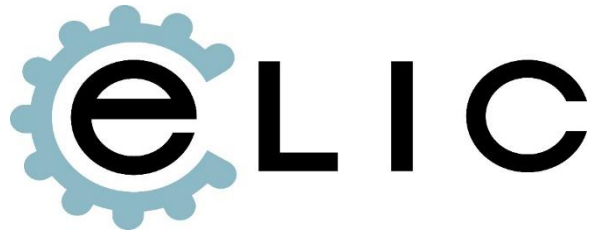




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Engineering Literacy Online - Teachers as Medium for Change

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IO1 – A3 Needs and Gap Report - Region

Austria

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IO 1

Needs and GAP Analysis Austria

This short summary serves as starting point for identifying common needs and GAPs of the ELIC primary target group and serves as a main reference point for all following intellectual outputs.

Country: Austria

Needs identified:

- Engineering teaching materials which can be implemented into teaching with little adaptation efforts for teachers
 - Topics identified:
 - Electromobility
 - How do cars work? What are the most important parts of the combustion engine? How can I start a car?
 - Autonomous driving – how will the mobility of the future change?
 - Robotics – how robots are changing business strategies?
 - Methods identified:
 - Theoretical input given in class, practical application through excursion and ending the topics in the classroom
 - Combination of theory and hands-on examples – engineering to experience and touch
- Engineering implemented not only in STEM subjects but also in other subjects such as languages. It was identified that among the STEM teachers there is a high motivation to collaborate with other subjects in order to create the awareness and motivation among pupils and teachers to deal with engineering aspects.
- Centre for coordinating engineering education efforts – currently there are a couple of initiatives that are dealing with increasing the knowledge and skills of engineering topics of pupils and teachers but all of them have limited resources meaning that they concentrate on the organisation’s aims and do not see the big picture.

- Changing the perspective of pupils and teachers when it comes to STEM subjects and the integration of engineering topics – changing the names of some STEM subjects could support in decreasing the barriers connected to STEM subjects. An example is the course robotics which is well attended given the timeliness of the topic

GAPs identified:

- Trainings offered to STEM teachers are available to a high degree, still quality of content is often questionable as well as the output provided
 - Output currently: training implementation with experts, very little information on didactical concepts for engineering topics, increase of knowledge
 - Output aimed for: increase of knowledge on up-to-date engineering topics including adequate didactical concepts, teaching materials provided which can be directly implemented in class at various levels
- Coordination of engineering literacy efforts for pupils and teachers
 - Current situation: many initiatives for engineering education in schools but no quality control of trainings and excursions offered and also no coordination
 - Situation aimed for: bundling the resources that are currently invested in promoting engineering education/literacy in one centre to create a bigger impact on a regional and national level