Research content for the short video Next Mobility_ Utopia 2023

"Imagine a FUTURE with relaxing MOBILITY ... enabled by research on AUTONOMOUS and ELECTRIC mobility"

Student statement: "This video shows an autonomous transport system that makes the vision of a car-free city come true. The Modular Transportation System offers the benefits of a private vehicle and allows individual or shared use of the capsules. These integrate seamlessly with public transportation."

Electr(on)ically mobile - "Beam me up, Scotty"

The transport sector is one of the main sources of greenhouse gas emissions. The highest share of emissions in the transport sector is attributable to road traffic, and in particular to passenger car traffic. In Austria, the transport sector is responsible for around 25% of CO2 emissions. But we also want to be mobile in the future. Travel also broadens horizons and connects us. So what does the mobility of the future look like beyond public transport, cycling, energy efficiency and electrification?

Digitization is a big key to making a certain kind of travel obsolete. Video conferencing has already become part of everyday life. Virtual and augmented reality applications can certainly make a difference here. New worlds and meeting spaces can be a way of traveling.

Research at Graz University of Technology helped make the Microsoft Hololens possible. Paired with the appropriate hologram technology, "holoportation" - that is, 3D travel from home - becomes possible. Or will Anton Zeilinger's quantum research lead to "real" beaming after all? Crypto research from Graz will probably be in future quantum computers.

Electric mobility and other forms of propulsion can be a bridging technology to completely new, today still science fiction, approaches. Ecological lightweight hybrid materials may play a role here (Wood Vision of Mobility). From fossil-based materials to renewable materials with cycle-based eco design. CO2 storage with negative CO2 footprint of the materials used in mobility solutions. New design languages and regional value chains from the forest to mobility.

Highlights from the Valley:

AVL

Research at the location:

Innovation Center Weiz

Virtual Vehicle

Institute for Computer Graphics and Vision TU Graz

Institute for Vehicle Safety TU Graz

Infineon R&D Graz