

RADICLE

Real-Time Dynamic Control System for Laser Welding

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1. Summary

In order to ensure that the impact of the RADICLE project is as wider as possible, a communication & dissemination plan was outlined at the proposal stage, for the implementation of several dissemination activities throughout the duration of the project as well as after the project conclusion.

One of the communication & dissemination activities planned was the creation of videos regarding the RADICLE project, enhanced by the participation of end-users and RTDs. These videos, a total of six, contemplate an overview of the project, an end-user view and role on the project's development, three RTDs perspective on the exploitation of the project's results one demonstration of laser welding at TWI. These videos are all publicly available on YouTube, social media and on social media, to allow for the reach of a wider audience.

This report on the dissemination of the work conducted under the RADICLE project has been prepared in accordance with the requirements of Grant Agreement 636932. The production of this document is the responsibility of the appointed Exploitation Manager. This document shows the already carried out dissemination activities and the planned activities for the RADICLE project.

2. RADICLE project videos

The RADICLE project communication & dissemination plan contemplated the creation of a series of videos conceived to deliver a project overview and show the role of every member of the consortium.

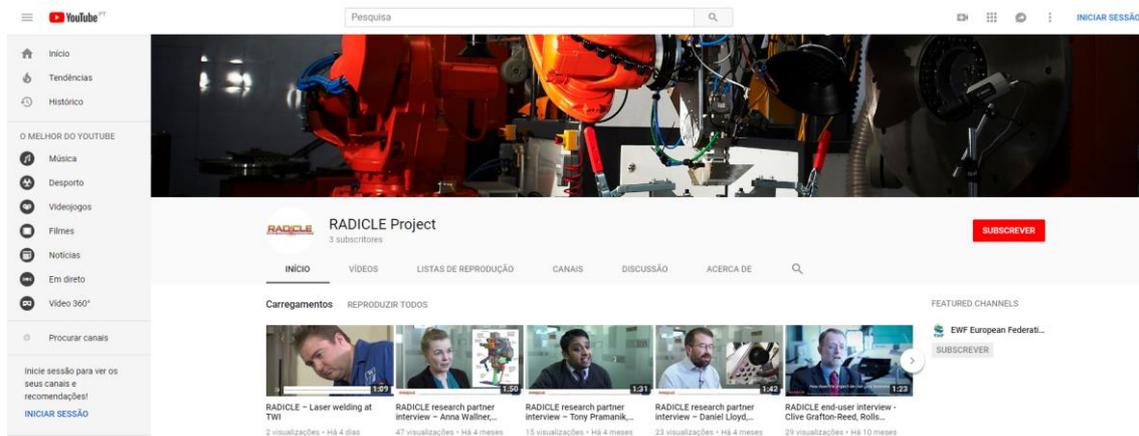


Figure 1 – YouTube channel of the RADICLE project

[RADICLE's YouTube channel](#) contains six videos, a project overview by the project coordinator, an end-user and three RTDs interviews, and a laser welding demonstration, which achieved an overall number of viewers of 300 people.

All these videos are also available at the RADICLE project's website, <http://radiclelaser.eu/index.html>, in the Documents tab, inside the Videos folder.

2.1. Project Overview

A project overview video was produced by MTC, where Nicholas Blundell (Sr. Research Engineer) answered core questions about the aim and objectives aspired, the role of every partner, the technical challenges, the main innovations brought forth and the expected results.

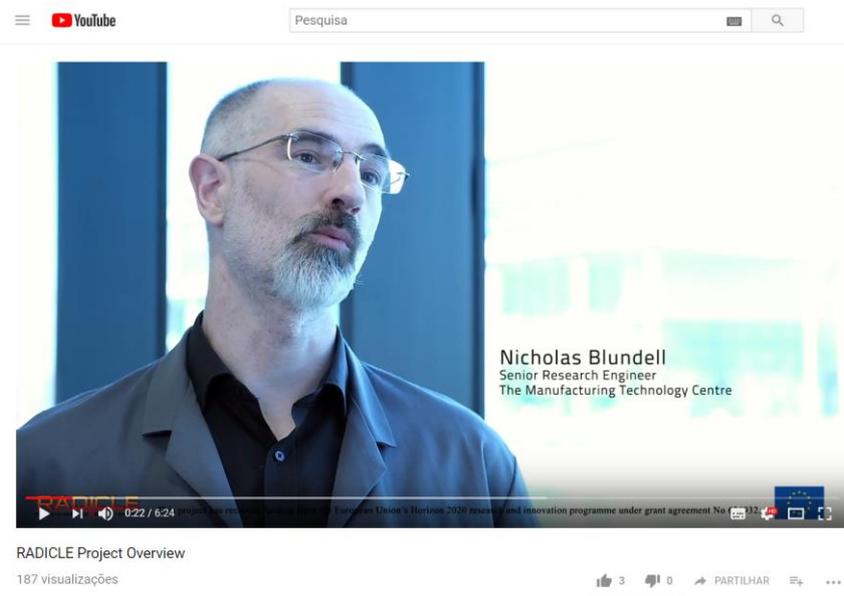


Figure 2 – RADICLE Project Overview delivered by MTC

https://www.youtube.com/watch?v=uj_hSiXI9k4

In this video it's stated the mission of RADICLE and its advantages & disadvantages which bring forth the challenges encountered in laser welding and the industry need to embark on this project. It elucidates the task of every partner and their hardships, from technical development to dissemination, and how the work of each member supports each other. It also clarifies how the system being developed is different from others existing in the market and the outputs of the RADICLE project, a real time dynamic control system for laser welding and a catalogue of welding intel for end-users.

2.2. End-user Interview

An interview was given by Mr. Clive Grafton-Reed from Rolls-Royce, an end-user involved in the development of the project. In this short video, it was explained how Rolls-Royce benefited by being a RADICLE project partner and how it brings security to the industry.

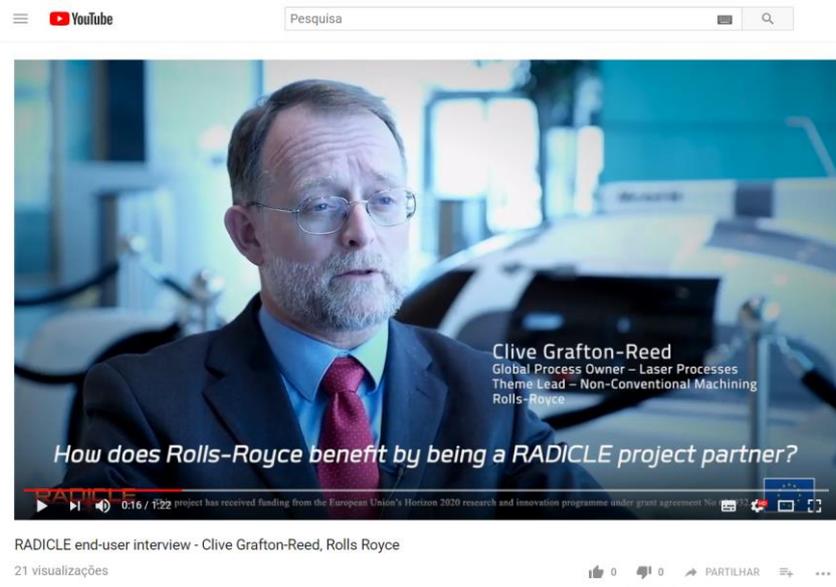


Figure 3 – Interview to end-user - Clive Grafton-Reed (Rolls Royce)

<https://www.youtube.com/watch?v=HXsQHPuVG8o>

In the interview it's exalted the uptakes of this collaboration to deploy this experimental project to the shop floor, avoiding the end-users to prove the system, who flee from implementing new technologies due to the hardships it usually involves. Making them engage from the very beginning to suit their needs, a better approach than buying from a vendor.

2.3. RTDs Interviews

Following the interview to the project coordinator and an end-user, three research and technological development (RTDs) centres were interviewed. The cooperation of Anna Wallner (Permanova), Daniel Lloyd (LOE) and Tony Pramanik (TWI) was essential to elucidate the viewers on the involvement of each partner and the benefits achieved with the project.

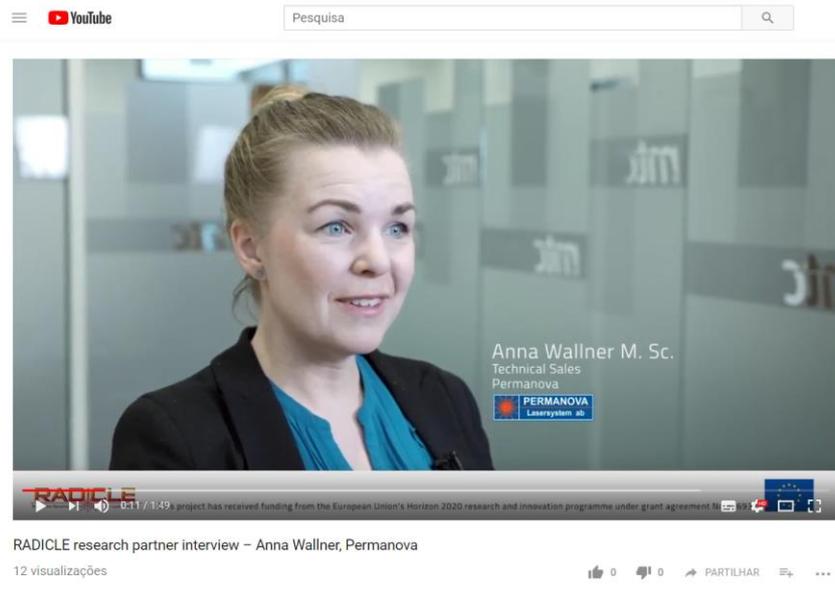


Figure 4 – Interview to RTD - Anna Wallner (Permanova)

<https://www.youtube.com/watch?v=7CdWQ4jnizk>

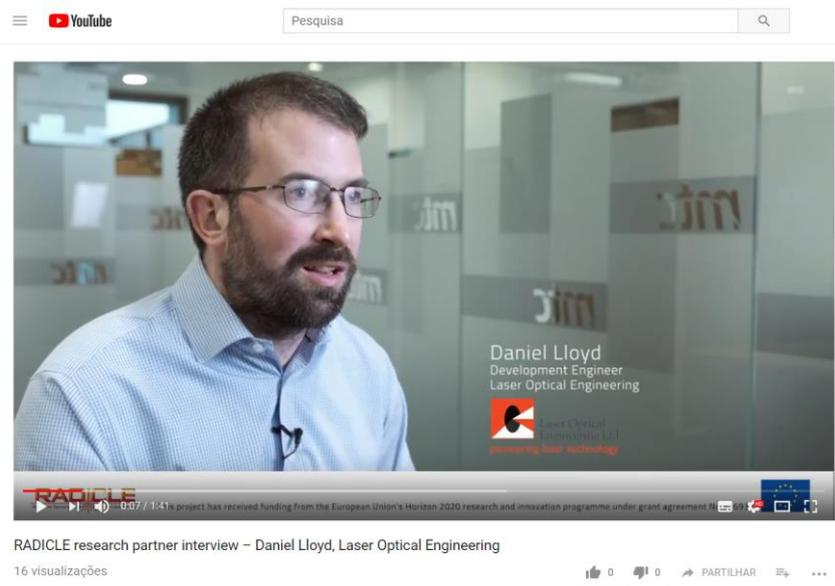


Figure 5 – Interview to RTD - Daniel Lloyd (LOE)

<https://www.youtube.com/watch?v=s43ERKh57qs>



Figure 6 – Interview to RTD - Tony Pramanik (TWI)

<https://www.youtube.com/watch?v=rBY2Nkd5TK8>

In these series of videos, it's explained the role of different partners of the project, from laser head developers to optical sensors manufacturers and welding experts to evaluate the influence of different process parameters. It's stated what they gained from entering in this venture and it can be seen the eagerness for future collaboration between partners even after the project is finished.

2.4. RADICLE laser welding system demonstration at TWI

Lastly, a demonstration of laser welding using the RADICLE system at TWI was recorded as well, to showcase the system in operation.

This video provides an overview of the various hardware components of the RADICLE laser welding head, while also showing welding in practice being controlled by an operator, and the monitoring software from Permanova.

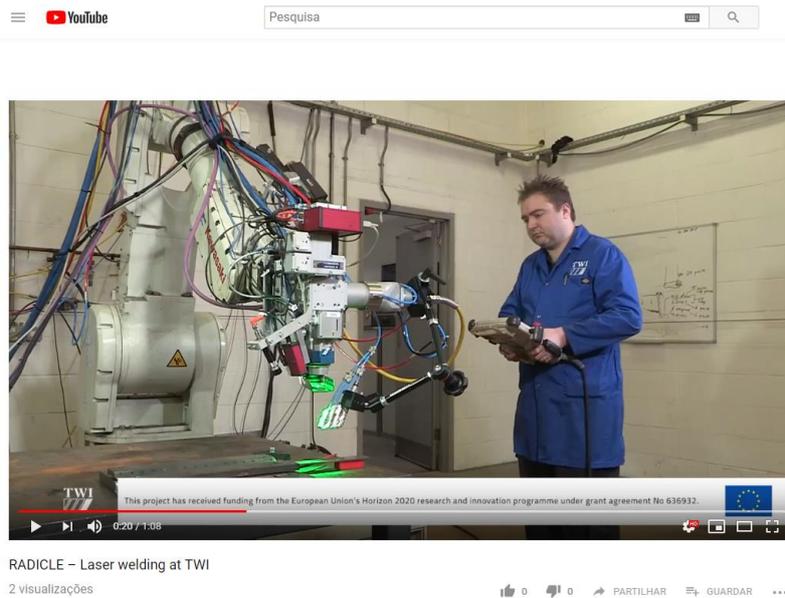


Figure 7 – Laser welding with RADICLE system at TWI

https://www.youtube.com/watch?v=D_9mr5W2pAk

3. Conclusions

This deliverable captures the information regarding the six videos that were created for the RADICLE project. Interviews with questions to members with different roles in the project were shot during the. Those interviews approached RTDs, equipment manufacturers and an end-user, with the objective of gathering their inputs about the project importance to the industry and how they benefitted from the collaboration. A laser welding demonstration was recorded as well.

These videos are available to the general public both in the project's website and on YouTube.