IMP·ART

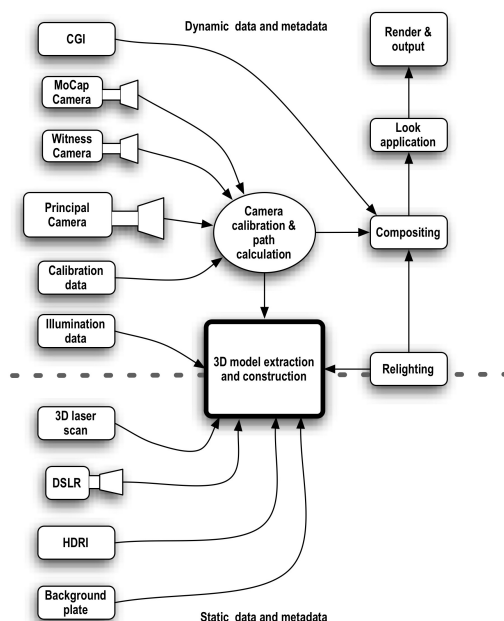## Intelligent Management Platform for Advanced Real-Time Media Processes

IMPART will research, develop and evaluate intelligent information management solutions for *big data* problems in the field of digital cinema production. It will find new ways to manage, visualize and analyze very large multimodal data sets so that creative personnel will be able to review three-dimensional scene representations on the set, understand the data, identify errors, evaluate the quality of the shot and take creative decisions in real time.

Approximately 20 TB of data are created during a shooting day, integrating sources as different as 3D scanners, GPS, graphics, digital movies cameras, witness cameras, … If data and metadata were intelligently managed this could help improving the efficiency and quality of the digital cinema pipeline.

The results of IMPART will be applicable to film production and also in other fields, some close, such as TV, and online video, some quite different, such as surveillance. The project outcomes will include:

- Architectures and file structures for intelligent multimodal data and metadata management presentation and browsing linking data, metadata and advanced applications

- Methods for automatically selecting relevant subsets of data to allow rapid processing

- Techniques for processing, information extraction and analysis in distributed systems

- Multimodal content semantic and low-level analysis techniques for the automatic derivation of metadata to support visualization, decision support, management and retrieval

- On-set decision support, including tools for multimodal data visualization, data summarization, layout, registration and cross-referencing, data and metadata search, virtual overlays and real-time previews of effects, creative and technical decision support

- A demonstrator system for professional testing and evaluation, both on and off set

- A documented xml interface that allows third parties to develop compatible tools and processes

- A published test dataset of multimodal data and metadata captured in realistic film production conditions for use by other researchers.

Data and Metadata managed by IMPART

Partners:

| Universitat Pompeu Fabra, SP **(Coordinator)** | FilmLight Ltd, UK | Double Negative Ltd, UK | University of Surrey, UK | Aristotle University of Thessaloniki, GR | Brno University of Technology, CZ |

Project Website:

https://impart.upf.edu

Administrative Details:

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Contacts:

Josep Blat (*josep.blat at upf.edu*), Marco Romeo (*marco.romeo at upf.edu*)