

EDUDEMOS

- 1. Bitte geben Sie einen Gesamtüberblick über den Status Ihres Projektes: Welche Projektaktivitäten wurden bereits durchgeführt, und welche Ergebnisse wurden dabei erzielt? Bitte gehen Sie dabei auf die im Antrag aufgeführten Aktivitäten ein und stellen Sie Links zu den bereits fertig gestellten Ergebnissen zur Verfügung**

Please provide an overview of the status of your project: What project activities have already been carried out and what results have been achieved? Please refer to the activities listed in the application and provide links to the results already achieved.

1. General Information

The EDUDEMOS project (Educating through Sustainable Demonstrators) aims to enhance the digital and sustainability competencies of young people and teachers, aligning with efforts to combat climate change. The aim is to develop demonstrators for renewable energies such as solar, wind and hydropower and to integrate these demonstrators into lessons.

With a total budget of €250,000 and a duration from November 2023 to July 2025, the project brings together several organizations from different countries:

- Technik macht Spaß (Germany, Coordinator)
- Fundación Sergio Alonso (Spain)
- FINNOVAREGIO (Belgium)
- IES El Rincón (Spain)
- GBS St. Gallen (Switzerland)

2. Activities carried out and achievements

2.1 Work Package 1: Project Management

To date, a solid coordination structure has been established to ensure smooth communication between all participating organizations. This has been facilitated by using videoconferencing tools such as Google Meets and Teams, as well as a shared Google Drive folder for collaborative document management.

Key Activities Completed:

1. Kickoff Meeting on December 11, 2023



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- Initial steps discussed included setting up the project's corporate image, launching its website, and establishing social media presence. Agreements regarding the transfer of funds and overall financial management were also made.

2. First Transnational Project Meeting in Gran Canaria on March 1, 2024

- The first in-person transnational meeting aligned with the Makeathon event, enhancing project collaboration and hands-on experience sharing.
- Further details: [Link to meeting details.](#)

3. Second Online Coordination Meeting on June 7, 2024

- During this meeting, the status of Work Packages 1 and 2 was reviewed, and upcoming activities were discussed. The Swiss partner provided significant contributions regarding IoT integration in the demonstrators.
- Further details: [Link to meeting details.](#)

4. Third Online Coordination Meeting on September 11, 2024

- An update on WP1 and WP2 was provided, including the next steps for the Teacher Academy planned for Switzerland and the progress in finalizing the demonstrator guides.
- Further details: [Link to meeting details.](#)

Additional Contributions:

- **Teacher Academy Preparation:** The Swiss partner, GBS St. Gallen, took charge of preparing the Teacher Academy scheduled for September 2024. A comprehensive manual was prepared to provide teachers with the necessary materials to introduce IoT and data collection to students, regardless of their technical background.

Key Achievements:

- **Website and Social Media Launch:** The project's official website and social media platforms, including LinkedIn and Instagram, were successfully launched, enhancing outreach and visibility. These platforms play a crucial role in disseminating project updates and engaging the wider educational community.
- **Financial Disbursement:** The first financial disbursements for Work Packages 1 and 2 have been made as planned, ensuring the availability of resources to all

partners. The partners were requested to submit expense documentation, such as payrolls and invoices, to track expenditures accurately

The establishment of a strong coordination framework and successful execution of key activities in WP1 have set a solid foundation for the project's future phases. The financial management, collaborative meetings, and active social media presence have contributed significantly to advancing project goals and ensuring effective project execution.

2.2 Work Package 2: Design and Development of Prototypes

Work Package 2 of EDUDEMOS has made significant progress in the design, development, and enhancement of prototypes related to sustainability and renewable energy. Initially, the plan included three main demonstrators: solar, water collection, and wind energy. However, after evaluating the initial outcomes, an extension of time was requested to enhance these existing demonstrators and develop new prototypes to further enrich the educational experience.

Developed Prototypes:

3x1 Demonstrator:

One of the key achievements during this phase was the development of the 3x1 Demonstrator, which integrates solar energy, wind energy, and water collection into a single educational project. This demonstrator provides a comprehensive learning experience by combining multiple renewable energy sources in one model, allowing students to observe and understand their combined impact. For more details, you can visit the following link: [3x1 Demonstrator](#).

Solar Turtle:

The Solar Turtle is an engaging educational demonstrator designed to teach the principles of capturing solar energy. Its simple yet effective construction makes it an excellent tool for introducing students to solar power. The step-by-step guide for building this demonstrator is available here: [Build a Solar Turtle](#).

New Demonstrators in Development:

In addition to the above prototypes, three new demonstrators are currently being developed, with assembly guides in the process of finalization. These guides will provide detailed instructions for both students and teachers, making it easier to

incorporate these models into classroom activities. Some of these guides have already been completed and are accessible on the [official EDUDEMOS website](#).

IoT Dashboard Development:

GBS St. Gallen has played a crucial role in the integration of IoT technology within the project. An IoT dashboard was developed to collect, store, and visualize measurement data from the demonstrators. This platform, accessible publicly, allows students and teachers to interact with real-time data, enhancing their learning experience around sensor technology and IoT integration. The IoT dashboard not only visualizes renewable energy data but also allows students to develop their own dashboards, fostering practical skills in data interpretation and IoT technology. The platform can be accessed here: [IoT Dashboard](#)

This integration adds an important dimension to the demonstrators, as students learn how data is generated, transmitted, and utilized to understand renewable energy systems. The GBS St. Gallen team also provided expertise in configuring the system, supporting Gerda Stetter Foundation to adapt the dashboard for exhibition purposes, such as during the Hannover Fair.

Kit Production Phase for Workshops:

The project has entered the kit production phase for several of the demonstrators. These kits are designed for use in educational workshops where students will assemble the demonstrators themselves. This hands-on approach provides a practical understanding of sustainability and renewable energy concepts, bridging the gap between theoretical knowledge and real-world applications.

Additional Activities: IoT and Electronic Components Workshop:

In addition to the planned activities, a preparatory [IoT and Electronic Components Workshop](#) was conducted on February 27, 2024, in the NEXO building at the University of Las Palmas de Gran Canaria (ULPGC). This workshop, led by Rhein Waal University and funded by the Swiss team's own resources, enabled students to explore IoT integration within the demonstrators. Participants included:

- 11 students from St. Gallen Institute (Switzerland)
- 5 students from IES El Rincón
- Engineering students from ULPGC, who had previously collaborated on the demonstrator development

Various [demonstrator models were tested during this workshop](#), and further testing continued throughout the Makeathon 2024, providing valuable insights into the practical functioning of the demonstrators.

Testing and Exhibition Events:

- **Makeathon 2024:** The first tests of the demonstrators were conducted during the Makeathon 2024, held in March. Over 10 students actively participated in assembling and testing the demonstrators, gaining direct experience in renewable energy systems.
- **Hannover Fair:** In August 2024, the demonstrators were showcased at the Hannover Fair, one of the most significant industrial events worldwide, highlighting the project's achievements and promoting its innovative educational tools to a broader audience.

Next Steps:

- **Finalizing Assembly Guides:** The final assembly guides for the new demonstrators are being completed to ensure they are ready for broader distribution and educational use.
- **Scaling Up Kit Production:** Production of educational kits will be scaled up for distribution to vocational training centers, enabling a larger number of students to engage with the hands-on learning experience.
- **Hands-On Workshops:** More workshops will be conducted where students will have the opportunity to assemble the demonstrators, enhancing their understanding of renewable energy and sustainability.

2.3 Work Package 3: Learning Experience and Teacher Academy

Work Package 3 focuses on enhancing the knowledge and skills of vocational education teachers to effectively integrate sustainability-focused demonstrators in their classrooms. A key part of this work package is the **Teacher Academy**, which will provide practical training for teachers.

Teacher Academy Relocation to Gran Canaria

- **New Location and Benefits:**

The **Teacher Academy**, initially planned for September 2024 in St. Gallen, Switzerland, has been relocated to Gran Canaria for late October 2024. This ensures the participation of all partners and maximizes the event's impact:

- **Full Partner Engagement:** The relocation facilitates the in-person attendance of three Swiss teachers from GBS St. Gallen and three Spanish teachers from IES El Rincón, creating a collaborative environment for effective cross-border knowledge sharing.
- **University Synergy:** The event will be held at the University of Las Palmas de Gran Canaria (ULPGC), fostering synergies between vocational training and higher education.

Preparation and Planned Activities

- **Teacher Academy Participation:**
 - **Knowledge Dissemination Commitment:** Both the Swiss and Spanish teachers will not only attend but will also share their acquired knowledge with colleagues, amplifying the impact within their institutions and ensuring broader educational benefits.
- **Agenda and Activities:**
 - **Workshops on Kit Printing and Assembly:** Teachers will receive hands-on training on printing and assembling the demonstrators.
 - **IoT Workshop by GBS St. Gallen:** A specialized workshop will focus on integrating IoT technologies into the demonstrators, covering sensor data collection and real-time monitoring.

Next Steps

- **Final Preparations:** Finalizing logistics, organizing accommodations, and ensuring all materials are ready for the event.
- **Broader Educational Engagement:** Trained teachers will implement the demonstrators in their schools, directly involving students and extending the project's educational impact.

The **Teacher Academy** in Gran Canaria promises to be a highly impactful event, combining in-person training, university collaboration, and workshops on kit assembly and IoT, equipping teachers with the skills to implement sustainability education effectively.

2. Falls zutreffend, beschreiben Sie bitte Schwierigkeiten, die im Projektverlauf aufgetreten sind und wie Sie und Ihre Partnereinrichtungen damit umgehen.

If applicable, please describe any difficulties that have arisen during the project and how you and your partner organisations have dealt with them.

During the implementation of the EDUDEMOS project, several challenges arose, particularly concerning logistical arrangements and financial clarifications. Below are the key difficulties and the actions taken to address them:

1. Relocation of the Teacher Academy

- **Challenge:** The Teacher Academy was initially scheduled for early September 2024 in St. Gallen, Switzerland. However, there was uncertainty around funding eligibility for our Swiss partner, which affected the planning process and the feasibility of holding the event in Switzerland. Additionally, logistical challenges were compounded by the summer holiday period for some Spanish partners.
- **Solution:** After clarification from the funding agency, confirming the Swiss partner's inclusion and eligibility, the decision was made to relocate the Teacher Academy to Gran Canaria and reschedule it for late October 2024. This change was strategically beneficial, as it allowed all partners to participate in person, thus ensuring a higher level of engagement and collaboration. The new venue at the University of Las Palmas de Gran Canaria (ULPGC) also provided a suitable setting for creating synergies between vocational education and higher education.

2. Adjustments in Financial Allocations

- **Challenge:** Due to the relocation of the Teacher Academy, there was a need to adjust the financial allocations originally intended for hosting the event in Switzerland.
- **Solution:** Funds were reallocated to cover new costs, such as travel and accommodation for the Swiss teachers attending the academy in Gran Canaria. Additionally, some of the resources initially set aside for the Transnational Project Meeting were redirected to cover essential expenses for hosting the

Teacher Academy in Spain. This ensured that all necessary activities could proceed without exceeding the project budget, maintaining financial efficiency.

3. Coordination Among Partners

- **Challenge:** Coordinating multiple partners from different countries, each with its own schedules and availability, presented challenges in ensuring consistent progress.
- **Solution:** Regular online coordination meetings were established to keep all partners updated on the project's status, address any emerging issues promptly, and ensure smooth communication. Tools like Google Meet, Teams, and a shared Google Drive folder were effectively used for collaboration, providing all partners with easy access to essential documents and facilitating ongoing discussions.

Despite these challenges, the proactive approach taken by the project's coordinating team and the flexibility demonstrated by all partners have allowed the EDUDEMOS project to continue progressing effectively. The relocation of the Teacher Academy and adjustments in financial planning turned potential setbacks into opportunities for enhancing collaboration and ensuring the project's goals remain on track.

3. Bitte beschreiben Sie die bisherigen und die geplanten Verbreitungsaktivitäten im Hinblick auf Ihre Zielgruppen sowie die Wirkungen auf die beteiligten Organisationen

Please describe the dissemination activities to date and those planned regarding your target groups and the impact on the organisations involved.

The **EDUDEMOS project** employs a targeted dissemination strategy to engage various stakeholders, including vocational education teachers, students, educational institutions, and industry professionals, promoting the adoption of sustainability and digital technologies in education.

Project Website and Social Media:

- **Target Group:** Educators, students, industry stakeholders, and the general public.
- **Led By:** Fundación Sergio Alonso (FSA) and IES El Rincón in collaboration with FINNOVAREGIO oversees the content creation and management for the project



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website and social media platforms, such as LinkedIn and Instagram (@edudemos). These channels share project updates, demonstrator guides, and event highlights to ensure broad engagement and visibility.

Workshops and Public Events:

- IoT Workshop at ULP GC (February 2024):
 - Target Group: Teachers and students from Switzerland and Spain.
 - Led By: GBS St. Gallen organized the workshop, in collaboration with Rhein Waal University and ULP GC. The event introduced participants to IoT components, enhancing technical understanding of integrating technology in the demonstrators.
- Presentation at Hannover Fair (August 2024):
 - Target Group: Industry stakeholders, educators, and the wider public.
 - Led By: Technik macht Spaß coordinated the presentation, showcasing the developed demonstrators to increase awareness of the project's innovative approach to sustainability and education.

Publications of Assembly Guides:

- **Target Group:** Teachers and students in participating schools.
- **Led By:** Fundación Sergio Alonso is responsible for developing and publishing the assembly guides on the EDUDEMOS website, providing step-by-step instructions to aid teachers and students in constructing the demonstrators.

Next steps

Teacher Academy in Gran Canaria (October 2024):

- **Target Group:** Six vocational education teachers (three from GBS St. Gallen, three from IES El Rincón).
- **Led By:** IES El Rincón and Fundación Sergio Alonso will host and lead the event, with contributions from GBS St. Gallen providing a specialized IoT workshop. FINNOVAREGIO will document and publish the outcomes of the Teacher Academy to support dissemination among broader European vocational networks. The trained teachers will share their knowledge with colleagues in their institutions, expanding the impact further.

Local and International Student Academies:

- Local Academies (October 2024 - April 2025):
 - Target Group: Students from participating VET centers in Spain and Switzerland.
 - Led By: IES El Rincón and GBS St. Gallen will lead activities involving students in constructing and learning with the demonstrators, directly embedding sustainability into the student curriculum.
- International Student Academy (April 2025 in Belgium):
 - Target Group: Students and teachers from Spain, Switzerland, and other participating countries.
 - Led By: FINNOVAREGIO will organize this event in Belgium to showcase student projects, providing an international platform for sharing knowledge and highlighting project outcomes.

Resource Distribution to Vocational Training Centers:

- **Target Group:** 20 VET centers across Spain, Switzerland, Germany, and Belgium; reaching 30 teachers and 200 students.
- **Led By:** Fundación Sergio Alonso, in partnership with Technik macht Spaß, will distribute assembly guides and educational materials to extend the project's benefits beyond the initial participants. FINNOVAREGIO will assist by promoting these resources to ensure they reach key stakeholders in vocational education across Belgium and beyond.

4. Bitte geben Sie die Links zu Ihrer Website und zu Social Media-Kanälen an

Please provide links to your website and social media channels

Website: <https://edudemos.eu/>

LinkedIn: <https://www.linkedin.com/company/edudemos/>

Instagram: <https://www.instagram.com/edudemos/>