

Teachers' perspective on FESPM math learning European Projects involving TIC



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1.

Erasmus+ European projects

Co-funded by the
Erasmus+ Programme
of the European Union





PROJECTS

MoMaTre

MoMaTrE-Mobile
Math Trails in Europe

Nº: 2017-1-DE01-
KA203-003577

MaSCE³

Math Trails in School,
Curriculum and
Educational
Environments of
Europe

Nº: 2019-1-DE03-
KA201-060118

LEARN+

Building communities
of teachers producers
to implement
personalized learning
of Mathematics
supported by machine
learning and block
chain to assess
competence

Nº: 2019-1-PT01-KA201-
061246

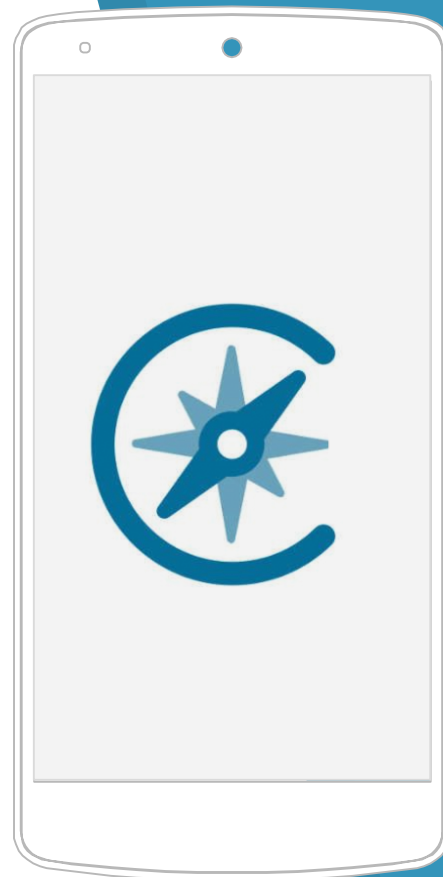


MoMaTRE PROJECT



Mobile MATH TRails in Europe

- Help teachers to easily create math trails for their students
- Create a catalogue of generic tasks
- Enjoyment of mathematics in daily situations.



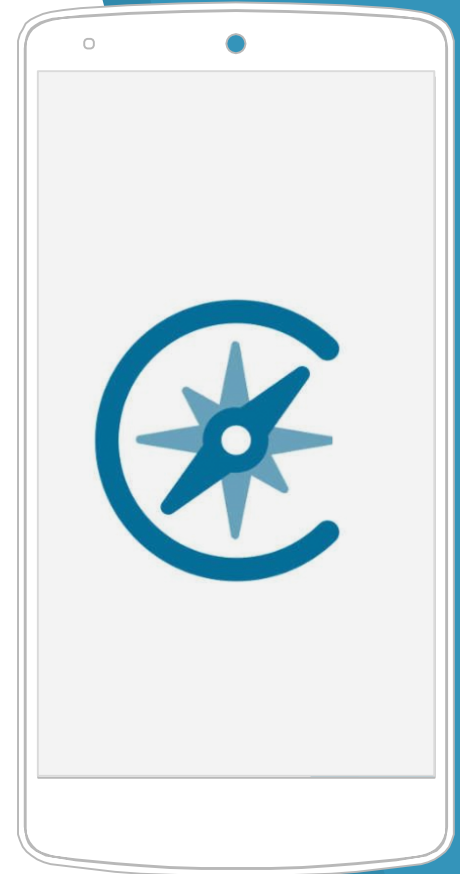


MoMaTRE PROJECT



The **consortium** contains *seven partners* from five different European countries (*Germany, France, Portugal, Slovakia, Spain*):

- ┆ Goethe University Frankfurt (coordinator)
- ┆ Univerzita Konstantina Filozofa Nitre
- ┆ Université Claude Bernard Lyon 1
- ┆ Instituto de Engenharia de Sistemas e Computadores, Investigação e Desenvolvimento em Lisboa
- ┆ Instituto Superior de Engenharia do Porto
- ┆ Autentek GmbH (Enterprise)
- ┆ FESPM



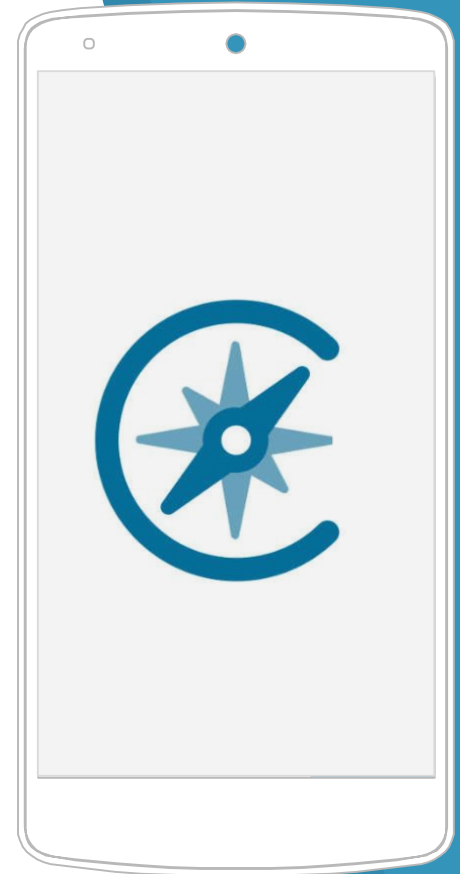


MoMaTRE PROJECT



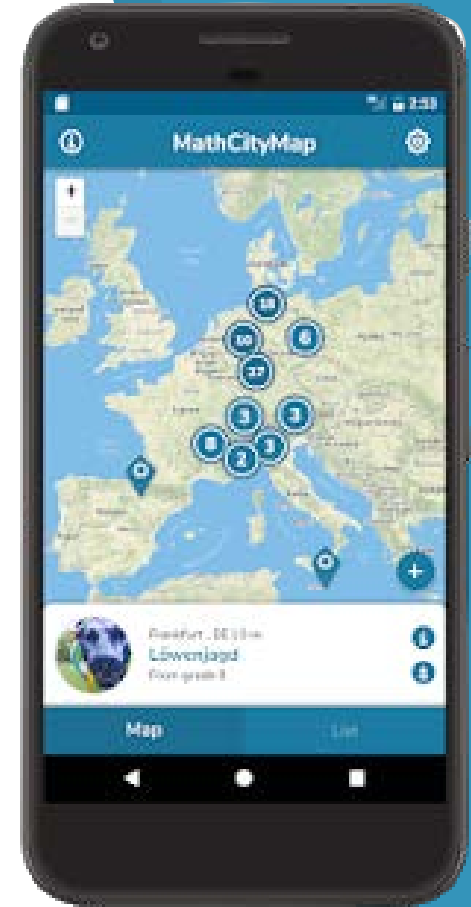
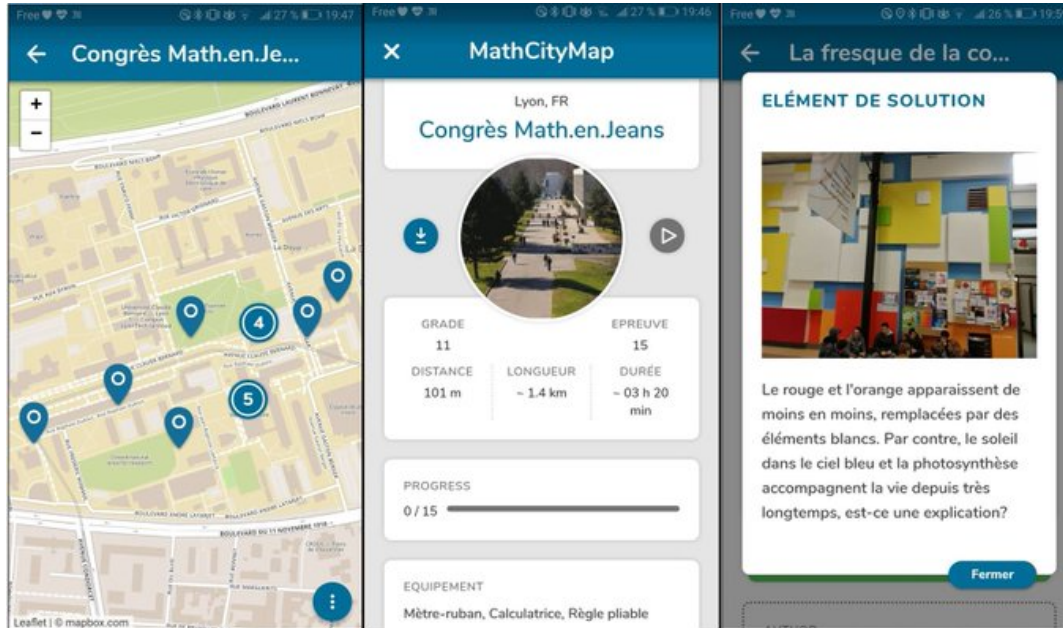
The results are structured in seven different **Intellectual Outputs**:

- ┆ IO1: Mobile Application
- ┆ IO2: Authoring App
- ┆ IO3: Web portal
- ┆ IO4: Community Website
- ┆ IO5: Generic Tasks
- ┆ IO6: Long-Term Curriculum
- ┆ IO8: Validation and Research





MathCityMap <http://mathcitymap.eu>



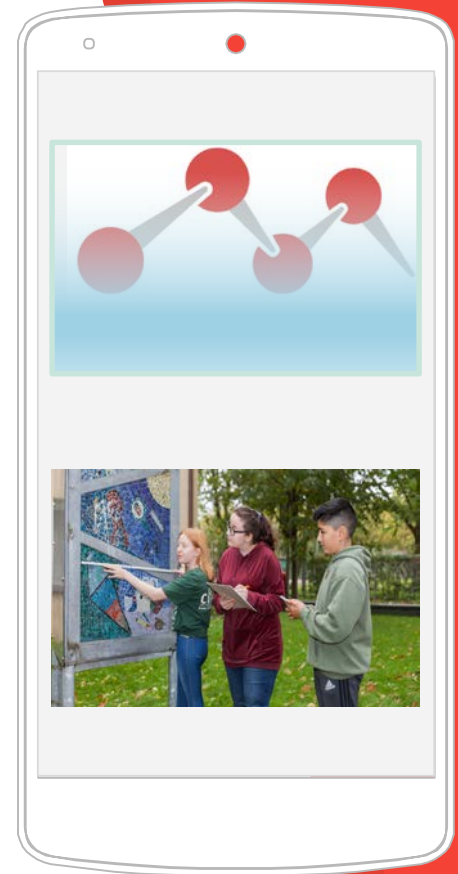


MaSCE³ Project



MathTrails in School, Curriculum and Educational Environments of Europe

The idea of this project is to close the gap between **normal mathematics lessons** and Math Trails as a **special learning and teaching method** through adapting them to the European curricula of mathematics education and combining the needs of teachers with the technical possibilities of digitization.



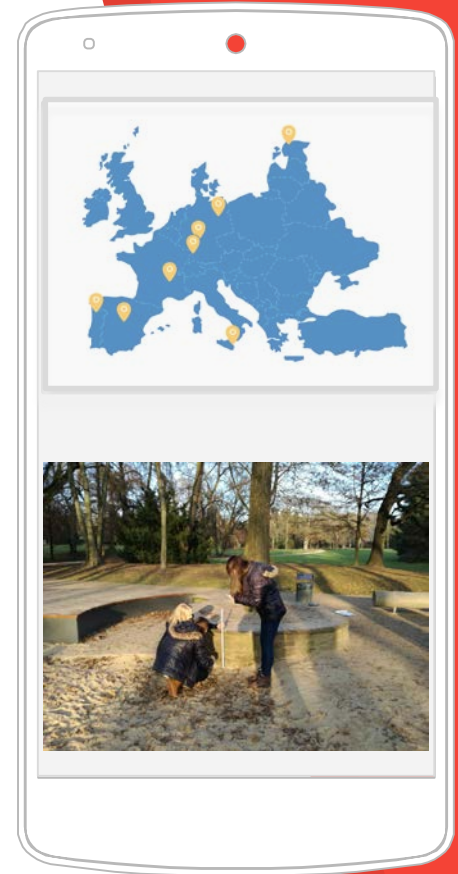


MaSCE³ Project



The **consortium** contains **eight partners** from six different European countries (**Germany, France, Portugal, Italy, Estonia and Spain**)

- └ Goethe University Frankfurt (coordinator)
- └ Instituto Politécnico de Viana do Castelo
- └ Université Lyon 1 Claude Bernard
- └ Autentek GmbH
- └ Hochschule Offenburg
- └ Tallinn University
- └ Università degli studi di Catania
- └ FESPM



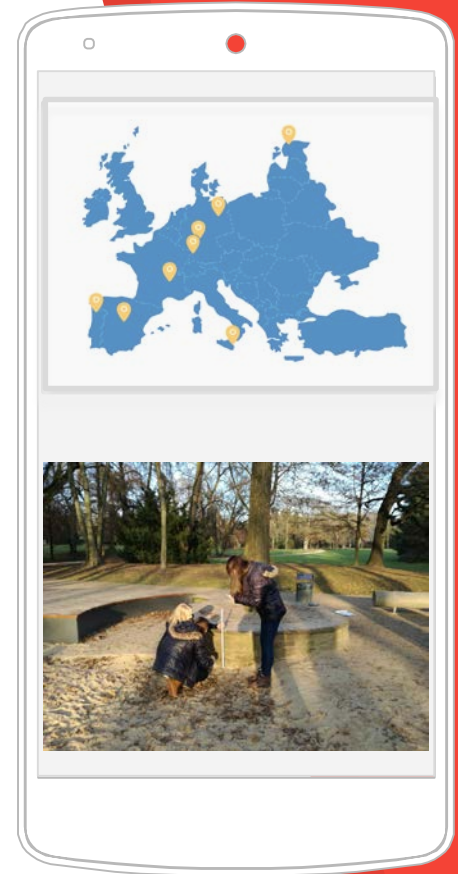


MaSCE³ Project



Outputs

- ┆ IO1: The Digital Classroom.
- ┆ IO2: Task Formats
- ┆ IO3: Augmented Elements - This output will investigate the possibility to advance MCM with elements of Augmented Reality.
- ┆ IO4 and IO5: Theme-based Trails for Algebra/Numbers/Calculus and Geometry
- ┆ IO6: MOOC for teacher training
- ┆ IO7: Short Term Curriculum





Learn More Project

Learning mathematics supported with videos in a gamified environment, with a self assessment and peer evaluation scheme, stimulating an autonomous and active learning.

Development of a new version of the Milage Learn+ platform that integrates personalized learning (machine learning) and digital certification (block chain).





Learn More Project



Consortium

- ▶ Algarve University (Coordinator)
- ▶ Associação de Professores de Matemática (Portugal)
- ▶ FESPM
- ▶ Kypriaki Mathimatiki Etaireia (Maths Teachers Association, Cyprus)
- ▶ Agrupamento de Escolas de Santo António (Portugal)
- ▶ IES Jesús de Monasterio (Cantabria, Spain)
- ▶ 4th Primary School of Limassol (Cyprus)
- ▶ Gymnasium am Krebsberg. Schule des Landkreises Neunkirchen (Germany)
- ▶ Padagogische Hochschule Heilderberg (Germany)
- ▶ MNU Deutscher Verein zur Förderung des mathematischen und naturwissenschaftlichen Unterrichts e. V. (Maths and Science Teachers Association in Germany)



Learn More Project



Outputs

- Personalized learning.
- Help teachers gain a better understanding of how their students are progressing with learning.
- Teachers to create customized curriculum that suits the specific needs of the learners
- Advise learning paths



2.

SWOT Analysis



Strategies - SWOT

Indicated in red
more linked with AI

Strengths

- Opens up new spaces for the development of shared experiences.
- Promotes the creation of groups or networks of like-minded teachers.
- Contributes towards the visibility of good practice and novel methodologies.
- **A more attractive approach to learning**

Opportunities

- Collective projects which have the support of management teams.
- **Creation of high quality resources and design of motivating learning activities.**
- Dissemination of innovative projects and experiences.
- Setting up a consolidated project.
- Internationalization of the organisation
- **Adaptive learning processes.**

Weaknesses

- Closed curriculum with a little room for education innovation and timetable changes.
- Difficult to maintain long term development at all levels. **Lack of long-term educational policies and strategies.**
- Dependent on institutional support and public finances. Further growth will require external funding.
- Use of tools which are more fun-oriented than educational.
- Involvement of organization required.

Threats

- Permanent changes and continuous introduction of new technologies.
- **Need for constant updating** in the use and implementation of new resources in the curriculum.
- Staff changes can lead to deceleration.

From the teacher's perspective - SWOT

Indicated in red
more linked with AI

Strengths

- Promotes the creation of groups or networks of like-minded teachers.
- Collaborative learning among teachers.
- Captivates students' attention.
- Creates personal responsibility and challenges.
- **Easy to share information and knowledge.**
- Creates a feeling of community.

Opportunities

- **Open up new possibilities for work.**
- Encourages work through discovery.
- **Better use of classroom time.**
- Promote partnerships in the educational context.
- **Reinforcement of the smart tutorial action**
- Re-thinking the curriculum.

Weaknesses

- Need for continuous training.
- Greater workload.
- Lack of strategies to achieve sustainability and visibility.
- Lack of motivation.
- **Channelling the effort of staff into an institutional strategy.**
- **Lack of tools that help teachers in the decision-making process.**

Threats

- Motivation, **assessment and training of teachers.**
- Need to adapt both physical learning context and course content.
- **Validation and measurement of real impact in such a way as to facilitate and direct the decision-making process.**
- Resistance to change.
- **Effort needed to implement (planning, development, application and assessment).**

Thank you

The main objective is and
always be
personal and meaningful learning