



Erasmus+

SMART

Science and Mathematics Advanced Research for good Teaching

Co-funded by the European Union



MULTIPLIER EVENT – Salone del Libro Torino – 12 Maggio 2016

INNOVATION IN THE TEACHING OF MATHEMATICS AND SCIENCE: THE SMART RESULT





Erasmus+

SMART

Science and Mathematics Advanced Research for good Teaching

Co-funded by the European Union



MULTIPLIER EVENT – Salone del Libro Torino – 12 Maggio 2016

WE ARE GOING TO TALK ABOUT:

- *Teaching of Mathematics and Science at the secondary level of education*
- *Competence in Mathematics and Science (Third Key European Competence of Active Citizenship)*

MATHS: we have to revise the mathematics curricula, adopting an outcome-based approach whereby the focus has to lie on developing students' competences and skills rather than on theoretical content.

SCIENCE: research suggests that emphasizing **students' real life experiences** and discussing **societal aspects of science** are key levers in raising **students' motivation and interest in the sciences**.

Anna Brancaccio - MIUR



Erasmus+

SMART

Science and Mathematics Advanced Research for good Teaching

Co-funded by

the European Union



MATHS

- The amount of mathematics content in the curriculum can decrease while cross-curricular links, problem solving and the application of knowledge has increased.
- We have to insert the ICT skills in the discipline of Mathematics and also of Science. In particular, it is right to adopt an Advanced Computing Environment in learning Mathematics and testing and assessment systems that support complex, free-form entry of equations and intelligent evaluation of responses, ideal for science, technology, engineering and mathematics (STEM) education.

(National Project PP&S www.progettopp.s.it)

Anna Brancaccio - MIUR



Erasmus+

SMART

Science and Mathematics Advanced Research for good Teaching

Co-funded by

the European Union



SCIENCE

- In order to facilitate the **learning of Science**, we have to promote the practice of laboratory, seen not only as a place especially equipped with materials and tools, but above all as a **place where you can experiment with new ways of working** to stimulate curiosity and wonder, to **encourage experimentation and planning skills**, critical thinking and the **scientific method** to integrate disciplinary knowledge.
(National Project LSOSALab <http://ls-osa.uniroma3.it>)

Anna Brancaccio - MIUR





Erasmus+

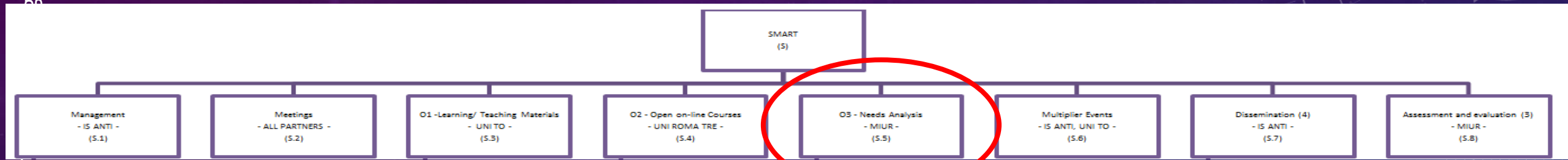
SMART

Science and Mathematics Advanced Research for good Teaching

Co-funded by the European Union



Main activities of SMART project:



O3 - Training needs analysis

Analysis of the educational and training needs of teachers of mathematics and science

Subject of the analysis: to verify in detail what the training and educational needs are in our different countries, getting a picture of what the teachers in our countries need in order to make their teaching more effective

Time span: 19/12/2014 - 2/2/2015

Anna Brancaccio - MIUR

glio 2016

MULTIPLIER EVENT – Salone del Libro T



Erasmus+

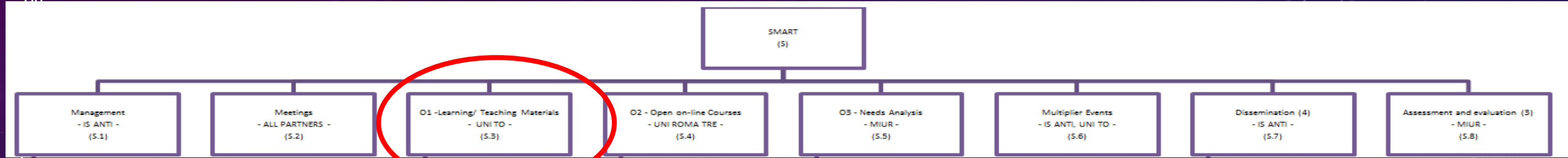
SMART

Science and Mathematics Advanced Research for good Teaching

Co-funded by the European Union



Main activities of SMART project:



O1 – Learning/Teaching Materials

Production of innovative teaching materials

- 1. Training modules and materials that contain innovative methodological indications for teachers, following a standardized format, agreed upon among the partners*
- 2. Platform for the repository of materials, virtual classes and forums for sharing problems and solutions*
- 3. Tools and methods for professional development*

Time span: 9/2/2015 - 18/07/2016

Anna Brancaccio - MIUR

glio 2016

MULTIPLIER EVENT – Salone del Libro T





Erasmus+

SMART

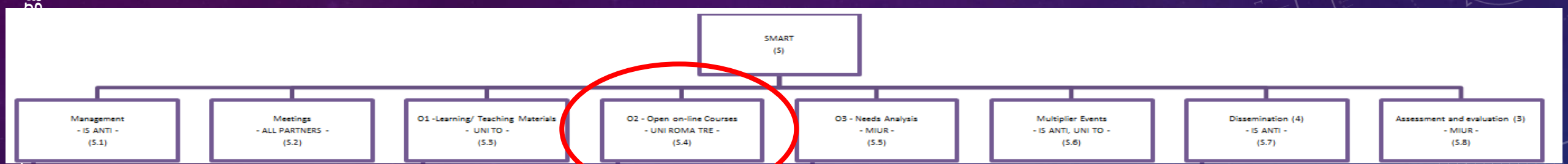
Science and Mathematics Advanced Research for good Teaching

Co-funded by the European Union



Main activities of SMART project:

aggio 2016



MULTIPLIER EVENT – Salone del Libro T

O2 – Open online courses "Mathematical Modelling" for teachers of Mathematics, and one called "Observing, Measuring and Modelling in Science" for teachers of Phisics and Science

Production of learning objects that will merge into online courses for teachers

1. *Open (free of charge) courses on both disciplinary and methodological topics*
2. *Design, implementation and maintenance of the official project website, that will serve as a distribution platform for the open online courses, and will contain also the O1 products, forums, showcase of the project, and a database of best teaching practices collected during the project*

Time span: 9/2/2015 - 18/7/2016

Anna Brancaccio - MIUR

