SLOG 4.0

Digital and green skills for boosting innovation and sustainability of the logistics sector

PROJECT AIMS

The project links two frameworks: sustainability/green skills and 4.0 technologies/digital skills within the field of logistics and aims to adapt green and digital skills of students to the requirements of the industry 4.0.

"TO INCREASE THE ADOPTION OF SUSTAINABLE AND DIGITAL PRACTICES IN THE LOGISTICS SECTOR, SECTOR RESPONSIBLE FOR CREATING SUBSTANTIAL COSTS FOR SOCIETY."

IN THIS ISSUE:

FUTURE LEADERS IN LOGISTICS TACKLE SUSTAINABILITY AT THE 11TH INTERNATIONAL SUMMER SCHOOL

The **11th International Summer School of Logistics**, titled **Sustainable Logistics: Theoretical Heroes Tackle a Real Green Challenge**, recently concluded at the **University of Maribor**. This year's event brought together **26** students from **11** European universities across **7** countries, engaging them in the critical challenge of making logistics more sustainable.

The summer school was structured in **two parts**: an **online** session followed by a **physical** gathering in **Slovenia**. Top academics and industry professionals, including professors from across Europe, led the courses. The program not only fostered intellectual growth but also emphasized cultural exchange, allowing participants to explore Slovenia and build international connections.

FUTURE LEADERS IN LOGISTICS TACKLE SUSTAINABILITY AT THE 11TH INTERNATIONAL SUMMER SCHOOL

A highlight of the program was a **case study** analyzing the **transport of containerized cargo** — specifically lithium batteries — from the Port of Koper to a final destination in Austria. The students evaluated the logistics and customs procedures of **F.A. Maik** and identified ways to **reduce the carbon footprint of their operations**. Participants presented sustainable solutions to help the company cut emissions, with recommendations ranging from **optimizing document management systems, reducing paper use and embracing digital transformation** to **optimizing fuel consumption in logistics processes**. For instance, one group calculated that transitioning from a fully paper-based system to a digital one could **reduce CO2 emissions by up to 90%**.

Overall, the 11th International Summer School of Logistics proved to be a valuable platform for future logistics leaders to tackle pressing environmental issues, **combining theoretical knowledge with practical applications to promote sustainable development**.

EMPOWERING CITIZENS THROUGH PARTICIPATORY LOGISTICS DESIGN

In the journey towards a more sustainable and inclusive future, it's crucial to explore **how citizens can actively shape the logistics systems that serve their communities**. Let's dive into some innovative approaches that are transforming the way we design and implement logistics solutions.

Participatory Design: Co-Creating Solutions

Participatory design is revolutionizing the way we approach logistics challenges. This method brings together citizens, experts, and stakeholders to **collaboratively design solutions that truly meet community needs**. **Workshops, focus groups, and design sprints** are just a few ways to engage diverse voices in the process [1].

For example, a recent project in Amsterdam used participatory design to reimagine last-mile delivery in dense urban areas. Citizens, local businesses, and logistics providers came together to develop a network of micro-hubs and cargo bike deliveries, reducing congestion and emissions while improving service quality [2].

EMPOWERING CITIZENS THROUGH PARTICIPATORY LOGISTICS DESIGN

Citizen Science: Harnessing Local Knowledge

Citizen science initiatives are empowering individuals to contribute valuable data and insights to logistics planning. **By leveraging smartphone apps and simple data collection tools, citizens can help map delivery routes, identify inefficiencies, and monitor environmental impacts** [3].

One inspiring example comes from Jakarta, where a citizen-led initiative called "Urban Logistics Watch" allows residents to report and track traffic congestion, air quality, and delivery times. This data is then used by city planners and logistics companies to optimize routes and reduce environmental impact [4].

Community-Based Logistics Planning

Engaging communities in the logistics planning process ensures that solutions are tailored to local needs and values. **Town halls, online forums, and participatory budgeting exercises** can give citizens a direct say in how logistics infrastructure is developed and operated [5].

In rural Scotland, a community-led logistics project called "Highland Harvest" has transformed local food distribution. By involving farmers, consumers, and local authorities in the planning process, they've created a resilient and sustainable food supply chain that supports local producers and reduces food miles [6].

EMPOWERING CITIZENS THROUGH PARTICIPATORY LOGISTICS DESIGN

Aligning with Society 5.0 and Sustainability Goals

These participatory approaches align perfectly with the principles of **Society 5.0**, which envisions a human-centered society that balances economic advancement with the resolution of social problems [7]. **By involving citizens in logistics design, we can create systems that not only improve efficiency but also enhance quality of life and environmental sustainability**.

As we move forward, let's embrace these participatory methods to co-create logistics solutions that truly serve our communities and our planet. **Together, we can build a more sustainable and inclusive future for all**.

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GREEN PROCUREMENT

Paving the Way for Sustainable Business Practices

In today's business landscape, organizations are increasingly recognizing the importance of incorporating sustainability into their operations. One area where this shift is particularly evident is in procurement practices. **Green procurement, also known as sustainable procurement, is the process of selecting and purchasing products and services that have a minimal negative impact on the environment** [1]. By adopting green procurement strategies, businesses can reduce their **environmental footprint**, enhance their **brand reputation**, and even achieve **cost savings** in the long run.

Sourcing from Eco-Friendly Suppliers

One of the key strategies in green procurement is **partnering with suppliers who share your commitment to sustainability**. When evaluating potential suppliers, consider their environmental policies, certifications, and track record in sustainable practices [2]. **Look for suppliers who**:

- Have certified environmental management systems;
- Actively manage their carbon emissions, waste, and water use;
- Comply with fair trade practices and maintain high social standards.

By choosing suppliers who prioritize sustainability, you can **ensure that your entire supply chain aligns with your environmental goals**.

GREEN PROCUREMENT

Paving the Way for Sustainable Business Practices

Prioritizing Minimal Packaging

Excessive packaging is a significant contributor to **waste generation**. To address this issue, organizations should prioritize products with **minimal or eco-friendly packaging** [4]. **Consider the following approaches**:

- Opt for products with reduced packaging;
- Give preference to packaging made from recyclable, reusable, or compostable materials;
- Work with suppliers to develop innovative, sustainable packaging solutions.

By focusing on minimal packaging, you can **significantly reduce waste and lower your organization's environmental impact**.

Considering Product Lifecycle Impacts

A holistic approach to green procurement involves considering the **entire lifecycle of a product, from raw material extraction to disposal or recycling** [1]. **When making purchasing decisions, evaluate**:

- The energy efficiency of products;
- The use of clean energy sources in production;
- The presence or absence of toxic substances;
- The product's recyclability and durability.

By taking these factors into account, you can make more informed choices that **minimize environmental impact throughout the product's lifecycle**.

GREEN PROCUREMENT

Paving the Way for Sustainable Business Practices

Implementing Green Procurement Practices

To successfully incorporate sustainability criteria into your procurement processes, **consider the following steps**:

1. Define your green procurement strategy and build a business case for its implementation [3];
2. Set realistic targets and communicate them to internal stakeholders and suppliers [3];
3. Develop clear guidelines and criteria for sustainable purchasing decisions;
4. Train procurement staff on sustainable practices and decision-making;
5. Regularly review and update your green procurement policies to ensure continuous improvement.

By following these steps, you can create a **robust framework** for sustainable procurement that aligns with your organization's overall **sustainability goals**.

Green procurement is not just a trend; it's a strategic approach that can drive innovation, reduce costs, and contribute to a more sustainable future. By sourcing from eco-friendly suppliers, prioritizing minimal packaging, and considering product lifecycle impacts, organizations can make significant strides towards reducing their environmental footprint. As we move towards a more sustainable business landscape, **green procurement will undoubtedly play a crucial role in shaping the future of corporate responsibility**.

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WHAT IS SLOG4.0?

SLog4.0 is a European project that aims to promote the uptake of eco-friendly and technologically advanced approaches within the logistics industry, a sector known for generating significant expenses for society, including greenhouse gas emissions and pollutants. For this purpose, it aims to contribute to the formation of a fresh cohort of proficient professionals for the logistics sector, equipped with a sustainability-focused mindset and a comprehensive skill set aligned with the principles of Industry 4.0.

PROJECT INFORMATION

Name: Sustainable Logistics4.0: Digital and green skills for boosting innovation and sustainability of the logistics sector
Number: KA220-HED-B12C4B93
Duration: 36 months
Funding: Erasmus+ Programme of the European Union, call "Cooperation partnerships in higher education"

PROJECT PARTNERS

The consortium includes 4 universities that believe in the need of proposing an innovative training offer in the field of logistic 4.0 by developing a new interdisciplinary curriculum, and 3 companies providing specialized and advanced services, selected upon the expected commitment proven by consolidated previous relations and their acknowledged proficiency.
The partners of the project are:

- Poznan University of Technology (Poland) - coordinator
- University of Aveiro (Portugal)
- University of Gaziantep (Turkey)
- University of Maribor (Slovenia)
- Valuedo srl (Italy)
- ECQA (Austria)
- Zerynth srl (Italy)

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PUBLICATION FREE OF CHARGE

Co-funded by the European Union