



# OVERALL REGIONAL SITUATION IN CYPRUS IN HOME CARE RESEARCH & INNOVATION AND QUADRUPLE-HELIX COOPERATION IN R&I

---

REGIONAL STUDY OF THE HOCARE PROJECT IN CYPRUS



European Union  
European Regional  
Development Fund

## Contents

1. Introduction - Summary .....	3
2. Structural funds programme .....	4
3. SMART specialization strategy – RIS3.....	8
4. Other policy instruments relevant for Home Care R&I .....	9
5. Regional innovation ecosystem in Home Care R&I .....	10
6. References to regional market analyses done for Home Care products and services offered .....	19
7. Quadruple-helix cooperation in R&I.....	19
8. Potential improvements of the Operational Programme and other possible improvements in regional innovation ecosystem .....	21
9. Information gathered by.....	22
AUTHOR – PARTNER OF THE HOCARE PROJECT.....	22

# 1. Introduction - Summary

This report aims at outlining the current situation in Cyprus as regards the research and innovation in home care sector, in combination with the use of the quadruple helix approach and their relevance to the available funding mechanisms promoted mainly through the Operational Programmes of the Structural Funds.

In Cyprus, home care is currently provided by Municipalities and Community Councils on local level (these are the two levels of local authorities in Cyprus). According to the Law, Municipalities have the right for provision of social services (in general, including social/health care) through the establishment of local social foundations and the establishment of local programs for supporting the target groups according to their needs. Home care is provided to people in need (mostly elders). All such programs run by the local authorities are evaluated, controlled and partially funded (after approval) by the central government through financing schemes provided by the Social Welfare Services of the Ministry of Labour, Welfare and Social Insurance or the Ministry of Health. In the last years, due to the bad situation of the economy (financial crisis – Cyprus used to be under an MOU for support through the financial mechanism of European Central Bank, the IMF and the European Commission) financing for these type of activities has been reduced and minimized by the central government, therefore, most Municipalities are facing huge economic problems on maintaining local social and health care services (including home care) totally through their own budget. As a result there are a lot of local social/health foundations that have already stopped their activities, in opposition to the continuously rising need for such services. Preventive measures and new ways of managing and implementing home care services are currently very highly needed, especially if their application would result to the reduction of the budget required for covering the needs for general local social care activities and services.

Therefore, the generation of innovative Home Care solutions in regional innovation chains (that would also reduce the cost of these services) is a defined need.

The Operational Programme (OP) facilitating projects in this field is named "Competitiveness and Sustainable Development" 2014-2020. Within the framework of this OP, interventions are planned to contribute in the enhancement of economy's competitiveness through investment in the sectors of Research and Innovation and Information and Communication Technologies and SMEs support. Interventions are also planned in the sectors of Environment, Energy and Transport, as well as for promoting integrated sustainable urban development in deprived areas. Priority Investment 2c: "Enhancing ICT applications for e-government, e-learning, e-inclusion, e-culture and e-health", targets specifically to increase the number and quality of services of the public sector (including Local Authorities), provided electronically to the businesses and citizens, a sector in which the country is lagging behind, despite the progress recorded in recent years. Interventions under the specific objective will also contribute to the modernization of public administration and internal processes through the use of ICT and the development of electronic services in areas such as health and education.

In addition, the Smart Specialization Strategy of Cyprus (S3CY) foresees (in Primary Objectives, Priority Sectors and in Policy Mix) several elements that put forward actions in the home-care ICT development

through the quadruple helix approach. Further support for such activities is also facilitated through the programme “RESTART 2016-2020”, operated by the Research Promotion Foundation.

Several actors, representing all helixes are involved in the field of R&I for Home Care and their part cooperation has proved positive results, such the implementation of different projects and the production of new and innovative systems and products (e.g. Tele-Rehabilitation Project, DITIS project)

## 2. Structural funds programme

### Structural funds’ – Operational Programme(s) - basic information

<b>Name of the Structural funds’ - Operational Programme (OP) -</b>	Operational Program "Competitiveness and Sustainable Development" 2014-2020 (Επιχειρησιακό Πρόγραμμα ‘Ανταγωνιστικότητα και Αειφόρος Ανάπτυξη 2014-2020’)
<b>Geographical coverage</b>	National
<b>Managing Authority</b>	Directorate General For European Programmes, Coordination and Development
<b>Intermediate body(ies)</b>	N/A
<b>General objectives of the OP</b>	Within the framework of the OP “Competitiveness and Sustainable Development”, interventions planned will contribute to the enhancement of economy’s competitiveness through investment in the sectors of Research and Innovation and Information and Communication Technologies and SMEs support. Interventions are also planned in the sectors of Environment, Energy and Transport, as well as for promoting integrated sustainable urban development in deprived areas.
<b>Name of the relevant thematic priority axis</b>	Priority Axis 2: “Fostering the use of ICT”
<b>Specific objectives of the given priority axis</b>	<ul style="list-style-type: none"> <li>- Promotion of holistic, integrated, complex and multi-parameter solutions that will enhance the competitiveness of the priority sectors.</li> <li>- Expansion of the ability of the RTDI system to produce results of high standards and utilize them for the benefit of the competitiveness of the economy and social advancement/progress.</li> <li>- Development of substantial/valid links and synergies between the elements of the guardable helix.</li> </ul>

## Available support programmes / intervention areas in 2014-2020 relevant to Home Care R&I and quadruple-helix cooperation in R&I

Relevant support programmes / intervention areas available in OP 2014-2020	
SUPPORT PROGRAMME / INTERVENTION AREA 1	
<b>Name of the support programme / intervention area 1</b>	"OP Competitiveness and Sustainable Development" Priority Investment 2c: "Enhancing ICT applications for e-government, e-learning, e-inclusion, e-culture and e-health".
<b>Relevancy of this support programme / intervention area</b>	Relevant to Home Care R&I
<b>Reasons of its relevance for Home Care R&amp;I</b>	Targeting the development of projects producing innovative e-health services.
<b>Reasons of its relevance for quadruple-helix cooperation in R&amp;I</b>	
<b>Amount of funds in the support programme / intervention area in EUR</b>	€76.941.177
<b>Objective of the support programme / intervention area</b>	The intervention seeks to increase the number and quality of services of the public sector (including Local Authorities), provided electronically to the businesses and citizens, a sector in which the country is lagging behind, despite the progress recorded in recent years. Interventions under the specific objective will also contribute to the modernization of public administration and internal processes through the use of ICT and the development of electronic services in areas such as health and education.
<b>Eligible support programme / intervention area recipients</b>	<ul style="list-style-type: none"> <li>- Public Services and Organizations of the Republic.</li> <li>- Local Authorities.</li> <li>- The public (end recipient)</li> </ul>
<b>Time plan for calls</b>	Call is estimated to be open within 2017. The Call is targeted.
SUPPORT PROGRAMME / INTERVENTION AREA 2	
<b>Name of the support programme / intervention area 2</b>	"OP Competitiveness and Sustainable Development" Priority Axis: "Enhancing Economic Competitiveness" Priority Investment 1: "Strengthening Research, Technological Development and Innovation"
<b>Relevancy of this support programme / intervention area</b>	Relevant to Home Care R&I
<b>Reasons of its relevance for Home Care R&amp;I</b>	It targets the development of projects producing innovative e-health services,

	products and tools.
<b>Reasons of its relevance for quadruple-helix cooperation in R&amp;I</b>	
<b>Amount of funds in the support programme / intervention area in EUR</b>	€18.000.000
<b>Objective of the support programme / intervention area</b>	The Funding Scheme aims to support and strengthen existing and newly created companies investing in research and innovation for the development of competitive innovative products and services to release in the market and / or innovative processes and procedures in their production procedure.
<b>Eligible support programme / intervention area recipients</b>	Private Businesses or Partnerships between Private Businesses
<b>Time plan for calls</b>	<p>First Call was published in 2015.</p> <p>The 2nd Call is estimated to be published within 2017.</p> <p>The Calls are targeted.</p>

## Evaluation of applications

<b>Is the evaluation process for applications set up the same way for all given relevant support programmes / intervention areas + calls</b>	Yes, it is the same for all support programmes / calls
<b>Evaluator of all applications</b>	The Managing Authority
<b>Origin of the evaluators</b>	From the partner country
<b>Which evaluation criteria used and their weight</b>	<p>Quality of the Project 20%</p> <p>Maturity of the Project 40%</p> <p>Feasibility of the Project 40%</p> <p>Other criteria taken into account:</p> <p>Project's compatibility with EU and national policies</p> <p>Administrative, operational and financial capacity of the Beneficiary</p> <p>Eligibility of the type of Project's Submitted</p> <p>Eligibility of Budget</p> <p>Timeframe</p> <p>Location</p>

## Governance of the relevant thematic priority axis of the Operational Programme

<p><b>Main management bodies</b></p>	<p>Directorate General For European Programmes, Coordination and Development following the Council of Ministers Decision No. 75141, dated 24 May 2013, is responsible for handling issues related to:</p> <p>(a) the European Funds and Programmes, such as the European Investment and Structural Funds, the EU Competitive Programmes and the grants provided by the countries of the European Economic Area and Switzerland.</p> <p>(b) development and horizontal issues, such as Research, Technological Development and Innovation, Lifelong Learning, Corporate Social Responsibility and the "Europe 2020" Strategy.</p> <p>The DG EPCD has the overall responsibility for the programming, management and utilization of funds allocated under the Programming Period 2014 - 2020 (in its role as the Managing Authority of the Structural Funds and the Cohesion Fund in Cyprus).</p> <p>For the monitoring of the implementation of the Programmes 'Competitiveness and Sustainable Development' and 'Employment, Human Resources and Social Cohesion' one Single Monitoring Committee was established by a Council of Ministers Decision (no. 78.483, date 11/3/2015) and according to the provisions of the Common Provisions Regulation (EU) no. 1303/2013.</p> <p>The Committee is composed by representatives of the competent authorities, the intermediate bodies, the local authorities, the economic and social partners and the non-governmental organisations. Moreover, representatives from European Commission and the European Investment Bank will participate with consultative role. The composition, the duties and the functional procedures of the Committee are set out in the internal Rules of Procedures.</p> <p>The decisions of the Committee can be taken either through a meeting or following a written procedure, according to the provisions of the internal rules of procedures.</p>
<p><b>Possibilities for non-members of committees to influence the OP</b></p>	<p>yes</p>
<p><b>How</b></p>	<ul style="list-style-type: none"> <li>- Experience gained through international cooperation by different kind of local organizations could influence the set-up of the OP.</li> <li>- Feedback collected through public consultations is taken into account.</li> </ul>

	<ul style="list-style-type: none"> <li>- Consultation with stakeholders may provide different directions on decision making regarding the objectives, targets and indicators of the OP.</li> <li>- Political influence is also important in OP's structuring.</li> </ul>
--	--

### 3. SMART specialization strategy – RIS3

<b>Is SMART specialization strategy on the same level as above described Structural Fund?</b>	yes
<b>RIS3 R&amp;I specialization segments</b>	<p>S3CY foresees:</p> <p>In Primary Objectives:</p> <ol style="list-style-type: none"> <li>1) "Promotion of holistic, integrated, complex and multi-parameter solutions that will enhance the competitiveness of the priority sectors".</li> <li>4) "Expansion of the ability of the RTDI system to produce results of high standards and utilize them for the benefit of the competitiveness of the economy and social advancement/progress"</li> <li>6) "Development of substantial/valid links and synergies between the elements of the guardable helix"</li> </ol> <p>In Priority Sectors:</p> <ol style="list-style-type: none"> <li>6) "Health: e-health... In addition, the Environment and the ICT were defined as important sectors of horizontal character"</li> <li>8) "ICT: ICT Application, Future Technologies"</li> </ol> <p>In Policy Mix:</p> <p>Pillar I) – Smart Growth:</p> <ol style="list-style-type: none"> <li>1) "Implementation of large/wide range transversal and interdisciplinary character projects from polymorphic consortia which will aim the implementation of an integrated RTDI strategic framework in the priority areas"</li> <li>3) "Design, development and implementation of research projects in the areas of priority sectors, for the development of quality of life and competitiveness of the economy of Cyprus through the participation of Cyprus in pan-European initiatives of joint programming"</li> </ol>



## 4. Other policy instruments relevant for Home Care R&I

<b>Other policy instruments relevant for Home Care R&amp;I</b>	Yes, there is (are) other supporting policy instrument(s) for Home Care R&I
<b>OTHER POLICY INSTRUMENT 1</b>	
<b>What is the name of the other policy instrument 1</b>	RESTART 2016-2020
<b>Geographical coverage</b>	national
<b>Managing Authority of the Policy instrument</b>	Research Promotion Foundation
<b>Intermediate body of the Policy instrument</b>	N/A
<b>General objectives of the policy instrument</b>	Boosting research in all sectors (including health and home care) for the support of Research, Technological Development and Innovation in Cyprus.
<b>Names of priority axes supporting Home Care R&amp;I</b>	PILLAR II: SUSTAINABLE RTDI SYSTEM 5. "SOCIAL INNOVATION" PROGRAMME
<b>Specific objectives of the given priority axis</b>	Active and decisive involvement of the social target group, so that the concept / product / service / technology / model / strategy resulting from the project, is fully aligned to the group's real needs.
<b>Support programmes / intervention areas relevant for Home Care R&amp;I in the priority axis(es) described above available in this policy instrument</b>	<ul style="list-style-type: none"> <li>- Support of the creation of new roles and relationships between organizations, in order to address a specific social problem (poverty, health care, population ageing, climate change, energy security, etc).</li> <li>- Formation of Consortia for the implementation of Social Innovation projects.</li> <li>- Facilitation of the technical knowhow in developing new instruments and capacities while enabling direct access and acceptance of the solution by the targeted social group.</li> <li>- The projects must necessarily include Experimental Development activities. They may also include Industrial Research activities.</li> </ul> <p>Beneficiaries: Research Organizations, Enterprises, Other Organizations</p> <p>Duration of Project Implementation: 12- 36 months</p> <p>Budget: €1.500.000</p> <p>Maximum Funding per Project: €100.000.</p> <p>Evaluation Criteria/Weighting: (1) Excellence 30%, (2) Added Value and Benefit 35%, (3) Implementation 35%.</p>

## 5. Regional innovation ecosystem in Home Care R&I

### Summary description of regional innovation ecosystem in Home Care R&I

#### Summary description of regional innovation ecosystem in Home Care R&I

From 1960 until 1974, the Cypriot economy was characterized by the export of raw materials and agricultural products. The territory occupied in 1974 contributed 75 % of the GDP; therefore the production model has been adapted to the limited part of the island. In the late 1970s the island's economy became mainly manufacturing by exporting garments and footwear. In the late 1980s, the tertiary sector was strongly reinforced, spearheaded by the financial services and tourism.

After joining the Eurozone in 2008, the labor costs increased dramatically, worsening the economic competitiveness. The benefits of Cyprus participation in the Eurozone, the long term increase in consumption and fixed investment created a positive climate which was accompanied by an equally positive investments psychology.

However, the "Cypriot Economic Miracle" has been affected by the global economic crisis and for the first time after 30 years of continuous development, the Cypriot economy presented recession, while the financial, banking & construction sectors and real estate services experienced the major damage. In order to overcome this unfavorable situation, the Republic of Cyprus appealed to the European Stability Mechanism, opening a new chapter in the island's economic history. In 2012, the Cypriot economy recorded a GDP contraction (-2.4 %), while in the first quarter of 2013, the decrease was -4.3 %.

With respect to the market, the unemployment rate was 14.2% in March 2013, while the unemployment rate among people under 25 was 32.3%. According to a report published by the Ministry of Finance for the year 2012, the budget deficit in Cyprus reached €1.127 billion, i.e. 6.3% of the GDP. The public debt rose significantly from 71.1% in 2011 to 85.8%. The Cypriot economy is characterized by the existence of many micro, small & medium enterprises which make up 99.8% of the entrepreneurship. Concerning the structure of the industry sectors -according to the National Statistical Service- trade (12%), construction (6%), hospitality and catering (7%), real estate services (12%), transport (7%), education (7%) and manufacturing (6%) are the sectors with the largest contribution to GDP.

In terms of number of companies, according to the NACE classification, trade (27%), construction (15%), manufacturing (9%), hospitality/catering (8%) and advisory services (8 %) are the major categories. In terms of number of employees: trade (20%), hospitality/catering (10%), manufacturing (10%), construction (10%) and financial services (6%) are the dominant sectors. Public administration (utilities and army) cover a total of 17% of employees. The dominance of trade in terms of employment, number of enterprises and participation to GDP, clearly indicates the structure of the economy whose main component is self-employment. The main exporting activity comes from the primary sector (potatoes, halloumi cheese, fruit, meat and fish), while the

sectors of pharmaceuticals, technology (semiconductors, etc.) and wastewater management are very dynamic. The pharmaceutical sector has the most important export activity.

Research activities were in an early level until the mid-90s, when the University of Cyprus was established. Shortly later the Research Promotion Foundation (RPF) was founded in order to promote scientific and technological research in Cyprus and in 1998 the first national program for funding research projects was launched. The Regional Innovation Strategy in Cyprus - RISC was launched in 2004. It was the first attempt to determine a strategy for innovation. The Framework Programme for Research, Technological Development and Innovation was launched by the RPF in 2008. This is the first time that a complex and multidimensional framework program with a budget of 120 million Euros utilized resources from the EU Structural Funds. In 2014, a Commission appointed by the Government filed recommendations for the revision of the RTDI system.

The total R&D expenditures in 2011 were estimated at €86.2 million, corresponding to 0.48 % of GDP<sup>1</sup>. Despite the upward trend of the last decade, this figure is extremely low compared to the EU average, which is 2%.

Fields Distribution: material sciences absorb the bulk of expenditure (€34,7 million - 39 %), engineering absorbs €19,5 million (20 %), social sciences €15 million, rural sciences €9,3 million, humanitarian sciences €6,7 million and the medical sciences €3,7 million.

Activity per sector: the higher education research expenditure reaches 53.4% of the total, the public sector 16.6%, private, non-profit organizations 15.6 % and businesses only 14,4% (€12,8 million).

Private Sector: Businesses spend only 16.7% of the total RTD funds (EU average: 63%), and present a structural inability to engage in related activities. The most dynamic businesses are pharmaceuticals (€4,2 million) and computer programming (€4,0 million).

Human Resources: Researchers in 2010 were 0.46% of the total workforce (EU average: 1.07%), while 37.2% of the researchers held a doctoral degree.

Scientific Publications: Cyprus has shown a rapid upward trend during the period 1980-2009. As a result the rate of increase grew 3.55 times faster than the corresponding global index.

According to EUROSTAT<sup>2</sup>, the percentage of enterprises in Cyprus involved in innovation activities in 2010 was 46.19% (56.1% in 2008). The percentage of innovative enterprises is lower than the EU average, while the implementation of innovations increases in accordance to the size of the enterprises. In total, 8.2% of them were active only in technological innovation, 10% in non-technological innovation, and 27.9% in both types of innovation. According to the Innovation Union Scoreboard 2013, Cyprus ranked 13th compared to the 27 Member States and continues to be classified in the category of "Innovation Followers". However, the overall growth performance of Cyprus for the period 2008-2012 shows negative growth (-0.7 %).

---

<sup>1</sup> Cyprus Statistical Service, Research Activity in Cyprus, 2011.

<sup>2</sup> [http://epp.eurostat.ec.europa.eu/portal/page/portal/science\\_technology\\_innovation/data/database](http://epp.eurostat.ec.europa.eu/portal/page/portal/science_technology_innovation/data/database)

Finally, according to the development framework set by the S3Cy, one of the main Priority Sectors for investment in R&I is Health: e-health, prognosis - prevention and treatment of diseases, health pharmaceutical industry.

## Existing platforms, networks and events supporting Home Care R&I

<b>Existing platforms / networks supporting Home Care R&amp;I</b>	<p>The European Business Support Centre of Cyprus (EEN member) offers services (mediation in business agreements, participation in joint research projects, technology innovation and knowledge transfer, dissemination and exploitation of research results, support for national and European legislation and programs etc.) in favor of growth and competitiveness of the Cypriot enterprises. (<a href="https://ec.europa.eu/cyprus/business-and-funding/SMEs_en">https://ec.europa.eu/cyprus/business-and-funding/SMEs_en</a>)</p> <p>“EURAXESS-Researchers in Motion” for Cyprus is a member of the homonymous European network offering information and advice to mobile researchers, both foreign researchers who wish to work in Cyprus and Cypriot researchers who wish to work abroad (<a href="https://www.euraxess.org.cy/">https://www.euraxess.org.cy/</a>).</p> <p>Universities Liaison Offices (LO) act as information intermediaries aiming to strengthen university-industry cooperation, emphasizing on students and young scientists employment in the Cypriot industry. There are many possibilities for expansion of the role and scope of the LOs emphasizing on the utilization of research results (<a href="http://sgroup.be/members/lo#member-CY">http://sgroup.be/members/lo#member-CY</a>).</p>
<b>Existing regular events</b>	N/A

## Main actors in Home Care R&I in all 4 helixes of quadruple-helix model – formal and informal providers of health care, businesses & business supporting actors, research and public institutions

### 1. Citizens / users helix

Main formal + informal providers of healthcare, elderly care recipients / associations in Home Care R&I	
Name + website	Description of activities focused on in that field
Community Volunteerism Council of Idalion (ΣΚΕ Ιδαλίου) <a href="http://www.dali.org.cy/en/2">http://www.dali.org.cy/en/2</a>	The main objective is to identify and ascertain the social needs of the community and to promote and implement the necessary required community service.

<p>010-02-18-14-39-36/2010-02-18-14-47-58/249-2011-04-26-19-58-33</p>	
<p>Municipal Multipurpose Centre of Lakatamia (Πολυδύναμο Κέντρο Λακατάμιας)  <a href="http://www.lakatamia.org.cy/default.aspx?articleID=1516">http://www.lakatamia.org.cy/default.aspx?articleID=1516</a></p>	<p>The Center was established in 1999 as social assistance and welfare institution, in order to create social programs to provide social support to all vulnerable groups of Lakatamia Municipality.</p>
<p>Municipal Multipurpose Centre of Engomi (πολυδύναμο δημοτικό κέντρο Έγκωμης)</p>	<p>The Center functions in the area of social assistance and welfare institution, in order to create social programs to provide social support to all vulnerable groups of Engomi Municipality.</p>
<p>Foundation of Municipal Multipurpose Centre of Strovolos (Ίδρυμα Πολυδύναμο Δημοτικό Κέντρο Στροβόλου)  <a href="http://www.strovolos.org.cy/archiki-selida/o-dimos/kinoniki-prosfora/idrima-polidinamo-dimotiko-kentro-strovolou/#toggle-id-1">http://www.strovolos.org.cy/archiki-selida/o-dimos/kinoniki-prosfora/idrima-polidinamo-dimotiko-kentro-strovolou/#toggle-id-1</a></p>	<p>The main purpose of the Foundation is the development of a healthy civil society, through the creation and operation of programs and activities to provide social services to those vulnerable and high-risk areas of the Municipality of Strovolos, proven research base, have this need. Social policies implemented covering a wide range of social services aimed at supply and optimum welfare of citizens of all ages participating in them.</p>
<p>Cyprus Nurses and Midwives Association (Παγκύπριος Συνδέσμος Νοσηλευτών και Μαιών)  <a href="https://cyna.org/home">https://cyna.org/home</a></p>	<p>It represents the Nurses and Midwives of Cyprus in International Nursing and Obstetrics space. Capacity building and international exchange of experience.</p>
<p>Cyprus Social Workers Association (Σύνδεσμος Κοινωνικών Λειτουργών Κύπρου)  <a href="http://www.caswcyprus.org/">http://www.caswcyprus.org/</a></p>	<p>To provide information and training to its members on current approaches in Social Work. Additional help and support efforts to enhance the role of social workers in the social life of Cyprus.</p>
<p>“MedicAlert Foundation Cyprus”  <a href="http://www.medicalertcypru">http://www.medicalertcypru</a></p>	<p>The Foundation is functioning as a Data Bank in which, persons with any kind of medical problems or allergies can deposit all relative information. “MedicAlert” is authorized and undertakes the responsibility to make such information known to</p>

<a href="http://s.com/aboutus.html">s.com/aboutus.html</a>	medical or paramedical personnel only in medical emergencies so that they can offer appropriate medical care and avoid risks of potential fatal developments.
Cyprus Anti-Cancer Society (Αντικαρκινικός Σύνδεσμος Κύπρου) <a href="http://anticancersociety.org.cy/en/page/who-we-are">http://anticancersociety.org.cy/en/page/who-we-are</a>	To support the patients' families and care-givers, but also inform the wider public about cancer prevention, diagnosis, treatment and relief.
Cyprus Association of Cancer Suffering People and Friends (Παγκύπριος Σύνδεσμος Καρκινοπαθών και Φιλών) <a href="https://pasykaf.org/en">https://pasykaf.org/en</a>	Their priority is to ensure patients and their families the right to choose can accept Palliative Care 'hot' and familiar surroundings of their own home, taking the best possible care and support, always respecting their dignity. Depending on the needs of each patient and his relatives, the Association provides palliative care through a specialized, multidisciplinary team includes the following professionals: doctors, nurses, psychologists, physiotherapists, social workers and volunteers.

## 2. Business helix

Main businesses and business supporting actors in Home Care R&I		
Name + website	Business or business supporting actor	Description of highly innovative solutions provided in that field
Materia Group <a href="http://www.materia.com.cy/index.php?option=com_content&amp;view=article&amp;id=21%3Awelcome&amp;catid=2%3Ageneral&amp;lang=en">http://www.materia.com.cy/index.php?option=com_content&amp;view=article&amp;id=21%3Awelcome&amp;catid=2%3Ageneral&amp;lang=en</a>	Business	Innovative Care and Rehabilitation Units
Leafnet LTD <a href="https://www.facebook.com/leafnetltd/?ref=page_internal">https://www.facebook.com/leafnetltd/?ref=page_internal</a>	Business	Production of Tele-medic-care solutions
Medigence Home Healthcare <a href="http://www.medigencegroup.com/">http://www.medigencegroup.com/</a>	Business	Dementia and Alzheimer's Management Program Stroke Management Program

### 3. Research helix

Main research actors in Home Care R&I	
Name + website	Description of excellent research activities done in that field
University of Cyprus <a href="http://www.ucy.ac.cy">www.ucy.ac.cy</a>	<p>Tele-rehabilitation project <a href="https://www.cs.ucy.ac.cy/~mdd/docs/2013-BIBE-Tileapokatastasi.pdf">https://www.cs.ucy.ac.cy/~mdd/docs/2013-BIBE-Tileapokatastasi.pdf</a> <a href="https://www.intensivecare.com.cy/telerehabilitation/index.php/en/application-main-menu/services-main-menu/rehabilitation-telemedicine-technologies-menu">https://www.intensivecare.com.cy/telerehabilitation/index.php/en/application-main-menu/services-main-menu/rehabilitation-telemedicine-technologies-menu</a></p> <p>DITIS project <a href="http://www.cs.ucy.ac.cy/~istnncp/DITIS-hilton%205%20april%2000.pps">http://www.cs.ucy.ac.cy/~istnncp/DITIS-hilton%205%20april%2000.pps</a> <a href="http://www.netrl.cs.ucy.ac.cy/index2.php?option=com_content&amp;do_pdf=1&amp;id=28">http://www.netrl.cs.ucy.ac.cy/index2.php?option=com_content&amp;do_pdf=1&amp;id=28</a> <a href="http://www.cs.ucy.ac.cy/ResearchLabs/netrl/papers/files/Book%20Chapter%20DITIS%20Final%20Formatted%204%20April%202003.pdf">http://www.cs.ucy.ac.cy/ResearchLabs/netrl/papers/files/Book%20Chapter%20DITIS%20Final%20Formatted%204%20April%202003.pdf</a></p>
Open University of Cyprus <a href="http://www.ouc.ac.cy/">http://www.ouc.ac.cy/</a>	No specific project is implemented yet. The organization promotes open discussion for research purposes in the field of e-health for home care through the quadruple helix approach.
Cyprus University of Technology <a href="https://www.cut.ac.cy/">https://www.cut.ac.cy/</a>	No specific project is implemented yet. The organization promotes open discussion for research purposes in the field of e-health for home care through the quadruple helix approach.
University of Nicosia <a href="https://www.unic.ac.cy/">https://www.unic.ac.cy/</a>	No specific project is implemented yet. The organization promotes open discussion for research purposes in the field of e-health for home care through the quadruple helix approach.
European University of Cyprus <a href="http://www.euc.ac.cy/">http://www.euc.ac.cy/</a>	No specific project is implemented yet. The organization promotes open discussion for research purposes in the field of e-health for home care through the quadruple helix approach.

### 4. Public institutions / government helix

Main public actors in Home Care R&I	
Name + website	Description of activities relevant for Home Care R&I
Directorate General for European Programmes, Coordination and Development <a href="http://www.dgepcd.gov.cy/">http://www.dgepcd.gov.cy/</a>	Managing Authority of Structural Funds on national level
Ministry of Health <a href="http://www.moh.gov.cy/">http://www.moh.gov.cy/</a>	Intermediary Body for OP's Instruments concerning Health innovation

Ministry of Energy, Commerce, Industry and Tourism <a href="http://www.mcit.gov.cy/">http://www.mcit.gov.cy/</a>	Intermediary Body for OP's Instruments concerning innovation production from the private sector
Research Promotion Foundation <a href="http://www.research.org.cy/">http://www.research.org.cy/</a>	Public Authority promoting R&I in every sector, including Home Care

### Most significant research projects / research cooperation initiatives in Home Care R&I

Significant R&I projects / research cooperation initiatives in Home Care			
Project name + description	Participating members / organizations	Results of the activities	Website link for more information
TELEHIPPOCRATES: Unified telemedicine network of Greece and Cyprus, with integrated broadband satellite and land (wired) networks	Chios General Hospital (LP/GR) University of the Aegean (GR) Nicosia General Hospital (CY) National Research Centre Democritus (GR) Municipality of Amani (GR)	The Telemedicine Network of Greece and Cyprus connects with integrated broadband Satellite and Land (wired) Networks the General Hospital of Chios and the Nicosia General Hospital with health centers and rural surgery in remote areas in the Prefecture of Chios and in Cyprus. The network offers three main services in the field of health: - Consulting/ support services of the Hospitals to the health centres and rural surgeries - Provisional care and rehabilitation efforts for chronic patients in their base/ home (areas of Chios and Cyprus) - Supporting services of	N/A



		<p>the Hospitals to a mobile medical unit, i.e. ambulance, going to the patient's location. Complementarily, the network is being able to support:</p> <ul style="list-style-type: none"> <li>- High Speed Internet services.</li> <li>- Sound and Visual services in streaming form. Two way communication services in real time that allows the implementation of tele-training (European Programme Emispher).</li> </ul>	
<p>TeleRehabilitation</p>	<ul style="list-style-type: none"> <li>- Department of Computer Science of the University of Cyprus</li> <li>- Department of Intensive Care of the University General Hospital of Heraklion.</li> </ul>	<p>The TeleRehabilitation programme is an innovative home-based rehabilitation service for patients suffering from cardio-respiratory problems provided by the Nicosia General Hospital. It aims to support patients discharged from the intensive care unit (ICU) during their rehabilitation by using telemedicine tools and tailoring activity according to their morbidity profile. This service improves accessibility to health care services, increases adherence to the rehabilitation</p>	<p><a href="https://www.intensivecare.com.cy/telerehabilitation/index.php/en/">https://www.intensivecare.com.cy/telerehabilitation/index.php/en/</a></p>

		programme, reduces costs and it enables a more efficient provision of high quality telemedicine services. The advanced telemedicine tool enables home-based rehabilitation sessions, which has a positive impact on patients and health care providers in terms of avoiding further hospitalisations because of missed rehabilitation sessions.	
DITIS: VIRTUAL COLLABORATIVE TEAMS FOR HOME HEALTHCARE	<ul style="list-style-type: none"> <li>- Cyprus Association of - Cancer Patients and Friends (PASYKAF)</li> <li>- Cyprus Research Promotion Foundation</li> <li>- Microsoft Cambridge Research Labs</li> <li>- Telecommunications Authority (CYTA)</li> <li>- NetU</li> <li>- WinMob Technologies Ltd</li> <li>- Ericsson (through S.A. Petrides Ltd)</li> <li>- Microsoft</li> <li>- XDA</li> <li>- Cyprus Development Bank (CDB)</li> <li>- University of Cyprus</li> </ul>	DITIS is a system that supports dynamic Virtual Collaborative Medical Teams dealing with the home-healthcare. It supports the dynamic creation, management and co-ordination of virtual medical teams, for the continuous treatment of the patient at home, and if needed for periodic visits to places of specialised treatment and back home. DITIS is an Internet (web) based Group Collaboration system with secure fixed and GPRS/GSM/WAP mobile connectivity.	N/A

## 6. References to regional market analyses done for Home Care products and services offered

Market analysis name	Short description of the aim of the market analysis	Website link for more information / download
Home care across Europe Case studies World Health Organization	Policies, organisation and provision of home care in Europe - Case Studies - Republic of Cyprus	<a href="https://www.nivel.nl/sites/default/files/bestanden/Home-care-across-Europe-case-studies.pdf">https://www.nivel.nl/sites/default/files/bestanden/Home-care-across-Europe-case-studies.pdf</a>
Healthcare statistics Eurostat	Key statistics on monetary and non-monetary aspects of healthcare in the European Union (EU) per member-state.	<a href="http://ec.europa.eu/eurostat/statistics-explained/index.php/Healthcare_statistics">http://ec.europa.eu/eurostat/statistics-explained/index.php/Healthcare_statistics</a>

## 7. Quadruple-helix cooperation in R&I

**Quadruple-helix model based research projects / cooperation initiatives in general health R&I (excluding Home Care R&I but with a potential for transfer into Home Care segment, both pure regional or international with regional implementation)**

<b>Quadruple-helix research projects / cooperation initiatives already carried out regarding R&amp;I in health sector generally</b>	no
<b>Name and short description</b>	

### Quadruple-helix model based research projects / cooperation initiatives in Home Care R&I

<b>Quadruple-helix research projects / cooperation initiatives already carried out regarding R&amp;I in</b>	yes
---	-----

<b>Home Care specifically</b>	
<b>Name and short description</b>	<p>Tele-Rehabilitation project:  <a href="https://www.intensivecare.com.cy/telerehabilitation/index.php/en/">https://www.intensivecare.com.cy/telerehabilitation/index.php/en/</a>  <a href="https://www.cs.ucy.ac.cy/~mdd/docs/2013-BIBE-Tileapokatastasi.pdf">https://www.cs.ucy.ac.cy/~mdd/docs/2013-BIBE-Tileapokatastasi.pdf</a>  <a href="https://www.intensivecare.com.cy/telerehabilitation/index.php/en/application-main-menu/services-main-menu/rehabilitation-telemedicine-technologies-menu">https://www.intensivecare.com.cy/telerehabilitation/index.php/en/application-main-menu/services-main-menu/rehabilitation-telemedicine-technologies-menu</a></p> <p>DITIS: VIRTUAL COLLABORATIVE TEAMS FOR HOME HEALTHCARE:  <a href="http://www.cs.ucy.ac.cy/~istncp/DITIS-hilton%205%20april%2000.pps">http://www.cs.ucy.ac.cy/~istncp/DITIS-hilton%205%20april%2000.pps</a>  <a href="http://www.netrl.cs.ucy.ac.cy/index2.php?option=com_content&amp;do_pdf=1&amp;id=28">http://www.netrl.cs.ucy.ac.cy/index2.php?option=com_content&amp;do_pdf=1&amp;id=28</a>  <a href="http://www.cs.ucy.ac.cy/ResearchLabs/netrl/papers/files/Book%20Chapter%20DITIS%20Final%20Formatted%204%20April%202003.pdf">http://www.cs.ucy.ac.cy/ResearchLabs/netrl/papers/files/Book%20Chapter%20DITIS%20Final%20Formatted%204%20April%202003.pdf</a></p>

### Attitude of main R&I actors from all 4 helixes towards using quadruple-helix model based R&I cooperation

<b>Attitude of actors from the citizens / users helix towards using quadruple-helix R&amp;I cooperation</b>	<p>In general, the quadruple-helix approach is a new term introduced in the Cypriot society. Actors from the citizens' / users' helix are not clearly aware of this method of cooperation, however, when dealing or discussing matters in regards to R&amp;I production or cooperation, they seek cooperation with actors from all other helixes for different reasons:</p> <p>One of the reasons is the need for funding; therefore they mostly contact the public or the business sector. Another reason is the need for using specialized know-how or knowledge for a specific matter; in that case they mostly seek cooperation with academia or research actors.</p> <p>There are almost no cases in which they put forward a plan or cooperation with all helixes at the same time or for the same objective.</p>
<b>Attitude of actors from the business helix towards using quadruple-helix R&amp;I cooperation</b>	<p>In the case of the actors coming from the business helix, the attitude is even more distant than any other helix. The main reason is that private businesses and business supporting organizations are mostly focused on activities that have the potential to produce profit in short time, therefore they operate mostly based on their own resources.</p> <p>In a comparative view for their cooperation with the other helixes, they mostly seek cooperation with the research helix because they tend to believe that it is a source for innovative ideas production which they would apply in the market.</p>

	Business people tend to avoid cooperation with the public sector, except from cases where it is required (for issuing a permit or applying for funding) due to the long lasting bureaucratic procedures that may delay any of the efforts for creation of innovation.
<b>Attitude of actors from the research helix towards using quadruple-helix R&amp;I cooperation</b>	The case of actors coming from the research helix is the one that is mostly keen of promoting cooperation with all other helixes. Having their main interest in deepening in research, most academics promote the dialogue and organize seminars or other type of meetings between the quadruple helix actors in order to collect all necessary data to complete their research. This procedure, most of the times, leads to the definition of needs and necessary tools or equipment to be created either from an initiative coming from the private sector, or through seeking funding from any kind of funding mechanism.
<b>Attitude of actors from the public institutions helix (excluding SF owner towards using quadruple-helix R&amp;I cooperation</b>	Public institutions, in general, apply the quadruple helix approach in their process of needs definition and analysis for setting up their strategic planning and action plans of operation. In their daily work, they are mainly based on their own resources (budget, human resource, facilities). As a general comment, they are open to proposals for cooperation with any actor(s) coming from the other three helixes for development of different projects, however, for doing so, they need to follow an unattractive and long-lasting bureaucratic procedure, that most of the times leads to long delays and danger for the organizations from other helixes willing to cooperate to abandon the efforts.
<b>Attitude of the Operational Programme owner towards using quadruple-helix R&amp;I cooperation</b>	The OP owner, the Directorate General for European Programs, Coordination and Development, always applies the quadruple helix approach as a principle for the design or development of any of its policies. The DG EPCD applied this method for identifying the needs on national level for every sector for development, including the sector of home care. Through this process the OPs are formed including specific priorities and targeted measures on national level. The field that would need improvement is the part of the defined eligible organizations for projects' implementation through the OPs, since the vast majority of the funding schemes targets just one or two helixes' organizations.

## 8. Potential improvements of the Operational Programme and other possible improvements in regional innovation ecosystem

<b>Possible improvements in the Operational Programme regarding its</b>	The general title of the specific Priority Investment of the Structural Funds mentioned above (Operational Program "Competitiveness and Sustainable Development" 2014-2020, Priority Investment 2c: "Enhancing ICT applications for
---	---

<p><b>support for quadruple-helix based R&amp;I in Home Care</b></p>	<p>e-government, e-learning, e-inclusion, e-culture and e-health”), includes measures, each one of them targeting specific target groups (e.g. for some measures as “Final Beneficiaries” are defined only the Public Services, for some others only the SMEs etc). In addition the quadruple helix approach is not mentioned in any of the evaluation criteria.</p> <p>The efforts should be concentrated on establishing new methods for evaluation that could foster the facilitation of the quadruple helix method of cooperation (e.g. adding a specific evaluation criterion for adding extra marks on projects that are being promoted through this quadruple helix approach for e-home-care services).</p>
--	--

## 9. Information gathered by

<p><b>Region</b></p>	<p>Cyprus</p>
<p><b>Organization name(s) in local language</b></p>	<p>Nicosia Development Agency (ANEL) Αναπτυξιακή Εταιρεία Λευκωσίας (ΑΝΕΛ)</p>
<p><b>Name of the contact person(s)</b></p>	<p>Eleftherios Loizou</p>
<p><b>Contact email(s)</b></p>	<p><a href="mailto:eloizou@anel.com.cy">eloizou@anel.com.cy</a></p>

## AUTHOR – PARTNER OF THE HOCARE PROJECT

Nicosia Development Agency – [www.anel.com.cy](http://www.anel.com.cy)

