

OBJECTIVES

- 1 **Develop and integrate new media formats** that deliver high quality photo-realistic content and create a strong feeling of co-presence in coherently integrated experience.
- 2 **Adapt the existing production pipeline** to capture and encode multiple media formats and integrate them with state-of-the-art post-production tools.
- 3 **Re-design the distribution chain** so such innovative content format can be orchestrated and delivered in a scalable manner.
- 4 **Develop appropriate Quality of Experience (QoE) metrics and evaluation methods** to quantify the quality of these new social VR experiences.
- 5 **Maximize the impact that VRTogether** can have on content creators, producers, distributors, tooling companies, service providers and the general audience.

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PARTNERS



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AN END-TO-END SYSTEM FOR THE PRODUCTION AND DELIVERY OF

PHOTOREALISTIC SOCIAL IMMERSIVE VIRTUAL REALITY EXPERIENCES

SOCIAL VR LIKE NEVER SEEN BEFORE



VRTogether project aims to offer ground-breaking social Virtual Reality (VR) experiences between users located in remote domestic scenarios, based on photo-realistic immersive content, in a cost-effective manner.

VRTogether's consortium has been strategically set up to consist of partners that cover all stages of the production chain in a well-balanced way.

A combination of leading research institutions **i2CAT, TNO, CWI, CERTH, Artanim** together with industry actors **Entropy, Motion Spell, Viaccess-Orca** spread over 4 European countries.

PILOTS

Development updates are presented through three pilots, three episodes of a great story about a murder investigation.

Pilot 1: Feeling of being there (presence) and of being there together (togetherness)

Two users watch a police interrogation of a murder suspect from the dark side of the room. During the experience, the users can interact and talk about the scene while seeing each other in a photo-realistic quality 3D representation.



Users are able to interact remotely in a **shared VR world**



All their actions are delivered in **real time**



A **3D reconstruction** of the users body is provided



You can see the other users **interacting as themselves**

Pilot 2: Live media and scalability

Four users are placed in a TV news studio where the presenter is giving an overview of the news of the day. When the murder is being reported, users are holo-ported to the crime scene where a journalist relates the details of the murder.

Pilot 3. Interaction and 6DoF

The final pilot will conclude the presented story, with users being able to interact with objects and characters in the scene, driving the scenario through their interactions.



APPLICATIONS & USE CASES

Current Social Virtual Reality applications focus on abstract user representations, with simplified avatar representations.

VRTogether now offers the possibility of meeting friends, family and colleagues with a photo-realistic look-alike representation, which brings better support to a multitude of emerging applications, such as business meetings and educational experiences.



Photo-realistic look-alike avatar

PRODUCTS



Lightweight social VR service



4D Capture System



Point Cloud MCU



Volumetric data end to end transmission system



New protocol and metrics to evaluate social VR

MAIN FEATURES

Multimedia delivery chain

3D rendering engines

Workflow development

Live motion capture

Encoding & encapsulation of content stream

3D characters reconstruction with TVMs or Point Clouds

Data orchestration within the information flow

EXPECTED IMPACT

To set a new standard in social VR using off-the-shelf products