FTALLIANCE. WEAVING UNIVERSITIES AND COMPANIES TO CO-CREATE FASHION-TECH FUTURE TALENTS

RESIDENCY COMPETITION NOTIFICATION

TU Delft, The Netherlands

FTalliance

Programmes	Erasmus+ KA2: Cooperation for innovation and the exchange of good practices - Knowledge Alliances
Call for Proposal	EAC/A03/2018
Project Title	FTalliance. Weaving Universities and Companies to Co-create Fashion-Tech Future Talents
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FULL PARTNERS

ASSOCIATE PARTNERS

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

Project Introduction

FTalliance is a 3-year academia-industries partnership aimed to facilitate the exchange, flow of knowledge, and co-creation within the Fashion-Tech sector to boost students' employability and innovation potential. Fashion-Tech means new products, processes, tools, and professional figures that come about as a result of cross-disciplinary approaches. To keep up with this emerging field, there is an increasing urgency for organizations to adapt and advance collaborative practices, to find ways to integrate new technologies into fashion and design. In the long-term, the project aims at increasing the relevance, quality, and impactfulness of Fashion-tech innovations and also at enhancing the competitivity of the European Fashion system at a global level revamping the industry through innovative practices.

Competition introduction

Within the FTalliance project, the Fashion-The Residency aims to explore co-creation opportunities between students, Fashion-Tech companies and Universities to foster innovative concept development and products prototypes. The Residency programme focuses on putting in place co-creation opportunities for the students supported by the participating companies in collaboration with the Universities. The Residency will include research, concept development and product prototyping activities. During the Fashion-Tech Residency, the selected students will be working with the companies, to exploit their expertise, skills, tools, in order to develop a Fashion-Tech product/service prototype. Constant guidance will be provided by the host company, along with monitoring of the product outcome/performance/quality as a part of the check-phase as per project plan. At the end of the Residency period, the students supported by the host company will present the developed projects and prototypes that will be evaluated by a jointed panel.

The Competition Call will be launched by TU Delft and will stay open for 45 days. This is giving enough time for students to select the challenges and to properly send their proposal that will conform to certain rules that are described below. A jointed committee will select the best 5 proposals, matchmaking the Companies Challenges with the students' proposed projects. When selected, students will be working in the host company and would be mentored both by supervisors from the host company and the University. MA students from the faculty of Industrial Design Engineering at the Delft University of Technology will be partaking in the Fashion-Tech Residency as a part of their Master Elective Internship course (ID5010). The expected duration of the residency project is between 3 to 5 months, depending on each specific Company's challenge. At the end of the Residency period, the students should prepare and present a report documenting the activities and achievements of the program to be submitted to the selection committee to evaluate the results.

Challenges and Companies

The project call focuses on the following research challenges proposed by the Company involved in the Fashion-Tech Residency programme and chosen in collaboration with the University.

Challenge 1:

Description 1.1: Solar Textiles

Project aims to develop a solar textile by combining solar technology and textiles. We will be creating a new textile with flexible solar cells woven into it, which will give energy harvesting capabilities to all kinds of textile architecture applications like textile facades and (festival) tents and bring a new aesthetic and material qualities into the realm of solar energy.

Description 1.2: Shape Changing Textiles

With so-called 'shape changing textiles', or textiles that can actively change shape, we investigate the relationship between people and clothing. Our rational thinking is always intertwined with subjective perception and feeling, and in a world of textiles and clothing, the tactile and sensory are eminently important in shaping our ideas and design directions.

Description 1.3: Textiles, Touch and Wellbeing

With our work we emphasize the value of the physical, sensory experience of clothing and its nurturing qualities. This direction explores how the tactility of textiles and the possibility for garments to create the sensation of touch through haptic technology can promote people's wellbeing.

Company: Pauline van Dongen (PVD)

Country: NETHERLANDS - Arnhem

Period of Fashion-Tech Residency: February - June 2022

Number of selected students: 1

Links: https://fashiontechalliance.eu/en/pauline-van-dongen-digital-portfolio

https://fashiontechalliance.eu/en/pauline-van-dongen

https://www.paulinevandongen.nl/

Challenge 2:

Description 2.1: Thermal and electrical conductive materials

Thermal and electrical conductive thermoplastic materials are of high interest for a large range of applications (such as anti-static, heat-transport or magnetic shielding features of plastic parts or textiles). The major limitation, which hinders a breakthrough of these materials, is the resulting high viscosity, when using conductive additives. An investigation of the process parameters is necessary order to find the optimum compromise between viscosity and conductivity of the produced compounds. Additionally, the homogeneous dispersion and the orientation of the conductive fillers in the compounds must be investigated as these can alter the conductivity drastically.

Description 2.2: Interconnections of Smart Clothing System

In the development of smart textiles integration of components and connections is needed. Especially for interconnection there are still challenges to get robust systems. Different routes have been explored at Centexbel: screen printing by using conductive inks or embroidery. A comparison between both routes can offer guidelines which technology is suitable for a specific application. In the project both routes can be explored and compared by developing one or multiple designs and test the performance (conductivity, robustness, washability, etc.).

Company: Centexbel

Country: BELGIUM - Technologiepark in Zwijnaarde, Ghent

Period of Fashion-Tech Residency: February - June 2022

Number of selected students: 2 (1 per Description)

Links: https://fashiontechalliance.eu/en/centexbel-digital-portfolio

https://fashiontechalliance.eu/en/centexbel

https://www.centexbel.be/en

https://www.centexbel.be/en/lexicon/smart-textiles

Challenge 3:

Description 3.1: Thermal Management System: Active heating vest or Jacket

Based on the GradoZero (GZ) products line of 'Aerogel' jackets developed within a collaboration with ESA (European Space Agency), the project it is aimed to adapt and updated a version of the jacket presented at ESA's TTPO (Technology Transfer Program Office) demonstration event, at the ESA Pavilion at the Paris Air Show Le Bourget, on the 20th of June 2007, incorporating Aerogel technology as thermal insulator -ADS, Aerogel Design System, a patented thermal insulation padding system, developed by GZ. The project is aimed at adapting an existing product, incorporating the Aerogel technology, to the use of active heating patches, considering the thermal requirements of the product and the related thermal comfort characteristics and all the issues related to the embedding of the thermal active system.

Description 3.2: Sensorized Twin- Set : Cardiac Measurements in Workers

The target of the project it is to provide a 'smart' wearable twin-set, able to allow cardiac measurements for workers, embedding in a twin-set comprising an underwear shirt and a vest (to be worn over), ECG sensors. The platform we think to use, borrowing that from an on-going parallel project, is BITalino. This system allows the connection of additional sensors(sensors and actuators): EEG, EDA, EMG, Accelerometers, Buzzers (audio monitoring), BTN, PRT, LUX (for light), DAC, LED, and a plethora of other sensors and actuators, also by third parties. Our scope in this project it is to focus on max. two typologies of sensors, that means max. one additional measurement over the ECG reported above.

Company: Grado Zero Innovation

Country: ITALY - Montelupo F.no, Tuscany - Firenze

Period of Fashion-Tech Residency: February – May 2022

Number of selected students: 2 (1 per Description)

Links: https://fashiontechalliance.eu/en/grado-zero-digital-portfolio

https://fashiontechalliance.eu/en/grado-zero-innovation

https://www.gzinnovation.eu/

Expected outcomes and deliverables

Students' positive outcome of the Fashion-Tech Residency will be evaluated through a report that they should submit at the end of the residency period documenting the residency activities and processes and providing information about the project and achievements.

Proposal submission details and submission procedures

The submission consists of two parts, namely a written proposal and a recorded pitch. The written proposals should cover the aim and objectives of the proposed research work, a brief reference to the literature, expected outcomes and novelty of the proposed work. In addition, a brief description of the main activities that will be performed during the residency period and a hypothesis of the timeline of these activities to be added to the written proposal. The recoded pitch aims at providing an opportunity to the applicant to explain the main parts of the proposals through a video-recorded message. The expected length of the recoded pitch is between 4-6 minutes. The applicant may use a PowerPoint presentation (whose template is given) to record the video pitch.

The applicant must use the project proposal template to develop the written proposal and convert it into PDF format for submission. Please keep the pdf light, eventually compressing it and reducing its dimensions. The recorded pitch should be uploaded on YouTube and an access link to the video should be added to the written proposal.

The PDF containing the project proposal should be sent to y.chae-1@tudelft.nl

by the proposal submission deadline.

Evaluation criteria and procedure

A jury consisting of members from academia and industry would evaluate the written submitted proposals and video-recorded pitch. The submitted proposals would be evaluated based on the following criteria

- **Relevance** - relevance of proposal for the fashion-tech market needs. For example, how well the proposed project is aligned with the current industrial needs and challenges in the multidisciplinary field of fashion-tech.

- **Innovation potential/level** - how disruptive, radical and novel is the proposed work and related outcomes, and at what level these novelties are developed, i.e.: from ideation to prototype building, testing and implementation.

- **Applicability potential/level** - how transferable are the outcomes of the proposed projects to the practical context in company, industry operations, and to the society. In addition, the contribution to knowledge mobilization in companies and/or actual application / commercialization of developed proofs of concepts and prototypes in 3-5 years

- **Degree of integration/collaboration** – how well the proposed work utilizes the collaboration of University and Companies for the realization of the residency project.

- **Multidisciplinary foundations** - student project proposals/developed projects that build on multidisciplinary approach require combination of expertise and skills from different disciplinary, professional and functional domains would be favoured. Reflections in which way students view the suggested/delivered projects as multidisciplinary/cross-functional can be incorporated as a

requirement/guidelines/criteria for student proposals and final residency projects.

- **Entre-/intrapreneurship potential** - evaluation of pitching skills in terms of attractive presentation and communication of project ideas can be included as one of the criteria for selection of student projects for residency as well as evaluation of developed projects, especially since residency aims to contribute to enhancing the entre-/intrapreneurship skills on behalf of students according to FTA project proposal description. In particular, students can reflect during their presentation/video submitted for the contest, how novel ideas can mobilize company knowledge, contribute to capabilities development and be converted into products and services for economic and social benefits.

Jury

The submitted proposals will be evaluated by the jury that consists of members from the academia and industry. The list of members of the Jury will be provided and published on the platform.

Important dates and timeline

- Open Fashion-Tech Residency Call: 30 November 2021
- Proposal submission deadline: 10 January 2022
- Announcement of the selected proposals and winning students: 17 January 2022
- Start date of the residency projects: 1 February 2022 - 1st April 2022
- Duration : 3-5 months
- End date of the residency projects (maximum): 30 June 2022