



Multimodal highly-sensitive PhotonICs endoscope for improved in-vivo COLOn Cancer diagnosis and clinical decision support

Report on training sessions and clinical workshops v1	Deliverable ID:	D8.9
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Abstract:

This document represents the Deliverable 8.9 in the framework of the PICCOLO project. The document describes the first version of the report on training sessions and clinical workshops planned from January 2018 to 31st March 2019.

Of all the planned training sessions and clinical workshops for such dates, only two training sessions could be performed, due to the availability of the device. Those activities were carried out in the CCMIJU during the setting up of the first version of the PICCOLO prototype. Both of them were focused on the prototype presentation/demo and were addressed to clinicians from CCMIJU and to all consortium members, respectively.










Dissemination level

PU	Public	
CO	Confidential, only for members of the consortium and the Commission Services	X



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Documents history

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V0.3	04/04/2019	Partners contributions
V0.4	08/04/2019	Integrated version (send to WP members and reviewers)
V0.5	09/04/2019	Updated version (send to Quality Manager)
V0.6	11/04/2019	Updated version (QM sends to project internal reviewers)
Sign off	15/04/2019	Signed off version (for approval to EB members)
V1.0	17/04/2019	Approved Version to be submitted to H2020 office

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Executive summary

This document represents the deliverable D8.9 in the framework of the PICCOLO project. The document describes the report on training sessions and clinical workshops carried out throughout 2018 and up to March 2019. The first version of the plan described in deliverable D8.7 could not be performed in 2018, because the PICCOLO device was not yet ready for image capture and we did not have results for its dissemination through these events.

During the first three months of 2019, two internal training sessions were carried out in the CCMIJU during the setting up of the first version of the PICCOLO prototype. Both of them were focused on the prototype presentation/demo and attendees could learn how to use the PICCOLO device and check its functioning. One of them was addressed to clinicians from CCMIJU and the other one to all consortium members, on the occasion of the face-to-face meeting held in Cáceres.

1. Introduction

1.1 Objective of this document

In order to maximize impact and user acceptance of the PICCOLO system, several training sessions and clinical workshops have been planned. In these events, end users (gastroenterologists, pathologists and other clinicians) will be able to test and use the system in a setting as close as possible to the actual clinical practice and provide feedback. But also, these dissemination events could be targeted to a broader audience, such as scientific community, industry, policy-makers or health system, showing them the benefits of the PICCOLO system, its technologies and future applications. This document is responsible for reporting about training sessions and clinical workshops carried out in 2018 and up to 31st March 2019.

1.2 Structure of this document

This document consists of three sections. The first section is the introduction of the document, describing the objective of the document, its structure and the relationship with other deliverables of the PICCOLO project. The second section includes the summary of the clinical and training sessions planned for 2018 and until March 2019. The last one includes the description of the performed activities in the PICCOLO project during this period, particularly for the training sessions and clinical workshops.

1.3 Acronyms and abbreviations

OCT	Optical Coherence Tomography
MPT	Multiphoton Tomography

1.4 Relationships with other deliverables

The Deliverable D8.9 presented in this document relates to the following deliverables:

- D4.2 Multi-Photonic Endoscope v1
- D5.1 Validation Plan on Animal Models
- D6.1 Human Tissue Validation Plan
- D8.7 Plan on training sessions and clinical workshops v1
- D8.15 Plan for the training sessions and clinical workshops v2
- D8.18 Report on training sessions and clinical workshops v2

2. Training sessions and clinical workshops planned in D8.7 and D8.15

The objective of this deliverable is to report the training sessions and/or clinical workshops performed until March 2019. Therefore, in this section we will firstly indicate the training sessions and/or clinical workshops already planned until that date.

According to D8.7 *Plan for training sessions and clinical workshops v1*, CCMIJU planned the schedule of training sessions and clinical workshops for 2018, making them coincide with training events held in their facilities (see **¡Error! No se encuentra el origen de la referencia.**). Such planning was only for 2018, because it was supposed that the endoscopic device was to be present at CCMIJU's facilities for the performance of the validation on animal models.

Table 1. Schedule of training events for 2018 at CCMIJU

Training events	Date	Location	Target participants
Hands-on course on digestive endoscopy	May, 2018	CCMIJU. Experimental Operating rooms	Gastroenterologists
Hands-on course on digestive endoscopy	June, 2018	CCMIJU. Experimental Operating rooms	Gastroenterologists
National and International workshop on endoscopy	September, 2018	CCMIJU. Experimental Operating rooms	Gastroenterologists
Workshop on endoscopic retrograde colangiopancreatography	September, 2018	CCMIJU. Experimental Operating rooms	Gastroenterologists
Hands-on course on endoscopic submucosal dissection	October, 2018	CCMIJU. Experimental Operating rooms	Gastroenterologists

Moreover, the planning of clinical workshop to be carried out by the PICCOLO partners during 2018 is shown in Table 2.

Table 2. Schedule of clinical workshops for 2018

PROPOSAL OF CLINICAL WORKSHOPS FOR 2018					
Institution	Webinar	Meeting	Trade Fair	Description	Possible date
LENS	MPT imaging of colon with PICCOLO device			MPT imaging of colon tissue using the PICCOLO device will be explained, with particular attention to the features that are relevant from the diagnostic point of view.	Summer/Autumn
		Photonics West 2018		MPT imaging of colon tissue using the PICCOLO device will be explained, with particular attention to the features that are relevant from the diagnostic point of view.	January
STORZ		AACR-SNMMI		Fluorescence functioning	February

		State-of-the-Art Molecular Imaging in Cancer Biology and Therapy			
		5th FIGS (17-20.2. Foregut)			February
		13th European Molecular Imaging Meeting			March
			SAGES 2018 Annual Meeting/ World Congress of Endoscopic Surgery		April
		Society of Nuclear Medicine and Molecular Imaging, Annual Meeting			June
		2018 World Molecular Imaging Congress			September

Moreover, and according to D8.15 *Plan for the training sessions and clinical workshops v2*, the training sessions planned by CCMIJU to be performed in occasion of the face-to-face meeting held at Cáceres on January 2019 are listed in Table 3.

Table 3. Schedule of training sessions on January 2019 at CCMIJU

Training event	Date	Location	Target Participants
Prototype presentation/demo	January 2019	CCMIJU. Experimental Operating rooms	CCMIJU clinicians
Prototype presentation/demo	January 2019	CCMIJU. Experimental Operating rooms	Consortium members

Finally, according to such deliverable, the planning of clinical workshops to be carried out by the PICCOLO partners until March 2019 is shown in Table 4.

Table 4. Schedule of clinical workshops until March 2019

Institution	Webinar	Meeting	Trade Fair	Description	Possible date
BIOEF/ Osakidetza		Reunión Annual de la Asociación Española de Gastroenterología (http://www.aegastro.es)		Round table/discussion presenting images acquired with the PICCOLO device. Title- PICCOLO device: Image acquisition and processing	20 th -22 th March, 2019 (Madrid)

3. Report on the training sessions and clinical workshops planned

Regarding the training sessions and clinical workshops planned by CCMIJU for 2018, unfortunately they could not be performed due to delays in the development and operating capacity of the endoscopic device. The first version of the PICCOLO prototype was delivered at CCMIJU's facilities on December 2018, and its performance did not get satisfactory results for clinical diagnosis. It did not make sense to perform the training sessions and clinical workshops if the device was not available, so they were postponed for 2019.

In case of clinical workshops planned by LENS for 2018, they could not be performed for two reasons: (1) the delay in the development of the experimental setup of the PICCOLO prototype, and (2) the intention of the consortium to avoid disclosing technical details on the experimental setup under development in order to protect newly developed IP.

And finally, as far as 2018 is concerned, regarding the clinical workshops planned by STORZ, they attended some scientific congresses, but only for technical and business purposes. No specific clinical workshops or presentations were performed on these congresses where a promotion of PICCOLO would have been feasible. The main reason, again, was the unavailability of the PICCOLO device or acceptable results that could be shown to the scientific community.

In 2019, CCMIJU has performed the two training events planned in occasion of the face-to-face meeting held at Cáceres, on 16th and 17th January.

The first prototype of the endoscopic device arrived to CCMIJU on December 2018 and from then to middle of January 2019 it was being tested in the operating rooms of CCMIJU. Once the setting up of the PICCOLO prototype was successfully performed, some days before the face-to-face meeting the staff from technical partners carried out an internal training session focused on the prototype presentation/demo addressed to internal clinicians from CCMIJU. This session was a first contact of CCMIJU clinicians with the PICCOLO prototype in the operating rooms, in which they could test the device in a murine animal model. They learned how to use correctly the probe of the prototype on the animal models in order to get OCT/MPT images. And also they were able to check which captured OCT/MPT images can be considered of good quality and which ones cannot. Moreover, clinicians, and also researchers, from CCMIJU could learn how to turn on all the devices of the prototype, how they connect with each other, how to act in case of an improper functioning of one of them to solve the problem that may arise, how to turn off all components in the correct order, and also their maintenance.



Figure 1. Clinicians from CCMIJU learning how to use the prototype during the training session



Figure 2. Researchers from CCMIJU learning the functioning of the prototype during the training session

The second training session, focused again on the prototype presentation/demo, was in this case addressed to all consortium members on the occasion of the face-to-face meeting held in Cáceres, and took place in the operating rooms of the CCMIJU. As in the previous training session, the PICCOLO team could learn how to use the PICCOLO device and check its functioning.



Figure 3. PICCOLO project team learning how to use the prototype during the training session (I)



Figure 4. PICCOLO project team learning how to use the prototype during the training session (II)

Finally, BIOEF had planned for the end of March 2019 to perform a clinical workshop related to a round table/discussion presenting images acquired with the PICCOLO device. Unfortunately, since the acquired OCT/MPT images with the first version of the PICCOLO prototype were not of enough quality for clinical diagnosis, it was decided to not perform such clinical workshop.

4. Conclusion/Further work

This document, produced at Month 28 of the PICCOLO project, includes the report on training sessions and clinical workshops planned for 2018 and until March 2019.

Unfortunately, the performance of the planned clinical workshops and training sessions for 2018 was limited by the availability of the device. Since the quality of the OCT/MPT images obtained with the first version of the PICCOLO prototype was not good enough for clinical diagnosis, most of the clinical workshops and training sessions planned for 2018 could not be performed. It does not make sense to carry out this type of events to disseminate the results of the project if the device was not available.

Only two internal training sessions could be carried out in the CCMIJU during the setting up and tuning of the first version of the PICCOLO prototype at the beginning of 2019. Both of them were focused on the prototype presentation/demo and attendants could learn how to use the PICCOLO device and check its functioning. One of them was addressed to clinicians from CCMIJU and the other one to all consortium members on the occasion of the face-to-face meeting held in Cáceres.

When the next version of the endoscopic device is fully ready, training sessions and clinical workshops will be performed during 2019 and until June 2020, and reported in the version 2 of this deliverable.