

Customer Case Study



XpertEye in Research and Education at the University of Cologne

Challenge

The University of Cologne (UoC) faced challenges in conducting international cooperation in research and education due to limited mobility and the COVID-19 pandemic. They needed a solution that could facilitate remote communication and collaboration in real-time, document field trips, and enhance teaching materials, all while reducing CO₂ footprint.

Solution

As a digital remote assistance software, XpertEye facilitates digital education, direct communication, and cooperation between field and remote researchers. In pursuit of enhancing international cooperation in research and education, Prof. Dr. Karl Schneider from the University of Cologne (UoC) chose XpertEye on smart glasses. The hands-free functionality of XpertEye makes it an ideal tool for Prof. Dr. Karl Schneider to facilitate efficient education and research experiences.



- **Education:** XpertEye helped prepare field labs and excursions, document findings, and facilitate the participation of additional students. This not only increased the number of participants but also promoted international connections and expertise through the concept of «internationalization at home.» Moreover, it provided an opportunity for students who were unable to travel or were unwell to gain valuable international field experience. XpertEye was also used to record and develop teaching materials and provided the possibility to telementor students in the field where needed.
- **Research:** XpertEye facilitated cooperation between remote and on-site researchers, addressing contextual or technical issues, and improving the efficiency of fieldwork.

Impression of the urban climate excursion in Pune/India for students from BVU Pune taught on-site by Nils Eingrueber using XpertEye, also enabling virtual participation of German students

Results

- Through the use of XpertEye, UoC achieved significant benefits in research and education. They documented field trips in education and research, prepared and facilitated the participation of additional students, and reduced travel.
- UoC has developed the INGENIoS Digital Education and Learning Platform (IDEaL) for international education and research. XpertEye augments IDEaL as a digital and cooperative learning platform by integrating cooperative remote learning on-site, enabling first-hand experience and exchange of German and Indian students from their own living environment.

Thanks to this new teaching platform, UoC was able to facilitate immediate cooperation between students from the UoC and the University of Pune, India, integrating them into a joint teaching experience from their own living environment. This innovative approach enabled effective remote learning and collaboration, allowing students from different parts of the world to seamlessly learn and work together. Students from Pune could see live the measuring equipment used by UoC and vice versa students from Cologne could follow the situation in Pune, even in a low bandwidth environment.

- The UoC plans to use XpertEye as part of a field trip to India in September 2023, providing students in Germany the opportunity to participate virtually in this field experience.



Digital tools such as XpertEye significantly expand access to internationalization both quantitatively e.g. in numbers of students, and qualitatively e.g. for students with disabilities or other mobility handicaps. The hands-free, two-way low bandwidth communication of XpertEye is particularly useful for cooperation in field and lab work."



Prof. Dr. Karl Schneider
Chair Hydrology and Climatology Research Group
Geographical Institute / UoC



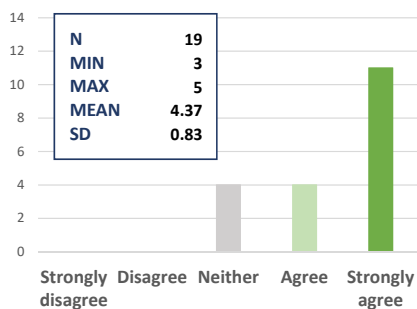
Virtual excursions can add to a comprehensive learning experience if the right tools are used. XpertEye was very well received by the students."



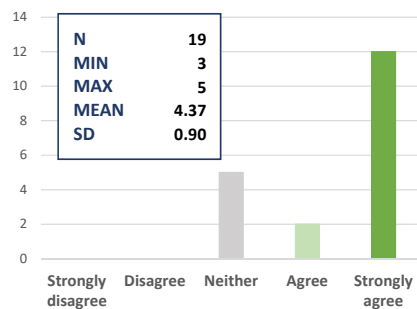
M.Sc. Nils Eingrueber
Research Associate, Lecturer and Doctoral Candidate
Geographical Institute / UoC

Customer Case Study

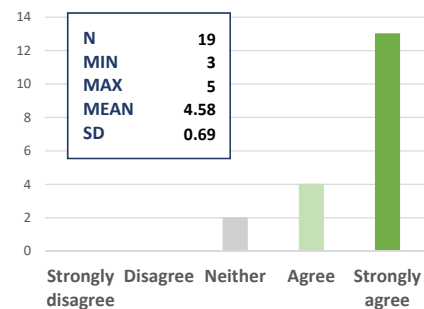
I would recommend using XpertEye to augment lectures, excursions and field trips.



I think XpertEye is better suitable than ZOOM, Teams or Facetime in field research and teaching context and to support internationalization.



I think XpertEye is a useful tool to improve international exchange, to enable international excursions, and to participate virtually in trips (e. g. to save CO2).



Evaluation of the usage of XpertEye in teaching: Results of a survey conducted with German and Indian students participating in the class «Urban Climatology - Basic concepts and Microclimatological Modelling with ENVI-met» taught by Nils Eingrüber in winter term 2022/2023.

Acknowledgement:

This research was funded by the German Academic Exchange Service as part of the cooperative project INGENIoS: Indo-German Network Interaction of Scientists.