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The CO₂ algae biorefinery

Project full title:

"THE MICRO ALGAE BIOREFINERY"

Project acronym:

D-FACTORY

Del. No. D10.8 - Del. Title: PROJECT VIDEO

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Table of Revisions

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1. Executive Summary

Nowadays one of the most effective communication modes is the audio-visual format and thus, the production of the videos related to the D-Factory activities resulted to be a key point of the dissemination strategy.

At least one video (D10.1) was foreseen in the dissemination plan, but IN partner, together with the D-Factory consortium, decided to perform a larger production. In addition to the general video, interviews released from the people involved in the project were filmed; this additional material was the base for the YouTube channel of the project.



2. The report

A dedicated [YouTube Channel](#) for the D-factory project was developed to collect all the produced videos. Beside to the general video of the project (developed to describe the consortium and showcase the main facilities used in the project), a series of interviews to the partners are hosted in the dedicated channel.

You Tube Channel

A dedicated [YouTube Channel](#) for the D-factory project was developed to collect all the produced videos. The channel was created by partner IN mainly to host the short interviews to key personnel of the project but also the final official video of the entire project.

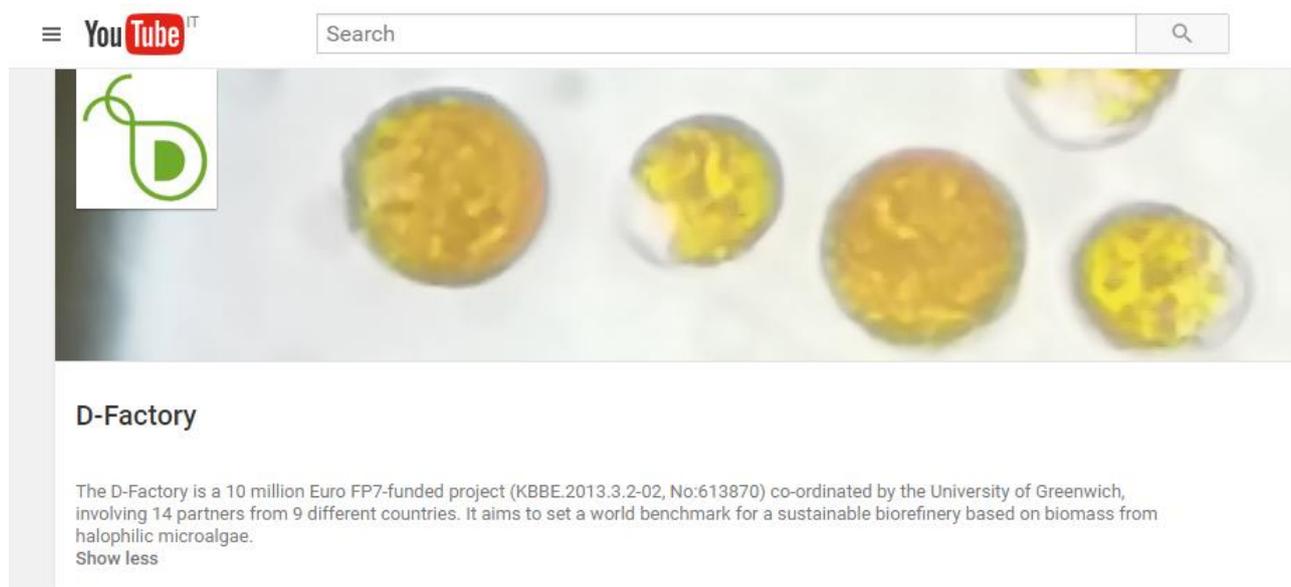


Fig 1. Screenshot from the D-Factory You Tube Channel

Direct links to the YouTube Channel have been provided in the project website, accessible directly from the homepage, and in the Twitter account.



Fig 2. Twitter from the D-factory account @DfactoryFP7 to promote the official You Tube Channel

Short Video Interview

Short interviews with the key personnel involved in the project have been shot at the University of Greenwich. In the interviews, usually 3-5 minutes long, each project partner explains its roles within the project and the activities performed. The aim is to introduce the main experts involved in the D-Factory highlighting the human side of the consortium. Starting from December 2016, a short video will be released every 2 months.

Table 1. List of the key personnel interviewed at the University of Greenwich.

Person Interviewed	Partner	Role	Date of Publication
Patricia Harvey	UoG	Project Coordinator	December 2016
Philip Sanderson	UoG	PhD Student	February 2017
Paul Goacher	HIL	Economist	April 2017
Paul Lucas	UoG	Project manager	June 2017
Yanan Xu	UoG	Post Doc researcher	August 2017
Declan Schroeder	MBA	Senior Research Fellow	October 2017
David Bailey	UoG	Resource Information Manager	December 2017

In the first published interview the project coordinator, Prof. Patricia Harvey, introduces the project and explains its genesis, while in the second video the Phd student Philip Sanderson goes into the details of the actual work performed for D-factory.

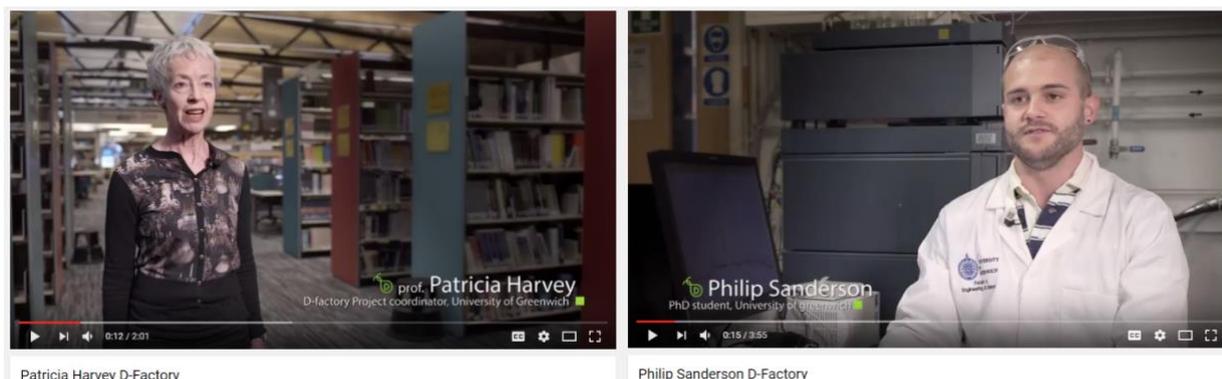


Fig 3. Screenshots of the two video-interviews published in the official YouTube Channel of D-Factory.

Official Video

An informative official video of the D-Factory project has been developed. The video, shoot at the University of Greenwich, aims to explain the objectives of the project, describe the consortium, and showcase the main facilities. This is mainly done by an explanatory voiceover enriched by some excerpts from the partner's interviews that highlight specific key points and show the key personnel beyond it. Finally, an important reference will be made to the European Commission, the FP7 and the KBBE programmes.

The video is today under the final reefing process, in order to be soon uploaded on the YouTube Channel. The complete voiceover, included in the Annex I, covers the 6 minutes of video.

Fig 4. Screenshots from the official D-Factory video.





3. Conclusions

In order to empower the impact of the D-Factory dissemination, the selected target has been enlarged to scientific as well as non-technical communities.

Hence, the Consortium decided to film the foreseen project general video but also additional interviews to the project partners. A dedicated [YouTube Channel](#) for the D-factory project was developed to collect and valorize the produced material.

The D-Factory channel has been linked to the general project website and Twitter profile, with the goal to reach a large number of followers.

ANNEX 1 – Voiceover for the official video

D-Factory is a research and development project co-funded by the European Commission in 2013. The project brings together experts from 9 different countries to set a worldwide benchmark for a sustainable biorefinery based on biomass from halophilic microalgae, in particular *Dunaliella salina*.

Dunaliella is a small alga world-wide growing in salt lakes and saltern evaporation and crystallizer ponds.

Partner Interview

Dunaliella uses CO₂ and solar energy to produce carotenoids, in particular some unique isomers of β -carotene, which cannot be synthesized chemically or in fermenters using bacteria or yeasts. *The unique isomers produced by Dunaliella could be very valuable in the treatment of a range of diseases.*

Partner Interview

Despite all the efforts made over the past years, to date only few companies are cultivating microalgae on a commercial scale and none of them has large-scale units for biomass production. Cultivating microalgae for commodities only is still not economically feasible and additional revenues are required to offset costs.

The D-Factory project encompasses 14 partners that have joined forces to develop a sustainable algal biorefinery which integrates biomass conversion processes and equipment to produce both chemicals of high value such as carotenoids, as well as commodities such as glycerol, lipids, proteins.

Partner Interview

The D-factory project is currently testing and developing different methods for microalgal harvesting and dewatering, considering that these processes may account for 20-30% of the total production costs.

The D-factory is also developing innovative microalgae storage, handling and disruption techniques and bioprocessing methodologies using a range of innovative industrial-scale technologies such as countercurrent chromatography, supercritical CO₂ and the use of membranes.

Microalgal strains have been isolated to support commercial applications and samples have been distributed amongst D-Factory partners for an assessment of biological performance and further biochemical and genetic characterization.

Partner Interview

The challenges for the project are to benchmark the properties of the individual components and extract-rich fractions of *Dunaliella* and produce these using economically viable and environmentally-sustainable separation processes.

The target is to have sustainability assessments based on applications in a demonstration site rather than on a general blueprint scenario.

Partner Interview

By using state-of-the-art modelling techniques to identify cost reductions and sustainability options, D-Factory partners will be able to move into the next phase of the project and develop the business case for investment in large-scale commercial sustainable CO₂ microalgal biorefinery.

Partner Interview