

## 1. Introduction

One of the goals of the 20203D-Media project is the development of 3D pipeline going from production to post-production and exhibition. In particular, work package 4 is developing camera systems able to capture depth information along with the standard 2D images. To be able to manipulate such data in post-production, work package 5 is working on algorithms and post-production tools to handle the depth information.

In this document, we present plug-ins for post-production software tools that enable the generation of novel views of the scene given the image plus depth information captured by the camera system of work package 4, or obtained by any other means. The plug-ins permit to generate the images that would be seen by a camera placed to the left or to the right of the actual camera. The main application is the generation of the left and right view of a stereo pair given the image plus depth data, as well as the generation of multiview content for multi-scopic displays.

There are multiple benefits of such pipeline compared to shooting stereo with two cameras and not computing the depth information. By generating the stereo pairs in post, we are able to fully control the stereo baseline and convergence by software. This permits to adapt the parameters to the particular needs of the scene, as well as to different screen sizes. Additionally, the depth information can be used for different visual effects such as integrating computer graphics properly handling occlusions by z-keying, modifying the depth of field and others that are hard to do in a 2D pipeline. These additional features are not explored in the present document though. This document focuses on the generation of stereo pairs from the image plus depth information.