

DELIVERABLE REPORT

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Project acronym: [LUCA](#)

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Name, title and organisation of partner: [ICFO- The Institute of Photonic Sciences](#)

Project website address: www.luca-project.eu



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1) Introduction

This deliverable provides an overview of the LUCA project's Communication KIT, with all the news items, graphics, newsletters, photos, digital brochures, video, among others, of the project. The Communication Kit is intended to be a repository of information available to all consortium members, external audiences but mostly, for reporters and journalists that are interested in writing a piece about the project, the results obtained and may need additional information to complement the text.

2) LUCA's Communication Kit

The communication's kit gathers the most important communication materials and actions that have been carried out throughout the duration of the project.

a. The Repository

The Communication Kit has been uploaded to a repository within the [Sharepoint platform](#) of the project and will be of public access to all internal and external users. A link to the Communication Kit will also be accessible from the LUCA project website, under the Media and Multimedia section.

[Link to the Communication Kit](#)

b. The Content

In terms of content, the repository includes the following items:

Press Releases and news items: the most important press releases and news items that have been written and disseminated for the project have been posted in this repository. Press releases can relate to the commencement of the project, the synergies and collaborations created amongst partners, milestones achieved, scientific findings, etc. Links to the LUCA project news section and ICFO website news posts have been included in a word document.

Corporate Presentation: The corporate presentation of LUCA has also been added to the repository. It gives a detailed explanation of the need that clinicians have in using a more precise tool to screening of thyroid cancer, the objectives of LUCA, the technologies developed and the consortium that forms for of the initiative and its expertise, the expected impact, etc.

Informative poster: the informative poster has been elaboration to state the problem at hand, to show the objectives of the project and why LUCA could be a solution to this need. It includes the main technologies developed, the modules that compose the device, the clinical validation, etc. The poster can be used both in digital and printable format.

Digital Brochure and promotional banner: the project has elaborated a leaflet that introduces the project, its objectives, the project facts, the consortium as well as the expected impact and work plan for the project. At a later stage, the project has created an informative visually appealing banner, and



together with the brochure, they both have been used to promote the project at events and conferences. The informative banner was implemented in a stand at the ECR convention in 2019 and has served since then as background visuals for interviews and visits.

Final leaflet: the project has elaborated a final leaflet that gives a general overview of the project. The leaflet includes information regarding the following topics or sections:

1. The LUCA device features & capabilities
2. LUCA Project Facts
3. The LUCA consortium
4. The expected impact of the LUCA device
5. Clinical Validation of the LUCA device at the final stage of the project (phantom testing, In Vivo Characterization, and Pre-clinical Testing)

We include the snapshots of the leaflet that can be shared, both in digital as well as print format:

Front outer side:

Inner side of the leaflet:

EXPECTED IMPACT OF LUCA

- Improved specificity of the thyroid screening process and corresponding earlier and faster diagnosis for effective treatment.
- Reduction of the number of unnecessary surgeries and associated co-morbidities, thus improving patients' quality of life.
- Reduction of the socio-economic cost related to thyroid cancer and saving of hundreds of millions euro every year.
- Potential use in the diagnosis of other cancers e.g. in the breasthead and neck cancer, abdominal cancer screening and therapy monitoring, cerebrovascular accidents (ictus) or even for COVID19.



CLINICAL VALIDATION

The LUCA device incorporates two different diffuse optical spectroscopy technologies in parallel to ultrasound:

Time Resolved Spectroscopy (TRS)
Diffuse Correlation Spectroscopy (DCS)





TRS+DCS



ULTRASOUND

FIRST IN VIVO TESTINGS



PHANTOMS

The LUCA device has been validated by using tissue simulating phantoms:

Solid phantoms: to simulate tissues with different light absorption and scattering

Liquid phantoms: to simulate tissues with different blood flow

Tests - successful

IN VIVO CHARACTERIZATION

The LUCA device has been tested on healthy subjects. Measurements obtained several times a day, several days a week during several weeks

Tests - successful - Evaluation of the precision in determining the hemodynamic parameters of the thyroid

PRECLINICAL TESTS

Preclinical testing on 18 healthy volunteers & 47 patients, diagnosed with thyroid nodules - The combination of ultrasound and hemodynamic related parameters improves nodule diagnosis.

Tests: 13 benign & 4 malignant nodules identified with a sensitivity of 100% and specificity of 77%, only those with uncertain ultrasound result.

The leaflet will be uploaded to the LUCA website and used by any of the consortium members for promotion at any event, workshop, conference in the future that can address the topic of thyroid cancer.

Audio-visual material: audio-visual material will be created depending on the specific communication action that will take place during the execution of the project. The repository will include

- **Illustrations:** illustrations comprise graphs, artistic illustrations, schematic illustrations, etc.
- **Photos:** we have included pictures that help illustrate what the project is about: pictures of the partners, of the lab, of devices, of infrastructures,
- **Infographics:** the project will aim to make an infographic about the project which helps illustrate the project, its goals, its motivation, what is happening in the field, etc., to help contextualize and provide a framework for the project.
- **Video Footage:** several videos have been created to complement the communication actions. They have been uploaded to the YouTube and Vimeo platforms and, if necessary, also shared in the repository. In this repository we have included a list of all the videos and saved under the file
 - The LUCA Project: Developing an innovative tool for thyroid cancer screening → [Link to video](#)
 - Interview with Mattia Squarcia → [Link to video](#)
 - Beyond Absolute, merging art and science → [Link to video](#)
 - Interview with Reiko Yamada → [Link to video](#)



- The LUCA Partners → [Link to video](#)
- LUCA Conference: Synergies of Light and Sound for disease screening and therapy monitoring → [Link to video](#)
- **Animations:** two videos have been created to explain give an introduction to the project and explain the challenges and objectives it had. The second video has been created to explain
 - Introducing the LUCA project → [Link to video animation](#)
 - Clara presents: Seeing inside Bob → [Link to video](#)

3) Conclusions

The Communication Kit of the LUCA project is intended to remain active during the following years after the conclusion of the project's duration, within the same time span as the visualization of the LUCA website.