Determining levels of knowledge and skills:
electronic accreditation of prior experiential learning – .eapel
brainshuttle™.eapel is a web-based software system, which supports the process of determining previously acquired knowledge and skills (APEL – accreditation of prior experiential learning). This process consists of documenting an individual's knowledge and skill sets, including their certifications, followed by an evaluation of these abilities by an expert. With the help of the different components of the brainshuttle™.eapel software, these process steps are simplified.

Electronic support for determining and evaluating skills and competencies
Electronic support for recognising non-formal and informal learning

*Lifelong learning*, as well as the recognition and certification of non-formal and informal learning achievements, has only come into the public eye in recent years. Various European research projects have unsuccessfully tried to map the accreditation process through the use of software. *brainshuttle™.eapel* is the key to a simple and automated way of evaluation and documentation of the accreditation process.

There is a high demand to open new job perspectives to many, especially young, people through the validation of their knowledge, capabilities and areas of expertise, not only in industrialised countries, but also particularly in less developed countries. They can receive full or partial recognition of their qualifications in the sense of formal acknowledgement through the (partially) automated validation of their non-formal or informal learning experiences. The possibility of showing individuals ways in which they can receive formal degrees, based on the German or European qualifications framework ([www.dqr.de](http://www.dqr.de)) ([https://ec.europa.eu/ploteus/content/descriptors-page](https://ec.europa.eu/ploteus/content/descriptors-page)) as tailored to their individual needs, is equally important.

The submission of qualifications within *brainshuttle™.eapel* allows the applicant to consciously organise their work and education history, creating the foundation for an individual consultation as well as providing a layout for personal and career planning.

### Forms of learning:

**Non-formal learning**

Learning that occurs outside of an educational or vocational institution commonly does not lead to certification. It is usually non-systematic with regards to learning goals, duration and tools, however it is purposeful for the learner.

**Informal learning**

Learning that happens in daily life, the workplace, with family and friends or during free time is not structured in terms of learning goals, time or support, and generally does not lead to certification. Informal learning can be targeted, however in most cases it is unintentional.

**Formal learning**

Refers to the educational system from elementary school up to university, which also includes special programmes for technical or professional education. Formal education is often referred to as ‘school education’.

### Why electronic?

- Typical accreditation processes can not be adapted to the rapidly increasing demand.
- A lot of work on the way to validation stems from an earlier phase before the applicants have fully decided to submit their application.
- Processing electronically allows for a simplified inclusion of specialists (regardless of location).
For the skill-set determination and the qualifications analysis, SGM, together with ITSO and MCAST - Malta College of Arts, Science and Technology, has developed the software system brainshuttle™.eapel. It consists of four software components:

1. **PET** Portfolio entry tool for applicants
2. **REC** Recommendation engine
3. **RARE** Recommendation assessment and reporting tool for evaluators
4. **ADM** Administration of organisational structures, competencies, learning outcomes and courses

### Features

- Cloud- and web-based
- Component-based and process support for different user roles (applicant, APEL evaluator, department administrator)
- Support of digital file imports, which serve as the basis for competency assessment (APIs can be made available)

To establish the APEL process in an educational institution, it is necessary to analyse the existing processes and to design the new digitised process and its single steps. This includes the application period (e.g. requirements on the application structure and support of the applicants) and the evaluation period (e.g. evaluation by an expert and final accreditation by a decision making committee). It is significant for efficiency to make such a process repeatable, comprehensible and therefore measurable. brainshuttle™.eapel can support and simplify the design and implementation of the APEL process by providing different components already designed to cover the whole process. Nevertheless, brainshuttle™.eapel can easily be integrated into the individual overall processes of educational institutions.
In brainshuttle™.eapel PET the applicant can...

- Compile their competencies (based on professional qualifications or structured by industries)
- Create a portfolio which contains both the certified and uncertified qualifications and experiences of the applicant
- Allocate qualifications from the portfolio to match their competencies
- Electronically submit the application for evaluation
- Export the systematically recorded data from the application as a PDF for personal use

Workflow
Scenario 1: Using PET

Registration of competencies with brainshuttle™.eapel PET (portfolio entry tool for applicants)

A prospective student wants to apply for a particular programme at a university. Through his professional background the applicant has already acquired competencies that he would learn in the course of study that he is interested in. Since the applicant has no official certification verifying these capabilities, he wants to make use of the APEL process to have individual courses credited to him and thereby reduce the overall length of the programme.

So the applicant registers at brainshuttle™.eapel PET and starts by creating a portfolio. Here the applicant fills in his degrees, certifications and previous employment experience. For each position, the applicant thoroughly explains his tasks and uploads any supplemental documents, such as job references. Following that he chooses his desired programme in brainshuttle™.eapel PET and receives a list of the competencies that are attained during the programme.

The applicant goes through the list and marks all the competencies, which he believes to already possess. For each marked competency the applicant can explain how he acquired them and choose one or more of the qualifications from the portfolio as verification.

After the applicant has worked through the list, he is shown which courses of the programme have been completed based on this information, as well as to what extent, and can therefore be credited to him. When the applicant is satisfied with the preliminary result, he officially submits his APEL application so that it can be evaluated.
In brainshuttle™.eapel RARE the evaluator can...

- Undertake the validation of skills, qualifications and competencies
- Recognise additional competencies
- Return applications to applicants, should they decide that revision is necessary – this includes access and comment functions on the application where revision is required (evaluator feedback)
- Export applications as ZIP files in their entirety, including the evaluation (as PDF) and files uploaded by the applicant, which can be further processed or archived

Workflow
Scenario 2: Using RARE

Evaluation of competencies with brainshuttle™.eapel RARE (recommendation assessment and reporting tool for evaluators)

The university has received APEL applications. In order to process an application, an expert signs in on brainshuttle™.eapel RARE and picks one of the APEL applications from the list for evaluation. The APEL application contains the personal information of the applicant, their portfolio and the APEL application for a particular course of study. The expert validates the individual qualifications of the portfolio by examining the information provided and any proof of qualifications that may have been uploaded and decides if the qualification is valid or not. Subsequently the expert checks the competencies of the programme that the applicant claims to possess. As before, the expert decides if the provided proof of skills is sufficient and valid.

The result of the evaluation indicates which courses from the programme will be credited to the applicant. Should the evaluator decide that particular qualifications or competencies should be revised, they can comment on the qualifications and skill sets in question in order to give the applicant some leads for revision, and send the APEL application back to the applicant.
In brainshuttle™.eapel RARE the administrator can...

- Manage user accounts and data concerning the organisational structure, learning outcomes, competencies and courses
- Import data in XML format (for example after previously exporting from the administrative system of the educational institution)
- Edit data and provide other supplemental data records – this includes linking competencies and skills with learning objectives and providing or closing off access to courses in a timely manner to meet the registration deadlines of the educational institution

Workflow
Scenario 3: Using ADM

Determining and structuring the data for assessment with brainshuttle™.eapel ADM (administration tool)

A university wants to use brainshuttle™.eapel for its APEL process to allow partial programme accreditation for students or applicants with uncertified qualifications and competencies. A programme consists of different courses, and for each course the university has defined a particular set of learning outcomes that a student should attain by the completion of the course. Information regarding university programmes, including details such as their course syllabi and learning outcomes are kept by the university in their administrative system. This information can be easily imported to brainshuttle™.eapel.

In brainshuttle™.eapel ADM the university sets a deadline for APEL applications and opens the corresponding programmes within a set time limit. The students can now access this information through brainshuttle™.eapel PET.

brainshuttle™.eapel

Uses

- Competency recognition for the accreditation of individual units for vocational or educational training (e.g. programmes at universities) to fast track the programme
- Qualification analysis – assessment and classification of existing professional competencies
- Acceptance of foreign studies (credits)

Advantages

- Save on personnel costs through electronic preparation and application
- Applicants can maintain and expand their portfolio at any time and do not need to be present on-site for the application
- Preliminary assessment: Development of individual tests to verify existing competencies based on the brainshuttle™.eapel results
- Governance: Process control, documentation and worldwide accessibility