

MoM-Matters of Matter- Dissemination- an overview

Dissemination of the project was capillary and , although more intense towards the end, run parallel to the project throughout the three years. The target were Teachers at all levels from local to International , Students, Local Community and General Public in a wide variety of forms: workshops, Science shows, stands at fairs, newsletter, festivals, etc.... In many cases the activities brought to new ones or new relationships in a synergic virtuous cycle.

a. Dissemination to teachers

As MoM Project is meant to be “from teachers to teachers”, priority in dissemination has been given to reaching out to other teachers. This will also ensure sustainability of the project and reuse of the materials in the future .A particular attention was given to young ir preservice teachers. One of them had a short jobshadowing experience during which supported student’s research and collaborated in writing MoM didactical materials.

a.1- First of all the **teachers inside the 4 Erasmus+ teams** were trained both at distance and in presence. Materials Decathlon (see the related didactical materials uploaded on the platform of results) during the mobility week in Italy was a significant and impacting moment where many final protocols were shared, discussed and refined. The teachers had a hands-on , “on the field” experience together with students.

a.2 A particular focus was in disseminating to **teachers inside the participating Institutions** both on the specific content of MoM and on the European dimension of teaching (tools, visions, opportunities). In the coordinating school more than 3 courses were run open to the neighbouring schools. Together with the educational centre MEMO in Modena, 2 more courses targeting junior and primary school teachers were run.

<http://www.mattersofmatter.eu/mom-workshop-iis-cavazzi/>




a.3 Dissemination reached out to the **teachers of the surrounding schools and enlarged to regional national and even international level** through workshops, participation to conferences, congresses, festivals and with mails to Principals, press, newsletters, etc

Local level

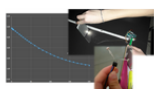
- Modena Direct Europe January 29th 2015 invited as speaker to the seminar “Le opportunità Europee per l’istruzione Scolastica”
- Bologna Erasmus + Seminar December 3rd 2015. MoM invited as best practice in the regional Seminar organized bu USREER about the new call Erasmus+ 2016
<http://istruzioneer.it/seminario-regionale-programma-europeo-erasmus-call-2016-e-monitoraggio-progetti-ka1-e-ka2-finanziati-nel-2014/>
- Participation to **School Makers day 2016 Bologna** <http://www.mattersofmatter.eu/school-maker-day-2016-bologna/> with a teachers workshop
- Participation to School Makers day 2016 Bologna **School Makers day 2017 Bologna** with a teachers workshop <http://www.schoolmakerday.it/workshops/>



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Iscriviti ai workshop!

Arduino e la flipped physics



IISCavazzi sez. liceo scientifico Pavullo M
Secondaria II grado
Lab: Primo piano - Aula viola dalle 14:30 all
Destinatari: secondaria II grado
Prerequisiti: nessuno
Temi: making_base
[più informazioni](#)

Il progetto MOM del Cavazzi tra le buone pratiche del programma Erasmus + KA2 per la regione Emilia Romagna

Il 3 dicembre si è svolto a Bologna il seminario regionale di monitoraggio dei progetti Erasmus + per le scuole, organizzato dall'Ufficio Scolastico regionale dell'Emilia Romagna.



2) il progetto MOM - Matters of Matter: Future Materials in Science Education, dell'IS "Cavazzi" di Pavullo nel Frignano (MO) progetto ad ampio respiro (unico esempio di KA2 triennale) sui "nuovi materiali"/nanomateriali/materiali "intelligenti", con 42 mobilità docenti e 33 mobilità alunni, elaborazione di moduli e UD rese fruibili in più lingue come Open Educational Resources e buon coinvolgimento del territorio. La compilazione piuttosto dettagliata della scheda di monitoraggio da parte della docente referente di progetto ha evidenziato tra l'altro con chiarezza le criticità incontrate (e risolte), e si è ritenuto che questo aspetto potesse risultare di particolare interesse per le scuole che si apprestavano a presentare candidature nell'ambito della Call 2016.

Monitoraggio sui Progetti KA1 e KA2 autorizzati nel 2014 e seminario regionale del 2 dicembre 2015 a Bologna
Responsabile del procedimento: Monica Gallo - Referente USRE Emilia-Romagna

Seminario regionale "Programma europeo Erasmus+ - Call 2016 e Monitoraggio Progetti KA1 e KA2 finanziati nel 2014"

Programma europeo "Erasmus+
Call 2016 e Monitoraggio Progetti KA1 e KA2 finanziati nel 2014 (*)

National level

- A national contest for schools on the best experiment of Materials Science was run. (The winner Liceo Cecioni Livorno) <http://www.mattersofmatter.eu/matters-of-matter-1st-science-fair/> and the previous year for local junior schools “*Amazing Science*”
- MoM was invited to run a teachers workshop during theINDIRE/Scientix conference @ Didacta Italia 1st edition Firenze 28th October 2017



<http://www.mattersofmatter.eu/mom-didacta-italia/>

- Congresso nazionale AIF 2017 Lucca(IT) <http://www.mattersofmatter.eu/mom-al-congresso-nazionale-aif-2017/>
- In Germany the project was presented to the Ministry of education in the contest of the opening of the new school Science lab <http://www.mattersofmatter.eu/new-science-lab-at-gymnasium-papenburg/>
- The German school will present MoM as best practice exemplum @ MINT EC in November 2017 <http://www.mattersofmatter.eu/mom-at-mint-ec/>

International level

- Presentation to EuroScience Fun 2015 IQlandia Liberec Czech Republic <http://www.mattersofmatter.eu/euro-science-fun-2015/> participation for disseminating the project and learning about Science shows
- LUMAT International Teachers' Climate Change Forum virtual conference <http://www.mattersofmatter.eu/mom-luma-international-teachers-climate-change-forum/> the focus of MoM presentation (see video in the above link) was materials for sustainability and Climate change resilience
- STEM Alliance Competition 2016 <http://www.mattersofmatter.eu/stem-alliance-competition/>
- MoM was uploaded in the Scientix database/archive of the European projects See <http://www.scientix.eu/projects/project-detail?articleId=563506>

Róbert Hlynur Baldursson <robert.baldursson@eun.org>
a me, Anastasiya, Agueda

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Dear Ms Lisotti,

I am writing to inform you that your project – "MOM-MATTERS OF MATTER: FUTURE MATERIALS IN SCIENCE EDUCATION" – has been published on the Scientix online platform. [It is available in English](#), as well as the other seven languages we offer our content in (German, French, Italian, Dutch, Spanish, Romanian, and Polish).

We at European Schoolnet would like to express our gratitude to you for making your project available. You can now upload resources related to your project to our repository using [this tool here](#). Please note that it may take a while for us to review those resources due to a large number of them being uploaded. We will inform you about the process of your request for uploading resources.

In case of questions, please feel free contact me via this address.

Best regards,

Róbert Hlynur Baldursson | Science Projects Communications Coordinator | Science Education Department, European Schoolnet
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www.europeanschoolnet.org | www.scientix.eu | <https://www.linkedin.com/in/robert-hlynur-baldursson-60246020>

European Schoolnet | Transforming education in Europe

- 1st edition of Beta Markt Science Fair in Vleuten (NL)
2stud+1 teacher organized by Amadeus Lyceum Vleuten (invited)

Beta Markt Science Fair- Vleuten/Utrecht Olanda-



2 studenti ospiti dell'Amadeus Lyceum Vleuten

2° Premio del Pubblico

4 studenti olandesi ospiti in settembre

<http://www.mattersofmatter.eu/mom-at-betamarkt-vleuten-nl/>

- f) MoM selected for **Science on Stage 2017 Debrecen HU** were ran a workshop and was **awarded the EU STEM TEACHER AWARD 2017** for Best Joint Project

Didactical materials will be uploaded soon also on SonS website

<http://www.mattersofmatter.eu/mom->



[project-awarded-best-stem-teacher-award-sons-2017/](http://www.mattersofmatter.eu/mom-project-awarded-best-stem-teacher-award-sons-2017/)



The ceremony was featured on RAI TV, National television on the August 16th 2017 episode of Superquark see <http://www.cavazzisorbelli.it/content/science-stage-2017> end of trailer

- g) **Esero Conference 2017 in Dublin** (invited) with a Poster <http://www.mattersofmatter.eu/mom-attends-esera-2017/>

N.B. In both occasions f) and g) allowed for presenting the project also to Education researchers, teachers trainers at University level and Education policy makers

- h) **MoM Teachers International Summer school** August 20-26th Piane di Mocogno IT <http://www.mattersofmatter.eu/mom-summer-school-a-succesful-initiative/>. Also have a look at the specific document uploaded on the platform of results (leaflet, program, description, **evaluation**, photogallery)
- i) **For the future** a program for hosting teachers for short jobshadowing activities and the 2nd edition of the International Summer school have both been published on School education Gateway.
- <https://www.schooleducationgateway.eu/en/pub/opportunities/mobility/detail.cfm?id=13285-> jobshadowing
 - https://www.schooleducationgateway.eu/en/pub/teacher_academy/catalogue/detail.cfm?sid=50415 summer school 2nd edition

Moreover each partner will go on disseminating at local and national level whenever there will be occasion for it.

Last but not least a Scientix MOOC on Innovative Materials is under construction and will be published and open to any interested one once approved by Scientix panel

The didactical materials will be shared as OER on various platforms included eTwinning Platform and <https://www.oercommons.org/>.



Adina Nistor <adina.nistor@eun.org>

a me, Agueda ▾

Dear Lisotti,

Thank you for expressing the interest in creating a course for the Scientix Moodle with the title: **Matters of Matter**
Following your request, we generated an empty Moodle course where you can already start to include information about your chosen topic: https://www.schooleducationgateway.eu/en/pub/teacher_academy/catalogue/detail.cfm?sid=50415

Materiali didattici

- **Protocolli sperimentali**
- **Background reading**
- **Guide docenti**
- **Schede studenti**



b. Dissemination to Students, Families & general Public

See also <http://www.mattersofmatter.eu/outreach-and-events/>

- Erasmus corners were set up in each school
 - <http://www.mattersofmatter.eu/erasmus-corner-germany/>
 - <http://www.mattersofmatter.eu/erasmus-corner-pt/>
 - <http://www.mattersofmatter.eu/erasmus-corner-it/>
 - <http://www.mattersofmatter.eu/mom-wall-for-ireland/>
- Open days and Open Nights were organized in all schools
 - <http://www.mattersofmatter.eu/mom-barcelinhos-open-day/> <http://www.mattersofmatter.eu/open-day-in-germany/> <http://www.cavazzisorbelli.it/content/millumino-di-meno>
- School magazines and press featured the project
 - <http://www.mattersofmatter.eu/mom-schola-magazine/>
 - <http://www.mattersofmatter.eu/press/>
 - <http://www.mattersofmatter.eu/mom-project-the-portuguese-press/>



Science shows



<http://www.mattersofmatter.eu/science-show-2016-in-papenburg/>

Participation to faires with stand and students

- <http://www.mattersofmatter.eu/rimini-makers-faire/>
- Trieste mini makers Faire 2015 <http://www.mattersofmatter.eu/trieste/>
- Robotica 2.0 Lisbon <http://www.mattersofmatter.eu/robotica-2-0-lisboa/>
- Expo Elettronica 2016 Modena
- Trieste mini makers Faire 2016 and Pic nic della Scienza c/o ICCPT Trieste <http://www.mattersofmatter.eu/trieste-mini-makers-faire-2016/>
- School Makers day 2016 Bologna <http://www.mattersofmatter.eu/school-maker-day-2016-bologna/>
- Makers Faire Lisbon <http://www.mattersofmatter.eu/mom-maker-faire-lisbon-2016/>
- Makers Faire Rome 2016 <http://www.mattersofmatter.eu/students-from-iis-cavazzi-sorbelli-at-rome-maker-faire/> selected among the 35 schools invited with Save Lamp project

Exhibitions

- BergamoScienza 2016 <http://www.mattersofmatter.eu/mom-bergamoscienza-2016/>
- Exhibition @Ducal Palace Pavullo <http://www.mattersofmatter.eu/mom-final-exhibition-ducal-palace-pavullo/>



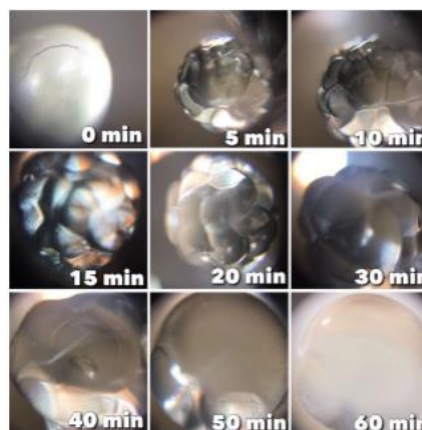
Contests

- Scatti di scienza 2015 Milano IT <http://www.cavazzisorbelli.it/content/scatti-di-scienza-2015-la-bellezza-di-una-immagine-0>
- LAB ET LUMIERE- concorso IYL 2015 <http://www.cavazzisorbelli.it/content/lab-et-lumiere-concorso-iyl-2015>
- Scatti di scienza 2017 Milan It <http://www.mattersofmatter.eu/mom-scatti-di-scienza-2017-milan/>

Scatti di Scienza 2017-Milano



3000 partecipanti
10 Studenti del Cavazzi fra i finalisti
3^a, 4^a e 1^a **lic.scient**



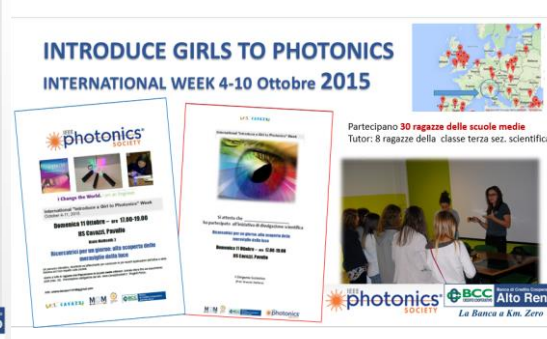
- Robocup leipzig 2017 www.mattersofmatter.eu/barcelinhos-robocup-leipzig-2016/
- Bloom IR 2017 <http://www.mattersofmatter.eu/mom-goes-to-bloom/>

Service learning to the community

- Student act as tutors @the local library in Arduino courses meant for 11-13 yrs old
- And in Science Sundays at school open to younger pupils

Disseminazione sul territorio

c/o biblioteca Santini-Pavullo
Partecipano 25 ragazzi 11-14 anni del territorio
Tutor: 10 studenti della classe terza sez. scientifica-Progetto MOM



Conferences with the entrepreneurs localcommunity

- Weaving the future. The challenges of smart textiles
<http://www.mattersofmatter.eu/weaving-the-future-the-challenges-of-smart-and-functional-textiles/>

More news from the partners

| Dissemination Plan <u>Ireland</u> | | | |
|-----------------------------------|--|---|-----------|
| WHEN | EVENT | HOW | COMPLETED |
| November 16 | Erasmus + section on home page of school website | Contact school website designer and Damien discuss options | yes |
| February 17 | Upload all materials to new section on school site and continue to refresh "Latest News" section every month | Damien discuss options for this type of platform with school website designer | yes |
| March 17 | Students display projects to parents prior to mobility | Damien contact parents regarding display of projects | yes |
| March 17 | Upload all materials from mobility and display to parents onto school website and project website | Damien upload all material to project website and send to school website designer | yes |
| April 17 | Material in School newsletter | Damien to send material to Mr. Madden to put in the end of year school newsletter | yes |
| April 17 | Material in Newspaper | Damien to send material to editor of Drogheda Independent newspaper | yes |
| April 17 | Entry into Drogheda Young Innovators challenge | Damien to discuss relevant projects with Mr. Lynch (business teacher) for entry into this competition | Yes |
| May 17 | Presentation of material by students to all parents of Transition Year students | Damien to discuss with Mr. Kelly (TY year Head) material to be presented in this show | yes |
| May 17 | Dissemination to other schools in Drogheda | Damien to post letter to Head of Science Department in all local schools detailing project, materials and displays. | yes |
| August 17 | Esera Conference DUBLIN | | yes |
| September 17 | Entry into Louth Enterprise competition | Damien to discuss relevant projects with Mr. Lynch (business teacher) for entry into this competition | yes |

Portugal Dissemination Plan

Past Events

1 - A workshop on the Arduino was held in April 2015 in order to increase the students' knowledge about the use of the Arduino electronic board. This training workshop was attended by all the students involved in the project, from our school.

2- The MoM project team organized a conference held on January 15, 2016. This conference was focused on the use of intelligent materials in the textile industry, involving the Municipality of Barcelos, local textile companies that are producing intelligent and functional textile and higher education institutions. The event was entitled "Weaving the future: the Challenge of Intelligent Textiles" and it was attended by the students and teachers involved in the project, leaders of the Municipality of Barcelos, entrepreneurs and textile workers of the county, students from vocational schools (textile courses) and researchers. The greatest goal of this conference was to create a closer relationship between schools and businesses for a more entrepreneurial future. In this initiative, researchers and entrepreneurs shared their knowledge and experience with the development of smart and functional textiles and explained what they can expect from the future of this industry in the region. (cf. <http://www.mattersofmatter.eu/weaving-the-future-the-challenges-of-smart-and-functional-textiles/>)

3 - Between March 17 and 19, 2016, a group of four students from the project participated in RoboParty 2016, a training event in the area of Robotics. During the three days of the event, the students built and programmed a mobile robot and participated in the challenges proposed to the teams. This was another opportunity to disseminate the activities developed within the scope of the MoM project. (cf. www.roboparty.org/)

4- On April 15, 2016, the MoM project team participated in the students' congress "Science, Innovation and Sustainability" organized by the School of Sciences of the University of Minho (ECUM). The congress gathered 450 students from 21 high schools across the country to present communications, posters and performances. Our students presented the smart lamp prototype developed in the context of MOM project. (cf. <https://www.ecum.uminho.pt/en/Society/Paginas/AMEC2.aspx>)

5- In May 2016, a group of MoM students participated in a 3-day short internship at P & R Texteis, one of the project's partner companies. For three days during Easter break, these students were able to learn in loco about this company and its work. They were able to test the application of smart materials in the production of high-performance sports equipment in the company's laboratory.

6- On June 25 and 26, 2016, a project team participated in the Lisbon Maker Fair 2016. This was an opportunity for the students to show the projects they developed within the MoM project (humanoid robot and intelligent lamp) and it was also an opportunity to establish contacts with other schools and with the community of makers in Portugal. (cf. <http://makerfairelisbon.com/pt/>)

7- Between June 30 and July 4, 2016, a group of MoM students participated in RoboCup 2016, an international robotics event held in Leipzig, Germany. In this event students had the opportunity to present a robot that they built during the school year, within the project's activities. (cf. <http://www.robocup2016.org/en/>)

Future Events

8- Final presentation of the results of the MoM project on May 19, 2017, open day of the Secondary School of Barcelinhos. All the students of the school and also the parents and local community will have the opportunity to know and learn about the work developed during the three years of the MOM project.

9- Participation as a joint European project at the European Science Festival on Stage 29 June to 2 July in Debrecen.

Germany Dissemination Plan

Science show 2016- Over 500 hundred pupils from primary school around Papenburg have visited the science show at the Gymnasium Papenburg. Different spectacular experiments have been presented by the students in three shows in december 2016. The students have for example worked with liquid nitrogen and other special materials.

Since 2015 Gymnasium Papenburg is a member of the MINT-EC (club of math and science excellence-centers an school), which is a corporation of about 250 STEM-school on Germany. The erasmus-project "Matters of Matters" will be presented at the next meeting (nov. 2017) this network during a poster session and also in a workshop.

The work for promoting the STEM activities at the Gymnasium Papenburg will go on in the next years. Some teacher are thinking about a new erasmus+-project.