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Action Plan

The Capital Region of Denmark



**The Capital Region
of Denmark**

PART I — GENERAL INFORMATION

Project: Medtech4 Europe — ‘Optimising the impact of public policies in favour of research and innovation facilities in the field of medical technologies’

Partner organisation: The Capital Region of Denmark

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PART II — POLICY CONTEXT

- The action plan aims to impact
- investment for a growth and jobs programme,
 - the European Territorial Cooperation programme,
 - other regional development policy instruments.

A region for the next generation — The Regional Development Strategy 2020–2023

The Regional Development Strategy for the Capital Region of Denmark focuses on four themes. Based on the main tasks, the regions in Denmark are (partly) responsible for the following: (1) sustainable and efficient transport; (2) a balanced climate and environment; (3) education for the future; and (4) new possibilities for a healthy life.

More than 30 per cent of Danish citizens live in the Capital Region of Denmark (1.8 million people), covering an area of just 6 per cent of the total landmass of the country. The population will grow by 120.000 when we reach the year 2030. The challenges addressed are also in line with the UN Sustainable Development Goals.

The huge challenges in these four themes shall be solved and addressed through drivers such as

- innovation,
- partnerships, and
- internationalisation.

The regional ambition for the theme ‘new possibilities for a healthy life’ is to do the following:

- Strengthen innovation and research to offer the citizens the newest treatment, which also involves more digital solutions carried out closer to the patient
- Strengthen access to data so as to develop and unleash the potential of artificial intelligence and more personalised medicine to reach our goals of treating patients more individually (and closer to their homes) and, at the same time, secure more efficient diagnosis and use of the limited resources of healthcare professionals
- Increase health through a strong effort on prevention

These three ambitions as well as the abovementioned drivers are inspired by the Medtech4 Europe project, among others. With a growing and more elderly population as well as more complex diseases, more empowered patients, and scarce resources to overcome these challenges, the Capital Region of Denmark is facing the same problems as other places in Europe. It is therefore necessary to examine how other regions around the world solve these problems as well as to be inspired by and engage in specific partnerships together.

In the project, we have seen different facilities, specific digital, high-tech, and research-based solutions, and different incentives, governance structures, partnerships, etc., all of which inspire us to cooperate to solve these challenges. To be specific, we want to strengthen cooperation in and the infrastructure of the ecosystem to develop more med-tech research and innovation. We will establish more public–private partnerships, with strong matches among hospitals and start-ups, small- and medium-sized enterprises (SMEs), and larger corporations. We need to strengthen hospitals' engagement in developing solutions to their identified needs. In addition, we need to strengthen 'the way in' to the healthcare system, especially for start-ups and SMEs, to help the industry relate their products to the most pressuring needs.

We are therefore pleased to see that the key learning points of the Medtech4 Europe project have been included in the work program under the theme 'new opportunities for a healthy life', where we have actions on both 'one point of entry (smooth, fast, and transparent access advice on research and innovation support)' and 'new strategy (mission-driven roadmap linking research and innovation, with a focus on citizen and patient value)'.

The Regional Development Strategy was created in 2020 after the Danish National Business Promotion Act (2018) amended the Danish innovation and business promotion system. Where the regions previously had a strong focus on the broader scope of growth for SMEs, the regions now must focus exclusively on the regional tasks within environment, mobility, education, and health.

Regional Context

Denmark is one of the most specialised life science countries in Europe, with (amongst other relevant factors in the country) the most employees in the pharmaceutical industry



per million inhabitants. The Danish life science ecosystem contains more than 160 pharmaceutical and biotech companies and 40,000 employees. Six out of ten of all the life science companies in Denmark are located in the Capital Region of Denmark. The entire life science industry thus has a greater connection to the capital than the rest of the business community, where just over 36 per cent of the companies are located in the metropolitan area. Furthermore, Denmark is the leading country in biotech R&D and clinical trials per capita in Europe. Denmark's public sector is currently investing €5.6 billion in building and renovating sixteen hospitals, of which six are brand-new super hospitals. Around 20 per cent of this investment is reserved for IT, med-tech devices, and clinical equipment.

The Capital Region of Denmark includes seven hospitals and is the location of seven out of the eight Danish universities. The fact that the region is located close to the Swedish region Skåne makes close binational collaboration possible, which helps to strengthen the region's innovative work. To realise the potential of close international cooperation, two cooperation platforms have been created – Greater Copenhagen and Medicon Valley Alliance. Greater Copenhagen is a collaborative organisation promoting growth and development in the largest Nordic metropolitan area, encompassing 4.3 million citizens in Southern Sweden and Eastern Denmark, and Medicon Valley Alliance is a bi-national life science cluster spanning the island of Zealand in Eastern Denmark and the Skåne region of Southern Sweden.

Medical Technology in the Capital Region of Denmark

Given Denmark's strength in the life science industry and the presence of strong collaboration platforms, a strong and constantly evolving med-tech ecosystem spans across the neighbouring regions. Therefore, a rich life science heritage and pioneering spirit continues to attract many successful companies. These companies include Ferring, Genmab, Baxter Gambro, GN Hearing, Novozymes, and Chr. Hansen as well as many innovative Danish and Swedish life science SMEs that continue to energise the area.

The Capital Region of Denmark is home to more than two hundred medical companies which conduct R&D and/or production, most of which are in the market of med-tech: disposables, diagnostics, hearing devices, and assistive technology.



Focus of the Action Plan

This action plan addresses a sector, 'medical technology', that covers many different products, all intended to perform therapeutic or diagnostic actions on human beings to improve health. Medical technology is a regulated EU sector (2017/745, 2017/746) and covers the following:

- Medical devices (MDs), which are products, services or, solutions that prevent, diagnose, monitor, treat, and care for human beings by physical means
- In vitro diagnostics (IVDs), which are non-invasive tests used on biological samples (e.g. blood, urine, tissues) to determine the status of one's health
- Tools and services for digital health and care, depending on sectorial definition and regulatory status

The plan is to strengthen the hospitals' ability to identify clinical needs and facilitate further work with such needs towards direct implementation, spinout, or technology transfer. This is done both through the development of tools for use by health professionals and the strengthening of units that facilitate innovation and technology transfer work today – inspired by the Brightlands Maastricht Health Campus and their Knowledge Transfer Office (Province of Limburg), among others.

In addition, the action plan focuses on improving accessibility to hospitals for SMEs by building the relevant competencies in a unit to identify the relevant technologies and to link these to the needs of the hospitals. These relevant competencies should include legal competencies, innovation, research, funding, and links to procurement – inspired by the Brightlands ecosystem and MedLim (Province of Limburg) as well as Health Capital Helsinki and the Upgraded Community (Helsinki Region), among others.



PART III — DETAILS OF THE ACTIONS ENVISAGED

Action 1: Improve Hospital Openness to SME Product Development

1. Relevance to the Project

The action is part of the Regional Development Strategy theme on 'new possibilities for a healthy life' under the work program actions 'one point of entry (smooth, fast, and transparent access advice on research and innovation support)' and 'new strategy (mission-driven roadmap linking research and innovation, with a focus on citizen and patient value)'.

The inspiration for this action mainly derives from the Brightlands ecosystem and, in particular, their MedLim initiative, both situated in the Province of Limburg, Maastricht. The Medtech4 Europe project partnership and stakeholders visited Maastricht and gained first-hand knowledge and connections with the Maastricht Health Campus, part of Brightlands's ecosystem.

The Maastricht Health Campus was founded as a triple-helix initiative by the Province of Limburg, the Maastricht University Hospital (MUMC+), and Maastricht University to create an environment of research and business cooperation to face the challenges in the med-tech industry in the region.

Brightlands is a community made up of nearly twenty thousand ambitious researchers, entrepreneurs, and students who work on open innovation (i.e. sharing their knowledge and inventions with one another) and focus on global challenges in health, sustainability, nutrition, and digitisation. It is an open innovation ecosystem with rapidly growing campuses as a home to state-of-the-art facilities as well as fundamental and applied research offered to scientists, entrepreneurs, students, and investors. Together, they create new chances and solutions in sustainability and health that are environmentally sound (business wise) and socially positive.

Maastricht Health Campus has a broad mix of tenants, consisting of world-leading multinationals, innovative SMEs, high-potential start-ups, public-private knowledge institutes, and educational institutions at academic, undergraduate, and further education levels as well as a group of specialist service providers. It is a company and has three shareholders: the Province of Limburg, Maastricht University, and MUMC+.

The latest initiative taken by Brightlands is MedLim, a start-up accelerator, which is the main source of inspiration for this action. The MedLim start-up program accelerates start-ups that

want to bring new medical devices and/or technology to the global market. MedLim is unique as it provides support by world-class experts in the fields of business, medical device development, regulatory IP, and financing. The MedLim program has been initiated by four parties: Medtronic, Brightlands, Maastricht University, and LIOF (the regional development company of the Province of Limburg). These founding partners together provide unique and profound experience and knowledge to help start-ups.

The key takeaway from the study visit was the close collaboration of researchers and healthcare professionals at the university and the hospital who – together with research, development, and innovation (RDI) infrastructures and start-ups, SMEs, and larger companies – can benefit greatly from such close collaboration. However, this collaboration needs support for facilitation, infrastructure, and relationship building, all of which we saw in the Brightlands ecosystem, MedLim, and the Maastricht Health Campus. Some discussions of the study visit can be found in the ‘Innovation Origins’ article by Milan Lenters (<https://innovationorigins.com/medical-startups-need-more-guidance-innovation-is-currently-being-thrown-away/>).

Other good practices from Medtech4 Europe that have been part of the starting point for this action are as follows:

- Health Capital Helsinki and the Upgraded Community (Helsinki Region)
- TestBed and CleverHealth Network (Helsinki Region)
- RDI projects labelled by competitiveness clusters (Auvergne Rhone Alpes)
- Ecosistema Innovazione Lecco (Lombardy)
- Clinical Investigation Center for Technology Innovation (CIC-IT) (Auvergne Rhone Alpes)
- Public pre-commercial procurement (Lombardy)
- Regional specialised observatories (Upper Silesia)

2. Nature of the Action

The main objective of Action 1 is to set up a regional unit to facilitate collaboration between hospitals and businesses. The regional collaboration unit should function as a ‘one-stop shop’ for companies and especially focus on SMEs, which usually do not have connections with hospitals or experience in how to work with public authorities. The unit’s main tasks are the following:

- Act as the first contact point for private companies and institutions looking for collaboration within the regional hospitals
 - Search for relevant technologies, products, and companies
 - Locate relevant persons, clinics, and/or hospitals
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- Set up a systematic framework for collaborations
- Support access to data (digital) infrastructures and regulatory authorities
- Monitor the progress of the individual collaborations
- Act as a bridge between pilot projects to procurement

3. **Stakeholders Involved** (*Please indicate the organisations in the region that are involved in the implementation of Action 1 and explain their roles.*)

The Unit of Health Research and Innovation — The Capital Region of Denmark

This unit is expected to be the owner of the new collaboration unit. It already has most of the services needed for the collaboration unit and, most importantly, is located inside the regional organisation, which leads to more direct collaboration with the hospitals.

The Regional Hospitals

In close cooperation with the Unit of Health Research and Innovation, the seven regional hospitals will act as testbeds and sparring partners for the private companies.

The Danish Life Science Cluster (will be established in 2021), the Copenhagen Business Hub, and the Healthtech Hub Copenhagen

These will act as enrolment agents for the SMEs into the action, supporting the collaboration unit in searching for relevant technologies, products, and companies.

4. **Time Frame**

The action/project should be planned with a three-year time frame, with the possibility to extend depending on the success of the original project since it is unlikely that the action will be self-reliant after just three years.

5. **Indicative Costs** (*Please estimate the costs related to the implementation of Action 1.*)

The costs will be around 400,000 EUR (1,000,000 DKK) a year, in total 1,200,000 EUR in the first three-year period.

6. **Indicative Funding Sources**

The Regional Development Strategy will not have any funds for the theme on 'new possibilities for a healthy life'. The funds for this action will have to come from private or national parties, such as the Danish Industry Foundation, the Novo Nordisk Foundation, or the Danish Board of Business Development.



Action 2: More Spinout and Technology Transfer Activities from the Hospitals

1. Relevance to the Project

The action is part of the Regional Development Strategy theme on 'new possibilities for a healthy life' under the work program actions 'one point of entry (smooth, fast, and transparent access advice on research and innovation support)' and 'new strategy (mission-driven roadmap linking research and innovation, with a focus on citizen and patient value)' – inspired by, again, the Brightlands ecosystem (for more general information on Brightlands, see Action 1).

The first action will focus on SMEs' access to regional hospitals, while the second action will focus on the hospitals' ability to turn their know-how, knowledge, and scientific research into spinout and technology transfer activities. Therefore, this action is mainly inspired by different places in the Brightlands ecosystem – the Health Campus Knowledge Transfer Office and their valorisation experts.

This office and their valorisation guideline for Maastricht University and MUMC+ researchers act as a highway for technology transfer, turning excellent research results into products, processes, and/or services for the good of society, physicians, and patients. The focus on IP, licensing, and spinout to start-up is the main source of inspiration as well as a key takeaway from the visit during the Medtech4 Europe project.

Other good practices from Medtech4 Europe which should be mentioned as resources for inspiration are the following:

- RDI projects labelled by competitiveness clusters (Auvergne Rhone Alpes)
- Public pre-commercial procurement (Lombardy)
- Regional specialised observatories (Upper Silesia)
- Easytech Program (technological transfer for SMEs) (Auvergne Rhone Alpes)
- Technology transfer through shared equipment (Auvergne Rhone Alpes)

2. Nature of the Action (*Please describe precisely the content of Action 2. What are the specific activities to be implemented?*)

To improve the openness of the hospitals, we plan to implement multiple solutions which improve the chances of spinout success and technology transfer to already-established SMEs and larger corporations. The activities should improve the focus on both spinout and technology transfer in the following areas:

- a) Identification of clinical needs (research of knowledge and solutions available)
- b) Facilitation of prototyping
- c) Agile creation of spinouts
- d) Search for relevant SMEs/corporations for knowledge/solution transfer
- e) A systematic agreement regime for spinouts and knowledge transfer

3. **Stakeholders Involved**

The Unit of Health Research and Innovation — The Capital Region of Denmark

With the takeover of the regional Technology Transfer Office in August 2020, the Unit of Health Research and Innovation is an obvious location for the second action. This unit will be the main actor in the action, merely using the other stakeholders as supporting parties.

4. **Time Frame**

The time frame will be running as the action will not be modelled as a project since it will be part of the new working processes of the Technology Transfer Office.

5. **Indicative Costs**

The action will be within the budget of the already-established Technology Transfer Office.

6. **Indicative Funding Sources**

No additional funding will be needed.



Date: 19-4-2021

Signature: 

Stamp of the organisation (if available): The Capital Region of Denmark

