**Title of the innovation \***

*AAWSBE1*

**Describe the innovation (in less than 1000 characters, spaces included) \***

AAWSBE1 aimed to apply the latest deep learning research to recognizing electronics for sorting it with robots. Interaction with recycling stakeholders identified two relevant case studies; Home appliances and battery sorting. It was necessary to make something easily configurable to new fractions due to the political environment of the domain. The object recognition was done using fully connected convolutional networks and the system can easily switch between different models in the architecture.

Due to the arbitrary nature of having to deal with mixed objects, the robotic handling was also a challenge. For this purpose, 3D imaging was employed to improve the handling, and a scalable robot scheduler was developed, where each object class can be configured as to which gripper to pick with, which container to put it in, its priority and value, and the expected weight so that the robot can be extra careful with heavy objects. Sensors on the robot give feedback on the pick success and all the information is logged in SQL and visualized in business intelligence software.

**Is the innovation developed within the project ... \***

a) Under development

**Characterise the type of innovation \***

* Significantly improved process
* New service (except consulting ones)
* New process

**Is the innovation to be introduced to the market or to be deployed within a partner \***

* Deployed within a partner (internal exploitation: Changes in organisation, new internal processes implemented, etc.)

**Is there a clear owner of the innovation in the consortium or multiple owners? \***

* Multiple owners

**Indicate the step(s) already done (or are foreseen) in the project in order to bring the innovation to (or closer to) the market**

|  |  |
| --- | --- |
| *Technology transfer* | * Done or ongoing |
| *Engagement of both research team and partner's business units in project activities* | * Done or ongoing |
| *Business plan* | * Done or ongoing |
| *Market study* | * Done or ongoing |
| *Prototyping in laboratory environment* | * Done or ongoing |
| *Prototyping in real world environment* | * Planned in the project |
| *Pilot, Demonstration or Testing activities* | * Done or ongoing |
| *Feasibility study* | * Done or ongoing |
| *Launch a start-up or spin-off* | * Not planned in project but needed/desirable |
| *Standardisation* | * Not planned in project and not needed |
| *Application for private or public investment* | * Not planned in project and not needed |
| *Securing private investment* | * Not planned in project and not needed |
| *Securing public investment* | * Not planned in project and not needed |
| *Other (please specify)* |  |

If other, please specify

**Indicate which participant(s) (up to a maximum of 3) is/are the key organisation(s) in the project delivering this innovation. For each of these identify under the next question their needs to fulfil their market potential. \***

DTI

* Partnership with other company (technology or other)
* Incubation
* Startup accelerator

REFIND

* Investor readiness training
* Investor introductions
* Biz plan development
* Expanding to more markets
* Legal advice (IPR or other)
* Partnership with other company (technology or other)

**Market size: What is the approximate market size for this innovation \***

* **Not known**

**Market maturity: The market for this innovation is ... \***

* Emerging: There is a growing demand and few offerings are available

**Level of innovation: What is the level of innovation \***

* Some distinct, probably minor, improvements over existing products

**When do you expect that such innovation could be commercialised? \***

* Between 1 and 3 years