Introduction to the workshop
Industrial 3D Vision, 3D Laserscanning, LiDAR, TOF

Dear Ladies and Gentlemen,

It is my great pleasure and honor to welcome you on the occasion of our Workshop on Industrial 3D Vision at the HTW Chur. My name is Udo Birk, I am a lecturer for Image Processing here at the HTW.

As you know, this meeting is jointly organized with and supported by Swissphotonics NTN. It is meant to strengthen the alliance between industry and academia in the field of photonics, and more specifically in the realm of advanced 3D imaging techniques.

Our workshop today is meant to foster the dialogue on joint projects, to establish new contacts, and to welcome new members to the Photonics community especially in the Alpenrhein Region. This year, for the first time such a Photonics event is held at the University of Applied Sciences in Chur, giving us the opportunity to present our new flagship, which is the educational programme in Photonics – this is a focal point for our joint efforts to provide highly trained engineers in Photonics for the Swiss industry. An idea, which Tobias Leutenegger brought to see the light of day, for which I am deeply grateful. We certainly hope that this meeting today will be an excellent starting point for more events to come and for further dialogue and exchange of knowledge and experiences.

In this context, I want to express my sincere gratitude for the excellent work done and the financial support provided by Swissphotonics. Heartfelt thanks especially to Christoph Harder, who took the initiative to invite us to hold this Workshop here in Chur. I also wish to acknowledge the generous help and the organizational support provided by Beni Müller and Jennifer Pelikan - thank you so much. And I would also like to thank the speakers, the participants of the round table, and the exhibition partners for their contributions to this workshop. Many thanks to the Services and

Communications team from the HTW Chur without whom this workshop could not have taken place. And I am also very grateful for my colleagues providing the Lab tours during the lunch break.

As all of you have access to the workshop program, I will not go into the details of the individual topics, but instead provide you with just some organizational details.

I would like to draw your attention first to the industry exhibition and showroom, which is located in the Service Innovation Lab, outside the Aula, which is the room you are in right now. Outside you will find signs guiding you to this exhibition. The exhibition is open during lunch and the coffee break; please use the opportunity for a visit.

During the lunch break, we will offer Lab tours. The tours will depart continuously from the meeting point below the stairways, just outside the Aula to your right hand side on the way to the exhibition room. The tours last about 15 to 20 minutes. The first tour will leave right after the last talk. If you are participating in the first tour, you do not need to worry about missing lunch, as food will be provided throughout the lunch break in the Foyer.

If you have your car parked in the parking lot across the traffic circle, Jennifer at the reception desk has exit tickets for you so you do not have to pay anything.

Wireless LAN access is provided by the IT department; the instructions are on display.

As you may know together with my colleagues of the HTW Chur we are in the process of setting up an educational programme in Photonics, on the level of a Bachelor of Science and in the form of industry targeted courses as well as Certificates of Advanced Studies in Optoelectronics and in Image Processing. You will find information regarding these courses in the labs and in the exhibition room.

Now some final warm up remarks, some more background on the workshop content: I think it is fair to say that current trends in

Machine Vision encompass foremost the combination of existing technology in specifically targeted products, such as Smart Vision Sensors, Hyperspectral imaging, Multi-modal imaging with 3D capabilities, and application-specific machine vision systems. Another trend that is emerging and rapidly gaining momentum is the need for cross-industry collaborations, e.g. in the realm of BigData and IoT.

In addition, a number of challenges in Machine Vision arise in the coming years: For instance, many patents today are held by computer companies, and our industry partners face a shortage of skilled engineers in Photonics. Machine Vision solutions need to be authorized as new measurement standards, and regulations for un-supervised automation must be updated to enable Machine Vision solutions where required. Another challenge lies in the increasing system complexity of present and future Machine vision solutions, which may slow down innovation.

Today the relevance of Photonics as one of the key enablers of industrial innovation and success is common knowledge and this is one of the reasons why we have assembled here for the 3D Vision workshop – innovation without skilled engineers is simply impossible. The HTW Chur serves the Swiss industry and in turn is in need of its input to continuously refine the requirements on the Photonics engineer. In the following workshop sessions, we shall hear what challenges the various industry representatives face, and what academic institutions are able to offer. Our workshop is thus targeted at bridging the gap between Academia and Industry: We need to discuss what technologies are currently available, and what is needed for the development of new products. Hopefully, this will be the input required to define new Innosuisse projects.

I think we are all looking forward to fruitful discussions throughout this meeting today and I would like to encourage you to immerse fully in the discussions and to share your experiences and thoughts, as well as to ask any questions you may have; I have plenty.

Thank you so much for being here thank you so much for your attention.

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