BIO-ALL Hackathon Challenges

Co-funded by the Erasmus+ Programme of the European Union

Areas	Topics	Challenges
Biohealth	1. Lifelong personalised/precision medicine/therapeutics	**B.1.1** What is the role of innovative personalized Gene-based medicines in preventing and treating cancer, respiratory, diabetes, neurological and rare disease?
	2. Lifelong health and well-being for all	**B.2.1** How can we achieve a good aging for all people? Are there functional foods that might help in wellbeing?
		B.2.2 How could doctors predict in advance some illnesses, and prevent it?
		B.2.3 What are the new approaches based on therapeutical and medical devices, for treating Parkinson Disease-PD, Alzheimer, ELA and other neurological disorders?
		B.2.4 How to design Innovative tools to improve quality of life of patients with neurological disorders?
		B.2.5 How to increase food safety? How to extend the life of food?
		B.2.6 Is it posible to reduce or avoid the use of pesticides?
		B.2.7 How can we keep the traceability of the food supply chains and, hence, increase its safety?
		B.2.8 Is there any way of improving daily life of Parkinson's patients?
	3. IT & Digital Healthcare/E-Health	**B.3.1** How to remotely monitor vital signs and link them to the doctor dashboard?
		B.3.2 How to provide Innovative tools to measure and stimulate activity in brain tissue for ex. for PD, Alzheimer, ageing effects, cardiac stroke effects, etc..?
		B.3.3 How to tackle the need for controlling, monitoring and supporting home hospitalization using Artificial intelligence tools?
		B.3.4 How to tackle the need for controlling, monitoring and supporting the organization of hospital units using industry 4.0?
		B.3.5 How to tackle the need for supporting medical decisions using Artificial intelligence tools?
		B.3.6 How to address the need for controlling, monitoring and supporting logistics in transportation and storage of pharmaceuticals by using Artificial intelligence tools?
		B.3.7 How to provide easy and personalized remote attention to elderly people?
		B.3.8 How to detect in advance the saturation of the hospitals?
	4. Healthcare 5.0	**B.4.1** Is it possible to automatically design and print ortoprothesics pieces?
		B.4.2 How to improve patients' quality of life using industry 4.0?
		B.4.3 How to create organs, tissues, and answer other patients' physical needs by using 3d printing, robotics, etc.?
		B.4.4 How to provide faster and smarter medical decisions by using big data and cloud approaches?
		B.4.5 Does there exist a solution that easily predicts and stop the spreading of viruses?
		B.4.6 Is it possible to design intelligent systems to aid doctors in making diagnostics?
	5. BioCircularity	**B.5.1** How can we reduce the waste in the hospitals?
		B.5.2 What are the new solutions for fighting plastic packaging and pollution?
		B.5.3 How to tackle the circularity of pharmaceutical products?
		B.5.4 What are the innovative solutions for food circularity?
		B.5.5 How is possible to measure easily the quality of air and involve the citizen in the process?
		B.5.6 How can we keep the traceability of the food supply chains and, hence, increase its safety?
		B.5.7 Can IT (data analytics, modelling, 5G, IoT) provide new solutions to achieve a more sustainable and environmental-friendly agriculture?
	6. Climate change effects	**B.6.1** How can we solve the lack of rain while maintiaining vegetables production at current levels?
		B.6.2 How to address the need for Innovative solutions for irrigation and for fighting water scarcity?
		B.6.3 How to address the need for Innovative solutions for fighting allergies derived from climate change?
		B.6.4 What Smart farming solutions can be developed to fight climate change effects?
		B.6.5 How to increase food safety? How to extend the life of food?
		B.6.6 Is it posible to reduce or avoid the use of pesticides?
		B.6.7 Can IT (data analytics, modelling, 5G, IoT) provide new solutions to achieve a more sustainable and environmental-friendly agriculture?

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.
Project Nº.: 600936-EPP-1-2018-1-PT-EPPKA2-KA