# Deliverable Report

<table>
<thead>
<tr>
<th>Context</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deliverable Title</strong></td>
<td>D8.9 – Updated Communication Kit</td>
</tr>
<tr>
<td><strong>Lead beneficiary</strong></td>
<td>MODUS</td>
</tr>
<tr>
<td><strong>Author(s)</strong></td>
<td>Heather Cumming</td>
</tr>
<tr>
<td><strong>Work Package</strong></td>
<td>WP8 – Innovation Management, Communication and Dissemination Activities</td>
</tr>
<tr>
<td><strong>Deliverable due date</strong></td>
<td>Sep 2017 (M18)</td>
</tr>
</tbody>
</table>

## Document Status

<table>
<thead>
<tr>
<th>Version No.</th>
<th>2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>Websites, patents filings, etc.</td>
</tr>
<tr>
<td><strong>Dissemination level</strong></td>
<td>PU (Public)</td>
</tr>
<tr>
<td><strong>Last Modified</strong></td>
<td>14/02/2018</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Released</td>
</tr>
<tr>
<td><strong>Date Approved</strong></td>
<td>15/02/2018</td>
</tr>
</tbody>
</table>

### Approved by Coordinator

| Dr. Luca Romoli (UNIPR) | Signature: ![Signature](signature.png) |

### Declaration

Any work or result described therein is genuinely a result of the TresClean project. Any other source will be properly referenced where and when relevant.
Contents

1. Introduction ................................................................................................................. 2
2. Communication Kit ...................................................................................................... 3
   1. Communication Kit Research ................................................................................... 3
   2. Communication Kit Research ................................................................................... 4
   3. Social Media ............................................................................................................. 5
   4. Flyer ........................................................................................................................ 6
   5. Newsletter Template .................................................................................................. 7
   6. Website ..................................................................................................................... 7
   7. Project News ............................................................................................................. 8
   8. Video ........................................................................................................................ 8
   9. Press Releases .......................................................................................................... 10
3. Technical Achievements ............................................................................................... 10
4. Impacts and Benefits ................................................................................................... 11
5. Conclusion .................................................................................................................. 12
1. Introduction

The TresClean Communication Kit has been developed to promote the effective dissemination of results and findings within the project. This report has been structured in a way that is informative to the Consortium partners and how the communication kit can be used to target all different types of stakeholders.

This document should not be regarded to be a complete or final version. It is intended as a “living” document and as such will evolve throughout the duration of the project. This report will be reviewed by the Consortium and updated.

TresClean dissemination activities will be monitored throughout the project in order to compare outputs against the Dissemination Strategy (which will be highlighted in Deliverable 8.19), as well as identifying early potential issues and to comply with European Commission reporting requirements.

The Communication Kit has been prepared by Kite Innovation (Europe) Ltd (KITE) with the support of the Consortium Partners. Moving forward MODUS Research and Innovation Limited will be responsible for the overall co-ordination of the Communication Kit.

Any feedback on this document should be sent to the following people:

- Project Management Team – tresclean@modus.ltd
- Luca Romoli – luca.romoli@unipr.it

This document provides a single point of reference that describes the associated aims and objectives within the Communication Kit and how they will be achieved throughout the lifetime of the project. Much of this information has been designed to continually review and develop the Dissemination Activities for continuous improvement.

The Consortium recognises the importance of communication within a project and has reviewed in detail the Horizon 2020 guidelines on ‘Communicating EU research and innovation guidance for project participants’.
2. Communication Kit

1. Communication Kit Research

KITE began by creating a board on PINTEREST on all the items that would need to be included within the TresClean Communication Kit. This helped the team develop some ideas on the concept and how we could achieve an effective communication kit that was relevant to the project. The TresClean Communication Kit is shown in Figure 1 below.

![TresClean - Communication Kit](image)

Figure 1 – TresClean PINTEREST Board for the Communication Kit.

The TresClean Project will continue to use PINTEREST, not as a direct social media outlet, but to gather ideas and concepts for future dissemination activities e.g. Video Presentations, Social Media ideas and future Communication Kits.
2. Communication Kit Research

A TresClean presentation template was created to allow partners to effectively disseminate project aims and results, as shown in Figure 2 below.

![TresClean Presentation Template](image)

Figure 2 – TresClean Presentation Template.

This presentation format will be used by all partners to ensure consistency whilst the Project is being publicised and to ensure the input of the European Commission and Photonics 21 is adequately acknowledged.

The presentation template is available as a download from the Publications section of the project website: [http://www.tresclean.eu/publications](http://www.tresclean.eu/publications)
3. Social Media

The TresClean project will utilize the various social media outlets available in order to raise awareness of the project. There has been project Twitter account set up which will be continually updated via tweets. This account is available at @TresCleanEU.

Figure 3 – TresClean Twitter Account
4. Flyer

Printed leaflets and flyers are an inexpensive way of advertising the TresClean Project to potential stakeholders. The consortium has created a version that provides an overview of the project, as well as its aims, objectives and targets, as shown in Figure 4 below.

![TresClean Flyer (Version 1)](image-url)

**Figure 4** – TresClean Flyer (Version 1)

Partners will disseminate the flyers at meetings, Conferences and other activities that could promote the interest of the stakeholders.

The project flyer is available as a download from the Publications section of the project website: [http://www.tresclean.eu/publications](http://www.tresclean.eu/publications)
5. Newsletter Template

A Newsletter Template has been created and will be used throughout the duration of the Project. The first newsletter (figure 5), has been created and is available via the website.

![Figure 5 – First Newsletter]

The Project Newsletter will be distributed on an annual basis to all relevant stakeholders and will be coordinated by MODUS Research and Innovation Limited.

The newsletter template is available as a download from the Publications section of the project website: [http://www.tresclean.eu/publications](http://www.tresclean.eu/publications)

6. Website

A website has been created and will be used throughout the project in order to provide ongoing updates regarding TresClean.

The website will be updated by Modus Research and Innovation LTD and will provide links to all publications, newsletters and press releases.
Figure 6 – TresClean Website

https://www.tresclean.eu/

7. Project News
The project website will have a dedicated section where relevant news updates will be provided.

Four newsletters have been published on the TresClean website to date. The newsletters were staggered throughout the project, giving updates and information regarding TresClean. The newsletters are available on the project website:

https://www.tresclean.eu/single-post/2013/06/01/European-Consortium-to-lead-TresClean-groundbreaking-research-project-developing-antimicrobial-textured-surfaces-using-high-power-lasers

https://www.tresclean.eu/single-post/2016/07/05/TresCLEAN-1st-Project-Meeting


8. Video
An animated project video has been created in order to provide information regarding the TresClean project to the general public. This was designed by Modus Research and Innovation LTD and is available from the project website and YouTube.
Figure 7 – TresClean Video

https://www.youtube.com/watch?v=C5iYoP9lFGo
https://www.tresclean.eu/
9. Press Releases

At least 5 press releases, containing up to date information on the project, will be created for TresClean. These will be distributed online, throughout the duration of the project as per deliverables 8.4, 8.7, 8.12, 8.14, and 8.17. The first press release has already been published.

![TresClean](image)

Initial National and European press release:

**European Consortium to lead TresClean ground-breaking research project developing anti-microbial textured surfaces using high power lasers.**

The TresClean project’s innovative concept could demonstrate that, a tailored surface created by lasers, replicating the types of organic structures found in nature, would produce beyond state-of-the-art fluid-repellent and antibacterial surfaces. To develop the technology, TresClean has been granted 3.3 M€ from the European Union’s H2020 ICT 2015 Research and Innovation Action Framework Programme under Grant Agreement no 687613 as part of the initiative of the Photonics Public Private Partnership (PPP).

TresClean, which stands for High ThRoughput laEr texturing of Self-CLEANing and antibacterial surfaces, started on 1st April 2016 and will be running until 30th September 2019. The project consortium includes Universita degli Studi di Parma (UNIPR - Italy) from which Dr. Luca Romoli will act as the Project Coordinator, Universitat Stuttgart (USTUTT - Germany), Centre Technologique ALPhANOV (ALPhANOV - France), Raylase AG (RAYLASE - Germany), Ecor Research SPA (ECOR - Italy), BSH Electromedecos Espana SA (BSH - Spain) and Kite Innovation (Europe) Ltd (KITE - UK).

One of the key challenges of the project is to mimic on metal components surface structures available in nature after millions of years of continuous evolution. Among the many examples the lotus leaf is highly representative of the project idea: the lotus leaf surface prevents the adhesion of water droplets by a complex morphology which superimpose 3D epicuticular wax nano-features on larger scale structures.

TresClean will aim to replicate such a phenomenon in the production of metal components, and apply it to produce machine parts for food industry with a high self-cleaning property (e.g. components in contact with biological fluids) and home appliances (e.g. dishwashers). The surface structuring in this case will be obtained with high power ultra-fast lasers technology with more than 1kW average power and a pulse duration below 10 ps, synchronised with specifically conceived scanning devices.

TresClean’s strategy is to work with early adopter customers within the consortium, in this case ECOE and BSH, to demonstrate the industrial relevance of the laser technology. The key will be the development of photonic components based on specific and new branches of application, regarding sanitation and cleanliness of components in contact with organic fluids. With the upscaling capability of TresClean, a significant cost reduction will unleash a number of innovations which will benefit industrials as much as the general public.

For further details and to follow the work progress, please visit TresClean’s website on www.tresclean.eu

---

**Figure 8: TresClean First Press Release**

The press release is available via the project website:

[https://docs.wixstatic.com/ugd/18ea12_dedd020b5e734901a68acfe7461872422.pdf](https://docs.wixstatic.com/ugd/18ea12_dedd020b5e734901a68acfe7461872422.pdf)

3. Technical Achievements

The TresClean team are using high-average power ultrashort-pulsed lasers to create a surface topography on metal sheets that duplicates the Lotus leaf surface and so prevents liquid adhesion. This topography is able to capture miniature pockets of air that minimize the contact area between the surface and liquids.

Over the first 18 months of the project, partners within TresClean have taken important steps towards developing suitable laser surface treatment technologies and identifying the principal...
techniques for producing fluid-repellent surfaces, including self-reorganisation via Laser Induced Periodic Surface Structures (LIPSS) and texturing via Direct Laser Interference Patterning (DLIP). Both techniques have been employed to produce proof-of-concept hierarchical surface structures with micro- and nano-scale features that have been shown to be superhydrophobic (fluid-repellent) and antibacterial. Reductions in cell adhesion of more than 90% have been achieved under controlled conditions.

By using high-average power ultrashort-pulsed lasers in combination with high-performance scanning heads, the technology developed by TresClean is also able to perform stainless steel surface marking of 500 cm² in less than 30 minutes. In early 2015, the existing production methods were only able to create 0.6 mm² of these specific structures in 30 minutes – now TresClean has sped up the process making it 156 times quicker than before.

4. Impacts and Benefits

TresClean is a European Union funded project aimed at developing and producing fluid-repellent and antibacterial metallic surfaces using high average power ultrashort pulsed lasers in combination with high-performance scanning heads. Application of this technology is focused on manufacturing self-cleaning machine components for food handling equipment and home appliances with the aim of reducing bacterial growth on surfaces in contact with food and biological fluids. Its development is expected to deliver easier maintenance and longer service life, reducing biofouling and cleaning requirements. The ultimate outcome of the project is expected to be an improvement in the quality and performance of products manufactured for end users within the food production and home appliance industries.

The overall aims of the TresClean project are:

- Improved business opportunities and value creation in Europe by reinforced cooperation along the value chain.
- Secured and reinforced industrial technology leadership and substantially increased market presence in laser-based manufacturing of high-quality products.
- Significant productivity increase and substantial leverage effects for many industries using laser-based manufacturing.

TresClean aims to transform laser texturation of surfaces from a low-productivity process, limited by a lack of power and limited beam manipulation, to a high-throughput based process, harnessing ultra-short pulse high power lasers and high-speed scanners. The results will be demonstrated in the laser texturation of fluid repellent and anti-bacterial surfaces with wide application in moulds used to make component plastic parts for consumer white goods and metal parts in liquid filling machines for the food and beverages sector. The strategy of TresClean is to work with early adopter customers within the consortium to demonstrate the industrial relevance of the laser technology and to support the piloting of the TresClean systems within their production operations as reference sites. By establishing a platform based on leading key users in their respective sectors, the prospects for the wider, receptive, dissemination, exploitation and market acceptance of the results across Europe in these important sectors will be strong.
5. Conclusion

Partner consultations will take place at the next Consortium Meeting as a means to identify potential ways of improving the Communication Kit. It is acknowledged that successful implementation of the Communication Kit also hinges on the combined efforts of all consortium members.

Partners are to inform the project management team when disseminating any activities in regard to the Project, which might include:

- Project Results
- Attendance of Conferences
- Images of Partners disseminating their Project Results

The idea is to gather as much rich data as possible during the lifetime of the project and select the best items for dissemination.

The TresClean project gives permission to the European Commission and Photonics21 to use the content in this document.