

RELIANCE

DEMO Handout

No. / time	Name of the Demo	Partners involved (country)
1/ 10 min.	RELIANCE Volumetric Streaming-based operation for Smart Facility Maintenance.	SII CONCATTEL, KEYLAND

RELIANCE Volumetric Streaming-based operation for Smart Facility Maintenance.

Involved partners:

SII CONCATTEL, TYP

Problem Definition

Our main partner (Grupo Antolin) is evolving very fast in IIoT. We need to deploy IIoT services in different countries. We need to establish effective security and interconnection mechanisms, with minimum latency.

On the other hand, the need to be able to operate different machines remotely, for example a factory in China from a control system in -for instance- Germany operated by a group of robots and coordinated humans implies a great level of complexity at different levels.

There must be a real-time orchestration of the central system and the remote controls. It is therefore much more complex than deploying a set of services, requiring a comprehensive proposal considering not only new network topologies, but much more agile deployment and operational management models that can respond to the needs of latency, communication and scalability in a globalized IIoT environment, with innumerable devices, sensors and components.

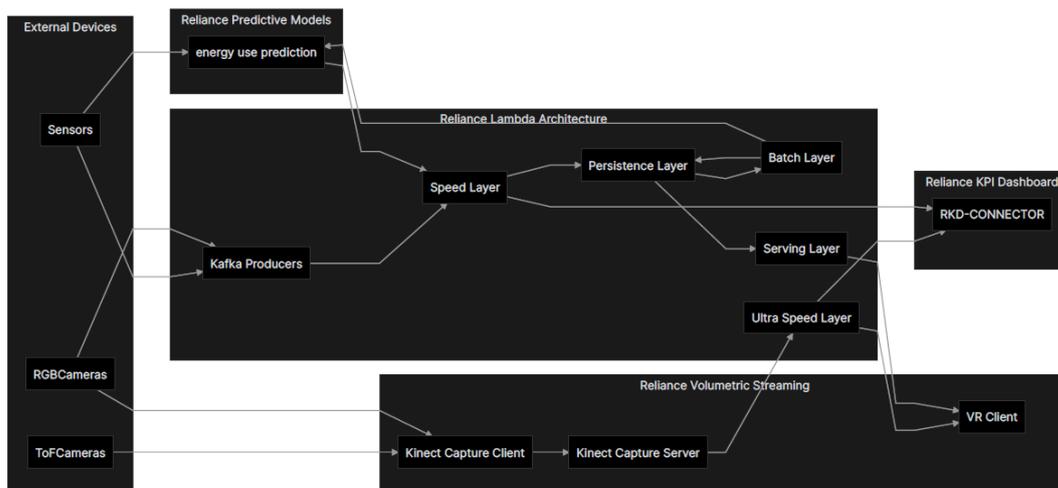
Solution

Our proposal in a comprehensive solution that allows VR-based maintenance operations in augmented remote environments.

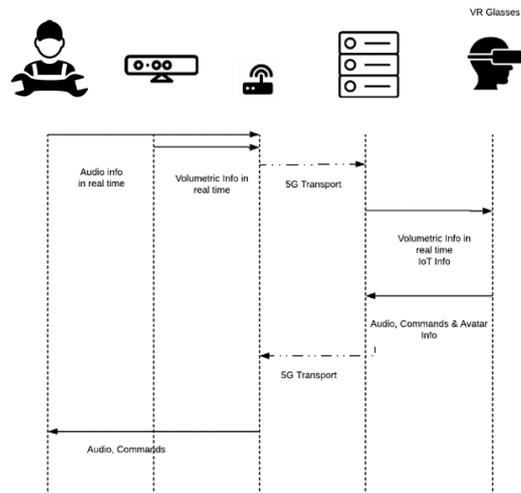
SOTA Analysis

The Enhanced Smart Building and Facility vertical-specific services based on RELIANCE are beyond the current state of the art. To our knowledge, this is a new comprehensive model for SB&FM based on the concept of volumetric streaming for remote maintenance.

Building Blocks



Demo Scenario



1. Preconditions: A set of basic services are defined, connected and deployed. Different sensors (kafka producers) are generated.
2. An AI model is defined to process the information from the batch layer, predicting temperature info from a sensor.
3. A junior operator places the 3D scanner (Kinect device) in the operation area. The junior operator communicates to the senior operator that the environment is ready to be visualized in the VR client.
4. The senior operator, with the VR headset, can see and freely move in the remote environment, getting also information from sensors.
5. The senior operator has identified the hardware that must be checked. It asks the junior operator to open the rack and, by remotely controlling a
6. The sessions finish.

Achievements

The development of new services in the SB&FM context, with great innovations in remote monitoring, offers the sector an extraordinary leap. The validation of a model that combines new data analysis capabilities with new telepresence systems allows us to think about new, extraordinary and growing business opportunities that did not exist until now.

Business Opportunities

We are working with two lines. First, the integration within the CONATEL's portfolio, and the generation of a specific solution for Rehabilitation, together with COAC. Second, a specific solution combining static 3D-scanned environments together with volumetric streaming is being designed for Entertainment.

