



## Recommendation 2:

**Augmented reality**

**Experiential education and training**

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

### Actual solutions and services:

According to Gartner 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.

### SWOT Analysis

#### Strengths

- Creating a more interactive and personal experience.
- Allowing to experience the word at one's ease and convenience.
- Improving mobile usability by acting as the interface itself, requiring little interaction.
- Enabling more cost-effective and risk-free training – allowing to simulate practices without to actually expose people to risky situations or hazardous environments.
- Advancing and facilitating education (visualize "difficult" to explain concepts, facilitate learners' interaction, apply trial and error methods, etc.).
- Providing real-time feedback.

#### Opportunities

- Public employees training.
- Safer and informative navigation.
- Aiding disabled people by providing vital information, otherwise cumbersome to obtain and enhancing their environment.

#### Weaknesses

- Hampering the interaction with the real world – replacing human interaction.
- Still facing technical challenges and limitations. The accurate tracking of the position and the line of sight of the user are still challenging aspects. However, this is important for the accuracy of the alignment of the virtual objects on the real world).

#### Threats

- (Individual) privacy concerns – probability of access to information that one should not readily possess about a given person.
- High development costs
- Need for investments in wearables

**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.*

*With the help of advanced AR technology, the information about the surrounding real world of the user becomes interactive and digitally responsive. Information about the environment and its objects is overlaid on the real world. This information can be virtual or real. Overall, AR brings out the components of the digital world into a person's perceived real world and enhances one's perception of reality.\**

\*Gartner (2017) Augmented Reality (AR). <http://www.gartner.com/it-glossary/augmented-reality-ar/>. Accessed 6 July 2017.  
Wikipedia (2017) Augmented Reality. [https://en.wikipedia.org/wiki/Augmented\\_reality](https://en.wikipedia.org/wiki/Augmented_reality). Accessed 11 April 2017.