S.W.A.N.

a digital Solid Waste reuse plAtform for BalkaN

Olga Skiadi, Andreas Pantazopoulos, Athanasios Angelis-Dimakis, C. Tsakalou, Kostas Kutsikos, Vasilis Angelis, A. Alexopoulos

Project Title : S.W.A.N.
a digital Solid Waste reuse plAtform for BalkaN

EU programme: INTERREG BalkanMed 2014-2020

Logo: Interreg Balkan-Mediterranean S.W.A.N.

Total budget: 968.000,00 €
(85% EU & 15% national funded)

Duration: 2 years from 15 September 2017

GREECE

ALBANIA

BULGARIA

CYPRUS

RECYCLE REDUCE REUSE

PARTNERSHIP:

Lead Partner-Greece:

LP1:Association of Municipalities in the Attica Region-Solid Waste Management (EDSNA)

Partners-Greece

P2: Greek Ministry of Environment and Energy

P3:University of the Aegean- Research unit-Department of Business Administration

Partners-Albania

P4: Albanian Ministry of Tourism and Environment

P5: ILIRIA-Protection and Social & Environmental Development Association NGO

Partner-Bulgaria

P6: Bulgarian Industrial Association- Union of the Bulgarian Business

Partner-Cyprus

P7: Cyprus University of Technology- Department of Environmental Science and Technology

VISION

- Development of an innovative Balkan Med Interactive IT Platform that will create locally and manage transnationally value chains for solid waste, promoting green growth within circular economy towards a society of zero waste
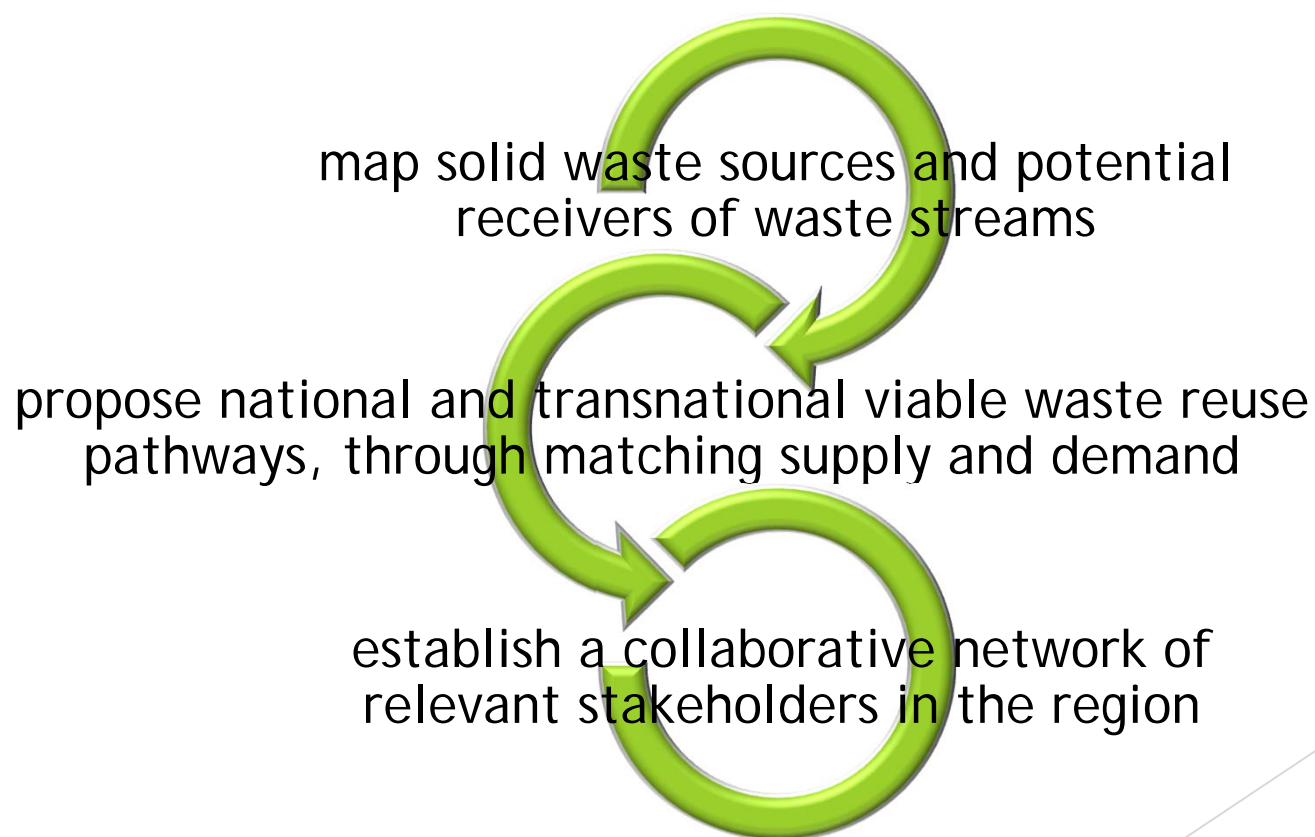
OBJECTIVE

- Organise and interconnect (industrial and commercial) waste producers within a region, a country and/or between Balkan countries to reuse, recycle and recover their waste as raw materials to other industries.

AIM

- Reduce the environmental polluting load by diverting the volume of solid industrial waste from being landfilled
- Reduce the amount of imports of raw materials
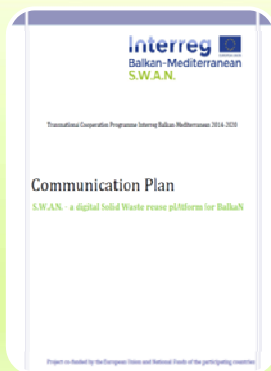- Cut down the respective national greenhouse gases (GHG)

HOW ? ⟶ **Design and Development of a digital platform that will:**

map solid waste sources and potential receivers of waste streams

propose national and transnational viable waste reuse pathways, through matching supply and demand

establish a collaborative network of relevant stakeholders in the region

Methodology / Work Packages (WP)

## WP1-PROJECT MANAGEMENT & COORDINATION.

WP2-PROJECT COMMUNICATION & DISSEMINATION. *The SWAN team uses environmentally-friendly tools to reach the public and private sectors, SMEs, and the citizens of the regions participating in the project.*

SWAN Communication Plan which structures and organises the communication and dissemination effort of the project has been conducted

WP3-DIGITAL ECOSYSTEM. *Develops the SWAN Digital Ecosystem of four IT platforms on which development of solid waste reuse value chains will be based.*

Each IT platform will act as a digital observatory for cataloguing the corresponding partner region's solid waste sources and flows. A common architecture will enable them to exchange information, leading to the creation of the SWAN Balkan Solid Waste Map-a unique dashboard of solid waste flows and stakeholders in the region.

Greek IT Platform

Bulgarian IT Platform

Swan Ecosystem

Albanian IT Platform

Cypriot IT Platform
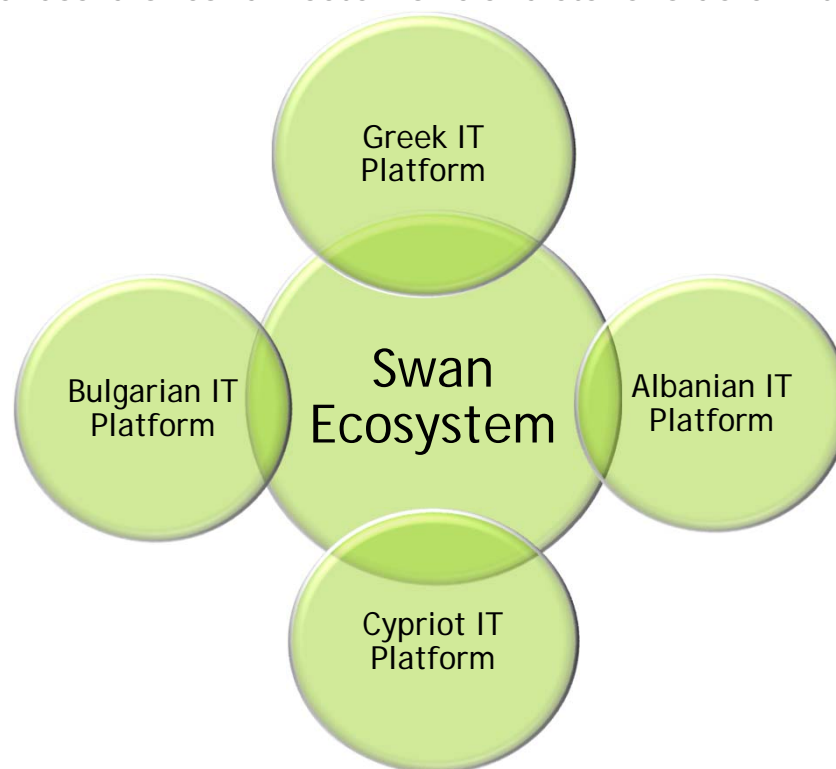
Work Packages (WP)
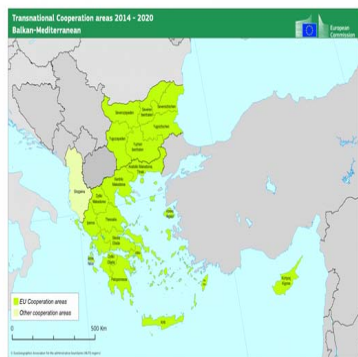
WP4–SINK/SOURCE MAPPING. *Develops the SWAN Balkan Solid Waste Map-a unique dashboard of solid waste flows and stakeholders in the region.*

<u>Objective:</u> Map all the existing sources of solid waste including small, medium and large enterprises, with quantitative and qualitative characteristics (including spatial characteristics, categorization-metals/plastics/organic waste/etc., requirements for treatment before reuse) as well as the potential users/sinks of these waste streams.
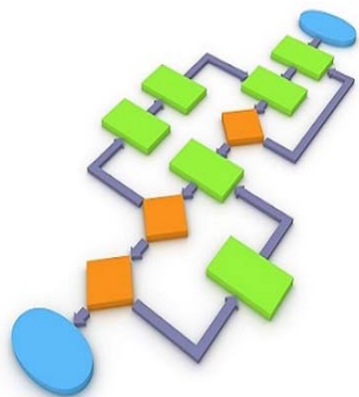
WP5–SINK/SOURCE MATCHING. *Develops the algorithms that process the SWAN Balkan Solid Waste Map and provide different options for solid waste reuse value chains and related business models.*

<u>Objective:</u> Develop and implement an algorithm that can match the sources and sinks based on

- geographical (proximity between source and sink),
- technical (suitability of waste type) and
- financial (viable investment for all parties involved) criteria.

Methodology / Work Packages (WP)

WP6-INTEGRATION. *Ensures knowledge management and synthesis of results for establishing a sustainable and viable infrastructure post-project completion.*

Objective: INDUSTRIAL ECOSYSTEM, i.e. a network of industries in the region that produce and use solid waste. Their collaboration will aim at the development and promotion of local/regional/national and transnational solid waste reuse value chains.

Direct access to the two Ministries of Environment (Gr, Al) will enable the development of a wider network of stakeholders.

The LP will contribute a unique waste management facility that may be used as testbed by this ecosystem.

Linear System

Natural resources → Products

Waste (to disposal)

Circular System

Natural resources → Products

Waste to resource

Products

Waste to resource ← Natural resources

Benefits

ENVIRONMENTAL

- •Material opportunities for industries to source suitable substitutes and to achieve positive GHG abatement
- •Development of environmental policies and strategies for improved solid waste management.

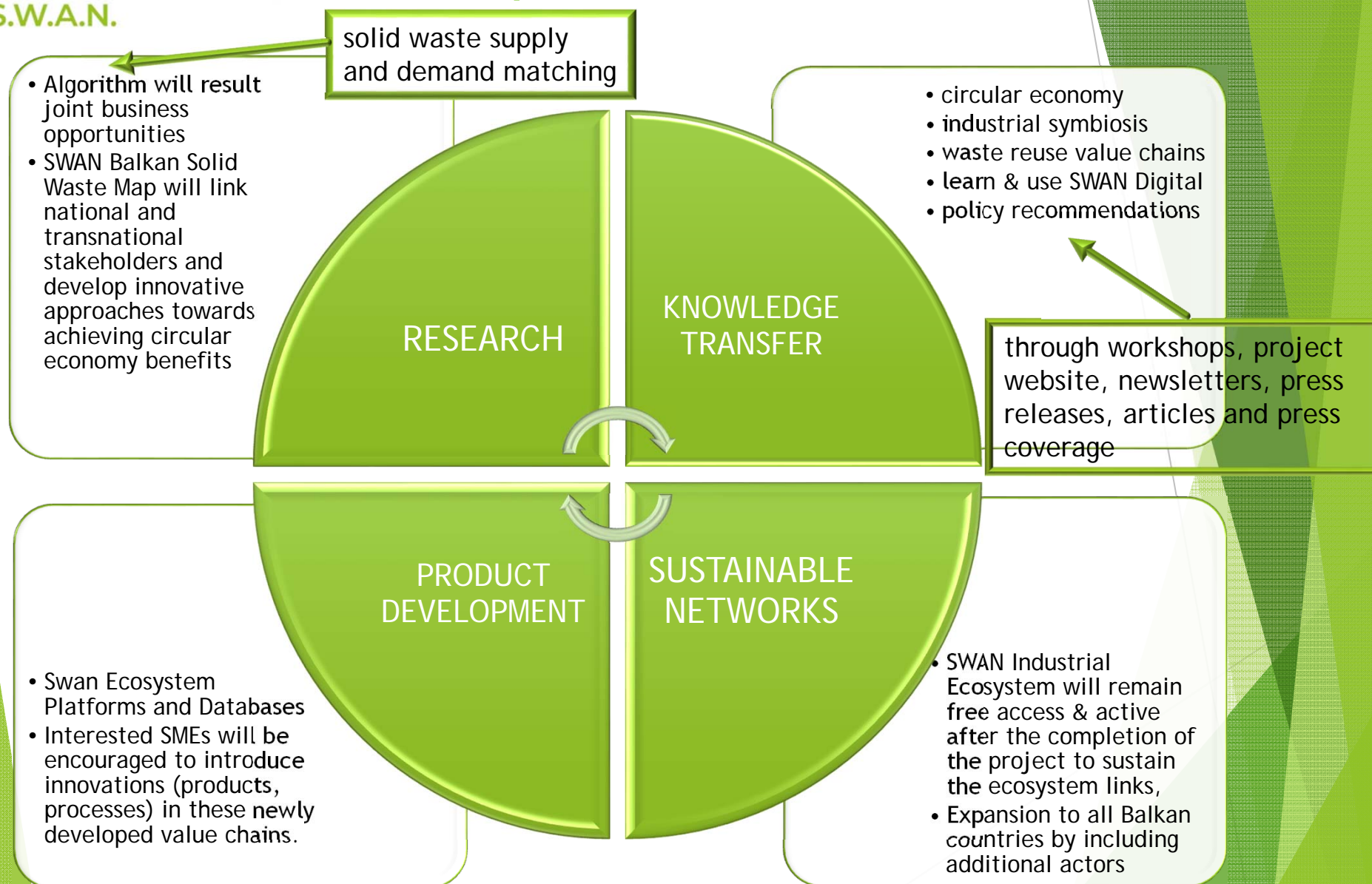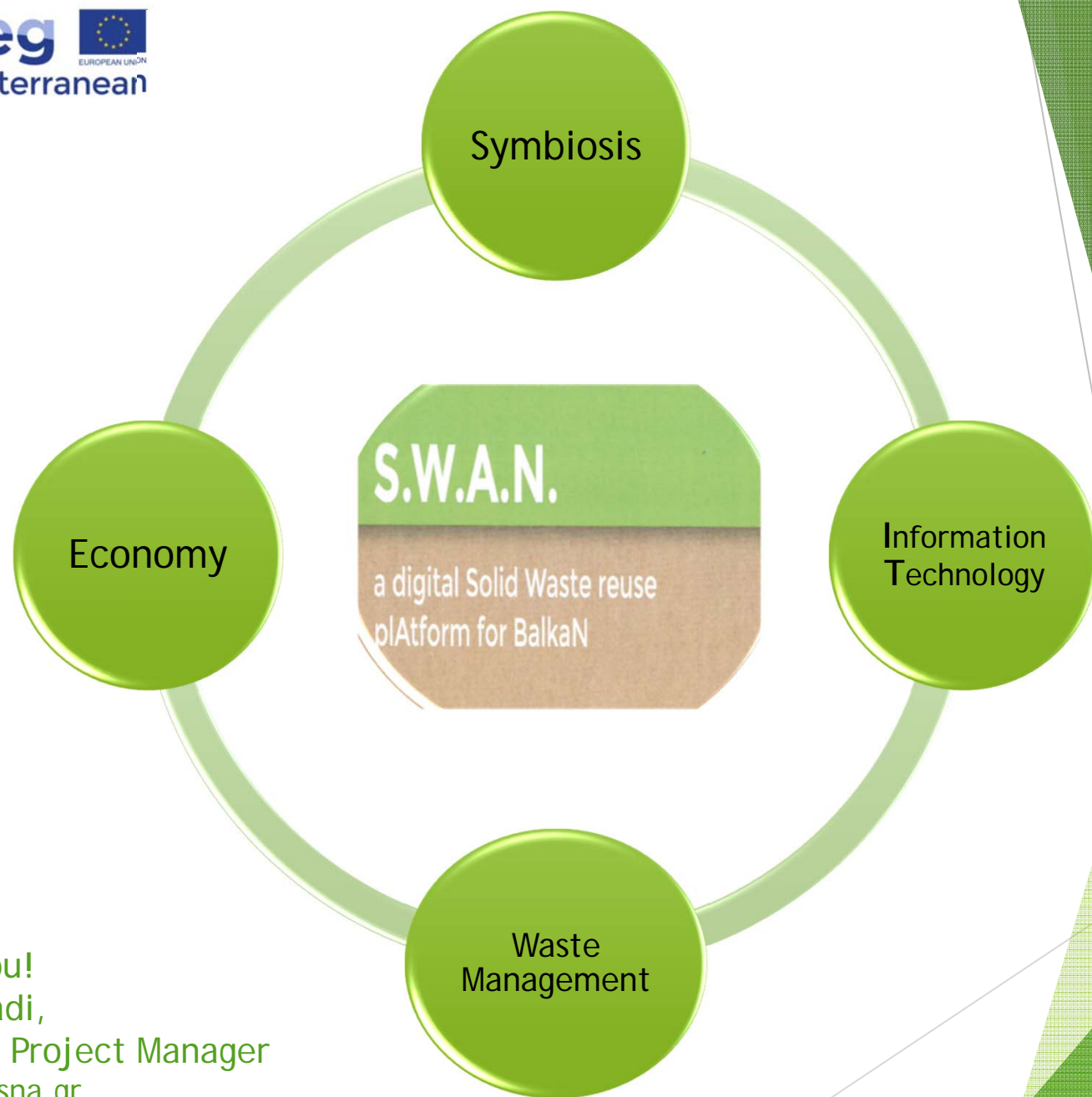**FINANCIAL**

- • Resource policy makers will develop relevant strategies, quality specifications and standards for savings and profit opportunities
- • Waste producers and collectors will identify ways to recover value

SOCIAL

- •Job creation, ranging from IT support for the four IT platforms, to new SMEs that will enter the resulting waste management value chains

Expected Results

Interreg Balkan-Mediterranean S.W.A.N.

solid waste supply and demand matching

RESEARCH

- Algorithm will result joint business opportunities
- SWAN Balkan Solid Waste Map will link national and transnational stakeholders and develop innovative approaches towards achieving circular economy benefits

KNOWLEDGE TRANSFER

- circular economy
- industrial symbiosis
- waste reuse value chains
- learn & use SWAN Digital
- policy recommendations

through workshops, project website, newsletters, press releases, articles and press coverage

PRODUCT DEVELOPMENT

- Swan Ecosystem Platforms and Databases
- Interested SMEs will be encouraged to introduce innovations (products, processes) in these newly developed value chains.

SUSTAINABLE NETWORKS

- SWAN Industrial Ecosystem will remain free access & active after the completion of the project to sustain the ecosystem links,
- Expansion to all Balkan countries by including additional actors

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Symbiosis

Economy

Information Technology

Waste Management

Thank you!
Olga Skiadi,
S.W.A.N. Project Manager
skiadi@edsna.gr