

#	Opportunity	Universities	RTOs	Individual companies	IC Ecosystem	Fabrication ecosystem	International ecosystems, e.g adressed via National CCC's	DkCCC	DQC	DI	National Clusters	Policy	Investors
2.1	ChipsJU: Piltolines	X		X			X	X					(X)
2.2	ChipsJU EuroCDP			X	X		X	X					X
2.3	ChipsJU: Chips Fund			X				X				X	(X)
2.4	ChipsJU: Horizon Projects	X	X	X			X	X	(X)			(X)	
2.5	EU chip preference (ChipsAct 2.0)			X	X	X	X	X		X	X	X	X
3.1	Stimulation chips start-up & spin-outs	X			(X)	(X)	(X)	X	X				(X)
3.2.1	Co-integration of chip technologies	X	X	X			(X)	(X)	(X)				X
3.2.2	Materials synergy across technologies	X	X	X		X	(X)	(X)	(X)			X	X
3.3	Maturing non-IC value-chains	(X)	(X)	X		X	X	(X)	(X)			(X)	X
4.0	National chip strongholds	X	X	X	(X)	(X)		X	X	X		X	X
4.1	*) Ex#1: Cryogenic Packaging	X	X	X				(X)				X	X
4.2	*) Ex#2: Quantum Photonics												
4.4	*) Ex#3 Chips for healthtech	X	X	X				X		(X)	X		X

Table 1: *Examples of actors which could possibly by engaged in pursuing various chip innovation opportunities.*

Section 8

Appendices

8.1 References

Text references

Ref No	Reference document or link
Section 1	
[1.1]	Von der Leyen, State of the Union Address, European Commission, 15 September 2021
[1.2]	European Chips Act, https://digital-strategy.ec.europa.eu/en/policies/european-chips-act
[1.3]	The Semiconductor Industry in Norway
[1.4]	Sverige i halvledarvärlden – analys och förslag till strategi
[1.5]	Chips From the North
[1.6]	The Nordic Chip Industry - Mapping of landscape, strengths and opportunities
Section 2	
[2.1]	https://www.fortunebusinessinsights.com/integrated-circuit-market-106522
[2.2]	Fortune Business Insights, 2025: " Photonic Integrated Circuit Market Size, Share & Industry Analysis" Source: https://www.fortunebusinessinsights.com/photonic-integrated-circuit-market-107051"
[2.3]	https://www.persistencemarketresearch.com/market-research/microfluidic-devices-market.asp
[2.4]	https://www.thebusinessresearchcompany.com/report/quantum-chip-global-market-report
[2.5]	Quantum Computers and Computing a Better World, 2025, DOI:10.1007/978-3-031-99808-9_2
[2.6]	https://www.cnbc.com/2025/05/22/exclusive-look-at-high-na-asmls-new-400-million-chipmaking-colossus.html
[2.7]	https://www.bcg.com/publications/2023/navigating-the-semiconductor-manufacturing-costs
[2.8]	Carney, M. Special address, World Economic Forum Annual Meeting, Davos, 21 January 2026
[2.9]	European Central Bank, 2021, https://www.ecb.europa.eu/press/economic-bulletin/focus/2021/html/ecb.ebbox202104_06~780de2a8fb.en.html
[2.10]	The Draghi report on EU competitiveness, The future of European competitiveness: Report by Mario Draghi, https://commission.europa.eu/topics/competitiveness/draghi-report_en
[2.11]	European Commission, European Chips Act policy page; European Commission, EU budget and Chips Act and European Commission, European Chips Act policy page
Section 7	
[7.1]	Game-changing solutions for Empowering Research & Innovation in Developing Countries https://www.chloh.com/?p=51

Figure and image references

Ref No	Figure and image reference
'	
Figure 1	DkCCC made sketch
Section 2	
Figure 2	DkCCC made figure/graph using numbers from quoted references
Figure 3	DkCCC made figure/graph using numbers from quoted references
Figure 4	DkCCC made figure
Figure 5	Quantum Computers and Computing a Better World, 2025, DOI:10.1007/978-3-031-99808-9_2
Figure 6	DkCCC made figure
Figure 7	DkCCC made figure
Figure 8	Image from https://www.european-chips-act.com/
Figure 9	DkCCC made figure
Image 1	AI generated illustration
Image 2	AI generated illustration
Image 3	AI generated illustration
Image 4	AI generated illustration
Section 3	
Image 5	Danmarks Tekniske Universitet (DTU) Nanolab
Image 6	Syddansk Universitet (SDU) ICELab
Image 7	Danish Technological Institute (DTI)
Section 4	
Figure 10	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 11	Figure from quoted reference
Figure 12	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 13	Figure from quoted reference
Figure 14	Figure from quoted reference
Figure 15	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 16	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 17	The Nordic Chip Industry - Mapping of landscape, strengths and opportunities
Figure 18	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 19	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 20	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 21	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 22	DkCCC made figure/graph using numbers from questionnaire feedback
Figure 23	DkCCC made figure/graph using numbers from questionnaire feedback
Section 7	
Figure 24	Game-changing solutions for Empowering Research & Innovation in Developing Countries https://www.chloh.com/?p=51
Table 1	DkCCC made table

8.2 Abbreviations

Abbreviation	Description
AI	Artificial Intelligence
CAGR	Cumulative Aggregated Growth Rate
CCC	(one of the 27 European) Chips Competence Centres
ChipsJU	"Chips Joint Undertaking" organising and managing innovation projects European Chips Act Pillar I
DI	Danish Industry Association
DkCCC	Danish Chips Competence Centre
DQC	Danish Quantum Community
EDA	Electronic Design Automation (Computerised chip design tools)
EuroCDP	European Chip Design Platform. Chip accelerator programme which is part of ChipsJU
FTE	(Equivalent) Full Time Employees
IC	Integrated Circuit (Electronic Chip)
LE	Large Enterprise
NV-centre	Nitrogen-vacancy centre in a diamond
PIC	Photonic Integrated Circuit (Photonic Chip)
QPU	Quantum Processors
RTO	Research and Technical Organisation
SME	Small or Medium-size Enterprise
SU	Start-up company
USD	US Dollars

8.3 Questionnaire respondents

On behalf of DkCCC and the general Danish chips ecosystem, we would like to thank the companies very much for providing feedback the chips ecosystem questionnaire. These companies are listed below together with some key information about their size/maturity and technology and vertical focus.

Name of company	Maturity	Which chips areas are your company involved in (check all that apply)?	Which verticals are your company targeting with its products (check all that apply)?
4ASICs International	SME	Integrated circuits	Industrial; Telecommunications; Audio & video; Health & Care
Alight Technologies ApS	SME	Semiconductor Laser; Photonics	Aerospace/defence/security; Industrial; Data communications
ams-OSRAM	LE	Integrated circuits; Photonics; Quantum; Sensors; Display Technology	Industrial; Telecommunications; PC & Data processing; Automotive; Audio & video; Health & Care; Home applications
ATLANT eD	SU	Photonics; Quantum; Micro-fluid; Sensors; Advanced packaging, RF, power electronics	Aerospace/defence/security; Industrial; Health & Care; Telecommunications; Automotive
Biio	SU	Integrated circuits	Industrial; Aerospace/defence/security; Audio & video; Health & Care; Home applications
Cadence Design Systems AB	LE	Integrated circuits; Photonics; Quantum; Sensors	Industrial; Telecommunications; PC & Data processing; Aerospace/defence/security; Audio & video; Health & Care
Capres - KLA	LE	Integrated circuits	All. We make metrology equipment for all sectors
Cebreo Medical	SU	Integrated circuits	Health & Care
CEKO Sensors	SU	Photonics; Sensors	Industrial
Celare Quantum Communications	SU	Integrated circuits; Photonics	Telecommunications; Aerospace/defence/security
CENEXUM Technologies	SU	Integrated circuits	Health & Care
Chip Interfaces ApS	SU		Telecommunications; Aerospace/defence/security; PC & Data processing; Industrial
Comcores ApS	SU	Integrated circuits	Automotive; Aerospace/defence/security; Industrial

ConScience ApS	SU	Quantum; Micro-fluid	Industrial; Health & Care
Demant A/S	LE	Integrated circuits	Health & Care
DIASENSE	SU	Integrated circuits; Equipment for failure analysis and production monitoring	Industrial; Equipment for semiconductor failure analysis and production monitoring
FabCue	SU	Quantum; Integrated circuits; Photonics	Industrial; PC & Data processing; Quantum Processors
FOM Technologies	SU		Industrial;
GN Hearing	LE	Integrated circuits	Health & Care
Ibsen Photonics A/S	LE	Diffractive Optical Elements;	Industrial; Telecommunications; Aerospace/defence/security; Health & Care; Pharma, Renewables
IC Optimize ApS	SU	Integrated circuits	Health & Care; Home applications; Telecommunications; PC & Data processing; Industrial; Aerospace/defence/security; Audio & video
IC Works	SU	Integrated circuits; Sensors; EDA - Open Source	Health & Care; Industrial
Ignis Photonyx	LE	Photonics	Telecommunications; PC & Data processing
IHHJ Consulting	SU	Integrated circuits	Audio & video
Indesmatech ApS	SME	Integrated circuits	Industrial; Telecommunications
Insight Chips	SU	Micro-fluid	Academic Research
Lizard Photonics ApS	SU	Photonics; Quantum	Telecommunications; PC & Data processing
Logic Development ApS	LE		Industrial; Telecommunications; Aerospace/defence/security; Health & Care; Audio & video
Lotus Microsystems	SU	Integrated circuits	Power Electronics
Microchip Nordic Aps	LE	Integrated circuits	Industrial; Telecommunications; PC & Data processing; Aerospace/defence/security

Napatech A/S	SME	We use FPGA design and custom PCIe based PCBs;	Telecommunications; Aerospace/defence/security
NIL Technology	SU	Photonics; Metaoptics and AR waveguides;	Industrial; Home applications; Aerospace/defence/security
NKT Photonics	LE	Photonics; Quantum	Industrial; Aerospace/defence/security; Health & Care; Telecommunications
NVIDIA Denmark ApS	LE	Integrated circuits; Photonics	AI datacentres and networking
OCTLIGHT ApS	SU	Photonics;	Health & Care;
Phanofi	SU	Integrated circuits; Photonics	Telecommunications
Polyteknik AS	SME	Quantum; Sensors; Integrated circuits	Aerospace/defence/security; Industrial; Power & Quantum
Presto Engineering	LE	Integrated circuits; Sensors	Health & Care; Aerospace/defence/security; Industrial; Telecommunications
Prevas A/S	LE	Integrated circuits; Sensors	Industrial; Telecommunications; PC & Data processing; Aerospace/defence/security; Audio & video; Health & Care; Home applications
QM Technologies ApS	SME	Integrated circuits; Quantum	Industrial; PC & Data processing; Aerospace/defence/security; Quantum Computing
Quantum Foundry P/S	SU	Integrated circuits; Photonics; Quantum;	Industrial; PC & Data processing
QVersion	LE	Photonics; Quantum; Sensors; Integrated circuits	Industrial; Aerospace/defence/security; Health & Care; Telecommunications
SBT Instruments	SU	Micro-fluid	Industrial
Sensitivus ApS	SU	Integrated circuits;	Industrial;
Siemens	LE	Sensors; Quantum; Photonics; Integrated circuits	Aerospace/defence/security; Audio & video; Health & Care; Industrial; Telecommunications; PC & Data processing; Home applications
Silicom Denmark A/S	LE	We are not making chips	Telecommunications; Audio & video; PC & Data processing

Silmeco	SME	Sensors	Industrial; Aerospace/defence/security; Health & Care
Skycore Semiconductors	SU	Integrated circuits; Power	Telecommunications; Industrial; PC & Data processing
Sparrow Quantum	SU	Photonics; Quantum;	Telecommunications; Industrial; PC & Data processing; Aerospace/defence/security
Spasic ApS	SU	Integrated circuits; Sensors	Aerospace/defence/security
SPIO Systems	SU	Photonics; Sensors; Quantum;	Telecommunications; Industrial; Health & Care;
SulfiLogger A/S	SU	Sensors;	Industrial;
Synopsys	LE	Integrated circuits; Quantum; BTW answered for number of employees in DK	Industrial; Telecommunications; PC & Data processing; Aerospace/defence/security; Audio & video; Health & Care; Home applications; all our customers products
SyoSil ApS	SU	Integrated circuits;	Industrial; Telecommunications; Audio & video; Health & Care;
TEGnology	SU	Thermoelectrics	Industrial
TGWA/S	SU	Quantum; Photonics; Sensors; Power	Industrial; Telecommunications; PC & Data processing; Aerospace/defence/security; Health & Care; Home applications; Automotive
Tytowave	SU	Integrated circuits	Aerospace/defence/security
Wiresans ApS	SU	Integrated circuits; Sensors	Health & Care
WSA	LE	Integrated circuits	Health & Care
Aalborg Power Group ApS	SU	Power Electronics	Industrial

8.4 Comments to the questionnaire feedback

Collecting data for a report of this kind involves a compromise between simplicity for respondents and the level of detail in their responses.

For the questionnaire distributed to the Danish chip industry, revenue and employee figures were requested not as exact numbers but as selectable intervals. This approach unfortunately introduces some potential ambiguity when it comes to these figures for larger enterprises.

In this report, both revenue and employee figures are limited to the fractions directly involved in or relating to chip activities. For pure chip companies, this is straightforward, as chip-related activities account for essentially 100% of company operations. However, for companies with significant non-chip activities, such as hearing aid manufacturers, chip-related work may represent as little as 1% of total activity, yet a critically important 1%.

This can make direct comparisons of industry revenue and employee figures between the Danish chip ecosystem and those reported elsewhere, for example, in Nordic ecosystem mapping reports, difficult and potentially misleading, as different criteria may be applied in those contexts.

[ii] The Nordic Chips ecosystem Mapping was done by Nordic Chip Collaboration, a project under Nordic Innovation, where Denmark was invited but initially abstained. From 2026 Denmark has joined this project

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