# Erasmus+: "A Project on Sustainability: Think global, act local!"

## Activities of IISS EINAUDI CASAREGIS GALILEI

## GALILEO GALILEI TECHNICAL HIGH SCHOOL, GENOA, ITALY

## Phase I: **2017/2018**

| Month | Aims | Results | Done |
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| September 2017 | - Presenting the project and sharing the tasks among students and teachers according to competences.<br>- Studying the structure of the solar tracker.<br>- Identifying the material needed for the solar tracker. | - Presenting the project and sharing the tasks among students and teachers according to competences.<br>- Studying the structure of the solar tracker.<br>- Identifying the material needed for the solar tracker. | **YES**<br><br><br>**YES**<br><br>**YES** |
| October 2017 | - Presenting the students involved in the project according to work groups:<br>  ✦ III AEN (energy course, scientific group);<br>  ✦ V AEN (energy course, technical group);<br>  ✦ II AMM (mechatronic course, art and graphic design group).<br>- Presenting the teachers involved in the project.<br>- Designing the solar tracker. | - Presenting the students involved in the project according to work groups:<br>  ✦ III AEN (energy course, scientific group);<br>  ✦ V AEN (energy course, technical group);<br>  ✦ II AMM (mechatronic course, art and graphic design group).<br>- Presenting the teachers involved in the project.<br>- Designing the solar tracker. | **YES**<br><br><br><br><br><br><br><br><br>**YES**<br><br>**YES** |
| November 2017 | - Presenting the school: a distribution of the main topics to deal with, according to groups and collecting the first material produced.<br>- Drawing the main components of the solar tracker.<br>- Selecting the students for the mobility in Greece (written and oral tests) and preparing all the necessary documentation for the families and the school administration. | - Presenting the school: a distribution of the main topics to deal with, according to groups and collecting the first material produced.<br>- Drawing the main components of the solar tracker.<br>- Selecting the students for the mobility in Greece (written and oral tests) and preparing all the necessary documentation for the families and the school administration. | **YES**<br><br><br><br><br><br>**YES**<br><br><br>**YES** |
| December 2017 | - Presenting the school: getting the material ready and posting the presentation of Galileo Galilei | - Presenting the school: getting the material ready and posting the presentation of Galileo Galilei | **YES** |

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| | Technical High School on eTwinning.<br>- Choosing the main components for the solar tracker.<br>- Using the 3D printer.<br>- Designing the logo of the project: a distribution of tasks according to work groups. | Technical High School on eTwinning.<br>- Choosing the main components for the solar tracker.<br>- Using the 3D printer.<br>- Designing the logo of the project: a distribution of tasks according to work groups. | **YES**<br><br>**YES**<br>**YES** |
| January 2018 | - Designing the logo of the project: from hand drafts to CAD work sheets. Final result.<br>- Statistics:<br>　 studying the interrelation of data on green energy;<br>　 analysis of linear functions depending on data on green energy;<br>　 analysis of central position markers.<br>- Natural disasters in Liguria by some researches on the local damages on the environment. In particular:<br>　 ACNA's pollution of soils and waters in Cengio;<br>　 the shipwreck of the MT Haven;<br>　 the park of Nervi's destruction by a tornado and its remediation;<br>　 the harmful effects of the toxic algae on the Ligurian Sea;<br>　 the coastal erosion of our beaches.<br>- Building the structure of the solar tracker. | - Designing the logo of the project: from hand drafts to CAD work sheets. Final result.<br>- Statistics:<br>　 studying the interrelation of data on green energy;<br>　 analysis of linear functions depending on data on green energy;<br>　 analysis of central position markers.<br>- Natural disasters in Liguria by some researches on the local damages on the environment. In particular:<br>　 ACNA's pollution of soils and waters in Cengio;<br>　 the shipwreck of the MT Haven;<br>　 the park of Nervi's destruction by a tornado and its remediation;<br>　 the harmful effects of the toxic algae on the Ligurian Sea;<br>　 the coastal erosion of our beaches.<br>- Building the structure of the solar tracker. | **YES**<br><br>**YES**<br><br><br><br><br><br><br><br>**YES**<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>**YES** |
| February 2018 | - First ideas of comics on a green hero. Drafts and hand drawings.<br>- Statistics:<br>　 analysis of markers on variety of data about green energy;<br>　 distribution of the frequency of data according to Gauss function;<br>　 practical application of all the data collected.<br>- Natural disasters in Liguria: a presentation in PowerPoint about the main local damages on the | - First ideas of comics on a green hero. Drafts and hand drawings.<br>- Statistics:<br>　 analysis of markers on variety of data about green energy;<br>　 distribution of the frequency of data according to Gauss function;<br>　 practical application of all the data collected.<br>- Natural disasters in Liguria: a presentation in PowerPoint about the main local damages on the | **YES**<br><br>**YES**<br><br><br><br><br><br><br><br><br><br>**YES** |

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| | environment.<br>- Inventing quizzes, crosswords, and logic games for activities to be done in Amaliada with all the students together, by using Scratch and the creation of a videogame on green energy.<br>- Building the structure of the solar tracker.<br>- Press release about the project. | environment.<br>- Inventing quizzes, crosswords, and logic games for activities to be done in Amaliada with all the students together, by using Scratch and the creation of a videogame on green energy.<br>- Building the structure of the solar tracker.<br>- Press release about the project. | YES<br><br><br>YES<br><br>YES |
| March 2018 | - Collecting the first technical reports on sustainability and energy sources, with a focus on tidal energy, and subsequent posting on eTwinning.<br>- Presenting a research about wind farms (listing the main sites in Liguria) and wind turbines in Liguria (consumption and data analysis of 25 stations in our region).<br>- Presentinga study on the consumption of electric energy in Italy from 2000 to 2017, and of renewable energy in Italy from 2016 to 2017.<br>- Meeting with the families of students involved in the mobility to Greece and collecting the last details about the trip (authorizations from the school administration). | - Collecting the first technical reports on sustainability and energy sources, with a focus on tidal energy, and subsequent posting on eTwinning.<br>- Presenting a research about wind farms (listing the main sites in Liguria) and wind turbines in Liguria (consumption and data analysis of 25 stations in our region).<br>- Presentinga study on the consumption of electric energy in Italy from 2000 to 2017, and of renewable energy in Italy from 2016 to 2017.<br>- Meeting with the families of students involved in the mobility to Greece and collecting the last details about the trip (authorizations from the school administration). | YES<br><br><br><br>YES<br><br><br><br><br>YES<br><br><br><br><br>YES |
| April 2018 | - Summarizing the work done by students by preparing presentations in PowerPoint to be shown in Greece.<br>- Mobility to Amaliada. | - Summarizing the work done by students by preparing presentations in PowerPoint to be shown in Greece.<br>- Mobility to Amaliada. | YES<br><br><br><br>YES |
| May 2018 | - Debriefing of the mobility experience by meetings with teachers and principal.<br>- First ideas about the organizational meeting in Genoa, October 2018. | - Debriefing of the mobility experience by meetings with teachers and principal.<br>- Drafts about the organizational meeting in Genoa, October 2018. | YES<br><br><br>YES |
| June 2018 | - Feedback of the first phase of the project | - Feedback of the first phase of the project | YES |
| July 2018 | - "European Schools Go Green!" Art Magazine 2018<br>- "European Schools Go Green!" Erasmus Plus 1st Magazine 2018<br>- Sharing the results | - "European Schools Go Green!" Art Magazine 2018<br>- "European Schools Go Green!" Erasmus Plus 1st Magazine 2018<br>- Sharing the results | YES<br><br>YES<br><br><br>YES |

# Phase II: **2018/2019**

| Month | Aims | Results | Done |
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| September 2018 | - Meeting with principal and staff to present the second phase of the project and share the tasks among students and teachers according to competences. | - Meeting with principal and staff to present the second phase of the project and share the tasks among students and teachers according to competences. | **YES** |
| | - Preparation of the project meeting to be held in Genoa in October 2019. | - Preparation of the project meeting to be held in Genoa in October 2019. | **YES** |
| | - Organization of the week plan. | - Organization of the week plan. | **YES** |
| | - Preparation of the invitations for the German and Greek delegations. | - Preparation of the invitations for the German and Greek delegations. | **YES** |
| | - Sending the corresponding documents to the German and Greek delegations. | - Sending the corresponding documents to the German and Greek delegations. | **YES** |
| October 2018 | - Presenting the students involved in the project according to work teams:<br>  ⁂ IV AEN (energy course);<br>  ⁂ I AMM (mechatronic course). | - Presenting the students involved in the project according to work teams:<br>  ⁂ IV AEN (energy course);<br>  ⁂ I AMM (mechatronic course). | **YES** |
| | - Welcoming the teachers from Kassel and Amaliada for the second project meeting in Genoa. | - Welcoming the teachers from Kassel and Amaliada for the second project meeting in Genoa. | **YES** |
| | - Guided tour of the structures and laboratories of the school. | - Guided tour of the structures and laboratories of the school. | **YES** |
| | - Feeding back about the work done during the first phase of the project. | - Feeding back about the work done during the first phase of the project. | **YES** |
| | - Brainstorming and setting the next steps of the projects according to the second phase. | - Brainstorming and setting the next steps of the projects according to the second phase. | **YES** |
| | - Guided tour of Camogli, in the Eastern Riviera. | - Guided tour of Camogli, in the Eastern Riviera. | **YES** |
| | - Preparation and distribution of the certificates of attendance to partners. | - Preparation and distribution of the certificates of attendance to partners. | **YES** |
| November 2018 | - Presenting the work schedule to the principal and the staff at school. | - Presenting the work schedule to the principal and the staff at school. | **YES** |
| | - Distribution of tasks to deal with, according to groups and topics. | - Distribution of tasks to deal with, according to groups and topics. | **YES** |
| | - Organizing the first meetings with hosting families and collecting the forms filled by parents. | - Organizing the first meetings with hosting families and collecting the forms filled by parents. | **YES** |
| | - Setting the activities:<br>  ⁂ scientists interviews,<br>  ⁂ science magazine,<br>  ⁂ Arduino projects, | - Setting the activities:<br>  ⁂ scientists interviews,<br>  ⁂ science magazine,<br>  ⁂ Arduino projects, | **YES** |

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| | - Scratch activities,<br>- chemistry experiments,<br>- model of the school with an analysis of heat transfers,<br>- the solar tracker design and implementation. | - Scratch activities,<br>- chemistry experiments,<br>- model of the school with an analysis of heat transfers,<br>- the solar tracker design and implementation. | |
| December 2018 | - Subscribing new students on the eTwinning platform. | - Subscribing new students on the eTwinning platform. | **YES** |
| | - Teleconference on Twinspace to present students and teachers to partners. | - Teleconference on Twinspace to present students and teachers to partners. | **YES** |
| | - Designing the model of the school for heat exchange with Inventor. | - Designing the model of the school for heat exchange with Inventor. | **YES** |
| | - Designing a new prototype of the solar tracker. | - Designing a new prototype of the solar tracker. | **YES** |
| | - Studying the solar system for the interview with the manager of the astronomical observatory. | - Studying the solar system for the interview with the manager of the astronomical observatory. | **YES** |
| | - First contacts with external partners for the incoming mobility. | - First contacts with external partners for the incoming mobility. | **YES** |
| | - Promotion and dissemination of the project:<br>- preparing a presentation of the project to be shown at the event organized by the municipality "What's up Genoa",<br>- participating in the event "What's up Genoa",<br>- article on "La Repubblica" about the project,<br>- participating in the event for schools projects organized at Informa Giovani, Palazzo Ducale, Genoa. | - Promotion and dissemination of the project:<br>- preparing a presentation of the project to be shown at the event organized by the municipality "What's up Genoa",<br>- participating in the event "What's up Genoa",<br>- article on "La Repubblica" about the project,<br>- participating in the event for schools projects organized at Informa Giovani, Palazzo Ducale, Genoa. | **YES** |
| | - Mobility Tool: editing the first draft of the Interim Report for the national agency. | - Mobility Tool: editing the first draft of the Interim Report for the national agency. | **YES** |

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| January 2019 | - Eratosthenes experiment: accepting the proposal by the Greek school and first planning about it. | - Eratosthenes experiment: accepting the proposal by the Greek school and first planning about it. | **YES** |
| | - Setting activities with external partners for the incoming mobility: | - Setting activities with external partners for the incoming mobility: | **YES** |
| | ⬥ ABB Information Systems, ⬥ IIS Italian Institute Of Welding, ⬥ Aquarium Of Genoa, ⬥ Paper Museum Of Mele, Genoa, ⬥ PESEA Park Of Coronata, Genoa, ⬥ IIT - Italian Institute Of Technology. | ⬥ ABB Information Systems, ⬥ IIS Italian Institute Of Welding, ⬥ Aquarium Of Genoa, ⬥ Paper Museum Of Mele, Genoa, ⬥ PESEA Park Of Coronata, Genoa, ⬥ IIT - Italian Institute Of Technology. | |
| | - Collecting students data for the hosting of German and Greek students. | - Collecting students data for the hosting of German and Greek students. | **YES** |
| | - Planning interviews with scientists. | - Planning interviews with scientists. | **YES** |
| | - Arduino and robotics at a basic level: first descriptive documents. | - Arduino and robotics at a basic level: first descriptive documents. | **YES** |
| | - Building the frame of the model of the school for heat exchange analysis. | - Building the frame of the model of the school for heat exchange analysis. | **YES** |
| | - Building the structure of a new prototype of the solar tracker. | - Building the structure of a new prototype of the solar tracker. | **YES** |
| | - Mobility Tool: completing the draft of the Interim Report for the national agency and sending it. | - Mobility Tool: completing the draft of the Interim Report for the national agency and sending it. | **YES** |
| February 2019 | - Meeting with principal and staff on the final planning of the incoming mobility and relative approval. | - Meeting with principal and staff on the final planning of the incoming mobility and relative approval. | **YES** |
| | - Sending the invitations and the week plan to the German and Greek delegations for the second transnational mobility in Genoa. | - Sending the invitations and the week plan to the German and Greek delegations for the second transnational mobility in Genoa. | **YES** |
| | - Preparing activities with Scratch (quizzes and logic games) to be presented to students in April. | - Preparing activities with Scratch (quizzes and logic games) to be presented to students in April. | **YES** |
| | - Matching hosting Italian students with the Greeks for the incoming mobility: | - Matching hosting Italian students with the Greeks for the incoming mobility: | **YES** |
| | ⬥ preparing a presentation about students and exchanging contacts; ⬥ a Skype video conference with the Greek reference teacher and then with the hosting families from Italy and Greece. | ⬥ preparing a presentation about students and exchanging contacts; ⬥ a Skype video conference with the Greek reference teacher and then with the hosting families from Italy and Greece. | |

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| - Preparing questions for the first two interviews to scientists.<br>- Final arrangements with the administration of the school about the financial aspects of the incoming mobility. | - Preparing questions for the first two interviews to scientists.<br>- Final arrangements with the administration of the school about the financial aspects of the incoming mobility.<br>- Mobility Tool: the Interim Report for the national agency has been accepted. | **YES**<br><br>**YES**<br><br><br><br>**YES** |

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