E Description of the project

What is the rationale of this project, in terms of objectives pursued and needs and target groups to be addressed? Why should this project be carried out transnationally?

Skills in science, technology, engineering and maths (STEM) are becoming an increasingly important part of basic literacy in today's knowledge economy. To keep Europe growing, we will need one million additional researchers, technologists and mathematicians in applied science by 2020 (European 2020 Initiative). This quotation from the EUN Schoolnet webpage could be the perfect motto for our project. The creativity of the international teams, sharing of own and mutual values, each school's own work in the field of STEM, mutual offline and online meetings together with development of digital content – all of these skills in one project creates a fantastic challenge not only for students but also for teachers. When discussed with municipalities in all countries, full support and a will to cooperate was given. The project will involve all parent organisations and parents of students in schools, as without them it wouldn´t be possible to fulfill all the goals which follow. This approach will support another aspect of modern Europe – the family bonds which are being so dramatically destroyed in these modern times. Another aspect is international understanding and support for European mobilities. Europe has recently been facing the migration crisis with a lot of prejudices, xenophobia and racism. Cooperation with various nations in one group, creating work together and their sharing of it could be a real asset for such a goal. It will not overcome all barriers, but it could help the way children approach the issue of migration.

Generally speaking, if such activities don't grow from real student interest, they will never come in later life. Yet science education can no longer be viewed as elite training for future scientists or engineers; only science-aware citizens can make informed decisions and engage in dialogue on science-driven societal issues.

Because school is fully responsible for the complex development of student personality, there also has to be support of the sense of art and culture as essential parts of life. Some of the STEM activities could also be seen through DIALOGUE OF ART WITH STEM.

Bilingual students in all schools involved in the project will have an essential role for project protocol and operation. During the project several teams will be created with very specific goals. (Management, PR, Task force for crisis, STEM 1 – STEM7, Hospitality team).

Students and teachers in all partner schools will choose one topic of interest from STEM as the priority for the school, region and country. The list of such priorities is listed below. The school together with the local community will prepare for 5 days of school workshop activities to show a complex view of the topic chosen. It will involve students, teachers, parents, municipal politicians and also of course local institutions working in the area. This conference will be organized in partner schools and the school will create all possible support for other partner schools in this field. They will organize webinars, online discussion, creative writing, an art contest and all imaginable activities to create a challenge for the students in this field. Such workshops will be organised in all partner schools.

The partner school community will develop support for topics offered in a way that at least 10 assets (clip, art work, multimedia presentation) will be included in every topic. They will organize an indoor school contest with the participation of local institutions and also small school mini-conferences to

choose 4 participants for the international conference in a partner school. The partner community will also prepare the Proceedings of STEM as a factual digital file which will be published on the web page. Such precisely defined goals will facilitate the control of the project and the fulfilling of the project goals.

As the project sets 100 mobilities as the limit which it supports, every partner has to choose at least 4 conferences for their presentation internationally. All schools will endeavour to find other sources of finance in order to participate in more than three conferences.

To sum up: 49 school mini-conferences in 7 countries, 7 international school workshops per 5 days, 490 assets from all schools (pictures, drawings, clips, presentations, cultural performances), two transitional teacher meetings. Because of the complex context of the project, not only STEM students will be involved. The list of activities shows that only schools which have a complex view of activities can attain success. We assume that about 70% of students in the age range of 10-12, 12-14 will somehow be involved.

The project will have the auspices of the Czech commission of UNESCO, Mr.M.Poche, representative of the European Parliament and for the science context patronage was kindly accepted by Mr. J. Michl (see his reference: http://chem.colorado.edu/index.php?option=com_content&view=article&id=271:josef-michl&catid=41:faculty&Itemid=93)

In what way is the project innovative and/or complementary to other projects already carried out?
We sincerely hope that our project has such scope and extent that it is really rather unique in the Erasmus+. It supports a lot of national and European educational values, it is based on project teaching and without the active role of all players in education it won't be successful. Most of the activities in the content are innovative as we didn't find a project with similar scenarios in any database. Dialog of science with art was also in our activities in the 2010´s. It created a really deep interest of pupils for both profiles. There are only a few disciplines which can offer something like this. Another spark of innovation is in the number of student mini-conferences in the project. Regardless of limited mobilities (100), the project will facilitate at least 1200 students participating in the European context. The project is focused on the whole school community, not only the travellers.

How did you choose the project partners and what experiences and competences will they bring to the project? How was the partnership established and does it involve organisations that have never previously been involved in a similar project? How will the tasks and responsibilities be distributed among the partners?

The selection of partners was not incidental, there was a process involved. For several months discussions with various eTwinning users were conducted and discussed. From June 2015 until December 2015 (6 months) we mailed, chatted and skyped with at least 100 possible partners and discussed the approach. The critical issue for selection was the complex scope of our project. The majority of schools mostly expected travelling, and when they understood the complexity of STEMART they rejected it. The webpage of the project was created (http://stem.lupacovka.cz) and discussion opened. During autumn of 2015 a discussion about context and content followed. New tools were introduced (OneDrive, webpage, skype conference, MS Office 365).

Consequently we also sought other support. So far we have declared consent for auspices and support from: 1. Czech Commission for UNESCO, 2. Mr. M. Poche – Representative of the European Parliament, 3. Municipality of Prague 3, 4. J. Michl – University of Boulder as the patron of the project and 5. Microsoft.

Since September 2015 we have also been discussing with parents and institutions and we have prepared more than 50 various STEM activities in school, on terrain or in a lab. Artificial performances for STEM are now being screen played.

How will cooperation and communication happen among all project partners and with other relevant stakeholders? What will be the purpose and frequency of the transnational project meetings and who will participate in them?

As was stated, first contacts were made, cloud space was created and first documents were shared. Partners have agreed communicating tools and webcasts as well as the role of partners. There is a calendar on the webpage where all activities will be published. All partners agreed to use Skype for business online communications. The same rules were set with other partners which are mentioned above.

Two transnational project meetings are planned, one being at the beginning of project. It is quite important to meet all partners personally, discuss their motivation, expectations and especially protocol and the proceeding of project. The project has rather complicated and complex goals. There has to be a very precise discussion about tools, formats and templates of all outcomes in our first transnational meeting (September 2016, Prague). From our previous experience it is a crucial mistake to leave these formative aspects to partners only , because in the end it is rather complicated to create final, high quality products. During this first transnational meeting all patrons will be introduced and there will be a discussion about other possible patrons.

The second transnational meeting will be held in December 2017, in Buzau, and will be mainly focused on evaluation and dissemination of all products which are being and are going to be created during the project. Part of the meeting is also to evaluate organisational issues and financial matters with regards to the project.

M1 September 2016 Prague, Czech Republic ,7 coordinators motivation, expectations, formats, methods, tools, web applications, conferences

M2 December 2017 Buzau, Romania 7 coordinators, evaluation, dissemination, financial issues, organisational issues

What results are expected during the project and on its completion? Please provide a detailed description of the expected results (if they are not listed in intellectual outputs, multiplier events or learning, training, teaching activities).

There are various outcomes planned. School workshops are not mentioned here as they are listed below. General products are as follows:

1. LOGO of project - the first international contest will be focused on development of a logo for the project.

2. STEM QUEST - multilateral questionnaire with prizes in both cultural and STEM topics which will show partner schools and also represent the national approach in this field

3. STEM CALENDAR – the International calendar presenting STEM achievements for all partner countries (at least 12 events per every partner).

4. STEM VIP PERSONS – the international multimedia database for at least 15 persons whose achievements are important both for STEM and country.

5. 7 STEMbyART TRAVELING EXHIBITION - in the last three months there will be this three day exhibition both for students and school community. Because of complicated logistics a part of the exhibition will be done by video-stream from the partners responsible for the topic shown. 3D objects will be presented in the partner school which is responsible for the theme.

6. INTERNATIONAL STEM JOURNAL – web based journal about new achievements in STEM which will be edited by students. Every partner is responsible for creating 70 references during the project time. All of these references will be tagged and cross referenced. It will consist of scientific, technological, engineering and mathematical achievements at national levels.

7. STEM YOUTUBE CHANNEL - Partner schools will edit its own Youtube channel with the STEM topic where all videos will be published and iframed for http://stem.lupacovka.cz

8. 8 MINI-CONFERENCE PROCEEDINGS WITH STUDENT, GUESTS PRESENTATIONS. These products will be available at least one month after the school's mini-conference. Every proceeding will have at least 70 articles. Proceedings will be shown only online and no printouts will be published. Printing will be organized only on request.

9. SCHOOL STEM WEB LEDGER – Work on the project could be followed by a web ledger which is already available at http://stem.lupacovka.cz.

10. CULTURE AND NATURE POSTCARDS – every partner will prepare introductory spots about their country, region, school and participants (One presentation per country – video on Youtube channel.)

11. CREATIVE COMMONS LIST OF COPYRIGHTS All participants (students and teachers) involved in the project will get a CERTIFICATE OF COPYRIGHTS to show their personal copyrights to the mental works. Such an approach will support activities which try to overcome copyright abuse by personal experience.

Summarization

Product (Time - Volume - Nr. Of item)

LOGO (October 2016 -1; At least 7)

STEM QUEST(November 2016 - 1 - 15 questions

STEM CALENDARS (January 2017 - 1 - 7 x year calendars with 12 events)

STEM VIP PERSONS (March 2017 - 1 - 105 persons database)

TRAVELLING EXHIBITIONS

STREAM (2016-8 - 7 streams)

TRAVELLING

EXHIBITIONS 3D (2017- 8 - 7 fixed exhibitions)

STEM JOURNAL (2016 – 2018 monthly - 1 - 336 references = 2 monthly)

STEM YOUTUBE

CHANNEL (2017-2018 - 1 - 70 clips)

COPYRIGHTS CERTIFICATE (May 2018 - 1000 - printed)

MINI-CONFERENCES (2017 – 2018 - 7 - 490 articles in the end of project)

* Czech Republic   September 2016: 3D virtual science models by Merkur Inventor transnational meeting

* Slovenia   November 2016: Art under microscope

* Spain   February 2017: Programming code

* Turkey   May 2017: Historical inventions

* Romania   September 2017: House full of experiments

* Bulgaria   February 2018: Architecture around us

* Greece   April 2018: Lego robotics

SCHOOL STEM

LEDGER (2016- 2018 - 1- 504 diary inputs in the end of project = 3 monthly)

CULTURE AND

NATURE POSTCARDS (November 2016 - 7 Partner country)

F.1 Project management

How will you ensure proper budget control and time management in your project?

The budget will be controlled by a special team of school accountants who will pass quarterly monitoring reports to the coordinator and the coordinating school will adopt some measurement to cope with probable shortage. All schools will set a special team of accountants and supervisor who will be responsible for following rules. All these members will have passed training for all EU financial rules and will follow a proposed budget plan. Because of the extent of the project they will also be responsible for sum up funds because some limitations in the budget will not allow students from all schools to participate completely. We will try to find financing from other sources as we did in Comenius 2013. Mobilities were set to 24, but we managed to organize 47. It gave us the extraordinary possibility to expand the impact of the project.

EU funds will be held outside of the normal school budget and all expenditures will have a special approval procedure to ensure that the budget will only be used for the expected purposes. Quarterly reports will check all of these expenditures and this gives the management of the project the chance to overcome financial problems with inappropriate costs and misuse of budget.

How will the quality of the project's activities and results be monitored and evaluated? Please mention the involved staff profiles and frequency of such quality checks.

Because of the length of the project (24 months with daily chores) the role of a supervisor will be included. The supervisor will be responsible to the legal body of coordinators and partner schools. He/she will be independent from the project management team. It will give him chance to report directly to legally responsible persons and react adequately. As was stated above, all outcomes of the project are mainly described in quantitative values, so checks will be more detailed and effective. We have learned from our experience in the last Comenius the important role has to be given to detailed description of outcomes as regards of quality. Quality assurance will be prepared on the first transnational meeting and these benchmarks will be controlled by three steps: a partner monitoring person, coordinator monitoring person and independent supervisor. There will be online monitoring meetings with responsible persons in partner schools every month to follow quality benchmarks. Patrons will be asked to evaluate possible outcomes at every half year term (4 evaluations) minimum. Partner schools will choose these people in their countries.

Quality control will have three steps (partner, coordinator, independent supervisor) and will be based on quarterly reports. Extra project evaluation will be ensured by patrons of the project.

For easier control and cooperation there will be tagging involved for every article or data entry. Tags will be distributed according to this scheme:

	CZ	BUL	SLO	Gr	TUR	Spain	Rom
VIP Person STEM	1-15	16-30	31-45	46-60	61-75	76-80	91-105
Journal STEM	1-48	49-96	97-144	145-192	93-240	241-288	289-336
LEDGER	1-72	73-144	145-216	217-288	289-360	361-432	433-504
Conferences	1-80	81-160	161-240	241-320	321-400	401-480	481-560

What are your plans for handling project risks (e.g. conflict resolution processes)?
Because of the extensive content of the project we can expect that some minor problems with communication will arise. The main approach to overcome them is to set rules and an evaluating benchmark beforehand. All partners must have the same view of quality and understand that in their participation they would adopt such rules and obligations. All problematic issues will be solved at first between the partner and coordinator, and if such negotiations are not successful, then at a public project meeting. All such problems will be listed in the Project management book where tags for the problems will be written. This book will be published in shared cloud (OneDrive) and the coordinator is obliged to answer comments within one week. If a solution needs more time, it has to be mentioned in the log. Microsoft Online Excel will be used for this log, allowing access for all partners.
All items, their evaluation and quality ,will have to be discussed beforehand and individually adopted.

Which activities and indicators of achievement (quantitative and qualitative) will you put in place in order to assess whether and to what extent, the project reaches its objectives and results?
Principles of evaluation and benchmarking are derived from the set qualitative and quantitative parameters of outcomes. Methods and tools are listed for each outcome and give assurance that all results will be achieved.

Nr of Activity Product	Quality assurance	Volume	Tools used
A1 LOGO International poll	Design, creativity, international poll		1
A2 STEM QUEST Online questionnaire, charts, graphs	Number of responses		1
A3 STEM CALENDARS one design, input all data into one calendar	7 national general calendars, landscape mode, A4 format Evaluation of graphics, selection of	1	
A4 STEM VIP PERSONS Evaluation of graphics, creation of one database	Drawings of famous persons with short (200 letters) biography	1	
A5 TRAVELLING EXHIBITIONS STREAM number of followers, School presentation	Video stream	7	Check connection,
A6 TRAVELLING EXHIBITIONS 3D Number of visitors in one week Guest book	Fixed presentation		7

A7 STEM JOURNAL   336 reference articles in predefined mode
                                                                    1
Number check, quality and relevance check mostly to topics chosen by partner school

A8 STEM YOUTUBE CHANNEL   70 clips   1
Quality check, number of viewers

A12 COPYRIGHTS CERTIFICATE   Graphic product   1000
Mutual evaluation of design

A9 MINI-CONFERENCES   2016 – 2018   7
490 articles in the end of project

* Czech Republic		Online	Proceedings
Evaluation of Proceedings Preformatted template			
* Slovenia		Online	Proceedings
Evaluation of Proceedings Preformatted template			
* Spain		Online	Proceedings
Evaluation of Proceedings Preformatted template			
* Turkey		Online	Proceedings
Evaluation of Proceedings Preformatted template			
* Romania		Online	Proceedings
Evaluation of Proceedings Preformatted template			
* Bulgaria		Online	Proceedings
Evaluation of Proceedings Preformatted template			
* Greece		Online	Proceedings
Evaluation of Proceedings Preformatted template			

A10 SCHOOL STEM LEDGER   504 diary inputs   1
Number check, quality three steps check

A11 CULTURE AND NATURE POSTCARDS 7 videoclips   7
Minutes, quality and komplexity

G Implementation
Please elaborate on the methodology you intend to apply in your project. Please also provide detailed information about the project activities that you will carry out with the support of the grant requested under the item "Project Management and Implementation".
The methodology of project STEMART is focused mainly on the supporting of challenges to all students in partner schools. It means that the majority of activities will be orientated to the group and team collaborative learning in various environments in schools and in its location. This will bring together education with polytechnic real tutoring. There is a list of activities in partner schools which will be provided both online and offline. Other important features of the project are regularity and complexity. Each partner will prepare their own program of activities with focus on the international level. This organisational model will also be a part for the evaluation board of partners, who will check procedures and protocol of the project. The project has clearly set outputs which are described by quantifications, so evaluation will be easier than not just describing overall quality. Quality assurance will also be introduced into the system by a board of evaluators. This quality assurance will especially evaluate the impact of the outcomes of students for the other schools. Because some outcomes are going to be created on a monthly basis, there is a possibility to fully verify participation of partners in this field. All activities are described in detail in added charts.

The methodology of the project is based on daily activities in all partner schools, on motivation and the challenge to be involved in possible international cooperation. That is why the workshops topics cover all STEM parts (Science, Technology, Engineering and Math by virtue of ART) and the volume of possibilities creates a chance so that the majority of students could choose a part where she/he can

be involved. There will be local conferences on selected topics and the best products will be shown in the international conference.

Participants in the international school workshops will be chosen by contests in partner schools, so only the best presentations and products will be internationally shown. Local conferences will be streamed online as well as described by school administrators. All students' outcomes will be shown on the project web page. The number of articles, ledger logs and other documents is set, so evaluation of the project is based not only on qualitative, but also a quantitative level.

Because 100 mobilities is the limit paid for by donation, a scheme for travelling was introduced, so every country will participate in three conferences at least. There is a strong need that part of the activities will be paid from other sources as the project is based on mutual cooperation.

Seven conferences (mobilities) will be accompanied by two transnational meetings.

Please provide detailed information about the activities that your project will organise and elaborate on the methods you intend to use.
The opening staff meeting (Prague) is an essential part of project. It gives a necessary start to all other activities and outcomes as benchmarks, quality and methodology have to be discussed. Recognition of the personal motivation of all school project managers is the second must. This meeting will open not only professional cooperation, but also personal bonds. At this meeting the situation of the school regarding social status, location and possibilities have to be discussed and evaluated from various aspects. We decided to organise this meeting together with a student workshop as it is economically efficient and creates the possibility to increase the number of mobilities.
The second staff meeting (Buzau, Romania) will have the goal of evaluating works done so far and create the possibility to improve results achieved. It is also a good place for retrospective evaluation and an opportunity to discuss a precise plan for dissemination. As we expect a huge amount of outcomes, dissemination and publication is a critical issue.
We believe that all staff in schools will be involved, so it also presents the chance to give them appropriate challenges and motivation. The extent of outcomes can't be attained without the vast support of teachers and school community.
All activities (A1- A12) are clearly shown by this table showing product, evaluation, volume and tools:
Product - Quality assurance - Volume - Tools used
A1 LOGO - Design, creativity, international poll - 1 - International poll
A2 STEM QUEST - Number of responses - 1 - Online questionnaire, charts, graphs
A3 STEM CALENDARS - 7 national general calendars, landscape mode, A4 format - 1 - Evaluation of graphics, selection of one design, input all data into one calendar
A4 STEM VIP PERSONS - Drawings of famous persons with short (200 letters) biography - 1 Evaluation of graphic, creation of one database
A5 TRAVELLING EXHIBITIONS STREAM - Video stream - 7 - Check connection, number of followers, School presentation
A6 TRAVELLING EXHIBITIONS 3D - Fixed presentation - 7 - Number of visitors in one week Guest book
A7 STEM JOURNAL - 336 reference articles in predefined mode - 1 - Number check, quality and relevance check mostly to topics chosen by partner school
A8 STEM YOUTUBE CHANNEL - 70 clips - 1 - Quality check, number of viewers
A12 COPYRIGHTS CERTIFICATE - Graphic product - 1000 - Mutual evaluation of design
A9 MINI-CONFERENCES 2016 – 2018 - 7 - 490 articles in the end of project
* Czech Republic Online Proceedings Evaluation of Proceedings Preformatted template
* Slovenia Online Proceedings Evaluation of Proceedings Preformatted template
* Spain Online Proceedings Evaluation of Proceedings Preformatted template
* Turkey Online Proceedings Evaluation of Proceedings Preformatted template
* Romania Online Proceedings Evaluation of Proceedings Preformatted template
* Bulgaria Online Proceedings Evaluation of Proceedings Preformatted template
* Greece Online Proceedings Evaluation of Proceedings Preformatted template
A10 SCHOOL STEM LEDGER - 504 diary inputs - 1- Number check, quality three steps check
A11 CULTURE AND NATURE POSTCARDS - 7 - videoclips - 7 - Minutes, quality and komplexity

G.1. Learning/Teaching/Training Activities
What is the added value of these learning, teaching or training activities (including long-term activities) with regards to the achievement of the project objectives?
These activities will also be introduced in a flipped classroom. Workshops will be held in all partner schools and led by students as well as by various experts from the country of the organizer. 7 week workshops will have a mini-conference, terrain work, excursions, socializing, challenge games as well as various discussions with experts on chosen topics. The value of such learning is based on the diversity of environments, various ages of presenters, and most valuably on 'hands-on' activities. Visits to real lab environments and enterprises facilitate students and teachers to attain a new in depth view into real scientific, artificial and business life. These activities are the core of this scientific and art project as it facilitates the creation of the international working framework and gives all students full access to European shared youth knowledge.

Please describe each of the learning, teaching or training activities you intend to include in your project

C1 Short-term exchanges of groups of pupils
Host country: CZ: Topic: "3 D virtual science models" by Merkur. A set of workshops focused on modelling through construction sets. Visits to science laboratories and museums. Streamlined pupils conference about 3D models. Presentation of models of partner countries. Cultural events with historical and political presentation. Visits to the regional town hall and socializing activities.

C2 Short-term exchanges of groups of pupils
Host country: ROM - "House full of experiments." Set of scientific experiments which will be provided by students from the host and from visitors. Cultural and political socializing together with a streamlined conference to the other participants. Visits to local monuments

C3 Short-term exchanges of groups of pupils
Host country: Spain "Programming Code": Presentation of pupils Android and Win applications.   Special workshop for Google(Android) programming. Presentation of applications of students. Contest for the most efficient and attractive Android application. Cultural and social meetings. Streamlined conference and official publication of the applications.

C4 Short-term exchanges of groups of pupils
Host country: Turkey -"Historical inventions" - presentation by pupils about historical inventions in their home country, visit to the museums and workshops about the historical inventions. Presentation of national inventors and his/her endeavors for recent and future time. Streamlined conference. Presentation of Scientific Ledger and Database of inventors and scientists. It will be organised with the help of Mediterranean University together with cultural and social events in Antalya.

C5 Short-term exchanges of groups of pupils
Host country: Slovenia - "Art under microscope" - presentation of microscope images made by pupils in all partner schools, Art exhibiton of microscopic structures.
Workshops for students from other countries. Presentation of parts of our cultural heritage. Organisation event supported by local media, local representatives and school ministry. Streamlined workshop to the other partners

C6 Short-term exchanges of groups of pupils
Host country: Bul - "Architecture around us" - presentation of typical architectonic styles from partner countries, visit to the national monuments and comparative workshop about architecture. Presentation of various architectonic styles and streamlined conference.

Please also describe the arrangements for recognition or validation of the learning outcomes of the participants in learning, teaching or training activities. Will your project make use of European instruments like Europass, ECVET, Youthpass, ECTS etc. or any national instruments/certificates?
As the target group is meant to be mainly K12, there is no official instrument to validate results of the conference. The team of evaluators will consist of experts on a national level and these experts will evaluate results of students and all proceedings by their statements. Such statements will be the essential part of project. There will be the international board of experts who will declare their statements to the Online proceedings of all conferences.
A special award for the best participants in all workshops will be given together with a list of copyrights (Creative Commons) to all authors of student products.
Another evaluation will be created by mutual questionnaires and polls among students who will participate in the online and offline workshops. Evaluation will be the vital part of all 7 proceedings from the workshops. Preformatted questionnaires will be published.
Because the project is based on STEM, the project will be certified by a listing in the EUN STEM project on the web:// http://www.eun.org/focus-areas/stem. This portal will be the essential reference and dissemination tool on the European level.
Results of the project will also be presented to the public (see dissemination part).

H.1. Impact
What is the expected impact on the participants, participating organisations, target groups and other relevant stakeholders?
The most expected impact is for the target group to increase their motivation for STEM subjects, as these subjects were very often reduced in comparison to the teaching of languages. The real use of language in another subject (CLIL) is the other possible impact. A project of this scale requires full participation of all school staff because of the diverse topics included in the project. It could support school team work, as it is well-known that teachers are very often individualists and that sharing of content is not always their first priority. The sharing of experience and materials is another impact for the future. The questionnaire at the start of project will be repeated and we expect statistic verification of better student attitudes to STEM and also polytechnical subjects.

Students will learn that STEM creates the future and language connects people. This is a simple definition, but for the motto of the project, it is essential.

What is the desired impact of the project at the local, regional, national, European and/or international levels?
This project shows other ways of cooperation when compared with Comenius. It is built on real scientific and educational activities with clearly described outcomes and products. We are persuaded that the extent of activities and topics be very wide and this gives the European project a new limit. Recognition of not only cultural and historical life, but also of STEM, shows many identification benchmarks in all countries and contributes to the international understanding and recognition of partners. According to research which was done before this project, no other project with such activities has so far been organised, and

all outcomes will define unique educational materials which can be shared via European http://lre.eun.org as the main European portal for learning objects.

At the national level the project will be introduced into the national LO object contest called DOMINO (http://domino.nidv.cz) and http://dum.rvp.cz. All materials will be published in all national portals for learning objects. The project will also have strong media support at the regional and national level. The project will also be introduced to EUN bodies and to the social media.

One of the desired impacts of the project, even before its launch, is a new concept of school club which will be open during summer 2016 and is called "STEM school club." The special school club for kids aged 6-11 will be open and organised by ZŠ Lupáčova and these premises will also be used for some project activities in the next two years. A view of this club can be seen on http://kreativita.lupacovka.cz.
All results will be published and disseminated at both national and European levels as a project of such versatile content is completely unique and follows all European priorities. In all partner countries the official dissemination links will be adopted and carefully checked for partner share in this field.

How will you measure the previously mentioned impacts?
All methods for evaluation were mentioned directly above with the expected outcomes.

As was mentioned above, all results have quantitative and qualitative benchmarks which will be discussed in the final report. The number of publicized articles and discussions will be one of the most important impacts. Questionnaires for evaluation of attitudes to STEM and project satisfaction will evaluate the impact on participants and on the target groups. A group of experts will publish their own statement at the national level (politician, a teacher from another school, scientist, and journalist). Awards for best presentations and children's products will be given and published, so all the European community will have access to all 7 workshops results as the main part of the dissemination activities. A visitor counter with detailed Google analytics will be implemented, so at the end of the project we will have a complete analysis of results. Because we want to also measure complex published results, analytics will continue for six months after the last conference, so the final analysis will be published in this period. We expect that this project is going to be a flagship for all participating schools because of the complexity and unique methodology.

H.2. Dissemination and Use of Projects' Results
You are requested to make plans for the dissemination of your project results. Please provide answers to the questions below. To whom will you disseminate the project results inside and outside your organisation? Please define in particular your target audience(s) at local/regional/national/EU level and motivate your choice.
The first target group for which the results will be shared is the teachers' community in the educational portals of EUN. Among them the most important ones are a) http://lre.eun.org where results will be shared under Creative Commons licence. b) http://www.eun.org/focus-areas/stem will be the essential European community iwherein all results will be introduced and shared.
c) In accordance with Mr. Poche, representative of European parliament, this project will also be introduced to the Youth panel in http://www.europarl.europa.eu/european-youth-event/en/take-part!.html.
The main section of results will be streamlined and published via You Tube.
General tools for dissemination of project results at EU level were mentioned above.
Results will be offered to also be published on SCIENTIX EUN portal both for final and running evaluation and assessment.
All countries will also individually discuss with NA publication in recommended sources and conferences.

Because of the vast content and complexity we would like to present results of this project in December 2018 at EMINENT/SCIENTIX conference.

List of national dissemination activities is included below:

Czech Republic - National Dissemination Activities

in school: peer programme in other classes, Erasmus Days + corner, PTA meetings, presentation to the representative from the townhall.

Publication in local and national media. UNESCO ASP school will present the project on the UNESCO associated school network as well as on the member of Asia Europe Classroom Network, for partners in this circle.

The most important web links:

1) http://rvp.cz - National educational portal where examples of best practices in education can be published

2) http://praha3.cz - Local portal of Prague 3 municipality

Greece - National Dissemination activities

Erasmus Days meeting with briefings at school, diffusion within the school, update school website, update teacher community – afternoon meeting with parents. Municipality of Delta complex presentation to local bodies. Local TV channel. Participation in the

3). http://www.dimosdelta.gr -   Local web portal of Delta municipality

4) http://www.sch.gr -   The Greek School Network portal

5) http://dipe-v-thess.thess.sch.gr - West Thessaloniki Elementary School Administration portal

Turkey - National Dissemination Activities

Erasmus Days in school and community, social events with local politicians and parents. presentation of project to local administration and to local media.

6) http://aksu07.meb.gov.tr/   - School webpage

7) http://www.antalyaaksu.gov.tr/ - Local govermental webpage for region

8) http://topalliortaokulu.meb.k12.tr/ - Local school portal

Romania - National Dissemination Activities

The school's magazine : A spy in the school; meetings with other teachers from other schools in our town/ county; local TV and Local newspapers, presentation to the local administration, PTA meetings

9) http://www.scoala7bz.webs.com - school site

10) http://www.primariabuzau.ro/ - offical administrative portal of Buzau, Romania

Spain   - National Dissemination Activities

Erasmus School Days, PTA meetings, School Board presentation, local feasts and children;s presentation. Meetings with other teachers during professional CPD.

11) http://www.regio7.cat/ - this is the web of the county's newspaper

12) http://www.fedac.cat/novafedac/ - web of 25 Christian Fedac Schools

13) http://canaltaronja.tv/bages/ - local TV mainly focused for regional news

Slovenia - National Dissemination Activities

Erasmus School Days+ corner, Local municipality gathering, PTA association meetings and also local newspaper

14) http://www.cerknica.si/ - local administration official webpage

15) http://osrakek.si/   - school website

Bulgaria - National Dissemination Activities

Erasmus School Days+ corner, Local municipality gathering, PTA meetings, presentation to the Teacher association in Bulgaria

16) http://svishtov-news.com/ - local infoserver

17) http://www.beta-iatefl.org/   -Bulgarian teacher association

Who will be responsible for the dissemination activities within your partnership and which specific expertise do they have in this
area? What resources will you make available to allow for the proper implementation of your dissemination plans?
All partners will be responsible for the local and national dissemination. Project protocol sets at least 5 final presentations (PTA, local, national level) and duties for partners to do. The coordinator is responsible for at least 5 dissemination activities at the European level. Results of the project will be disseminated in at least 40 events. This vast activity could assure full recognition of the project and its meaning for European education. We will publish documents and all student products as stated above. It will also be published on EUN Scientix web page as an example of STEM activities.

What kind of dissemination activities do you intend to carry out and through which channels?
The main dissemination activities are described as follows:

* 7 mini-school conferences online and offline

* 7 3D exhibitions with streamed activities to partners * web portal http://stem.lupacovka.cz was introduced before launch of project.
* Other online activities (YouTube Channel, European portals)

* Local media

* Skype conferences

* European Youth Panel

* School Erasmus Days + corner

* Peer to Peer programme in the K12 group

* PTA conferences

* Presentations on the NA workshops for future partners of Erasmus+

* Workshops with local and European representatives

Erasmus+ has an open access requirement for all materials developed through its projects. If your project is producing intellectual outputs/ tangible deliverables, please describe how you intend to ensure free access for the public to a digital form of this material. If you intend to put any limitation on the use of the open licence, please specify the reasons, extent and nature of this limitation.
Because all products will be created in the framework of project, all products will be accessible under Creative Commons Licence Attribution 4.0 International (CC BY NC 4.0) which allows: adaptation, remix, but not commercial use of the products.

How will you ensure that the project's results will remain available and will be used by others?
All results will remain accessible as the project is published on the own school server and there is no limitation to access. For building webpages open sources applications are used, so there is no limitation in this field either. All agreements will introduce a copyright appendix, so no legal restriction could influence accessibility of sources. If the project uses any materials from a third party, they will be strictly controlled and it will be clear that they come from public domain and Creative Commons.

If relevant, please provide any other information you consider appropriate to give a full understanding of your dissemination plan
and its expected impact (e.g. how you have identified which results are most relevant to disseminate; how you will ensure the
involvement of all partners; how you see synergies with other stakeholders, etc.)
Participation of all partners will be declared as an essential part of the mutual agreement of all partners and third parties. STEM is one of the most important educational directions at this time, so materials will also be shown at educational conferences. This dissemination will ensure sustainability of all published resources.

H.3. Sustainability
What are the activities and results that will be maintained after the end of the EU funding, and how will you ensure the resources needed to sustain them?
The project will create a new school community based not only on professional cooperation, but also on personal bonds created during two years of mutual work. A group like this ensures a possible new common creativity. Results published in the school portal will give everybody new challenges. We expect a very large number of outcomes and all activities in which such content was created can easily be repeated and new threads to the event could be added. The creation of a Gallery of scientists and Science Ledger offers the chance to create new items and local follow-ups of these products. The Polytechnic education STEM, as was also mentioned, has become a part of a new School club concept and the output of students could be another motivation. 3D Merkur virtual models can also create challenges for mechanical engineering in the class.

All materials will be published on its own portal so their sustainability for the next period can be completely assured. The dissemination plan will be published as the schools official protocol.