

ESDAK INITIATIVES IN THE WASTE MANAGEMENT FIELD

Kalliopi Bormpoudaki, Chemical Engineer, MSc



Association for the Solid Waste Management in Crete, Greece (ESDAK)



17 Municipalities

Production 273.000 tn/yr MSW

440.000 Population served



Solid Waste Management in Crete by ESDAK (2003-2023)



From Dumpsites to Sanitary Landfills and Treatment Plants

**Year 2003: > 100 dumpsites
in Crete!!!**



Rehabilitation of 51 Medium & High-Risk Dumpsites in Heraklion, Rethymnon, and Lasithi prefectures



Rehabilitation of 51 Medium & High-Risk Dumpsites in Heraklion, Rethymnon, and Lasithi prefectures

Palaikastro, Lasithi



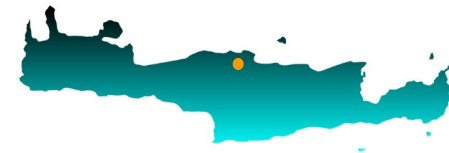
- slope stability analysis
- shaping of the waste body
- surface drainage
- leachate and biogas management
- final cover system with geosynthetic or compacted clay liner
- fencing
- planting

Total Budget: 7.518.769,19 €

100% financed by regional and national funding programs

Construction of Pera Galini Sanitary Landfill, Heraklion and Dumpsite Rehabilitation

Total Budget: 16.123.985,31 €



*financed by regional and national funding programs

Pera Galini Sanitary Landfill, Heraklion



Tertiary Leachate Treatment Plant Of Pera Galini Landfill



110 m³ leachate treated/day

Biogas exploitation of Pera Galini Landfill

Biogas Power Generation Unit

1 MW

(ΑΔΑΜ: 19SYMV004696042)



Restoration of Maroulas Sanitary Landfill, Rethymnon

Budget:
2.636.824,03 €



Upgrade of Hersonissos, Kazantzaki, and Viannos Sanitary Landfills, Heraklion



**Total Budget:
9.971.782,79 €**

Upgrade of Ag. Nikolaos and Sitia Sanitary Landfills, Lasithi

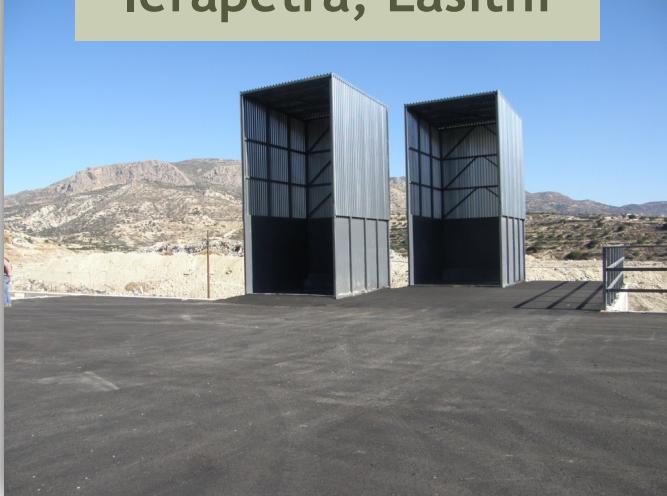
Total Budget: 6.489.227,40€



Construction of MSW Transfer Stations



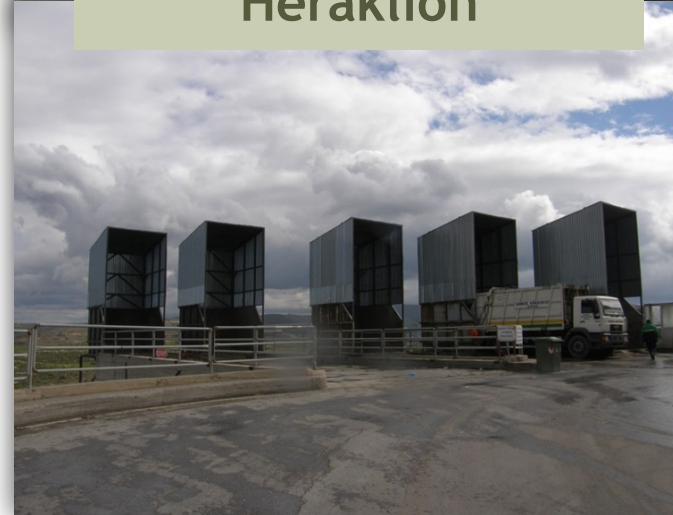
Ierapetra, Lasithi



Total Budget:
2.084.066,50 €



Heraklion



Construction - 4 yr Operation of Heraklion MSW Pretreatment Plant

Total Budget:
23.943.500,00 €



Heraklion MSW Pretreatment Plant



- Capacity: 75.000 tn/yr
- RT: 14 days process of biodrying
- Metal recovery

Final product

- > 25% w/w weight reduction
- < 20% moisture
- > 0,8 tn/m³ bale density

Construction Amari Landfill Cell 3

Total Budget: 625.470,30 €
(ΑΔΑΜ: 18SYMV004050823, 17SYMV001997657)



*financed by regional funding programs

Construction of Landfill Cell C, Pera Galini, Heraklion

Total Budget: 4.468.901,60 €
(ΑΔΑΜ:16SYMV003657138)



*financed by regional funding programs

Construction & Operation of New Landfill Cell in Sitia, Lasithi

Total Budget: 1.621.752,91 €
(ΑΔΑΜ:19ΣΥΜV005263067)



*financed by regional funding programs



Construction and Operation of Amari MBT Plant and Residual Waste Landfill

Total Budget:
45.319.439,51 €

(ΑΔΑΜ: 19SYMV005777582,
20SYMV007850773 23SYMV012412523)



Το έργο συγχρηματοδοτείται από το Ταμείο Συνοχής και από Εθνικούς Πόρους.

<https://mea-amariou.gr/>



Amari MBT Plant

- Capacity: 35.600 tn/yr MSW and 7.400 tn/yr biowaste
- Separate dry anaerobic digestion of MSW and biowaste
- Compost maturation and refining
- Recyclables recovery
- Compost and CLO production
- Energy recovery by biogas production (up to 1 MW)

MSW and Biowaste Treatment Plants in Process

- **MSW Treatment Plant & Residual Waste Landfill of Heraklion (59.200 tn MSW/yr & 17.078,40 tn residuals/yr)**
(ΑΔΑΜ: 22SYMV010977717, Budget: 49.766.814,20 €)
- **MSW Treatment Plant & Residual Waste Landfill Of Sitia (15.000 tn MSW/yr & 300 tn WWTP sludge/yr)**
(ΑΔΑΜ: 22SYMV010823809, Budget: 24.742.023,59 €)
- **Biowaste Treatment Plant Of Ierapetra (4.700 tn/yr)**
(ΑΔΑΜ: 20SYMV007414356, 21SYMV009676957, Budget: 2.226.292,39 €)





European Funded Projects



LIFE10 ENV/GR/000622 - WASP Tool



Development and demonstration of a waste prevention support tool for local authorities

- ◆ **LOCATION:** Greece & Cyprus
- ◆ **BUDGET:** 1.804.081 €, EE Co-funding: 49,68%
- ◆ **IMPLEMENTORS**
 - Coordinating Beneficiary: Harokopio University
 - Associated Beneficiaries: ESDAK, DEDISA, EPEM, ENVITECH, Municipality of Paralimni
- ◆ **DURATION:** 01/10/2011 - 30/09/2014



LIFE10 ENV/GR/000622 - WASP Tool



Prevention of textile waste production



Reduction of the plastic bag waste

Prevention of food waste production



LIFE15 ENV/GR/000257 - LIFE F4F



Food for Feed: An Innovative Process for Transforming Hotels' Food Wastes into Animal Feed «LIFE F4F»

Budget: 2.580.619,00 € 60% EC co-funding

Duration: 1/9/16-30/11/21

Leading Partner: ESDAK



Εταίροι του προγράμματος



TEI of Crete
Technological Educational Institute of Crete



ΓΕΩΠΟΝΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
AGRICULTURAL UNIVERSITY OF ATHENS

Freie Universität Berlin



ΧΑΡΟΚΟΠΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ
HAROKOPIO UNIVERSITY

<http://life-f4f.gr/>



LIFE15 ENV/GR/000257 - LIFE F4F



UIA02-111 - A2UFOOD



Avoidable and Unavoidable Food Wastes: A Holistic Managing Approach for Urban Environments

Budget:
3.912.948,75 €
80% co-funding

Duration:
1/11/17-18/2/22

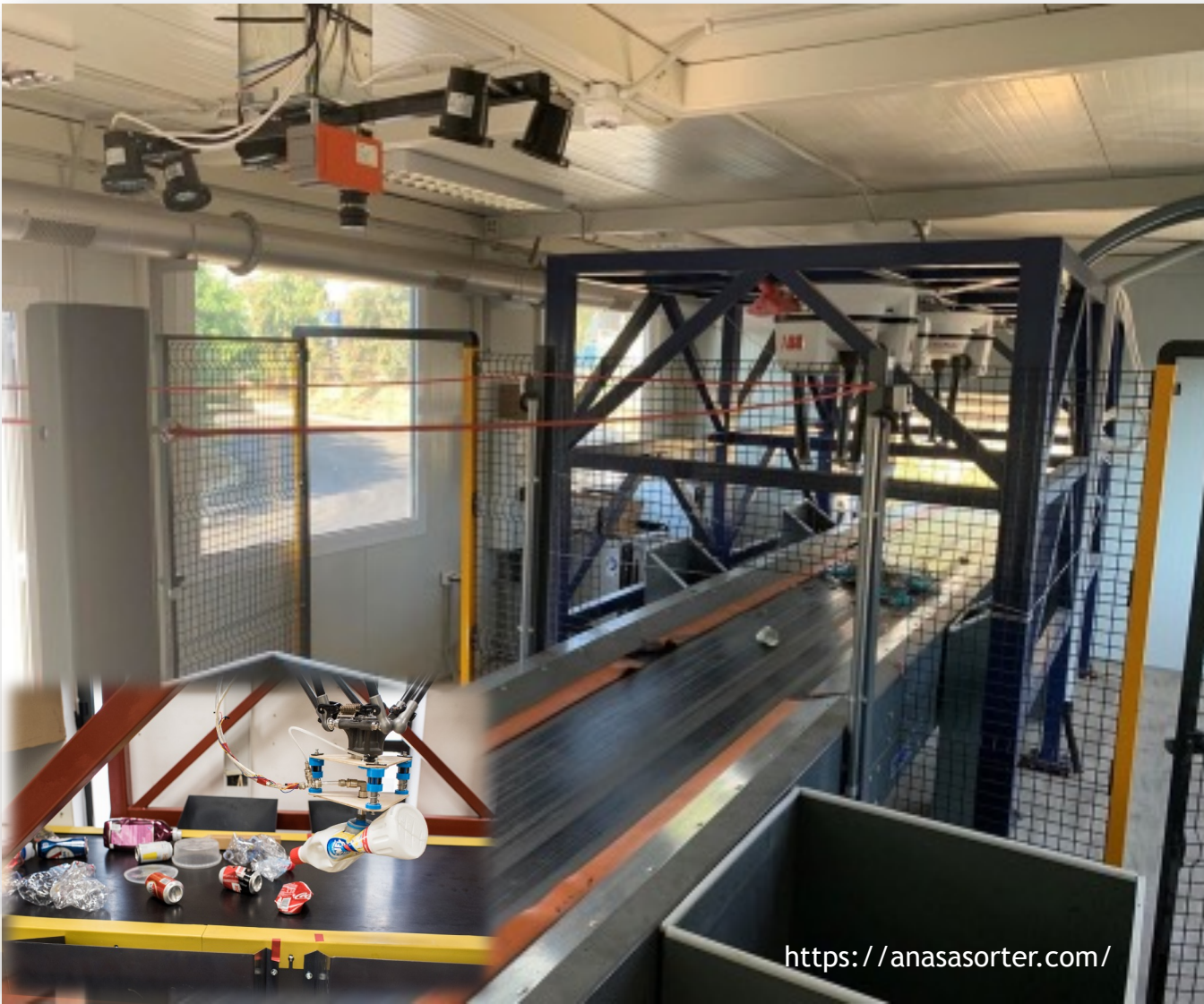
ΕΥΡΩΠΑΪΚΗ ΕΝΩΣΗ
Ευρωπαϊκό Ταμείο Περιφερειακής Ανάπτυξης

UIA URBAN INNOVATIVE ACTIONS A2UFood

A2UFOOD: Αποφευκτέα και μη τροφικά υπολείμματα: Μια ολιστική προσέγγιση διαχείρισης για αστικές περιοχές

<https://uia-initiative.eu/en/uia-cities/heraklion>

Autonomous Robotic System for Urban Waste Recycling - ANASA (T1EΔK-03110)



Budget: 957.640,00 €
82% funding

Duration:
31/7/18-31/1/2023



ΕΠΑνεΚ 2014-2020
ΕΠΙΧΕΙΡΗΣΙΑΚΟ ΠΡΟΓΡΑΜΜΑ
ΑΝΤΑΓΩΝΙΣΤΙΚΟΤΗΤΑ
ΕΠΙΧΕΙΡΗΜΑΤΙΚΟΤΗΤΑ
ΚΑΙΝΟΤΟΜΙΑ



Partners



<https://anasasorter.com/>

Fast Sorting Robotic System for Promoting Interregional Recycling Activities in Greece and Cyprus - InterRecycle

Development of
Robotic Recycling Sorters
(RoReSos)

Budget: 474.056,50 €
EU funding: 402.948.02 €
Co-financing sources: ERDF

Duration:
1/9/2021-31/8/2023

Partners



Το Πρόγραμμα Συνεργασίας Interreg V-A «Ελλάδα - Κύπρος 2014-2020 συγχρηματοδοτείται από την Ευρωπαϊκή Ένωση (ΕΤΠΑ) και από Εθνικούς Πόρους της Ελλάδας και της Κύπρου



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ



ΕΥΡΩΠΑΪΚΗ ΕΝΩΣΗ



ΚΥΠΡΙΑΚΗ ΔΗΜΟΚΡΑΤΙΑ

HORIZON-MISS-2022-OCEAN-01-03

ACTION 101112824 - iMERMAID



Mediterranean sea basin lighthouse - Actions to prevent, minimize and remediate chemical pollution



Leachate Treatment Plant of Pera Galini Landfill

Total Budget:
9.352.552,50 €
Max grant amount
7.893.477,38 €

ESDAK: 100% funded participant

Duration:
1/6/23-31/5/26

26 partners



Other actions

- Environmental Park of Circular Economy in Heraklion
- Green Points
- Local Waste Management Plans
- Upgrading of Heraklion Packaging Waste Sorting Plant



Environmental Park of Circular Economy

εσδακ
ενιαίος
σύνδεσμος
διαχείρισης
απορριμμάτων
Κρήτης

Διαλογή στην πηγή
ανακυκλώσιμων υλικών &
διαχείρισης βιοαποβλήτων

Ανάκτησης υλικών
από τα υπολειμματικά
σύμμεικτα

Αναψυχής
& περιβαλλοντικής
εκπαίδευσης

Καινοτομίας
& Έρευνας

ΔΗΜΟΣ
ΗΡΑΚΛΕΙΟΥ

ΒΑΣΙΚΑ ΜΕΓΕΘΗ ΤΟΥ ΠΑΡΚΟΥ • 10.000 επισκέπτες ετησίως
• 35.000 τ.μ. αξιοποιήσιμα ανακυκλώσιμα υλικά • 250 νέες θέσεις εργασίας
• 40 εκ. ευρώ ενώ το κόστος παρεμβάσεων ενεργειακής αυτονομίας του Πάρκου εκτιμάται 5 εκ. ευρώ.

Dissemination actions



Administrative & Financial Services Division

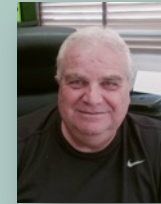


VAROUHAS GEORGIOS
Director,
Business Admin, Sociologist, PhD



KALOGERAKIS ZACHARIAS
President

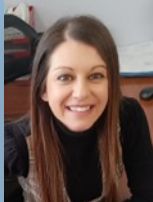
Technical Services Division



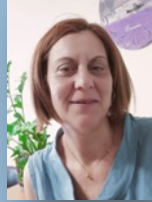
STYLIANIDIS NIKOLAOS
Director,
Civil Engineer, MSc



**LAGOS
STAVROS**
IT & Software
Engineering, MSc



**MARKOMANOLAKI
ANNA**
Admin officer



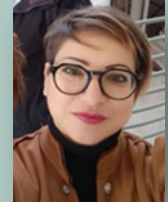
**VARDOULAKI
MARIA**
Economist



**BORMPOUDAKI
KALLIOFI**
Chemical
Engineer, MSc



**GEORGIU
MARIA**
Chemical
Engineer, MSc



**GIAKOUMAKI
IOANNA**
Mechanical
Engineer, MSc

External Associates



**BOLAKIS
GEORGIOS**
Financial
Operation Support



**NIKIFOROS
IOANNIS**
Accounting
Operation Support



**LASITHIOTAKIS
MICHAEL**
Electrical/Mech.
Engineer



**MANASAKIS
GEORGIOS**
Techn. Civil
Engineer



**PANTELI
PARASKEVI**
Environmentalist
& Biologist, MSc

ESDAK INITIATIVES IN THE WASTE MANAGEMENT FIELD



Arhiepiskopou Makariou 22 & Skouladon
712 02, Heraklion, Crete, Greece

 +302810361610

 esdak@otenet.gr, info@esdak.gr

 <https://esdak.gr>