The Scenario Exploration System (SES) is a serious gaming platform developed to facilitate the application of foresight to policy-making. It was originally geared at engaging EU policy makers with foresight scenarios in a quick process.

Specifically, the SES was designed to help participants, in less than 3 hours, to engage in systemic thinking with a long-term perspective and to explore alternative futures for specific issues.

Scenario Exploration System Workshop
Sustainability and long-term thinking

The game enables participants to acquire a solid understanding of sustainable development through an interactive process based on the integration of sustainability into the long-term strategies of different societal actors.

Thinking outside the box

The purpose of the Scenario Exploration System is to enable participants to experience and act through plausible sustainable alternative futures for Europe, by thinking and conversing outside of their usual frame of reference. The aim is not to play a game and win, but rather to promote a constructive conversation amongst key actors, and to promote integrated long-term thinking in a spirit of collaboration.

Gamification & Innovation

The innovation aspect of the Scenario Exploration System is the introduction and the application of game techniques to improve the development of leadership skills of future generations as well as encourage educators to invest in gamified curricula.
Elements of the game

The "four freedoms of play" explain the success of the Scenario Exploration System as a powerful educational tool

**Freedom to experiment**

The participants can explore and discover new strategies during the evolution of the scenario in order to achieve their long-term objective.

**Freedom to assume different identities**

The SES played in a simulation mode, allows participants to simulate what could happen in a new context; taking another role to discover the world from a different perspective.

**Freedom to fail**

The SES allows the explorers to make mistakes in the implementation of different strategies to achieve their long-term objective.

**Freedom of effort**

The SES engages explorers through periods of intense activity and relative inactivity. When watching other people play, players can pause and reflect on their actions to understand how to adapt their strategy based on the evolution of the scenario.

The “four freedoms of play” explain the success of the Scenario Exploration System as a powerful educational tool.

The gamification methodology at the base of the Scenario Exploration System can be broken down into three types of elements. Each type brings specific advantages to the collaboration, motivation, and engagement of the participant.
Mechanical elements of the SES Game

**Progression system: goals and challenges**

The incremental progression system of the SES game is different from all other games. Usually, games have missions or levels layered in a way to present incremental challenges to the player. In the SES the incremental progression is defined by three temporal steps (5, 20, 30 years), and it is up to each explorer to define its own challenges and to imagine which strategy works best.

In the beginning, the SES captures the attention of the participant with an easy task <<define your long-term objective for the next 30 years>>.

Then, the incremental complexity of the dynamics between the other players pursuing different long-term objectives ensures that the player remains focused and motivated.

**Reward and badges**

The incremental progression system of the SES incorporates one main visible symbol of achievement, the tokens. These are the base of the game scoring system and they encourage competition and cooperation between participant.

There are two types of tokens:

1. **Resource Tokens**
   A limited amount of resources attributed to each role and weighted differently according to the scenario.

2. **Red Tokens**
   A multiplier system embedded into the feedback system of the SES game, the Public Voice, whose main task is to judge actions taken by the scenario explorers.
Mechanical elements of the SES Game

Onboarding and increasing accessibility

Onboarding is the first interaction that the player has with the game. This task is carried by the Game Master, a facilitator that presents the key framing elements at the basis of the stories to be developed, preserves the scenario logic and assists players when needed.

This moment is essential to guarantee a meaningful experience. Players acquire the mechanism of the scenario exploration and the objectives.

In the educational environment, the onboarding is used by the professor to frame the exploration of the scenarios around a specific topic or case discussed in the class.

Instant Feedback

The SES game has a responsive feedback system embedded in the role of the Public Voice, who judges each action of the players' actions at the end of each round.

This system gives the players the opportunity to measure immediately how their actions are perceived by the Public Voice. It is an important cue to help them calibrate their strategy and narrative according to the sentiment of the person behind the role of the Public Voice.

At the same time, the participants who have the role of Public Voice must engage in critical thinking and analysis to assess if and how each player is achieving its focused objective.
Personal elements of the SES Game

Role and Avatars

The fact that the SES makes people take on a role generates emotions and stimulates personal expression and creativity. Participants can choose between five societal stakeholders (established business, small business, policy maker, civil society organization and citizen innovator) and two public voices (truthful and post-truthful) adding elements of social customization (identity, nature of the role, objective). These benefits of the SES methodology are primarily social because players can adapt and create new identities or roles and try to make meaningful decisions for the long-term efficacy of their strategies.

Social Engagement

The SES has been designed to use group-based interaction to provide an incentive for the scenario explorers to keep learning from the actions played by the other actors. After the first round, explores can collaborate with each other and use part of their limited resources to support the other's actions. This dynamic empower participant with a high level of social responsibility that enhances the development of emotional intelligence skills in relation to the ability to influence, inspire, motivate and build strong relationships with other societal actors.

Scoreboards

As all the competitive role-player game, the SES rank the explorers in order of the achievement measured by the final number of tokens. This point-based system identifies a winner in each scenario exploration. Since the aim is not to play a game and win, but rather to promote a constructive conversation amongst players, the scoreboards set the stage for the Game Master who helps players reflect on their experiences and the output of the session.
Emotional elements of the SES Game

The Flow channel is the state of mind that makes explorers stay focused on an activity. This is a critical component of the SES because of the length of each session (3h) and the objective to establish a group dynamic long-term thinking in a spirit of collaboration.

In order to maintain a player's Flow experience, the SES establishes a balance between the challenges of the activity and the abilities of the participants.

This happens because each explorer creates the specifics of its role (identity, nature of role, objectives, and other role details) based on self-awareness and self-reflection. This makes it possible for anyone to find exactly the right amount of challenge to engage based on own abilities.

Because the Flow is not a linear state of mind, the SES offers wide coverage of potential experiences to fit in different players’ Flow zones. From extremely simple tasks to complex problem solving, the explorers are always able to find the right amount of challenges to engage during each session.

The SES generates a different story out of each session. The story transforms each game session into an experience.

This is fundamental to achieve the objective to immerse each explorer inside a narrative on which to focus on.

The key aspect of the SES is that the story is always somehow tangible. Since each player creates the specifics of its own role based on real societal actors, the game narrative is never extremely abstract or too simplistic.

This aspect is guaranteed by the Game Master who engages with the players to select a set of scenarios to explore based on the interests of the group or specific assignment provided by the professor.
Skills and leadership development

Players go through two phases, the knowledge acquisition related to their roles and the scenarios and, the knowledge application concerning the achievement of their long term objective in a systems that contain many highly interrelated elements (complex system).

Questioning the evolution towards sustainable scenarios, enhance raising awareness of issues related to global challenges. Participant can apply critical thinking and problem-solving needed to achieve a long-term objective in a safe environment based on active participation and constructive dialogue.

The freedom to explore and to fail, leads the players to develop creative problem-solving skills to succeed in environments characterised by limited resources. Creativity is also crucial for story-telling which is needed to enhance collaboration with the other stakeholders and secure the support of the public voices.

Explorers goes through a process by which compromises and agreements are reached while avoiding arguments and disputes. The opportunity to support other stakeholders in the last 2 rounds of the scenario exploration, stimulates the players to seek mutual benefits and maintaining good relationship with the other participants.

The objective of each player is to act responsibility and take action for a more sustainable future. This forward thinking process creates an ecosystem in which players can develop the three main skills of the emotional intelligence: self-awareness; self-management; social awareness. Emotional intelligence been identified as key skills in channeling team effort towards sustainability.

Complex problem solving

Critical thinking

Creativity

Negotiation

Emotional intelligence
Players have found the game to be very fun and enjoyable, while increasing the understanding of alternative possible future scenarios. After each session, participants also expressed that they appreciated gaining a better understanding of possible long-term consequences of actions played. Many acknowledged that they had faced unexpected developments during the game that broadened their perspectives. The SES has thereby demonstrated its ability to generate pleasant experiences for the players and to raise player awareness of the importance of external framing conditions.

Students players have also found the game to have a good connection with reality, by simplifying the rules and the complex dynamics of how developments happen in real life. Many students expressed appreciation about the scenario information given by professor (and Game Master), and some would like even more. Overall it looks like the game has found a satisfactory balance between giving sufficient information, keeping some complexity from reality and establish dynamics for fun and creativity.
Built on the success and the results achieved by the Scenario Exploration System as an educational tool, ABIS and the European Commission's Joint Research Centre are working to develop and test a new version of the game. While still engaging participants in scenario exploration and future-oriented systemic thinking, this new version is optimised to facilitate the understanding of the UN Agenda 2030, the discovery of the inter-linkages between the SDGs and the understanding of how the SDGs relate concretely to issues of specific concern to the participants.

2019 roadmap

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Location</th>
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<tbody>
<tr>
<td>9 January</td>
<td>SES game session</td>
<td>Cranfield School of Management</td>
</tr>
<tr>
<td>12 February</td>
<td>SES game session</td>
<td>University of Kent</td>
</tr>
<tr>
<td>March</td>
<td>SES SDG game testing</td>
<td>ABIS_Bruxelles</td>
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<tr>
<td>May</td>
<td>SES SDG launch</td>
<td>ABIS_KIAF 2019</td>
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