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PICaboo!

Photonic Integrated Circuits on InP technology pLAtform enaBling low cost metro netwORks and next generation PONs

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List of Abbreviations

EC	European Commission
PPP	Public Private Partnership
WP	Work Package
WPL	Work Package Leader
PIC	Photonic Integrated Circuit
PON	Passive Optical Network
PDK	Process Design Kit

Executive Summary

The official PICaboo video aims to provide useful information about the objectives and the applications of the project, in a concise way that is comprehensible to a broad audience. This document reports on the release of the video, including some indicative screenshots of the relevant content and the narrative text that was used. To the same extend, a short explanatory video around the concept of PIC technology has already been published in M03.

Keywords: Project video, website, social media accounts, documentation, dissemination

Table of Contents

1. Introduction	5
2. Preparation of the official PICaboo project video	5
3. Conclusions.....	7
4. List of Figures	7
.....	8

1. Introduction

The official PICaboo video aims to address the general public and provide useful information about the objectives and the application areas of the project in a concise and comprehensible way. Moreover, presents the vision of the project and its technological impact. It starts by putting the project into context: the challenges that PICaboo aims to tackle and the way that affect our everyday life are introduced. Consequently, a brief description of the Photonic Integrated Circuits technology is given explaining the benefits that brings to the market. The video continues with the solutions that will be developed within PICaboo and the various application fields that are addressed by the project. Finally, the video concludes with the contact details (i.e., official project website address) and the list of project partners, as well as with a banner that acknowledges support by the European Commission, according to the EC guidelines for dissemination. The PICaboo video will be distributed through the dissemination channels of all partners within the project. To increase the visibility of the project, a short introductory video has already been released in the project's YouTube channel in M03 and is reported in D7.1.

2. Preparation of the official PICaboo project video

The official PICaboo project video was designed and produced by ICCS. The script was written in a way that is comprehensible to a broader audience. Where applicable, simple metaphors and examples from everyday life were used to trigger the viewer to search more information around the project's objectives. Both the voice-over text and the animations were carefully consolidated, and in some cases different versions were considered and reviewed. The duration of the video was kept within a restricted timeframe of 3:53, increasing the chances for the audience to stay engaged from the beginning until the end of the video.

The voice-over text of the PICaboo project video is presented below:

“Can a spaceship fit into your pocket? How about one million spaceships? The question may seem irrational but is way more realistic than you expect. Actually, the smartphone that we carry in our pocket is millions of times more powerful than the Apollo 11 guidance computer system! Billions of transistors fit into only a few square centimeters to achieve this tremendous performance. But how can these nanoscale structures be developed? How can they exhibit the exact same performance over and over again? The answer lies in the major technological breakthroughs of the Integrated Circuit (IC) technology permitting the integration of a huge number of transistors on a single wafer, outperforming equivalent combinations of discrete electronic components at the functional level.

While electronics have set the paradigm, the thriving photonics industry is following the same path to leverage its immense capabilities. Photonic Integrated Circuits (PICs) comprising a large number of optical building blocks on a single chip, aggregate multiple photonic functions leading to the development of new products and services with substantial economic benefits.

To decrease the development costs and lower the boundaries for fast prototyping the generic foundry model is gaining momentum. It enables designers to create new circuits with the

ultimate freedom placing building blocks to suit circuit needs across markets and product generations. The design rules for developing a building block on a PIC platform are included in a specific process design kit (PDK) which, when followed, ensures that all building blocks perform according to their predictable performance.

Enter PICaboo, a 3-year Horizon 2020 ICT project funded by the European Commission and the Photonics Public Private Partnership that develops novel building blocks and application-specific PICs that will transform optical communication networks in terms of speed, power consumption and cost.

PICaboo will advance the two European InP generic technology platforms with the integration of novel building blocks that will be used to design advanced PICs for a wide variety of photonic applications.

PICaboo will develop Electroabsorption modulator (EAM)-based transmitter and coherent receiver PICs with all optical signal processing functionalities enabled by the novel building blocks and generic photonic integration technology, targeting to offload costly electrical Digital Signal Processing (DSP) in metropolitan optical networks, Passive Optical Networks, datacenter interconnects and 5G/6G fronthaul.

The use of PICaboo building blocks will be investigated further in diverse photonic applications such as metrology and sensing, leveraging the potential to penetrate additional established or emerging markets for which photonics can play a key role.

PICaboo brings together 6 leading organizations from 5 European countries.

A new era of photonic applications is just around the corner. PICaboo!"

It should be noted that the copyright of all the material featured in the video (e.g. images, soundtrack, logos) has been acquired in compliance with the relevant EU legislation.

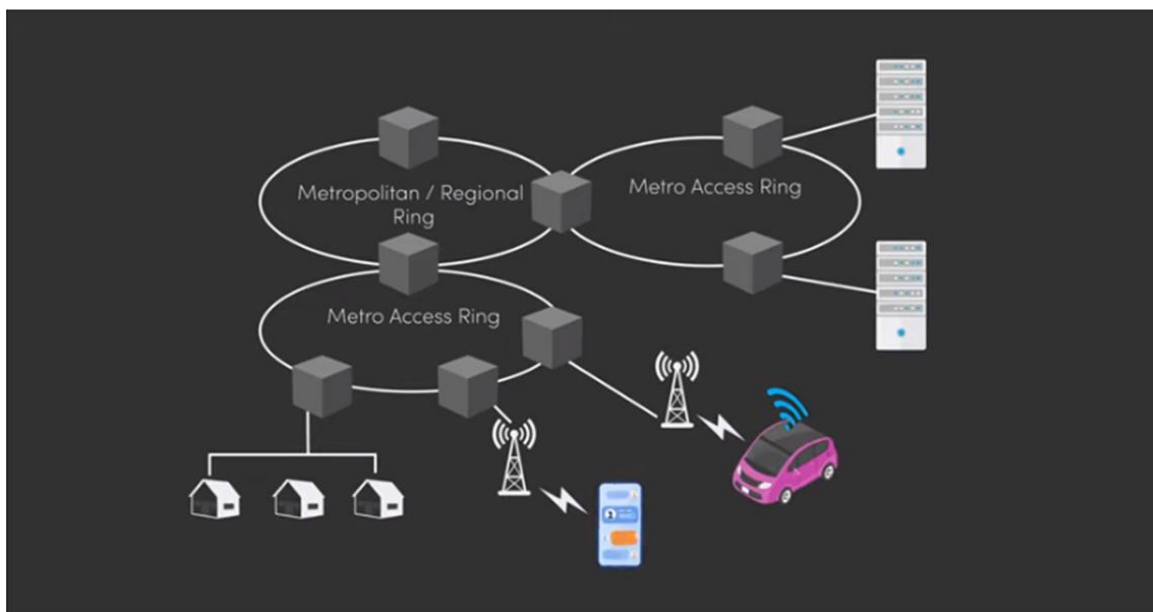


Figure 1: Indicative screenshot from the PICaboo project video illustrating the application fields of the project.

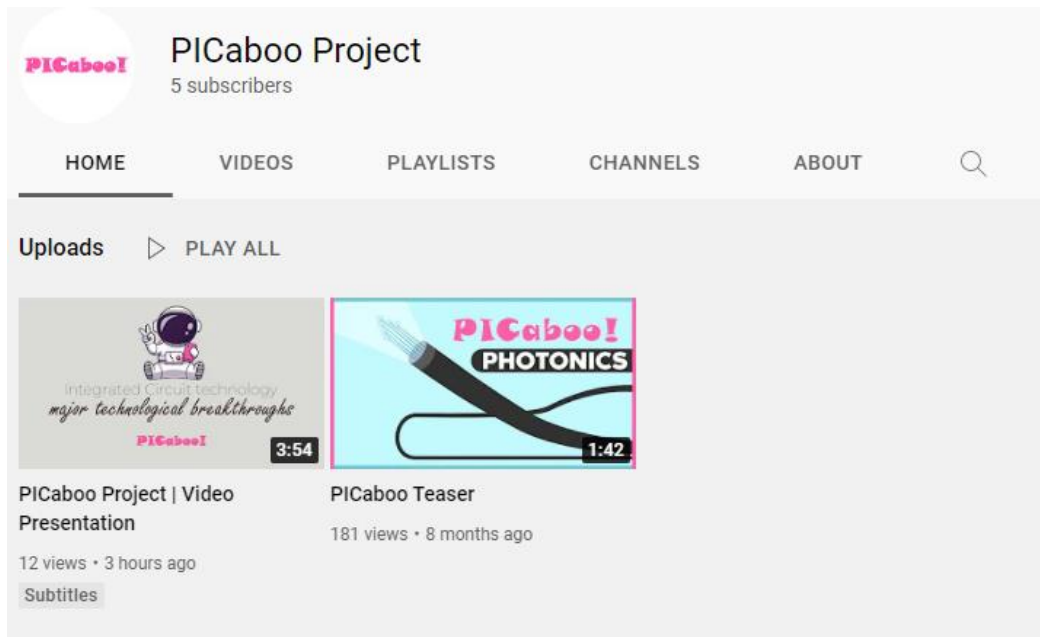


Figure 2: A caption of PICaboo’s YouTube channel with the uploaded videos.

The video has originally been uploaded at the project’s YouTube channel (https://www.youtube.com/watch?v=H9iSN5e8wlg&ab_channel=PICabooProject) and can be viewed online at different resolutions ranging from 144p for very slow connections up to 5K (2880p) for high-quality viewing on large screens or projectors. The clip will be also uploaded at the official PICaboo website (<https://ict-picaboo.eu/>) and social accounts to maximize its visibility.

3. Conclusions

The PICaboo project video was created as a means of raising awareness of the project to the general public. The video was uploaded on the project website and on YouTube and is at the disposal of the project partners for use in publicity and dissemination actions.

4. List of Figures

- Figure 1: Indicative screenshot from the PICaboo project video illustrating the application fields of the project. 6
- Figure 2: A caption of PICaboo’s YouTube channel with the uploaded videos..... 7

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