

WHAT DO WE EXPECT?

OUTPUT 1

Ebook on societal metabolism. It describes the main definitions of societal metabolism and the formal theoretical models, their advantages and disadvantages and how the theoretical notions of flows of energy and material can be translated to elements of everyday life.

OUTPUT 2

Ebook on transportation sustainability. It contains the definitions of sustainable transportation, the theoretical models that describe its behavior and discuss on the state of the art from a theoretical point of view on the research conducted on the issue.

OUTPUT 3

Ebook on decision making in the context of sustainability. Provides the formal mathematics and foundations of decision making especially in the context of sustainability, in order to students understand how the theoretical mathematics of decision making are translated into actual decisions. Linear programming, DEA, PROMETHEE and AHP are being detailed explained.

OUTPUT 4

Ebook on Simulation models. It will allow for experimentation in a consequence-free environment. The simulation models can be used to identify scenario exemplars on how we can achieve sustainable urban transportation and a balanced societal metabolism, while taking into account the formal decision making process.

OUTPUT 5

Ebook on the game design. The simulation models of O4 to game elements, mechanics and potential playing scenarios. The team will do a State of the Art analysis, research on best and worst practices and investigate what are the main elements in each occasion and what is their transferability to different cultural contexts.

OUTPUT 6

The Board Game. The final tangible output of the SUSTAIN project will be the board game (along with the guidelines on how to play it). The game design will be translated to an actual board game.

WHO IS PARTICIPATING IN SUSTAIN?

COORDINATOR



University of Macedonia (Greece)
<http://www.uom.gr>

PARTNERS



System Dynamics Italian Chapter (Italy)
<http://www.systemdynamics.it/>



Hellenic Institute of Transport/
Centre for Research and Technology
Hellas (Greece)
<https://www.certh.gr>



Centre for System Solutions (Poland)
<https://systemssolutions.org/>



Ergo Ludo Editions (Italy)
<https://www.facebook.com/ergoludo.it/>



Asociatia "Societatea pentru Consum
Responsabil" (Romania)
<http://responsibleconsumption.info/>

WHERE CAN YOU FIND US?



www.sustainerasmus.eu



sustain.erasmus@gmail.com



SUSTAIN Project



[sustain.project](https://www.instagram.com/sustain.project)



@SUSTAIN_Erasmus



[SUSTAIN-project-erasmus](https://www.linkedin.com/company/sustain-project-erasmus)



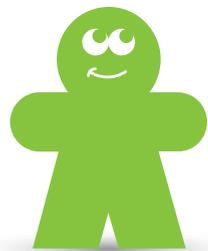
AN INNOVATIVE PERSPECTIVE
ON URBAN TRANSPORTATION

WHAT IS THE SUSTAIN PROJECT?

SUSTAIN is an ERASMUS+ project with an **innovative perspective on urban transportation**. Its target is to promote the importance of sustainability on the everyday problem of urban transportation among the students of higher education, which are the policy makers of tomorrow. In order to achieve its goals, the research team will develop a course that will be based on an interactive game with an analytical style of education.

WHAT IS THE PURPOSE?

SUSTAIN's purpose is to **create a board game that will allow students to learn about transportation sustainability and societal metabolism through playing**. The project partners will develop small and illustrative simulation models, which will make the definitions more concrete and allow students to experiment in a consequence-free environment. The simulation models can be used to identify scenario exemplars on how we can achieve sustainable urban transportation and a balanced societal metabolism, while taking into account formal decision making process.



WHAT PROBLEM DOES IT TARGET?

Traffic issues in cities create considerable problems, and as the years are passing by and the population grows in every big city, in extension, the vehicles also increase. Thus, creating a plan for sustainable solutions to the traffic problems of cities is essential. The SUSTAIN project will create a game, which will be based on a process that will **help every player to make choices for a sustainable urban plan**. That game will be the base for a course for students. It is a quite innovative and hybrid perspective way of learning, in the sense that it will combine game-based learning with a cognitive and analytical style of education. It is essential to provide an **innovative pedagogy** to students of higher education, as they are going to shape the future.



Sustainable mobility interventions

WHICH GOALS DOES THE SUSTAIN TARGET?

Combining game-based learning with an analytical style of education, SUSTAIN aims to;

- Create small, illustrative simulation models that will make the definitions more concrete and allow students to experiment in a consequence-free environment with scenario exemplars.
- Create a Serious Game that will allow students to learn about transportation sustainability and societal metabolism through playing.
- Create a course dealing with transportation sustainability, societal metabolism and decision making under those contexts, while its techniques will be translated in everyday life, and formalize the mathematics necessary to make robust decisions. The course will be based on the Board Game.

WHICH IS THE DIRECTION OF THE SUSTAIN?

The project is oriented on two main directions;

- 1 urban transportation sustainability** (measures and solutions able to tackle mobility challenges that lead to uncontrolled growth of vehicles and downgrading of quality of life) and
- 2 societal metabolism** (models that facilitate the description of flows of material and energy within cities and provide a framework to study the interaction between human and natural systems).