

Project Title: UNDERWATER STEREO CAMERAS FOR 3D RECONSTRUCTION
Project Manager: Aaron Marburg
Requested By: Aaron Marburg, 1 April 2016
Approved By: n/a

Change Request #001

Title: Do not purchase Elphel camera, focus on Zed camera.

Change Request Details

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| Scope | Dropping the Elphel camera reduces the scope of the project somewhat as gaining in-house experience with the Elphel camera/processor system was an implicit goal of the original proposal. However, within the explicit goal of having a marinized stereo camera for testing 3D reconstruction, the two camera systems should be redundant (bar any technical problems or limitations with the Zed). |
| Schedule | Will provide greater time for integrating the Zed/Jetson camera and working on LSD-SLAM software. |
| Cost | Will remove cost of Elphel camera system (est. at \$3000 in original proposal) and cost of second housing. This can be retained as contingency for further unexpected costs. |
| Quality | Having two cameras gives redundant data sources, in case one of the two is not capable of performing the project spec or if one should fail. Assuming either camera can produce the desired stereo imagery, there should be no reduction in quality. |
| Risk | Project is now dependent on the Zed/Jetson camera system being the right technical choice. Mechanical redundancy is less of a concern — the cost savings from not purchasing the Elphel could be used to build a second Zed/Jetson camera system. |
| Alternatives: | Purchase Elphel system anyway, but make it a much lower priority for integration. Reduce the priority on Zed/Jetson camera system: no cost savings, they have already been purchased. |

Implementation Options

As no money has been spent on the Elphel option to this point, proceed as suggested. Drop Elphel camera from project, set aside funds for contingency.

Decision/Raionale

Approved. Scaling back the project to include a single stereo camera type does not significantly impact the long-term goal of demonstrating 3D reconstruction and having a camera system on hand for further testing. The only long-term loss is no hands-on experience with the Elphel camera system and potentially damage to vendor relationship with Elphel.