

# EMIL Deliverable

## D4.1 EMIL's Services Guidelines for FSTP Projects

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### **Abstract**

This document, “EMIL’s Services Guidelines for FSTP Projects” (D4.1), provides detailed information for FSTP participants to understand the availability of the resources at each node and ensure their engagement in the EMIL network. The budget assigned to each FSTP will be sufficiently high to undertake the main load of work. EMIL is a centre for promoting and supporting innovative XR projects. Applicants should define their projects as self-contained and EMIL will provide the expertise and access to resources (such as personnel, spaces, and technologies) in a reasonable but limited fashion to not become overloaded. This Guidelines document provides list of resources and use limits that can be expected by an FSTP project for access to facilities, equipment, software and services.

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## 1. Introduction

This document outlines the resources that are available for Financial Support to Third Parties (FSTP) projects funded by the European Media and Immersion Lab (EMIL). EMIL comprises four nodes, Aalto University (Finland), Filmakademie Baden-Württemberg (Germany), Universitat Pompeu Fabra (Spain) and University of Bath (UK), which are all offering resources for FSTP projects. FSTPs will have to provide a reasoned plan and intensity of use of the resources that they envision to need to access from the EMIL nodes. Nonetheless, once an FSTP proposal is accepted, access to these resources will be bound by two main aspects:

1. The reevaluation of these needs by the technical experts of EMIL to redimension them according to real development and/or production needs.
2. The availability of such resources during the time they are needed within the particular FSTP.

All resources are to be accessed within the nodes' schedules of use and will be agreed separately between the nodes in question and the FSTP project. The conditions of using a resource will vary between nodes, e.g. based on their booking and insurance policies, and will be formalised in the FSTP Project Agreement. Access to these resources will be subject to their availability depending on uses and ongoing productions, projects, or classes at the time of request. Resources may not be all available from a single node but may be pooled over several nodes.

The allowed usage times provided below are just estimates and may be adjusted later on. The overview of resources below is structured according to the following categories:

**Facilities:** spaces that are already equipped with specific equipment that is meant for that space.

**Equipment:** apparatus and other elements that may be used on their own or added to spaces but which are not bound to any specific space.

**Software:** SDKs and other software tools that can be made available.

**Services:** mentoring, tech support, and other aspects that may not be listed under the previous sections.

## 2. Facilities

Aalto University can provide access to, among others, the following facilities:

- Mocap & Virtual Studio (250m<sup>2</sup>, <https://studios.aalto.fi/roihupelto-studios/>) with a high-fidelity OptiTrack system (24x OptiTrack Primex 41 cameras) and Arri Amira based multicamera virtual studio setup (Unreal).
- 360-degree Visualization Studio (Igloo Vision) Immersive facility (<https://www.igloovision.com/products/technology/cylinders-cubes-domes>)
- VR Studio (<https://studios.aalto.fi/vr-studio/>)
- Wearable Systems Lab, (<https://www.aalto.fi/en/wearable-systems-lab>)

The usage time of the Aalto facilities will be negotiated between the FSTP project and the particular facility of Aalto University.

**Filmakademie BW** can provide access to the following three facilities:

- Studio with camera, lighting, rigging etc. and OptiTrack & NCAM tracking systems. (5-10 days per project)
- Workspace with desks and workstations. (70 user days, up to 4 users per project)
- Post production facilities. (10 days per project)

**Universitat Pompeu Fabra** can provide access to the following facilities:

- Mixed Reality Space (Full-Body Interaction Lab) with floor projection (1920 x 1920 pixels in 6m x 6m), 2D and 3D tracking, high-quality panned stereo sound system. (5-30 days per project)
- Immersive Projection Space 8m x 7m flexible space with 4m ceiling) for immersive full-body interaction with projection-based experiences with rear or front projection screens and a range of projectors. (5-30 days per project)
- Multipurpose Hall (approx. 24m x 12m with 7m ceiling) with lighting, 3D audio capture, 4K projector-based visualisation and 4K video capture. Mezzanine oval shaped balcony-like first floor (at approx 3.5 metres) from which the main lower floor may be observed and managed. (2-10 non-consecutive days per project)
- TV Studio (200m<sup>2</sup>) with 4 cameras, pantograph lighting rigs and chroma key backdrops. Includes production control room with 52" multi-screen for monitoring the generated signals, digital mixing console, master control (SDI), control (RCP), dual channel titles, teleprompter, airspeeds, iNEWS, KVM, 2 ME video switcher. (5-10 days per project)
- Post-production Rooms with professional editing software (Adobe Premiere, AVID Media Composer), sound recording space. (5-15 days per project)
- Co-working spaces with cubicles. (5-60 days per project)

**University of Bath** can provide access to the following three facilities:

- Campus CAMERA Studio with marker based, markerless, inertial motion capture, force-plates for kinetic measurement, VR/AR equipment, handheld 3D scanners, face/body 3D capture, professional creative software, studio production cameras and multiple VR/AR devices and integrable suits such as XSENS and Perception Neuron. (5 days per project)
- Bottleyard CAMERA Studio with further state-of-the-art digital innovation facilities, including a high-end motion capture array with a 10m x 10m capture volume, 8m force plate array, dedicated facial capture tools and meta-human pipeline. (5 days per project)
- Work spaces including desks and workstations. (10 user days per project)

### 3. Equipment

The following lists of equipment are only indicative, with further equipment available on demand. Please ask the nodes if your proposed project requires other equipment than the one listed here.

**Aalto University** can provide access to:

- Xsens High-End Mocap suit kits
- Riegl VZ-400i Lidar Scanners
- Artek Leo 3D Scanners
- Foley Stage with Pre-Mixing Stage
- Master Mixing Stage
- Colour Correction Suite

- Insta Titan 360, Insta Pro2
- Microsoft HoloLens 2
- Zylia 6 DoF VR/AR microphone set
- Flir T1020 High-resolution Thermal Camera
- Pupil Labs Invisible Eye Tracking kit (with lenses)
- Noraxon Ultium EMG system for synchronous group measurements
- Further equipment: <https://takeout.aalto.fi/>
- Filmakademie BW can provide access to:
  - Cameras, lighting, rigging, etc.
  - Tracking systems
  - Server storage
  - Rendering resources (up to 25k kWh per project).

**Universitat Pompeu Fabra** can provide access to Augmented Reality Magic Lanterns (ARMLs), which provide the key aspects to provide co-located shared augmentation that greatly enhances the user experience of groups of users of AR in public spaces, such as Digital Tourism, Cultural Heritage, Informal and Non-formal Learning.

**University of Bath** can provide access to:

- Cameras, lighting, rigging, etc.
- Tracking systems
- Equipment for physical activity such as an instrumented indoor cycle and cross trainer
- Equipment for physiological measurements such as skin conductance monitor, heart rate monitor and eye trackers

## 4. Software

All nodes provide professional creative software as well as novel software resources related to their research capabilities. Unless a free licence is available, software licences need to be purchased by FSTP projects.

**Aalto University** can provide access to:

- SDKs to control smart garments and haptics.
- Professional editing packages such as Avid Media Composer Video Editing Suites and Avid Pro Tools Editing Suites

**Filmakademie BW** can provide access to:

- SDKs to develop location-based experiences
- High-end rendering and VFX software to run on their computing infrastructure

**Universitat Pompeu Fabra** can provide access to:

- SDKs for Augmented Reality Magic Lanterns running on iPhone 7
- Essentia open-source C++ library for audio analysis and audio-based music information retrieval
- Freesound API to share recorded sound clips under Creative Commons licences
- FSD50K open dataset of human-labelled sound events

- MusicCritic external music assessment tool
- SDKs for Computer Graphics & Avatars
- WebGLstudio (<https://webglstudio.org/>) platform for the creation for interactive 3D scenes directly from the browser
- Medusa (<https://github.com/upf-gti/Medusa>) open-source library for behaviour creation for 3D virtual agents

**University of Bath** can provide access to:

- SDKs for the integration of physical activities such as walking, running, jumping and cycling into immersive experiences
- SDKs for affect recognition (detecting how users feel) based on sensors
- Research code for motion-capture, animation, and machine learning for computer vision

## 5. Services

**All nodes** can provide mentoring from researchers and professional support for their facilities, equipment and software.

**Aalto University** can provide a 2-hour tutorial on electronic textiles and regular consulting services (1 hour/project/week) for the FSTPs that plan to build user interfaces using electronic textiles.

**Filmakademie BW** can provide two full tickets for the FMX event including a presentation slot (online or on location) per project.

**Universitat Pompeu Fabra** can provide business and IP rights mentoring in the field of media industries for potential future products derived from the FSTPs

**University of Bath** can provide an industry facing introductory workshop series to focus on the needs identified by industry within EMIL. Delivered as a recorded course it will provide an introductory point for potential and then successful FTSP projects.