SILVANUS

wishes you a Merry Christmas and a Happy New Year!

SILVANUS - European Green Deal Project for Wildfire Management and Climate Change

SILVANUS is a Horizon 2020 Green Deal project, named after the Roman deity of woods and uncultivated lands, whose main objective is to create a **climate resilient wildfire risk management platform** to prevent and suppress forest fire, and to restore burnt areas. The project is promoting innovative sustainable forests, wildfire governance framework and policy recommendations for a society resilient to wildfires. SILVANUS consortium includes a wide range of environmental, technical and social science experts from eighteen countries, spanning over four continents, who will support regional and national authorities responsible for wildfire management in their respective countries.

SILVANUS experts will help authorities to efficiently monitor forest resources, to evaluate biodiversity, to generate more accurate fire risk indicators, and promote safety regulations among the local population affected by wildfire through awareness campaigns.

Immerse yourself in the world of SILVANUS!
Modern and Innovative Protector against Extreme Wildfire, For the Benefit of Forests and Humankind

IN THIS ISSUE

2024 Pilot Demonstrations -
Rodna Mountains National Park, Romania

The SILVANUS platform was tested at the Rodna Mountains National Park in the Carpathians in northern Romania on September 19th, as the first one in a series of pilots in the fall of 2024.

Organised by the Consortium member ASFOR (Romanian Forestry Association), the platform testing featured components such as the Augmented Reality/Virtual Reality Training for Firefighters and Fire Detection at the Edge using Drone Data.

These components were evaluated during an exercise demonstration that included firefighters from Bistrița County, rangers, police department, Consortium partner SMURD (Mobile Emergency Service for Reanimation and Extrication), Salvamont (National Association of Mountain Rescuers from Romania) and enjoyed the support of the Sub-Prefect of Bistrita-Năsăud county Mr. Atilla-Lehel Décsei. Thank you to all of the team members and stakeholders!

Gargano National Park, Apulia Region, Italy

At the slopes of the Gargano National Park in the region of Apulia, Italy, SILVANUS team has tested the fully integrated technological and information platform through a new elaborate pilot demonstration on September 24th, 2024.

Organised by SILVANUS Consortium partner ASSET – Strategic Regional Agency for the Eco-sustainable Development of the Territory in Apulia Region, and supported by Civil Protection Agency and ARIF Regione Puglia – Regional Agency for Forestry and Activities, this is one of two conducted pilots in Italy.

The pilot activities included a fire simulation, which was contained and suppressed with the help of SILVANUS platform components, such as Drone Monitoring of Wildfire Behaviour, Fire Detection at the Edge using Drone Data, Fire Detection based on Social Sensing, Fire Spread Forecast Model, MESH-in-the-Sky (wireless communication system), Forward Command Centre (facilitating access to the platform on-site). Woode Biodiversity Indexing App and SILVANUS Citizen Engagement App.

After the testing of the platform, activities were focused on the reforestation area, including inspection and evaluation of planted trees.

Many thanks to ASSET and the Italian stakeholders for organising and successfully conducting the pilot with the SILVANUS team!

Tepilora Regional Natural Park, Sardinia, Italy

The 2nd Italian pilot took place in Tepilora Regional Natural Park on the island of Sardinia, on September 27th, 2024, organised by the SILVANUS Consortium member Tepilora Regional Natural Park.

Along with the SILVANUS team, external partners such as Regional Civil Protection (emergency and disaster response), Corpo Forestale (forest and environmental law enforcement), FORESTAS Agency (management of forests and natural resources) and CEAS (Environmental Education Centers of Sardinia) contributed to the pilot.

The day was divided into two main sessions – during the morning, the project and its contribution to the region were presented at a workshop, while in the afternoon, regional stakeholders involved in wildfire prevention and control demonstrated their operations and equipment. During the concluding session, discussions led to the creation of synergies between the efforts of both parties.

The presentation of the SILVANUS platform featured the following components: Fire Danger Tool (providing a fire danger index of the region), Fire Detection from IoT Devices (cameras and sensors), Drone Monitoring of Wildfire Behaviour, Fire Detection at the Edge using Drone Data, Fire Detection based on Social Sensing, Fire Spread Forecast Model, Woode Biodiversity Indexing App and SILVANUS Citizen Engagement App.

The team sends their gratitude to the organisers and external partners from Sardinia who helped organising this pilot.

Covilhã, Cova da Beira, Central Portugal

The SILVANUS team has convened in the fertile Cova da Beira valley in Covilhã in Central Portugal on October 9th, 2024 at the pilot organised by Consortium partners EDP, Terraprima and IST-ID.

The site is located at the Quinta da França in Covilhã, a property managed by Terraprima. The exercise featured a fire simulation. A special emphasis was given to showcasing the following components: Fire Danger Tool, Fire Detection from IoT Devices, Drone Monitoring of Wildfire Behaviour, Fire Detection at the Edge using Drone Data, Fire Detection based on Social Sensing, Fire Spread Forecast Model, Woode Biodiversity Indexing App, SILVANUS Citizen Engagement App, Health Impact Assessment (air quality determination), Evacuation Route Planning, Ecological Resilience Index, Biodiversity Index Calculation, Continuous Monitoring of Rehabilitation Strategy Index, Integrated Data Insights, Forward Command Centre, and the Platform Dashboard.

The pilot was previewed by a classroom session at the Wool Museum, discussing the impact of livestock grazing on ecosystems and the unique properties of wool, including its resistance to fire up to 560°C, making it an excellent natural fire retardant. During the session, the Prevention and Security Units (Unidades de Prevenção e Segurança) were introduced, alongside talks by key speakers on nature-based solutions and the use of prescribed fire as a tool for fire prevention and control. The programme finished with an insightful session on the use of grazing as a land restoration strategy on the farm. This was followed by a guided tour of areas where cattle grazing is implemented for fire mitigation, as well as areas where prescribed fire is used as a preventive measure against wildfires. SILVANUS team sends their greetings from another successful pilot!

Saint-Cernin-de-Larche, Nouvelle-Aquitaine, Central France

SILVANUS carried out another pilot in France, after the successful testing of platform components in 2023. Led by SILVANUS Consortium member International Emergency Firefighters (PUI), the team convened at the pilot site in Saint-Cernin-de-Larche in Corrèze department, Nouvelle-Aquitaine region in central France on October 10th, 2024.

The successful testing of the SILVANUS platform brought into the forefront its decision-support system to efficiently deploy technology such as drones and water bombing helicopters to suppress wildfire. MESH-in-the-Sky communication system was utilized to transfer drone images and videos, and the Augmented reality / Virtual reality toolkit was presented to showcase firefighter training methods.

More than 60 participants attended the event, and alongside SILVANUS partners, the team wishes to thank firefighters and officials from Brive Airport and SSLIA Brive Vallée de la Dordogne, along with the community of Saint-Cernin-de-Larche for their assistance in organising the pilot exercise.

Bakova Jama, Zvolen, Slovakia

Organised by Consortium member Technical University of Zvolen, the Slovak pilot was launched with the international scientific conference Advances in Fire and Safety Engineering on October 14th, 2024 in Zvolen in central Slovakia.

The conference included 117 participants, including members of the Fire and Rescue Service, voluntary fire brigades, forestry sector, academia, research organisations, and companies that offer complex solutions in the field protection and safety. SILVANUS team members from 3MON, Thales, Atos, Catalink Ltd, Plamen and Institute of Informatics, Slovak Academy of Sciences showcased the SILVANUS platform as an innovative technological solution for wildfire management.

The following day was focused on the pilot exercise, at the Bakova Jama site on the outskirts of Zvolen, where a fire simulation operation was implemented and the platform was tested with an emphasis on the following components: Fire Detection from IoT Devices, Drone Monitoring of Wildfire Behaviour. Fire Detection at the Edge using Drone Data, Ground Robot Fire Detection (including transport of injured persons and equipment), SILVANUS Citizen Engagement App (Fire Reporting), Decision-support System – Forest Fire Alert System, and DSS – SIBYLA (forest management and restoration simulation).

VACETRAS Firefighting Centre, Vučevica, Croatia

In the karst landscape of the beguiling Croatian region of Dalmatia, SILVANUS platform was tested to its full potential at the VACETRAS Firefighting Centre in the vicinity of Split on October 22nd, 2024.

The pilot fire simulation began with citizens reporting a fire incident through the SILVANUS citizen engagement app, followed by a fire detection through the IoT camera devices, the deployment of a drone for fire inspection, the assessment of health impact assessment by the air quality sensor to ensure a safe passage for firefighters or citizens, and finally a ground robot to extinguish the fire.

Forward command centres were established at the site in one of the fire engine vehicles, where the SILVANUS platform dashboard was installed to make swift decisions on the field for an efficient and timely deployment of manpower and technology. The platform could then determine and plan the evacuation routes for citizens and firefighters, model future fire spread, adjust the drone inspection flight plan, and much more. Multiple forward command centres can also communicate with each other on the field.

Thank you to SILVANUS partner Croatian Firefighting Association, and the Fire Brigades of Split-Dalmatia County for organising a successful implementation and testing of the fully integrated SILVANUS wildfire management platform. The platform is now in its full swing, and will hopefully contribute significantly to more efficient wildfire management in EU countries and beyond.

Gialtra, Evia Island, Greece

SILVANUS has concluded its autumn phase of trailblazing pilots with a demonstration and a thorough testing of the platform in the enchanting forests of Evia Island in Greece.

Organised by Consortium member Region of Central Greece, the pilot was conducted in the vicinity of Gialtra in north Evia Island on October 30th, 2024. Team members from Region of Central Greece, Netcompany-Intrasoft, Hellenic Rescue Team, EXUS, Center for Security Studies (KEMEA), University of Thessaly, Agricultural University of Athens and Dell Technologies ensured efficient platform testing during the fire simulation exercise, with an emphasis on the following components: Fire Spread Model, Health Impact Assessment (Air Quality Evaluation), Evacuation Route Planning, Resource Allocation of Response Teams, Forward Command Centre, SILVANUS Citizen Engagement and Fire Reporting App, and the Platform Dashboard

Along with the SILVANUS team, the pilot implementation was made possible by the stakeholders from the Fire Service of the Industrial Area of Lamia, the police department, the emergency services, and the support of the local administration.

SILVANUS Platform presented to the External Advisory Board in Warsaw, Poland
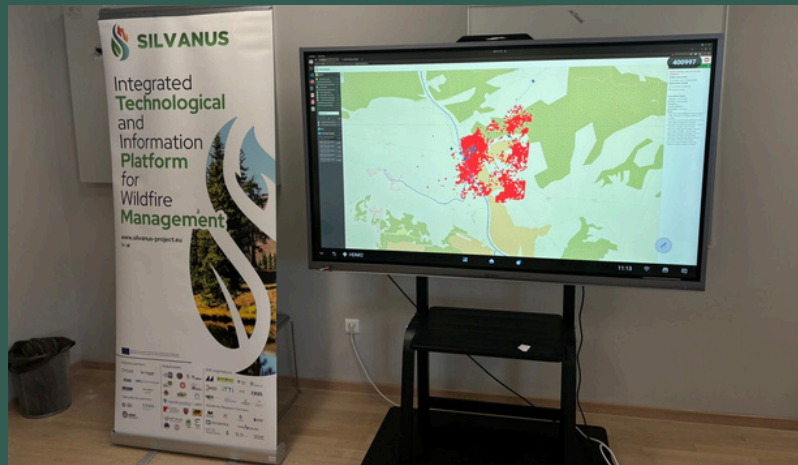
SILVANUS team presented the fully integrated version of the platform to External Advisory Board (EAB) members at a hybrid meeting in Warsaw, Poland, led and organised by the Consortium member ITTI.

The presentation of the platform was in the form of role playing, where team members assumed the roles of four possible end-users of the platform – citizen, forest manager or researcher, firefighter, and civil protection officer.

The four users demonstrated the platform components – which are now integrated within the SILVANUS platform (a whole is more than the sum of its parts!) – to the EAB members Michela Bertolotto from University College Dublin, Ireland, Leila Luttenberger Marić from KONČAR Digital, and Igor Stankić from Energy Institute Hrvoje Požar in Zagreb, Croatia.

The EAB offered constructive advice and feedback in regards to the accessibility of the platform to different users, the role of the impact of fires on critical infrastructure, forest roads, and the overall applicability and future exploitation of the platform in wildfire management.

Citizen Engagement App

Download it from the SILVANUS Website!

Silvanus the Trailblazer is proud to present the Silvanus Citizen Engagement App

The SILVANUS Citizen Engagement App is the mobile application designed to empower citizens and provide them with the right tools to become crucial actors in Forest Fire Management.

Features of the app include educational resources, such as tips, quizzes and comprehensive guidelines on personal safety, protection and safekeeping the wellbeing of the community and the environment.

Citizen Engagement Course

Now available on SILVANUS Website!

SILVANUS is proud to present the Citizen Engagement Course, aimed at empowering individuals and communities to become proactive participants in wildfire management. Wildfires are increasingly frequent and impacting not only the environment but also the lives and livelihoods of millions of people. Read more about the different aspects of wildfires and join Silvanus in contributing to a decrease of extreme wildfire events, to biodiversity restoration and more efficient wildfire prevention! Available in .pdf format at:

SILVANUS Dissemination Activities

SILVANUS at the Firelogue Research Integration Board Policy Workshop in Brussels

SILVANUS coordination team, led by project coordinator Michele Corleto and technical manager Krishna Chandramouli, attended the Firelogue "Reality Check and Policy Coherence Workshop" at the European Research Executive Agency (REA) premises in Brussels, which focused on the discussion and recommendations for policy and legislative instruments in wildfire management.

A vital part of SILVANUS focuses not only on the technological developments in wildfire management, but also on policy recommendations for forest restoration to ensure viable and long-term impacts in forest management.

Thank you to Firelogue and REA for yet another successful EUFireProjectsUnited meeting (together with FirEUrisk, TREEADS, FIRE-RES) – the team sends their greetings from Brussels!

Wildfires in the Mediterranean Region - Nicosia Risk Forum in Cyprus

Project team members Nikolaos Kalapodis and Georgios Sakkas from Centre for Security Studies (KEMEA) presented SILVANUS at a panel session titled "Wildfires in the Mediterranean Region", with scientific coordinator Krishna Chandramouli from Venaka TReLeaf attending as a panelist at a discussion that focused on sharing experience and expertise in tackling wildfires as a critical issue in the Mediterranean region.

SILVANUS platform was one of the potential solutions mentioned within the concept of integrated fire management. This session highlighted innovative strategies, research and policy options to improve wildfire prevention, preparedness and resilience in the Mediterranean region and beyond.

Thank you to the organisers of Nicosia Risk Forum – CERIDES – Excellence in Innovation and Technology for another successful dissemination event for SILVANUS!
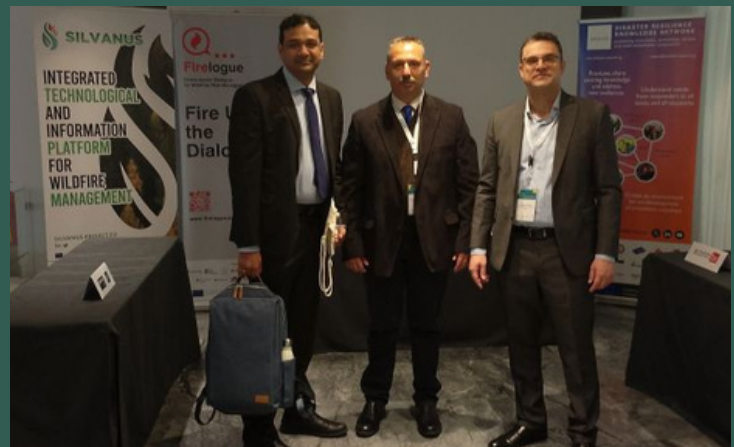
SILVANUS Dissemination Activities

SILVANUS Around the World - Presentations in Japan and Brunei

SILVANUS Consortium partner AMIKOM University from Indonesia presented the SILVANUS platform at the ICOIACT 2024 Conference (after the SILVANUS team was present at the conference in Indonesia in 2023), which took place at the Japan Advanced Institute on Science and Technology (JAIST) near the city of Nomi in Ishikawa Prefecture, Japan. Prof. Kusrini focused on the Ecological Resilience Index, a platform component that focuses on analyzing the capacity of a forest to absorb disturbances and recover to its equilibrium condition.

AMIKOM was also present at the APICTA 2024 Conference in Bandar Seri Begawan, Brunei, where Muhammad Fajar presented the Open Forest Map and Woode applications (biodiversity indexing).

Public Safety Communications Europe Conference in Brussels

SILVANUS was presented at the Public Safety Communication Europe Conference on December 4th and 5th in Brussels by the Consortium member Hellenic Rescue Team.

100 participants took part at the event, including public safety experts, organisations, and policymakers, to discuss lessons learned from managing large-scale events, recent rescue operations, advancements in critical communication, and Beyond 5G technologies for Public Protection and Disaster Relief.
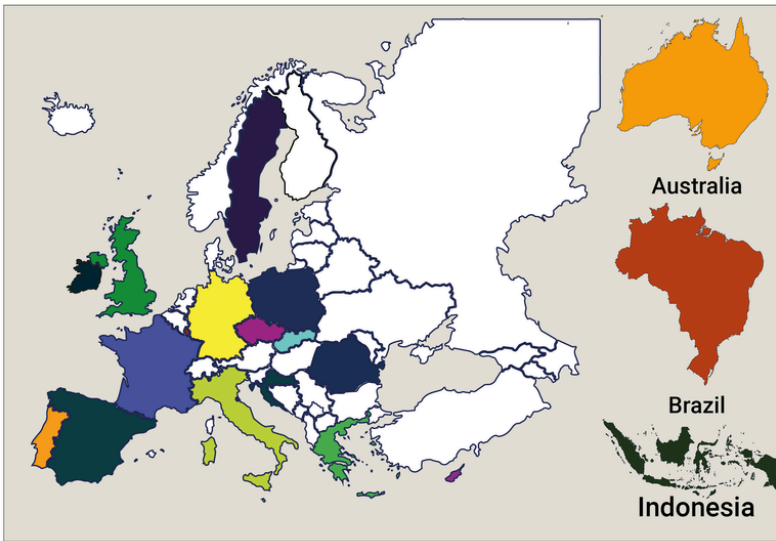
Alexandros Giordanis from HRT showcased the SILVANUS platform components presentation and a poster. This was another opportunity to present the full version of the platform to a wide and diverse audience of stakeholders.

Follow us on

silvanus-project.eu

Australia

Brazil

Indonesia

Industrial partners

THALES
Building a future we can all trust

FINCONS GROUP

AtoS

DELL Technologies

SIMAVI
Software Imagination & Vision

netcompany

intrasoft

Stakeholders

POMPIERS DE L'URGENCE INTERNATIONALE PUI FRANCE
INTERNATIONAL EMERGENCY FIREFIGHTERS

SGSP

REGIONE PUGLIA

asset

TEPILORA
PARCO NATURALE REGIONALE
POSADA TORPE LODE BITTI

FUNDATIA SMURD

KeMeA

SME organisations

Venaka TReLeaf

Zanasi & Partners
Security Research and Advisory

MASSIVE DYNAMIC SWEDEN

expert.ai

3MON
rescue partner

iTTi

Micro Digital

EXUS.

NEW
by EDP & CTG

rinicom
secure communications

catalink
The catalyst for innovation

SYNTHESIS
CENTER FOR RESEARCH AND EDUCATION

Ospedale Israelitico
insieme a te, da sempre.

TECHNICAL UNIVERSITY IN ZVOLEN

HRVATSKA VATROGASNA ZAJEDNICA

Terraprima

LETS

AdP VALOR
Grupo Águas de Portugal

ASFOR

ΕΛΛΗΝΙΚΗ ΟΜΑΔΑ ΔΙΑΣΩΣΗΣ

REGION OF CENTRAL GREECE

Academic/Research Partners

PEGASO
Università Telematica

UNIVERSITY OF THESSALY
FOUNDED

CERTH
CENTRE FOR RESEARCH & TECHNOLOGY HELLAS

VELEUČILIŠTE VELIKA GORICA
UNIVERSITY of APPLIED SCIENCES VELIKA GORICA

CMCC
Centro Euro-Mediterraneo sui Cambiamenti Climatici

Politechnika Warszawska

ISTID
INVESTIGAÇÃO, DESENVOLVIMENTO E INOVAÇÃO EM CIÊNCIA E TECNOLOGIA

INSTITUTE OF INFORMATICS
SLOVAK ACADEMY OF SCIENCES

UNIVERSITY OF BORÅS

International partners

CSIRO
Australia's National Science Agency

COPPETEC

UNIVERSITAS AMIKOM YOGYAKARTA