4th meeting; **30.September -04.October, 2019**- Students mobility (C7)

Planning activity, date	• **Describe the content, methodology and the results of this activity.** • **Who were the participants in the activity (including local participants)?** • **How was this activity related to or integrated with the normal activities of the involved schools?**	• **How did the participation in this activity benefit the involved participants?**
30.09.2019 • Official welcome ceremony • Ice-breaking activity	• The official welcome ceremony was to introduce the project participants to each other as well as the school headmaster and invited guests from friendly companies cooperating with the school, • Polish students prepared a presentation for the audience. In the presentation there was a story of Polish history and in general the history of Warsaw. Major attention was paid to the Second World War in Poland. Not only history was the theme. There were also presented profiles of well-known and famous Poles and discoveries in the field of mathematics and natural sciences. At the end, to integrate everyone together, the participants had the opportunity to take part in a game where they could answer some questions from the previously presented materials.	• Knowing the history of the host country from the perspective of each Polish citizen. Not only from the official transmissions and unofficial historical change. Learning about Polish culture and traditions and getting to know the people working for the project.
• 3D printing lecture	• A lecture on 3D printing. Presentation of the current technological solutions in 3D printing and presentation of the works done by students by using various printing materials.	• understanding the fundamentals of three-dimensional printing technology on 3d printers • Introduction to the software dedicated to the creation of 3d printing objects • Know the steps of creating elements starting from the concept through design in a CAD software and getting ready for final 3d printing

• Lecture about splicing optical fiber	• The teacher, with many years of experience in working with students, lectured on the subject of fiber optic fusion splicing with practical exercises in fiber optic splicing.	• Knowing what optical fibre is, what it is used for in everyday communication and learning the methods of connecting optical fibres, in practice as well.
• Presentation of the school	• Getting to know the structure of the school (workshop rooms, the exercise facilities at gym, physics and chemistry laboratories, etc.)	• Familiarisation with the structure of the school building
• WarsawOldTown City Game	• In the city game around the old town of Warsaw, students in groups had to find the most popular places near the old town of Warsaw which were marked on the attached map. Next, they had to answer questions which tips to answer could be found in those concrete places.	• The city game is for the students their own way of getting to know the old part of the city of Warsaw and a good method for cooperation between students of different nationalities, speaking different languages. This situation automatically forces them to use only English.
01.10.2019 • Working on the board game	• Students in groups implemented the next stage in developing board games. They focused on improving the already existing elements of the game boards and on designing new ones. They started the design process in dedicated CAD software.	• They used CAD software to plan and design the game elements and finally created an early version of the game pawns.
• Math lesson	• Mathematics lesson was focused on calculating the volume of a solid object.	• Students learned how to calculate the volume of solids in practice and determined the amount of material needed to print the previously designed game pawns due to the limited amount of material.
• Visit at the copernicus science centre	• Their task was to explore the experimental zone’s exhibits and choose at least five of the most surprising exhibitions stand to STEM	• They conducted experiments then illustrated the practical applications

		of the experiments in everyday life. Students imagined a profession in which the illustrated experiments are most often used.
02.10.2019	**The whole day's visit to Łódź was precisely planned and the points of visit were agreed with an English-speaking guide.**	**Discover the history of the Lodz city, its Art Nouveau (Secession) architecture and industrial monuments.**
• Visit at the central museum of textiles (Invention Workshops)	• Participants were informed about the evolution of the textile industry, the functioning of textile machinery and textile production technology. They took part in invention workshops where they constructed new ideas to satisfy people's needs. The subjects of the novation for each of the groups were chosen earlier and were focused on the general problems that humanity is facing every day.	• Participants of the workshop activity worked together in groups. It was a good way to integrate group members between themselves. Students had the possibilities to exchange their observations and thoughts and were stimulated to think creatively,
• guided tour of the city of Łódź	• The guided tour was led to the most important places in Łódź, including the main street of the city, Piotrkowska Street.	• As part of exploring the history of the city, they learned about the architecture and profiles of famous residents.
• Visit at the Izrael Poznanski's Palace	• They visited the Israel Poznanski's Palace, which is used as the Museum of the City of Łódź	• They were introduced to the richness of Polish bourgeoisie of Jewish heritage and became familiar with the everyday life of the Jewish population from the XIX/XX century.
• visit at Manufaktura complex	• They visited the Poznański post-factory called Manufaktura. It was one of the largest textile factories in Lodz, today one of the biggest shopping	• The mall of Manufaktura is a perfect example of using for new functions

	mall in central Europe.	the space no longer used in original goals. It shows the young man that it is not necessary to demolish everything but to restructure it to a new level of use.
03.10.2019 ● Visit at the Warsaw uprising museum	● Project participants visited the Warsaw Rising Museum with a guide in English.	● Introducing the participants to the history of Warsaw and the German occupation on Polish lands. The subject of war is often very limited in fact. It was a good opportunity to experience the realism of the terror of the occupation of Warsaw, about which they only studied in history lessons.
● History lesson	● The students watched a film about the years of the occupation of Warsaw. Students worked in groups using the source text about Warsaw during World War II and prepared a presentation based on this text.	● The classes were conducted by Justyna Januszewska (student of history), which gave the young people better interaction with each other. The analysis of the English text made it possible to improve the English language and learn more about the history of the city of Warsaw.
● Working on board games	● Working on the next stages of board game elements. Students tested their original concepts that they had prepared in the previous days. Those ideas gave the possibility to create final pawns for the games.	● Students practice all steps of creating 3d printing elements.
● Evaluation of task from the Copernicus Science	● Summarized tasks from the visit at the Copernicus Science Centre referred to presenting students' own understanding of STEM in everyday	● The task from the Copernicus Science Centre helped the students

Center	life.	to find the implementation of different groups of academic disciplines in their everyday activities.
04.10.2019 ● IoT at Samsung R&D Institute Poland	● A visit to Samsung's intelligent building in Warsaw. The company's employees presented their current results in the field of devices connected to the Internet, known as the Internet of things.	● Students understood that everyday things come from mathematics and science. They were able to observe trends in modern technology.
● Working on the board game	● Working together on the final shape of board game pawns.	● Students knew the final steps of preparation of objects for 3D printing which is saving the result from the CAD program to a dedicated file for further processing. The original concept of the pawns was often improved for printing on a 3D printer.
● Official close ceremony	● The closing ceremony was for all participants a moment to thanks for hard work on the project. School Principal, Mrs. Wioleta Malan, certified for the attendance in the project meeting.	● Students made friends that could last you a lifetime and gained international and intercultural competencies, as well as cultural awareness.

4th meeting; **30.September -04.October, 2019** Teachers mobility (C8)

Planning activity, date	• **Describe the content, methodology and the results of this activity.** • **Who were the participants in the activity (including local participants)?** • **How was this activity related to or integrated with the normal activities of the involved schools?**	• **How did the participation in this activity benefit the involved participants?**
30.09.2019 • Official welcome ceremony • Ice-breaking activity	• The official welcome ceremony was intended to familiarize and introduce the project participants. The ceremony was open by meeting with the principal of the school and invited guests from partner companies that cooperate with the school. Also presented was a short history of Poland and the history of Warsaw. Special attention was paid to the Second World War in Poland. Not only history was the main theme. The profiles of famous and well-known Poles and discoveries in the field of mathematics and natural sciences were also presented. • Finally, to integrate everyone together, those sitting in the auditorium had the chance to join in a game which allowed them to answer a few questions from previously presented materials.	• Knowing the history of the host country from the perspective of each Polish citizen. Not only from the official transmissions and unofficial historical change. Learning about Polish culture and traditions and getting to know the people working for the project.
• Work on the project aims	• Continuation of work from the previous meeting. Discussing activities for the whole week. Deciding about the layout of the project blog.	• Training in organisational skills • Better cooperation and development of extra skills between project participants
• WarsawOldTown City Game	• Students took part in a city game about the Warsaw Old Town, where they had to find the most popular places	• Just like the students, the teachers could get to know the old town and observe the students while working in groups.

	near Warsaw's Old Town. Teachers observed students' actions and took the answers from students.	
01.10.2019 • Work on the project aims	• Presentation and discussion of the ebook materials made by each country. Some teachers observed a typical math lesson. The others could take part in dedicated classes in mathematics for students	• Increase cooperation between partners. Possibility to observe normal school classes. Work with students during geometry lessons.
• Visit at the copernicus science centre	• Teachers could, like students, take part in the fun and look for STEM in everyday life. The exhibits in the experimental zones in the Copernicus Science Centre allow learning by play.	• It was a good opportunity for teachers to observe students while they learn on their own and to help them to understand the task.
02.10.2019	**The whole day's visit to Łódź was precisely planned and the points of visit were agreed with an English-speaking guide.**	**Discover the history of the Lodz city, its Art Nouveau (Secession) architecture and industrial monuments.**
• Visit at the central museum of textiles (Invention Workshops)	• Participants were informed about the evolution of the textile industry, the functioning of textile machinery and textile production technology. Teachers offered students their knowledge and advice to work on innovative ideas during the invention workshops.	• Invention workshops were a good way to integrate teachers with working groups. It was possible to exchange observations, ideas and to stimulate students to think creatively,
• guided tour of the city of Łódź	• The guided tour was led to the most important places in Łódź, including the main street of the city, Piotrkowska Street.	• As part of exploring the history of the city, they learned about the architecture and profiles of famous residents.
• Visit at the Izrael Poznanski's Palace	• They visited the Israel Poznanski's Palace, which is used as the Museum of the City of Łódź	• They were introduced to the richness of Polish bourgeoisie of Jewish heritage and became familiar with the everyday life of the Jewish population from the XIX/XX century.
• visit at Manufaktura	• They visited the Poznański post-factory called Manufaktura. It was one of the largest textile factories	• The mall of Manufaktura is a perfect example of using for new functions the space no longer used in original goals. It

complex	in Lodz, today one of the biggest shopping mall in central Europe.	shows the young man that it is not necessary to demolish everything but to restructure it to a new level of use.
03.10.2019 ● Visit at the Warsaw uprising museum	● Project participants visited the Warsaw Rising Museum with a guide in English.	● Introducing the participants to the history of Warsaw and the German occupation on Polish lands. The subject of war is often very limited in fact. It was a good opportunity to experience the realism of the terror of the occupation of Warsaw, about which they only studied in history lessons.
● Presentation of the 3D object modelling software	● Teachers have been introduced to the program for designing 3D objects. Some teachers looked at history lessons at that time.	● Teachers have learned the steps of designing/modelling objects for 3D printing and the basic functionality of software supporting the design (CAD software). They learned the required steps to prepare the created project file in CAD software for the next steps before printing on a 3D printer.
● Work on the project aims	● The coordinators agreed on activities for the next project meeting in Croatia. Teachers discussed the STEM task made by student in the Copernicus Science Centre.	● It was a moment to complete the work on the documents and to draw conclusions from the task performed by the students at the Copernicus science Centre.
04.10.2019 ● IoT at Samsung R&D Institute Poland	● A visit to Samsung's intelligent building in Warsaw. The company's employees presented their current results in the field of devices connected to the Internet, known as the Internet of things.	● Teachers with students interacted in the same presentation where they understood that everyday things come from mathematics and science. They were able to observe trends in modern technology and how important it is for each organisation, the existence of a corporate culture and STEM.
● Work on the project aims	● Final work on the technical documentation for the game pawns.	● Prepared Technical Documentation is a part of one of the goals of the project and can be used as an example to create another technical documentation.
● Official closing	● The closing ceremony was for all participants a moment	● Teachers could experience different learning and teaching

ceremony	to thanks for hard work on the project. School Principal, Mrs. Wioleta Malan, certified for the attendance in the project meeting.	practices. The Ceremony was a moment to conclude the project meeting in Poland and to award certificates of attendance.