





transform





create

share

# **The Neural Media Repository**

Storing, Archiving and Searching for XR Content



#### What It Is

XReco is here to discover existing 2D and 3D content and create new 3D assets. To help better store and archive multimedia content, we developed the Neural Media Repository (NMR). It is a data repository that enables the search and discovery of content, including audio, video, images and 3D data, allowing federated search across connected open media repositories or content offered by other organisations.

#### What It Can Do

The ability to search for content across different modalities, finding 2D content as well as 3D assets in different representations (e.g. meshes, point clouds) is one of the special features of the XReco platform. In addition to reusing retrieved assets, users can share their content on the XReco marketplace, including control over rights and licenses. This means, the content shared in the NMR can be exploited to create new 3D models and experiences. The platform provides a central user interface, the Orchestrator Dashboard, for seamless integration of various services for asset management and transformation (e.g. 3D reconstruction).

## **Key Features**

- Flexible data model that allows for description of multimedia documents
- Modular architecture that can be extended using defined plugin endpoints (e.g., additional feature description modules, connectors for external repositories)
- Search in multimodal data, supporting images, videos, meshes, point clouds, text
- Consolidate search results from multiple repositories
- Handle sets of content items between search, transformation and experience creation services
- Offer assets on the marketplace
- Rights management services, backed by a blockchain

# **Advantages**

The NMR allows you to search and find content in large multimedia collections, even hard-to-find or sparsely documented media elements. The process is easy and straightforward. The XReco search mask is the only one you need to use to search for multimedia content across multiple repositories. In addition, a digital rights management and monetization process is seamlessly integrated.









































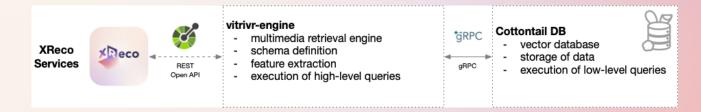
## **How It Works**

## vitrivr multi-modal, multimedia retrieval engine and content analysis tools





vitrivr serves as the central search and (multimedia) retrieval component for the data collections, consisting of two components: the query execution and extraction engine vitrivr-engine and the vector database Cottontail DB. vitrivir and its core-components are open-source and freely available on GitHub.



The content analysis tools extend the ingest process of vitrivr to provide additional metadata, such as learned descriptors for similarity search, or labels for classifying landmarks. Classification services such as the landmark classifier can be efficiently extended to label novel classes relevant in a particular production context.

### Metasearch across connected third party repositories Atos

The Metasearch core consists of the publicly exposed API, which connects to an Elasticsearch-based database and a connector for each targeted repository. These connectors can be deployed in the environment where the core resides or on-premises where the repositories are located.

#### 3D Search and Retrieval



In need of a 3D model? We've got you covered. XReco's innovative 3D model retrieval framework allows you to discover 3D models from a range of data types including images, meshes, point clouds and text. The framework efficiently queries information from diverse sources seamlessly and retrieves results from a vast database of 3D models.

# Rights Management Services Fincons

No one can take what is yours: The XReco platform integrates blockchain and so-called smart contracts to manage the rights and licenses of content. This means you can define licenses for source assets and created 3D assets, in order to offer them on the marketplace.

# Orchestrator and Marketplace mog

The Orchestrator Dashboard integrates seamlessly with APIs of other XReco services, thus supporting asset discovery via the Metasearch API, the organization of search results into content baskets to pass them to other services. The marketplace is the interface for searching and browsing content on the XReco platform

and offering assets to other creators. It also provides functions for managing shopping carts, previewing license options and purchasing assets.

