

## North-West/Nord-Vest region, Romania (NUTS2)

The following fully operational DIHs are based in this region:

- Digital Innovation Hub for Society (DIH4S)
- Transilvania Digital Innovation Hub
- Transilvania Digital Innovation Hub - Transilvania DIH

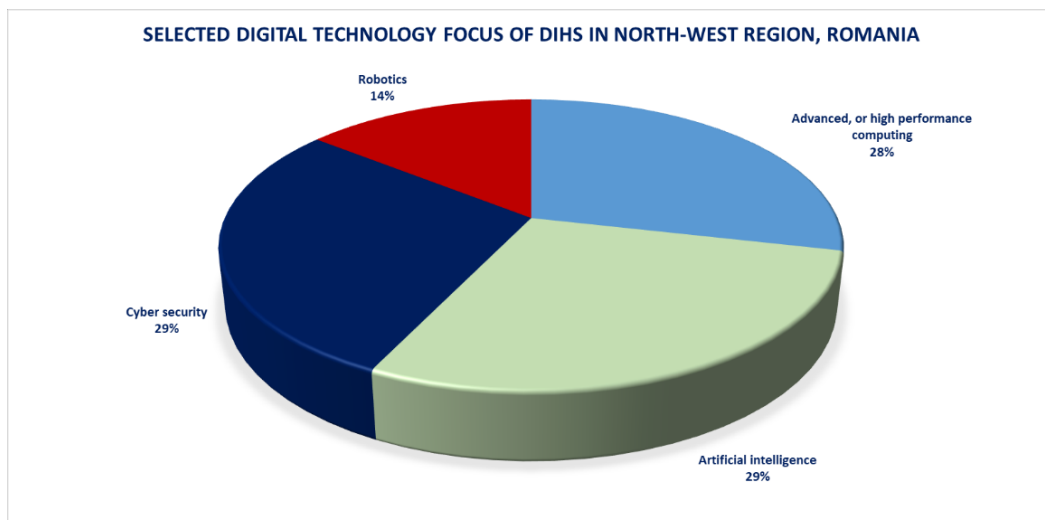
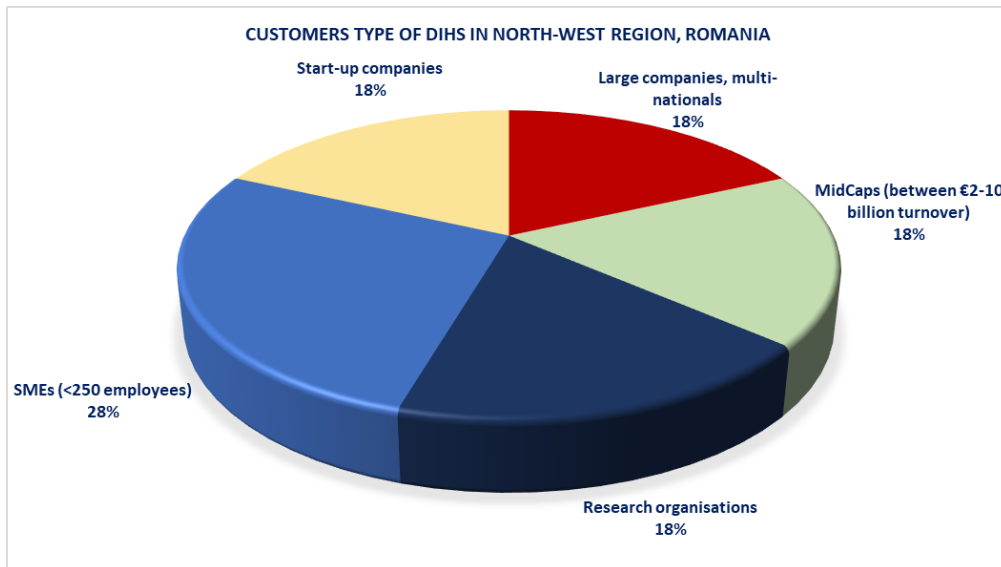
The digital technology focus of these hubs seems to be fully aligned with the region's RIS3 on all sectors that focus on digitalisation. In specific, the hubs' customer, technology and market sector specialisation seem to cover the policy objectives of RIS3 on advanced production technologies, ICT, health and agri-food. However, from the information currently available, this region's DIHs do not seem to be aligned with the RIS3 on cosmetics and food supplements. Romania's north-west region's RIS3 and policy objectives are presented in detail below as derived from [Eye@RIS3 tool](#) of European Commission's Smart Specialisation Platform.

RIS3 description	Policy Objectives
<p><b>Advanced Production Technologies.</b> Encompasses economic activities related to the production of machinery and equipment which account for high concentration of companies and turnover in the region. Specialization niches include: innovative machinery and equipment in robotics, mechatronics, automation, advanced manufacturing and processing, additive manufacturing / rapid prototyping; innovative machinery and equipment for energy production using renewable sources or generating less pollution; machinery, equipment and solutions for energy efficiency.</p>	<p>E - KETs E.37 - Advanced manufacturing systems J - Sustainable innovation J.68 - Sustainable energy &amp; renewables</p>
<p><b>Health.</b> Encompasses education and research activities due to a high number of hospitals and other public and private health care facilities, as well as high number of health professionals. Specialization niches: innovations in oncology, especially personalized treatments with new products (eg: nutraceuticals, phytochemicals / phytoproducts) as well as prevention; innovation in balneology through new goods and services based on local water resources; innovations in implantology and transplantology, nutrition / dietetics and podiatry using new technologies; respectively in psychology / psychiatry (focusing on new treatment methods such as virtual reality, interaction with animals); new pharmaceutical products for common diseases (eg. hybrid drugs) reducing side-effects, new developments in the field of biosimilars and biopharmaceuticals, including phytochemicals; special niche at regional level is the hemoglobin-based blood substitute, being the only RDI project leading to disruptive innovation.</p>	<p>G - Public health &amp; security G.46 - Ageing societies G.49 - Public health &amp; well-being I - Social innovation I.59 - Social innovation with regard to health, well-being &amp; elder care</p>
<p><b>Cosmetics and Food Supplements.</b> The cosmetics industry has a long industrial tradition in the region with significant players at both national and international level. In the field of food supplements, a regional concentration of representative national companies with a significant development potential can also be identified - especially in tandem with the cosmetics industry, considering the current European and global trends. Specialization niches: production of cosmetics and natural food supplements (bio / organic) without harmful chemical additives in particular: a) dermatocosmetics, b)</p>	<p>G - Public health &amp; security G.48 - Food security &amp; safety J - Sustainable innovation J.61 - Bioeconomy</p>

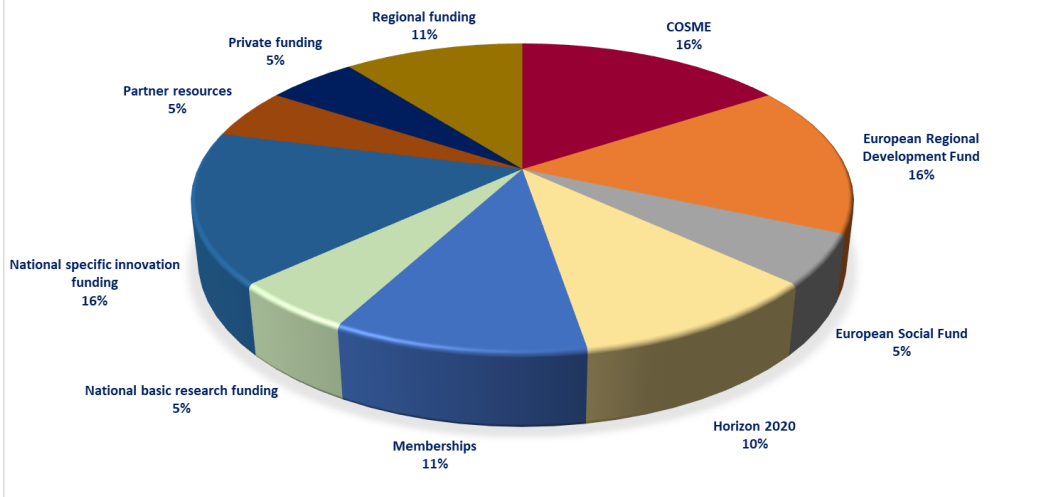
<p>nutraceutics, phytochemical / phytoproducts, c) cosmetics and dietary supplements based on natural extracts from unique regional resources (eg. plants, fruits, sericigenous material, etc.), d) nutricosmetics (cosmetics and food supplements); production of food supplements and extracts for several health issues (particularly oncology and implantology).</p>	
<p><b>ICT.</b> The region ranks second at national regarding the number of companies, number of employees and the turnover achieved by this sector. Specialization niches: product innovation in fields like: Internet of Things, cyber-physical systems, cyber-security and space applications for civil use, cloud computing, gamification, intelligent systems, artificial intelligence, digital currencies and FinTech solutions, smart city solutions (with emphasis on energy efficiency), e-government, e-agriculture, e-health (including mobile applications and integration with wearables).</p>	<p>D - Digital transformation</p> <ul style="list-style-type: none"> <li>D.18 - Advanced or High performance computing</li> <li>D.19 - Artificial intelligence, cognitive systems, augmented and virtual reality, visualisation, simulation, gamification &amp; interaction technologies</li> <li>D.20 - Big data, data mining, database management</li> <li>D.21 - Broadband, spectrum and other communication networks (e.g. 5G)</li> <li>D.22 - Cleaner environment &amp; efficient energy networks and low energy computing</li> <li>D.23 - Cloud computing and software as a service and service architectures</li> <li>D.24 - Digitising Industry (Industry 4.0, smart and additive manufacturing)</li> <li>D.25 - E-Commerce &amp; SMEs online</li> <li>D.26 - e-Government (e.g. e-Procurement, open data &amp; sharing of public sector information)</li> <li>D.27 - e-Health (e.g. healthy ageing)</li> <li>D.28 - e-Inclusion (e.g. e-Skills, e-Learning)</li> <li>D.29 - ICT trust, cyber security &amp; network security</li> <li>D.30 - Intelligent inter-modal &amp; sustainable urban areas (e.g. smart cities)</li> <li>D.31 - Internet of Things (e.g. connected devices, sensors and actuators networks)</li> <li>D.32 - Location based technologies (e.g. GPS, GIS, in-house localization)</li> <li>D.33 - New media &amp; easier access to cultural contents (e.g. heritage)</li> <li>D.34 - Quantum computing</li> <li>D.35 - Robotics, autonomous and cyber physical systems (e.g. vehicles, embedded systems)</li> <li>D.36 - Smart system integration</li> </ul> <p>H - Service innovation</p> <ul style="list-style-type: none"> <li>H.52 - New or improved service processes</li> </ul>

**Agri-Food.** The sector is well anchored in the regional economy with a significant number of employees and a large number of firms. Despite low income levels it has been supporting the development of rural economy given that almost half of the region's population lives in rural areas. Specialization niches: production of safe, healthy, affordable and nutritionally optimized food products based on local breeds and crops, culinary traditions and by applying the principles of High Nature Value Farming, sustainable and precision agriculture, as well as new veterinary and agricultural genetics; and production of functional foods.

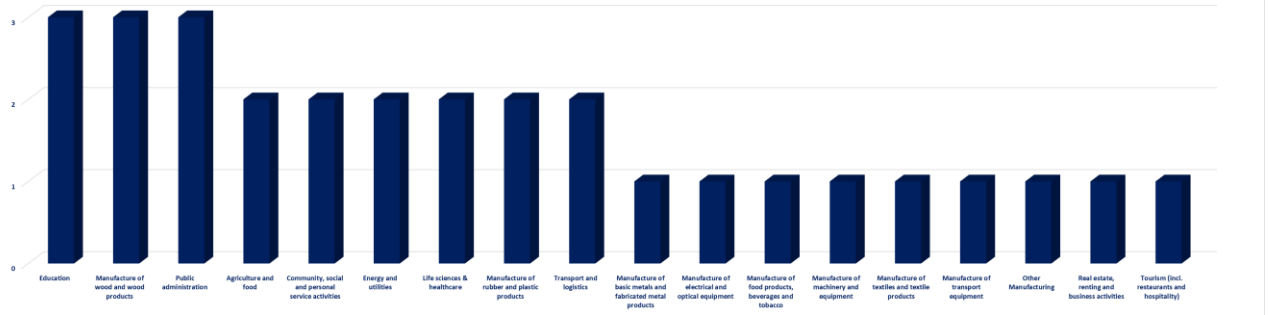
- E – KETs
- E.38 - Advanced materials
- E.39 - Industrial biotechnology
- E.41 - Nanotechnology
- G - Public health & security
- G.48 - Food security & safety
- J - Sustainable innovation
- J.61 - Bioeconomy
- J.67 - Sustainable agriculture



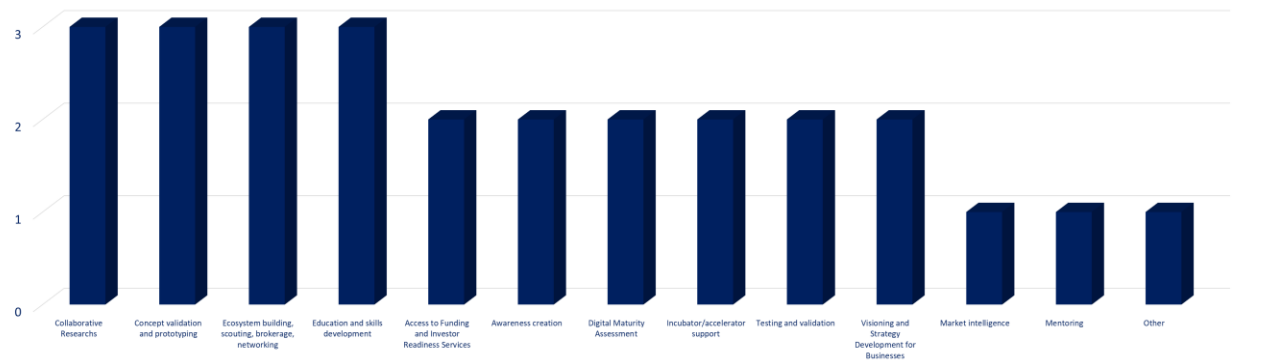
### FUNDING SOURCES OF DIHS IN NORTH-WEST REGION, ROMANIA



### Market Sector of DIHS in North-West region, Romania



### Services provided by DIHS to SMEs in North-West region, Romania



### TRL Focus of DIHS in North-West region, Romania

