

SUSTaiN TOOLKIT

www.sustainvet.eu

Introduction

The SUSTAIN project is an Erasmus+ initiative uniting partners from Norway, Ireland, Finland, Italy, Bulgaria, and beyond, with the shared goal of equipping vocational education and training (VET) educators to use Artificial Intelligence (AI) in ways that actively support sustainability.

Digital Tool Selection focuses on developing a comprehensive AI-based toolkit designed to inspire, inform, and assist educators and organisations working in four **key sectors: agriculture, water, energy, and transportation.**

This toolkit brings together **11 AI-powered digital tools selected** for their relevance to these sectors and their potential to enhance sustainability-focused teaching and learning. By offering sector-specific examples and clear guidance, the toolkit aims to close the gap between AI's possibilities and its practical use in sustainability education. It includes a curated list of AI applications and tools useful for educators and stakeholders.



The main purpose of the toolkit is to provide practical pedagogical strategies and digital resources that help educators:

- 01** Understand AI's potential to drive sustainability across critical sectors.
- 02** Apply AI in their teaching, bridging the gap between theory and real-world practice.
- 03** Use innovative, technology-enhanced approaches to create more engaging and effective learning environments.

The project's international partnership includes:



Digital Tool Selection and Implementation Guide



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AI-go Studio and AI-go Runtime

Developer: Oròbix – founded by Luca Antiga e Pietro Rot

Free/Paid

Fee-based tool, applicable to different production sectors.

Function

AI-go can be used to solve a wide range of quality control tasks, like classification, segmentation and OCR (optical character recognition), achieving higher performance on use cases covered by traditional technologies and reducing the set-up effort from weeks to minutes.

AI-go allows the user to autonomously and easily create vision inspection models in a few minute and without the need of resorting to external specialized integrators, or without previous knowledge on AI and other traditional vision inspection techniques. Differently from other AI-systems, models can be trained using only a few examples (10 - 40), reducing the set-up effort and enabling a highly replicable approach characterized by a short time-to-value.

AI-go Studio

A cloud platform with an easy-to-use graphical interface that provides a simple model creation for the following tasks:

- classification: both binary (good vs bad) and multi-class (defect 1 vs defect 2 vs defect 3)
- segmentation (highlighting defects and their shape in an image)
- OCR (optical character cognition)

AI-go Runtime

An edge component (installed on the production line and which can also work without internet connectivity) for high-performance model serving. This is where the AI models can be installed, and the prediction easily generated.

How does it work?

1. Cratation of the Module/Sp

AI-go STUDIO - Platform for model management.

- Collect images from the production line: 10 - 40 images per class.
- Upload and label images: assign the specific label corresponding to the class (for example: good / reject, or defect 1 / defect 2 / defect 3).
- Train the model independently: just by pressing a button!

2. Test and Validation

AI-go STUDIO – Model Management Platform

- Test and validation: check the robustness of your model on new set of images and make sure of the performance before going to the production line.
- Download trained and validated model from AI-go Studio.
- Production

3. AI-go RUNTIME

- Load trained and validated model from AI-go Studio to AI-go Runtime and deploy on edge device.
- Inference: process real time incoming data to predict the image result.



AI-go Studio and AI-go Runtime

Developer: Oròbix – founded by Luca Antiga e Pietro Rot

Target Audience

Companies of the following sectors: Wine production, Food and Beverage, Pharma, Cosmetics, Logistics, Manufacturing, Automotive, Rubber,

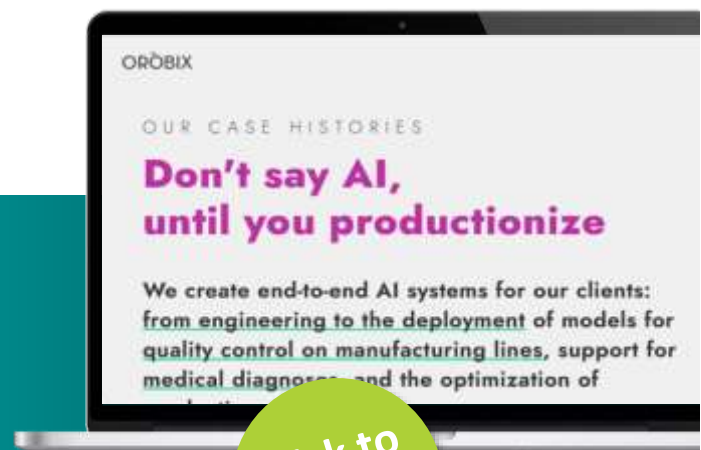
Strengths & Limitations

Strengths:

- easy to use and manage
- innovative
- wide applications

Limitations

- paid tool



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MooMonitor+ by Dairymaster

Developer: Dairymaster

Free/Paid

MooMonitor+ is a paid for service, requiring an initial investment in hardware along with optional subscription costs for ongoing access to its data and analysis platform.

Function

MooMonitor+ is an advanced, AI-powered livestock monitoring system developed by Dairymaster, an Irish agri-tech company renowned for innovation in dairy farm technologies.

Target Audience

Dairy farmers, herd managers, and veterinary advisors who want to improve herd fertility, monitor animal health more efficiently, and enhance overall farm productivity through precision livestock technology.

Strengths & Limitations

Strengths:

- **Accurate heat and health detection** - MooMonitor+ provides precise monitoring of activity, feeding, and rumination, allowing farmers to identify optimal breeding times and spot early signs of illness.
- **Labour-saving and time-efficient** - The system automates herd monitoring, reducing the need for manual checks and freeing up time for other farm tasks.
- **Improves animal welfare** - Continuous, non-invasive observation helps farmers respond quickly to changes in health or behaviour, supporting better care and wellbeing.

Limitations

- **High initial investment** - The cost of purchasing collars for each animal and accessing the digital platform can be a significant barrier, especially for smaller farms.
- **Requires digital infrastructure and skills** - Successful use depends on having reliable connectivity and a basic level of digital literacy, which may be a challenge in some rural settings.
- **Maintenance and durability** - As a wearable device, the system is exposed to outdoor conditions and animal movement, which may require occasional maintenance or replacements



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AGRICULTURE

PLANTVOICE

Developer:

PlantVoice located in Bolzano, Italy – was founded by two brothers, Ma]eo and Tommaso Beccatelli, the la]er a farm owner and user of the instrument

Free/Paid

The tool is fee-based, currently relying on direct management by the company PlantVoice. In the future the company would like to develop a much more streamlined mode, i.e., the farmer orders the kit (one - me payment for the kit)

Function

An ecosystem of integrated tools that come together to provide the farm and the farmer with direct information on the physiology of the plant thanks to a non-invasive real-time analysis of the sap.

PlantVoice's strategy is based on the concept of "sentinel plant": the sensor (size of a toothpick) is installed on a plant representative of a homogeneous plot (about half a hectare), allowing reliable data to be collected that can be applied to the entire cultivated area. The system offers constant and automated monitoring, reducing the need for manual inspections and allowing targeted interventions only when necessary.

An additional advantage is the API (Application Programming Interface) interface, which allows integration with other agricultural management platforms. This avoids fragmentation of information and allows farmers to use the data collected in synergy with other digital solutions for even more effective precision agriculture. Using PlantVoice gives farmers the ability to make faster and more informed decisions, optimizing the use of resources and reducing losses due to undiagnosed diseases in time. Real-time monitoring and integration with artificial intelligence represent a significant step forward in crop protection, helping to improve the sustainability and profitability of farming.

Target Audience

Plantvoice is ideal for perennial stem crops, such as vineyards, orchards and olive groves. It is not suitable for herbaceous crops due to the size of the sensors.



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Strengths & Limitations

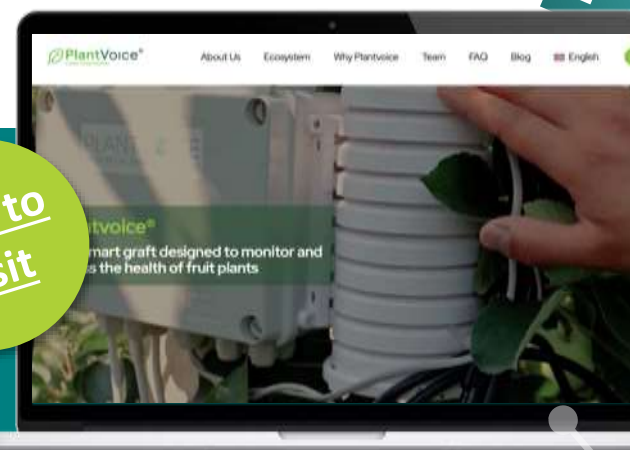
Strengths:

- Plantvoice is designed to integrate with other technological tools through an automatic computer interface. This compatibility allows the data collected to be used together with information from meteorological sensors, soil moisture, irradiance, and drones or satellites, offering centralized and complete management of agricultural resources. The data collected by the sensors is encrypted and stored securely on cloud servers, ensuring the protection of sensitive information and compliance with data privacy regulations.
- Plantvoice is compatible with ESG platforms such as ESGMax, facilitating the automated collection and analysis of data for the preparation of sustainability reports along the entire company supply chain.

Limitations

- Plantvoice is ideal for perennial stem crops, such as vineyards, orchards and olive groves. It is not suitable for herbaceous crops due to the size of the sensors.

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AGRICULTURE

Proveye

Developer: Dr. Fabio Morelli/ University College Dublin

Free/Paid

Paid-for commercial service

Function

Proveye is a cutting-edge agricultural AI tool that transforms drone and satellite imagery into high-resolution insights for land use, biodiversity monitoring, and crop performance. It supports a wide range of analytical tasks—such as classification, segmentation, and landscape change detection—offering more accuracy than traditional remote sensing tools and significantly reducing the time required for setup and analysis.

Proveye empowers users—including farmers, agri-consultants, and land managers—to generate detailed, actionable maps in minutes, without requiring prior expertise in artificial intelligence or geospatial analysis. Unlike many other AI

systems that demand extensive datasets, Proveye's models can deliver robust outputs using a relatively small set of training images, enabling a rapid and repeatable deployment process across different agricultural landscapes.

Proveye gives users a platform with an intuitive graphical interface that can:

- Classify land cover or crop health (e.g., healthy vs stressed vegetation);
- Segment features in the landscape (e.g., mapping species diversity or delineating field boundaries);
- Detect anomalies or patterns from time-series imagery (e.g., identifying overgrazed areas or pest damage).

Target Audience

Proveye is designed for farmers, agricultural consultants, environmental agencies, and government bodies who require high-resolution, AI-powered insights for land monitoring, biodiversity assessment, and sustainable farm management.

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AGRICULTURE

Proveye

Developer: Dr. Fabio Morelli/ University College Dublin

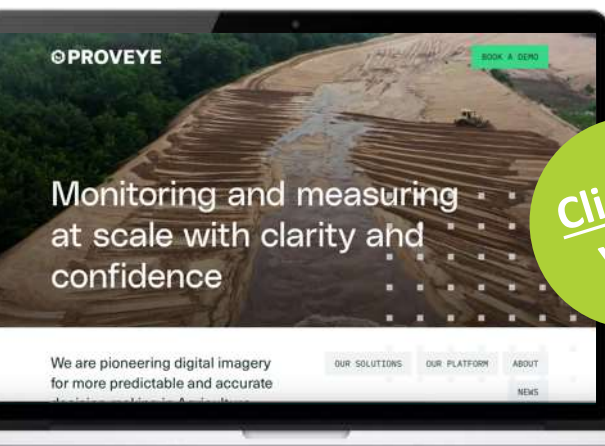
Strengths & Limitations

Strengths:

- **High-resolution, actionable insights**
Proveye transforms drone and satellite imagery into detailed maps and data layers, enabling precise decision-making in crop and land management.
- **Time and resource efficiency**
The platform significantly reduces the time and effort needed to interpret remote sensing data, helping users act faster and optimise inputs such as fertiliser or grazing.
- **Supports sustainability and compliance**
By facilitating biodiversity monitoring, carbon farming assessments, and CAP scheme reporting, Proveye aligns agricultural practices with environmental and regulatory goals.

Limitations

- **Subscription-based cost model**
As a paid service, Proveye may be cost-prohibitive for smaller farms or individual users without external funding or support.
- **Tech literacy requirement**
While designed to be user-friendly, effective use still demands a basic understanding of digital tools, which might be a barrier for some traditional farmers.
- **Dependent on image quality and conditions**
Cloud cover, poor lighting, or inconsistent image capture can affect the accuracy of the analysis, particularly when using satellite data.



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WATER MANAGEMENT

Badger Meter

Developer: Badger Meter Inc.

Free/Paid

Paid (Offers various solutions and pricing based on specific needs and tools such as water management systems, advanced meters, etc.)

Function

Badger Meter provides smart water management solutions, including AI-enhanced tools for real-time water flow analysis, leak detection, and system optimization. The main function is for utility companies and industries to optimize water usage, improve efficiency, and reduce costs through predictive data and real-time monitoring.

What the tool is?

Badger Meter provides modular, reagent-free, low-power instruments and software for real-time water quality monitoring (e.g., chlorine, pH, turbidity, UV254), plus pressure/leak analytics for distribution networks.

Target Audience

Utility companies, municipalities, water management professionals, environmental agencies, industries managing water resources.

Strengths & Limitations

Strengths:

- Provides real-time monitoring
- Allows for predictive maintenance
- Cross-sector relevance for VET. Documented applications span drinking water, irrigation/greenhouses, HVAC, food & drink—helpful for sector-specific assignments.
- badgermeter.com
- Built-in learning materials. Vendor pages explain key parameters (UV254, turbidity, pH, chlorine), and there are webinars/playlists for demonstrations—handy when hardware access is limited.

Limitations

- May require high initial setup cost
- May not be suitable for smaller utilities or regions with limited infrastructure.

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WATER MANAGEMENT

TARKKA (Environmental Monitoring Application)

Developer: Finnish Environment Institute (SYKE)

Free/Paid

Free

Function

TARKKA is the Finnish Environment Institute's (SYKE) public web service that visualizes near-real-time and historical satellite-derived environmental layers (especially inland/coastal waters) from Copernicus and Landsat, with an online map viewer and web map services. It helps

professionals, including environmental agencies, researchers, and public authorities, monitor water quality, pollution levels, and other environmental factors. It is primarily focused on providing real-time environmental data for sustainable management.

Target Audience

Environmental agencies, researchers, policymakers, and public authorities involved in environmental monitoring and management.

Strengths & Limitations

Strengths:

- Provides real-time data on environmental factors
- Promotes sustainable management practices
- User-friendly interface
- Supports decision-making in environmental policies.

Limitations

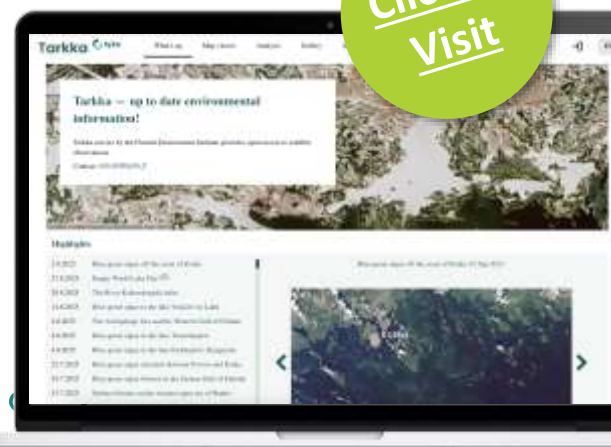
- Limited to environmental monitoring
- May require specific hardware or data sources to function optimally
- May not cover all environmental parameters for non-specialists.

Additional Info.

Practical mitigations for teaching

- Blend with in-situ/near-real-time feeds. Pair TARKKA layers with MarineFinland's real-time observations for triangulation activities (e.g., "does satellite-inferred turbidity match buoy data?") wwwi4.ymparisto.fi
- Design "compare & explain" tasks: Have learners compare two dates/locations and write short briefs on likely drivers (runoff, dredging, resuspension), using TARKKA's historical imagery.

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WATER MANAGEMENT

U-Collect - Collect leak field information

Developer: Utilis Corp.

Free/Paid

Free

Function

The U-Collect app, developed by Utilis Corp., is a mobile data collection tool designed for field users and local leak detection crews. It allows users to collect and record field inspection data, particularly for water utility leak detection. This app uses GPS in the

background to give the most accurate and current location.

- Supported Platforms: iOS (App Store), Android (Google Play)
- App Size: Approximately 26 MB

Target Audience

- Field technicians, professionals conducting on-site inspections and data collection.
- Utility companies, organizations involved in water distribution and maintenance.
- Environmental agencies, entities monitoring and managing water resources.
- Municipal governments, local authorities overseeing public utilities and infrastructure

Strengths & Limitations

Strengths:

- Supports data collection in both connected and remote areas.
- Designed for ease of use in field conditions.
- Available in multiple languages

Limitations

- Continuous GPS usage in the background may drain battery life.
- Primarily intended for ASTERRA users; general public may have restricted

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TRANSPORT AND LOGISTICS

Alison – Transportation and Logistics Training

Developer:

Alison's **Transportation and Logistics Training** courses are developed by Alison, an online learning platform that provides free courses across various industries. Alison collaborates with subject matter experts and institutions to create educational content focused on logistics, supply chain management, and transportation strategies

Free/Paid

Alison's Transportation and Logistics Training courses are **free** and designed to help learners understand logistics strategy, supply chain management, and transportation planning.

- **Free Online Learning:** No cost to enroll, study, and complete courses.
- **Industry-Relevant Topics:** Covers logistics optimization, transportation modes, and supply chain efficiency.
- **Self-Paced Study:** Learners can progress at their speed.
- **Certification Available:** While courses are free, certificates require a **paid purchase**.

Function

Alison is an **online education platform** designed to provide **free skills training and certification** across various fields. Its main educational purpose includes:

- **Career Development:** Offers courses in business, technology, and professional skills to enhance employability.
- **Vocational Training:** Provides industry-specific training in areas like logistics, healthcare, and engineering.
- **Personal Growth:** Supports self-improvement through courses in psychology, wellness, and communication.
- **Student Engagement:** Encourages interactive learning with self-paced study options.
- **Assessment & Certification:** Allows learners to earn certificates and diplomas to validate their knowledge.

Target Audience

Alison is designed for a **wide range of learners**, including:

- **Students:** Those looking to gain new skills, certifications, or supplementary education.
- **Professionals:** Individuals seeking career advancement, upskilling, or industry-specific training.
- **Educators:** Teachers and trainers who want to integrate online learning into their curriculum.
- **Job Seekers:** People aiming to improve their employability with free courses and certifications.
- **Lifelong Learners:** Anyone interested in personal development, from business skills to wellness topics.



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Strengths & Limitations

Strengths:

- Offers thousands of courses at no cost, making education accessible to everyone.
- Covers diverse topics, including business, technology, healthcare, and personal development.
- Learners can progress at their own speed, making it flexible for busy schedules.
- While courses are free, learners can purchase certificates to validate their skills.
- Available on iOS and Android, allowing learning on the go.
- Includes features like a **resumé builder** and **personality assessments** to help users advance professionally.

Limitations

- While learning is free, official certificates require payment.
- Some courses may not be as comprehensive as others.
- Unlike traditional online courses, Alison lacks direct engagement with instructors.
- Certificates are useful for skill validation but may not be recognized by all employers.

Additional Info.

Here are some **free online courses** on Alison that could be useful for **transport-related Vocational Education and Training (VET)**:

- **Diploma in Logistics and Supply Chain Management** – Covers key concepts in transportation, warehousing, and distribution.
- **Designing a Logistics and Transportation Strategy** – Focuses on optimizing transport networks and logistics operations.
- **Introduction to Transport Management** – Provides foundational knowledge on managing transport systems efficiently.

These courses are self-paced and free, with optional paid certificates.

[learnopolym.com](https://www.learnopolym.com); [taskvive.com](https://www.taskvive.com)

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TRANSPORT AND LOGISTICS

PTV Vissim PTV Visum

Developer: PTV Planung Transport Verkehr GmbH

Free/Paid

PTV Vissim and PTV Visum are **paid software**, but there are some free options available:

- **Trial Versions** – PTV offers a **free trial** of PTV Visum, allowing users to test its features before purchasing. You can check it out [here](#).
- **Student & Academic Licenses** – If you're a student or working on a thesis, you may be eligible for a free academic license for PTV Visum and PTV Vissim. More details [here](#).
- **Limited Student Versions** – PTV provides **functional-limited trial versions** for students who want to learn the software. You can find them [here](#).
- **SUMO (Simulation of Urban Mobility)** – An open-source traffic simulation tool widely used for research. Unlike PTV Vissim, **SUMO is free** and supports large-scale simulations but **lacks some of the advanced visualization and driver behavior modeling features**.

Function

PTV Visum and PTV Vissim have significant educational value, particularly in the fields of transportation engineering, urban planning, and mobility management. Their main educational purposes include:

- **Traffic & Transportation Education** – Universities and research institutions use PTV Visum and PTV Vissim to teach students about traffic modeling, demand forecasting, and transportation system analysis. They provide hands-on experience in simulating real-world scenarios.
- **Data Analysis & Decision Support** – These tools help students learn how to interpret traffic flow data, public transit efficiency, and infrastructure planning using advanced mathematical models.
- **Urban Planning & Smart Mobility Research** – They support education in sustainable transport development, smart city planning, and mobility innovations, helping students understand the impact of new mobility solutions.
- **Simulation-Based Learning** – PTV Vissim offers a microscopic simulation approach, allowing students to observe driver behavior, intersection efficiency, and road network design in a virtual environment.
- **Policy & Infrastructure Assessment** – PTV Visum enables future planners and policymakers to analyze large-scale transportation networks, multimodal integration, and future mobility scenarios before real-world implementation.

These tools empower students with practical skills that are highly relevant for careers in transportation planning, civil engineering, and mobility research



TRANSPORT AND LOGISTICS

PTV Vissim PTV Visum

Developer: PTV Planung Transport Verkehr GmbH

Target Audience

PTV Visum and PTV Vissim are primarily designed for transportation professionals, urban planners, and engineers, but they also have educational applications. Here's a breakdown of who uses these tools:

- **Transportation Engineers & Traffic Planners** – Professionals use PTV Vissim for microscopic traffic simulations, optimizing intersection designs, road layouts, and public transport operations.
- **Urban Planners & Policymakers** – PTV Visum helps city planners analyze transport systems, forecast demand, and plan long-term mobility strategies.
- **Students & Researchers** – Universities and academic institutions use PTV software to teach transportation modeling, simulation techniques, and mobility research.

- **Public Transport Operators** – Transit agencies rely on PTV Visum to plan efficient bus, tram, and metro networks, ensuring smooth operations.
- **Government Agencies & Consultants** – Governments use these tools to assess infrastructure projects, test traffic policies, and improve city mobility.

While these tools aren't primarily designed for school teachers or administrators, they are used in higher education to train future civil engineers, transportation analysts, and urban designers.

Strengths & Limitations

Strengths:

PTV Vissim:

- Models individual vehicle behavior, making it highly detailed and realistic.
- Simulates interactions between cars, pedestrians, cyclists, and public transport.
- Uses historical and live data for accurate traffic forecasting.
- Allows integration with external tools and custom scripting.

PTV Visum:

- Ideal for large-scale transport network analysis and strategic planning.
- Enables evaluation of multiple transport strategies efficiently.
- Supports transit planning, including scheduling and route optimization.
- Helps cities transition to sustainable transport solutions.

Limitations

- Both tools require significant training to master due to their complexity.
- Running large-scale simulations demands powerful computing resources.
- No free version is available, making accessibility a challenge for smaller organizations.
- Microscopic simulations in Vissim can be time-consuming, especially for large networks.



TRANSPORT AND LOGISTICS

PTV Vissim PTV Visum

Developer: PTV Planung Transport Verkehr GmbH

Additional Info.

PTV Vissim and PTV Visum can be valuable tools in Vocational Education and Training (VET), particularly for students and professionals in transportation, urban planning, and traffic management.

How They Support VET Education

- Students can simulate real-world traffic scenarios, helping them understand transport dynamics.
- PTV offers academic licenses for students working on transport-related research.

- Structured courses are available to teach students how to use the software effectively.
- Learners can model different transport strategies and analyze their impact.
- Helps students explore optimization techniques for transit systems.

www.ptvgroup.com
training.ptvgroup.com
thinktransportation.net

sourceforge.net
ptvpartner.ro

Case studies

PTV software has been widely used in educational settings for research and training in transportation and mobility studies. Here are some notable case studies:

- **Research Paper Archive:** PTV Group provides a collection of academic papers showcasing various applications of PTV Vissim and PTV Visum in transportation research, including traffic control algorithms and predictive road safety assessments. You can explore them here.

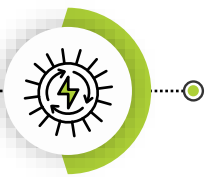
- **PTV Academic Community:** Over 600 universities use PTV software for research and education, with more than 1,800 scientific papers published using PTV tools. The platform supports students and educators with academic licenses and resources. Learn more here.
- **Intersection Performance Study:** A case study in Jember analyzed intersection performance using PTV Vistro, demonstrating its effectiveness in evaluating traffic operations and optimizing signalized intersections.



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ENERGY

EcoStruxure Resource Advisor Copilot

Developer: Schneider Electric

Free/Paid

Its typically requires a subscription or licensing agreement. The tool was initially launched in a private beta and is now generally available

Function

It uses Large Language Model technology to enhance data analysis, visualization, decision support, and performance optimization for energy and sustainability teams. This tool simplifies interaction with complex enterprise data, enabling users to retrieve insights and generate visuals effortlessly, thus focusing on strategic resource decisions.

It helps users understand complex energy

and sustainability data through intuitive interactions. By simplifying data analysis and visualization, it enables users to learn about energy management, resource consumption reduction, and sustainability practices. This tool also supports ESG reporting and carbon accounting, making it easier for users to grasp these concepts and apply them effectively

Target Audience

The target audience is business leaders and environmental managers, but it can be used in school for education students towards this profession

Strengths & Limitations

Strengths:

- Enhances data analysis, visualization, and decision-making; simplifies complex data interactions; supports sustainability goal

Limitations

- May require initial training for optimal use; dependent on data quality and integration

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EcoStruxure™ Resource Advisor Copilot: Advancing Sustainability with AI

September 29, 2023

- **Conversational AI tool developed by Schneider Electric is the latest innovation to EcoStruxure Resource Advisor**
- **Will deliver efficiency gains and new ways of interacting with complex enterprise data**

Boston, MA – Aug. 29, 2023 – Schneider Electric, the leader in the digital transformation of energy management, automation, and sustainability today announced its plans to launch **EcoStruxure Resource Advisor Copilot**, a conversational AI tool designed to help business leaders interact with their enterprise energy and sustainability data at even greater speed.

Using Large Language Model technology, Schneider Electric has seamlessly built Copilot as a conversational digital companion embedded inside **EcoStruxure Resource Advisor**.



ENERGY

VIND ai

Developer:

Vind AI was developed by a Norwegian company. The key individuals involved in its development are:

- **Helene M. Bøhler:** Co-founder and CEO
- **Jan-Tore Horn:** Co-founder and CTO
- **Hilde Kristin Njøten:** Co-founder and COO

The founders have combined their expertise to create a platform that revolutionizes wind project planning and design with real-time data access, advanced optimization, and seamless collaboration.

Free/Paid

Vind AI follows a subscription model - Users can request a demo to explore its features and functionalities, but full access to the platform requires a subscription. This model ensures continuous updates, support, and access to advanced optimization algorithms and real-time data integration.

Function

Vind AI is a digital platform designed to streamline the assessment and development of offshore and onshore wind projects. It integrates real-time data, advanced optimization algorithms, and collaboration tools to enhance project development

stages. The tool allows users to model yield, Levelized Cost of Energy (LCoE), noise, visual effects, and more in real-time, providing precise evaluations of wind farm performance.

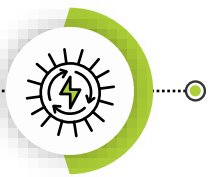
Target Audience

Vind AI is a digital platform designed for the development and management of wind energy projects. The primary target audiences include:

- **Wind Energy Developers:** Companies and professionals involved in planning, designing, and implementing wind farms, such as TotalEnergies and Statkraft.
- **Project Managers:** Individuals overseeing wind energy projects to ensure they meet technical, financial, and regulatory standards.
- **Engineers and Technical Experts:** Engineers specializing in renewable

energy who use AI tools to optimize turbine layouts and project efficiency.

- **Environmental Analysts:** Professionals assessing the environmental impact of wind energy projects, including noise and visual effects.
- **Government and Regulatory Bodies:** Authorities responsible for approving and regulating wind energy projects.
- **Educational Institutions:** Vocational schools and universities incorporating AI tools like Vind AI into their curriculum to teach renewable energy project development and optimization.



ENERGY

VIND ai

Developer: Vind AI was developed by a Norwegian company.

Strengths & Limitations

Strengths:

- Simplifies interaction with various development processes.
- Ensures consistency and accuracy across the project lifecycle.
- AI-powered algorithms optimize turbine layouts and project efficiency.
- Models yield, Levelized Cost of Energy (LCoE), noise, visual effects, and more in real-time.
- Access to global datasets of wind and geospatial data.
- Works seamlessly with industry tools like WindPro and ArcGIS.

- Streamlines communication and collaboration.
- Ensures data security with controlled access permissions.

Limitations

- Requires a subscription, which may be a barrier for smaller organizations.
- Advanced features may require training for effective use.
- Optimal performance may need high-end hardware and reliable internet connectivity.

Additional Info.

Educational Purpose: Vocational Training in Renewable Energy - Vind AI can be utilized in vocational education to teach students about the practical applications of AI in the renewable energy sector. Specifically, it can be used for:

1. Content Creation:

- **Course Modules:** Developing modules that cover the fundamentals of wind energy, AI optimization techniques, and project development processes.
- **Simulation Exercises:** Creating practical exercises where students use Vind AI to simulate and optimize wind farm designs.

2. Assessment:

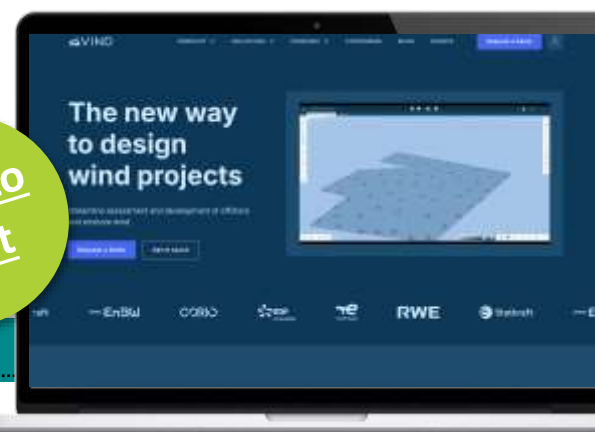
- **Performance Evaluation:** Assessing students' ability to apply AI tools in optimizing wind energy systems, providing a practical evaluation of their skills.
- **Project-Based Assessments:** Using Vind AI to evaluate students' capstone projects, focusing on their ability to design and implement AI-based solutions for wind energy management.

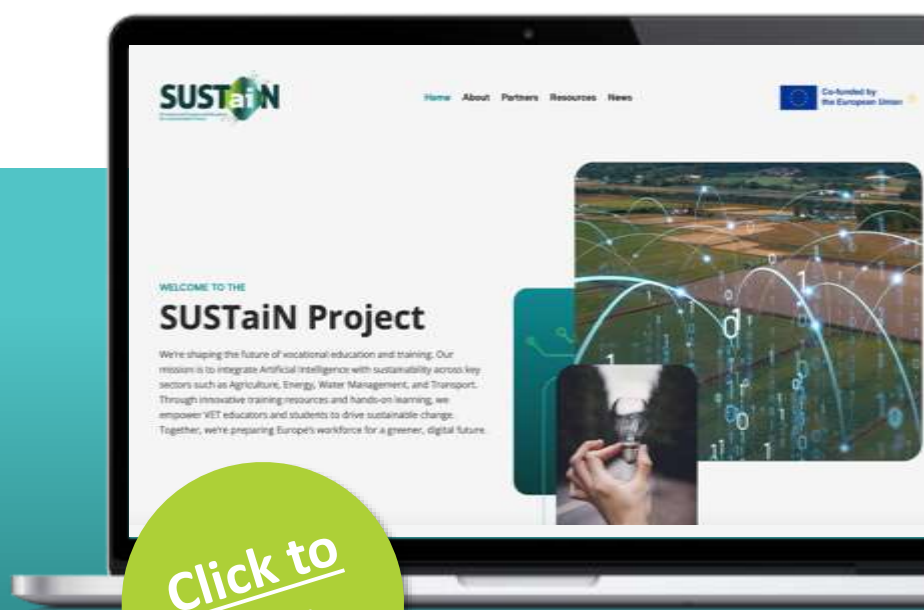
3. Student Engagement:

- **Interactive Learning:** Engaging students with hands-on activities using Vind AI, allowing them to explore real-world scenarios and make data-driven decisions.
- **Collaborative Projects:** Encouraging teamwork by having students collaborate on wind energy projects using Vind AI's unified platform.

*By integrating **Vind AI** into vocational education programs, students can gain valuable skills in AI and renewable energy management, preparing them for careers in the sustainable energy sector. This approach aligns with the goals of the SUSTain project to enhance vocational education through the use of advanced digital tools.*

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