Device and method for automatized egg cell inspection and sorting

Rendicontazione

Informazioni relative al progetto

EggSorter

ID dell'accordo di sovvenzione: 851031

Sito web del progetto

DOI
10.3030/851031

Progetto chiuso

Data della firma CE
11 Aprile 2019

Data di avvio
1 Giugno 2019

Data di completamento
29 Febbraio 2020

Finanziato da
EXCELLENT SCIENCE - Future and Emerging Technologies (FET)

Costo totale
€ 100 000,00

Contributo UE
€ 100 000,00

Coordinato da
ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE
Switzerland

Periodic Reporting for period 1 - EggSorter (Device and method for automatized egg cell inspection and sorting)

Periodo di rendicontazione: 2019-06-01 al 2020-02-29

Sintesi del contesto e degli obiettivi generali del progetto

Zebrafish embryo becomes a popular model organism in research and in the industry. The main drawback is that it requires high labor efforts to process the eggs and prepare them for the research.

Up until now, there are no existing and convenient method to perform these tasks automatically. Moreover, there are other miniature model organisms, such as Xenopus oocytes, drosophila embryos and plant (ex Arabidopsis Thaliana) seeds that are also used in many laboratories worldwide and that also require complex processing. What we offer with this project is a robotic device that allows to automatically count, screen, sort and dispense small biological entities, such as the eggs of zebrafish or other similar entities. The robot we have developed is a fully capable substitute for labor power since it works faster and with similar accuracy to that of humans. The target customers are research institutions and industries working intensively with such organisms. With the main device, we also provide accessories, such as supplementary modules and algorithms for specific sorting, consumables, software updates and maintenance. Our overall objective with this project is to bring this robotic device to the market.

Lavoro eseguito dall'inizio del progetto fino alla fine del periodo coperto dalla relazione e principali risultati finora ottenuti

The Eggsorter project allowed to study whether the technology developed during the European FET project ASSISIbf could be commercialized, if there is a market for this technology, to assess whether this technology is suitable for the potential end-users of this market and what improvements are to be expected. Finally, based on these data, we established a business plan, with the aim of incorporating a company to continue the development and marketing of the business.

Progressi oltre lo stato dell'arte e potenziale impatto previsto (incluso l'impatto socioeconomico e le implicazioni sociali più ampie del progetto fino ad ora)

University spin-off creation and job creation: one of the main outcomes of the EggSorter project is the creation of a university spin-off to exploit to technology that was developed in the framework of a FP7 FET project. This company has already created 4 job positions in Switzerland, and half of the employees (one of them, a women, being also a co-founder) are originated from the European Union.

A new technology on the market to accelerate research: The current COVID-19 pandemic situation shows how important the research in life science, for rapid testing and drug discoveries is crucial. It also shows that it is important to have the hand on the technology at the local level. With Bionomous and the EggSorter device, we aim at bringing tools for researchers in the academia and in the industry to accelerate and standardize research, which will also result to lower the research costs. These types of devices will improve the work performed with miniature biological entities, and thus accelerate the toxicology tests, test and development of the new drugs for current and novel diseases.

Ultimo aggiornamento: 16 Dicembre 2024