— PARTNERING AGREEMENT —

Topic: **HORIZON-HLTH-2024-TOOL-11-02: Bio-printing of living cells for regenerative medicine (RIA)**

Date: 04th April 2024
Acceptance deadline: 09th April 2024

1. BACKGROUND

Veterinary Research Institute, hereinafter VRI, is the only centre of research specialized in veterinary medicine in the Czech Republic and one of the few in Europe. They deal with the safety of foods and environment in terms of their potential contamination with pathogenic agents. In their laboratories, pathogens implicated in significant foodborne infections are detected using standard and modern molecular methods. The teams closely cooperate with the inspection authority of the Ministry of Agriculture (CAFIA) and administrative authorities and establishments of the Ministry of Health. The VRI has laboratories equipped with advanced instruments such as chromatographs with mass spectrometers; flow cytometers; sequencers; and microscopes for scanning and transmission electron microscopy. The Institute's core activity is delivering high quality research and dissemination of research results to both the academic community and practical users in the agricultural and food industry.

CONTACTICA is a technical company that promotes, coordinates and executes Horizon Europe projects having been successful in calls such as Fast Track to Innovation (FTI), SME instrument phase 1 and phase 2 (EIC Accelerator), Research and Innovation Actions (RIAs) and Innovation Actions (IAs) within the Framework of the Horizon 2020/ Horizon Europe and BBI/CBE Programmes. CONTACTICA's services cover all steps needed to be successful in the mentioned calls, from concept validation to project implementation. Besides, CONTACTICA has recognized experience performing sustainability assessment (LCA, LCC, S-LCA, LCSA) and is a specialist in communication and dissemination and exploitation activities within European projects.

Both entities intend to collaborate to obtain HORIZON EUROPE funds that facilitate the arrival of the proposed innovation within the scope of the project to the market. ABSTRACT: Full-thickness wounds provide a significant challenge to global healthcare systems due to their high cost, associated co-morbidities (e.g., lower quality of life, psychological impacts such as depression and isolation), and their difficulty to be treated. In this type of wounds, the damage extends below the epidermis and dermis (all layers of the skin) into the subcutaneous tissue or beyond (into muscle, bone, tendons, etc.). Across Europe, it has been estimated that there are around 4.5 million patients suffering from full-thickness wounds every year. Moreover, this number is dramatically increasing at a rate of around 11% per year, due to increasing obesity and diabetes aggravated by an aging population. Importantly, it is estimated that treating each chronic wound in Europe costs between €6,000 and €10,000 per year.

Standard of care treatments for full-thickness wounds include dressing management and grafting. Current wound dressing offers a "one-size-fits-all' healing approach and each dressing is designed for a main function. Regarding the autologous skin grafting treatment, it presents relevant limitations such as insufficient donor sites for wounds covering a large area, creation of new pathologies, texture and colour differences, need for multiple surgical interventions, and immune rejections, among others. Moreover, none of these treatments offers patient-matched medical solutions and they are not able to satisfy current unmet clinical needs in full-thickness wound healing.

The ability to fabricate intricate constructs incorporating living cells, therapeutic agents, and customized hydrogels enables bio-printing to fit perfectly into patient-specific needs. Therefore, relying on the revolutionary potential of bio-printing, the BILIVESKIN project will develop a novel patient-adapted system with diagnostic and therapeutic (theragnostic) value to overcome patient-specific needs in the healing of full-thickness wounds. The BILIVESKIN device will mainly consist in a 3D bio-printed skin substitute, an advanced microneedle shield (microneedles for the collection of wound exudates and delivery of the required drugs on demand through a microfluidics circuit) and a biosensing system, all integrated in a unique system to offer: (1) personalization of the treatment by develop a personalized system able to adapt to the specific requirements of the individual patient; (2) multifunctionality, by integrating tissue repair, drug delivery, and monitoring of wound evolution , among others functions; (3) frequent and non-invasive monitoring system of selected biomarkers, acting as a decision support system (DSS) for healthcare professionals to assess the evolution of the wound, and (4) on-demand delivery of active substances to the wound by controlling the delivery considering the unique needs of the wound at each moment. The BILIVESKIN engineered skin substitute will be manufactured by applying optimized 3D bio-printing technologies, in particular Digital light processing (DLP) and Drop-on-demand (DOD).

BILIVESKIN theragnostic system is the first of its type of personalized 3D-bioprinted tissue including a non-invasive monitoring technology and an on-demand delivery system. It is intended for a wide variety of full-thickness wounds (acute and chronic), including those caused by external factors (e.g. physical, mechanical, thermal, chemical) and those associated to underlying medical or physiological disorders (e.g. diabetes, cancer). Due to these unique multi-faceted enhancements, it is expected that BILIVESKIN will revolutionize the wound care management market offering a personalized system that outperform current full-thickness wound therapies by offering improvements in both the safety and the performance (better biocompatibility, bioactivity, longevity, biointegration, and physiological and biomechanical properties).

VRI as partner of the proposal and CONTACTICA as expert in the generation of successful Horizon Europe proposals will submit a new proposal to the call Bio-printing of living cells for regenerative medicine (RIA), with deadline on 11th April 2024. Besides, CONTACTICA offers expertise within the project for LCA, LCC, eco-design, communication and dissemination activities, exploitation, market uptake activities and support to coordination.

2. OBJECTIVE OF THE AGREEMENT

To define the terms and conditions of VRI's involvement in the HORIZON EUROPE proposal.

CONTACTICA will provide capacities and expertise to succeed in the proposal and negotiation stages including VRI as partner of the project.

3. EXPECTED BENEFITS

CONTACTICA has the ability to get funding at European level to develop VRI's innovation. Moreover, CONTACTICA delivers services to European partners getting financial support on success.

VRI will have access to CONTACTICA's international partner network as well as access to European funds for strategic research lines related to the company's corporate goals.

4. CONTACTICA'S SERVICES

CONTACTICA's services are those related to the maximization of opportunities to access grants and competitive knowledge within HORIZON EUROPE at international level.

Costs related to the elaboration of the proposal and the related negotiations are not covered by HORIZON EUROPE projects.

From December 2023 to April 2024 CONTACTICA will deliver the following services to the partners, when needed:

- Concept validation vs topic.

- Patent search, technology watch, preliminary feasibility assessment of the concept.
- Consortium building.
- Partnering activities related to the writing of the proposal:
- Coordination of the proposal's content.
    - Coordination of information inputs provided from partners.
    - Elaboration of the Excellence section of the proposal.
    - Elaboration of the Impact section of the proposal.
    - Elaboration of the Implementation section of the proposal.
    - IPR management.
    - Management of financial and economic data and elaboration of the Project Budget.
    - Global review and design of visual content. Including logo, typography, images, figures, etc.
- Delivering a high-quality proposal submitted to the HORIZON EUROPE call with VRI as partner.
- Achieving inputs from outside the consortium i.e. support letters to the project aimed to reinforce the expected outcomes and impacts of the project.
- Administrative management of the proposal: procedures carried out through the Participant Portal.
- Proposal submission to the HORIZON EUROPE call with VRI as partner.

5. TERMS AND CONDITIONS

VRI will remunerate CONTACTICA's services under the following conditions:

MILESTONE	DESCRIPTION
PROPOSAL SUBMISSION	
Upfront fee	4,750.00 €

Upfront fee invoice: upon submission of the proposal: the 11th April 2024.

*Invoicing amounts do not include VAT
**Payment will be delivered within 30 days from invoice date.

All partners will receive funding for 100% of their costs, with 25% overhead allowed.

SIGNATURE OF PARTIES

The following parties accept the contents of this agreement, formalized by the signature of the following legal representatives:

[redacted]

[redacted]	Representative's Name:
Director	Representative's Title:
duly authorised to sign for and on behalf of CONTACTICA S.L.	duly authorised to sign for and on behalf of VRI

Sign and stamp a copy of this agreement and send it by email to [redacted]

CONTACTICA S.L guarantees the protection and confidentiality of the personal data you provide us with in accordance with the provisions of the General Data Protection Regulations (hereinafter, GDPR) and Organic Law 3/2018. We inform you that your personal data is used to manage communications and business relations. In compliance with the provisions of the GDPR, you may exercise your rights under Articles 15 to 22 GDPR under the terms established therein, by contacting C/ Embajadores nº 187, 4º, 28045 Madrid, or by writing an e-mail to contactica@contactica.es attaching a copy of your ID card.