Recommendation 2:

Augmented Reality

Experiential education and training

Using '*augmented reality*' to meet the societal need '*Experiential education and training*'

Status quo:

According to Gartner his augmented reality (AR) belongs to the key technology trends and is showing promise in delivering a high degree of competitive advantage over the next five to 10 years.

But already now there are a lot of augmented reality apps for the classroom, which are also in use in some schools. In the French curriculum augmented reality is already recommended to be used in middle school.

Also more specialized AR systems for university students or in the automotive or printing industry exist.

In a military environment AR has been used since 2009.

Recommended actions:

Technical challenges:
- Stability of the marker-less tracking technique
- Recognition algorithms for human forms
- AR environment development tools (usability; still high technical knowledge and considerable time is needed to generate educational content)

Non-technical challenges:
- *Educational programs*: they have to be re-designed from scratch with the possibilities of AR fully in mind
- *Training:* the teacher have to be trained in the usage of augmented reality
- *Regulations:* e.g. regarding privacy and intellectual property rights
- *cyber security issues:* have to be dealt with (e.g. hacker attacks, exfiltration of personal or behavioral data, privacy risks, risk of the introduction of malicious applications)

Experiential education and training:
The need refers to facilitate skill development, enable communication in different languages, and deliver affordable bilingual / international educational offer among youth and children. Specific instances as clarified by some informants are: "Helping children in their development and education." "Technical and behavioural skills shortage.", and "Bilingual/multilingual environment with English as priority/Intercultural education at affordable prices."

Augmented Reality:
*Augmented Reality (AR) is the real-time use of information in the form of text, graphics, audio, video, GPS data and other virtual enhancements integrated with real-world objects, whose elements are thus augmented. It is this 'real world' element that differentiates AR from virtual reality, which in contrast replaces the real world with a simulated one. Augmentation is conventionally in real time and in semantic context with environmental elements.**

* GARTNER: Augmented Reality (AR). URL http://www.gartner.com/it-glossary/augmented-reality-ar/