© 2024 The Authors.

This article is published online with Open Access by IOS Press and distributed under the terms of the Creative Commons Attribution Non-Commercial License 4.0 (CC BY-NC 4.0).

doi:10.3233/SHT1240415

# Montenegrin Digital Academic Innovation Hub: Experience in Supporting Digital Health Innovations

Ivana OGNJANOVIĆ<sup>a,1</sup> Ramo ŠENDELJ<sup>a</sup>, Luka LAKOVIĆ<sup>a</sup>, Christoph REICH<sup>b</sup>, Manav MADAN<sup>b</sup>, Laszlo BOKOR<sup>c</sup>, Peter A. KARA<sup>c</sup>, John MANTAS<sup>d</sup>, Emmanouil ZOULIAS<sup>d</sup>, Martina GOLOB<sup>c</sup>, Nataša ŠIMŠIĆ<sup>f</sup>, Irena OROVIĆ<sup>g</sup>, Jelena TERZIĆ<sup>g</sup>, Tanja RADUSINOVIĆ<sup>h</sup>, Nada RAKOČEVIĆ<sup>h</sup>, Jevto ERAKOVIĆ<sup>i</sup>, Milovan ROGANOVIĆ<sup>i</sup>, Nataša ŽUGIĆ<sup>j</sup> and Marijan MARIJANOVIĆ<sup>j</sup>

<sup>a</sup> University of Donja Gorica, Montenegro

<sup>b</sup> Hochschule Furtwangen, Germany

<sup>c</sup> Budapest University of Technology and Economics, Hungary

<sup>d</sup> National Kapodistrian University of Athens, Greece

<sup>e</sup> ARCTUR, Slovenia

<sup>f</sup> ComTrade, Serbia

<sup>g</sup> University of Montenegro, Montenegro

<sup>h</sup> Chamber of Economy Montenegro, Montenegro

<sup>i</sup> Clinical Centre of Montenegro, Montenegro

<sup>j</sup> Ministry of Health, Montenegro

**Abstract.** Montenegrin Digital Academic Innovation Hub established within Erasmus+ project DigNEST is essential institutional support for developing innovations in the field of health in academic-business cooperation and partnership. Experience of 18 months in running Hub service provides preliminary results in analysis received innovation ideas, provided support and potentials/capacities in medical informatics advancements at national, regional and global level.

Keywords. Innovations, digital health, academic-business cooperation

#### 1. Introduction

Digital Innovation Hubs (DIH) serve as facilitators through which Small and Mediumsized Enterprises (SMEs) and mid-cap companies can access a suite of resources to enhance their business operations. In recent decades, DIHs have been instrumental in driving the digital transformation of businesses and industries. They provide essential resources, support, and networks that enable companies, especially SMEs, to adopt and leverage digital technologies effectively, thereby fostering innovation, competitiveness, and economic growth.

In response to this, Montenegrin institutions have leveraged European Union funds through the Erasmus+ initiative, embarking on the project "Digital Entrepreneurial Nest

<sup>&</sup>lt;sup>1</sup> Corresponding Author: Ivana Ognjanovic; E-mail: ivana.ognjanovic.edu@gmail.com.

and Industry 4.0 in Montenegro - DigNEST" (<a href="https://dignest.me/#">https://dignest.me/#</a>). This initiative aims to fortify the synergy between Higher Education Institutions (HEIs) and the national economy in Montenegro by establishing the MNE ACADEMIC HUB (MNE DAIH).

## 2. Methodology

MNE DAIH was established with a fully innovative approach that maximizes available resources at HEIs [1] while simultaneously addressing national needs and strategic priorities [2]. It is rooted in distributed topology (with two key roots at HEIs positioned as leaders in respective fields), while strong connections are created with the whole ecosystem, including academic sector, businesses as well as local and national authorities [1]. Since DAIH service supporting innovative ideas was running for 18 months, the methodological approach suitable for presentations and analysis of achievements is includes the following: (i) analysis of received applications related to innovations in the field of health, (ii) cross-matching analysis of national stakeholders, (iii) analysis of selected innovative ideas in comparison to literature review and global state-of-the-art.

#### 3. Results and Discussion

The total number of innovative ideas submitted to the open call was 77, out of which 36 (46%) were related to healthcare. Notably, 27 (75%) ideas were related to the primary level of healthcare, especially addressing prevention and mental healthcare. Other ideas worked in the field of tertiary level of healthcare. Key national stakeholders were actively engaged within the support to the implementation, including Ministry of Health, Institute of public health, hospitals. Activities were mostly related to the consultations and on-site educational visits. Compliance and originality check was conducted by exploring the EBSCO database, and results and metrics will be presented on the poster.

### 4. Conclusions

Evaluation was limited because of the short period of 18 months. Nevertheless, preliminary data on capacities and clear vision of possibilities was established. Institutions gathered around DAIH will continue to provide with services individually and EU partners will remain within the network for support and cooperation.

**Acknowledgement**: Presented work was fully supported within Erasmus+ project "Digital Entrepreneurial Nest and Industry 4.0 in Montenegro - DigNEST"

#### References

- [1] Ognjanovic I, et.al. Digital Innovations Development: Causal factors and relations-A Case Study of Montenegro. Proceedings of the 28th International Conference on Information Technology (IT): 2024; Zabljak, Montenegro; 2024, p. 1-4, doi: 10.1109/IT61232.2024.10475725.
- [2] Kara PA, et al. The Present and Future of a Digital Montenegro: Analysis of C-ITS, Agriculture, and Healthcare. Eng. 2023; 4(1):341-366, doi: https://doi.org/10.3390/eng4010021