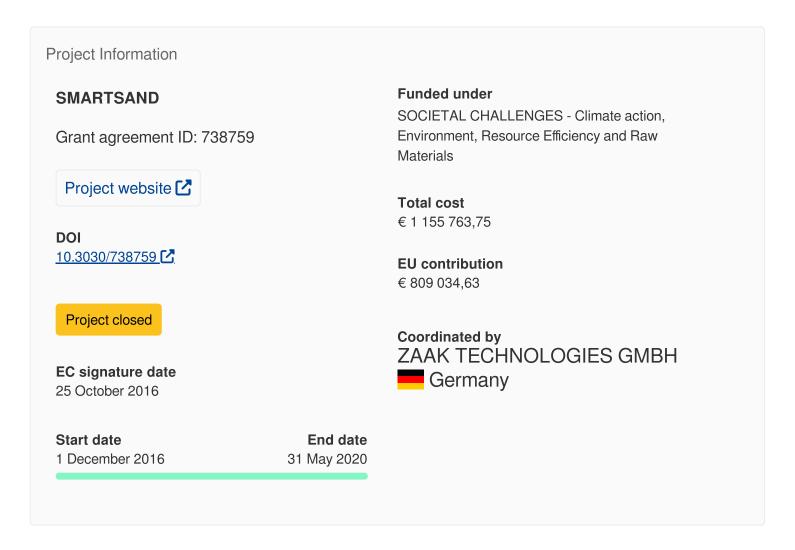
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Transforming fly ash waste from coal-fired power plants into lightweight engineered sand for multiple applications



# Transforming fly ash waste from coalfired power plants into lightweight engineered sand for multiple applications

#### **Fact Sheet**



# This project is featured in...



## **Objective**

Established in 2012, ZaaK Technologies GmbH is an eco-innovative SME, dedicated to the development and exploitation of technologies which recycle industrial wastes into value added products.

Over the past 3 years, we have developed and demonstrated a multiple award winning patent-pending technology which transforms fly ash, a waste product from coal-fired power plants, into value-added lightweight engineered sand, called ZaaK<sup>TM</sup>Sand, which is in accordance with harmonized technical specifications DIN EN 4226-3, DIN EN 13139, and DIN EN 15033-1/2.

ZaaK<sup>TM</sup>Sand is a superior and cost-effective alternative to natural sand, crushed stones, and lightweight fine aggregates, for use in the manufacture of advanced building and construction materials, and in certain niche applications like horticulture and hydroponic applications.

Replacing normal sand with ZaaKTMSand in buildings leads to:

- (a) improving thermal efficiency by up to 500%
- (b) reducing dead-load by up to 12% resulting in savings of energy intensive materials such as cement and steel
- (c) increase life of buildings by up to 2 times due to a phenomenon called, internal curing

ZaaK<sup>TM</sup>Sand aim is to arrest the depletion of dwindling natural sources of sand and thereby reduce destruction of precious ecosystem impacted by sand mining. It also addresses the economic and socio-environmental problems associated with the disposal of fly ash.

Our key objectives within the project timeframe are:

- To build an Integrated Pilot Plant (IPP) to produce ZaaKTMSand for customers in our introductory markets.
- To use the IPP to further optimise the manufacturing process.
- To use the IPP as a demonstration showcase, to disseminate and communicate the project results, and to attract new customers and investors.

Our objective is to enter the market in 2020, through a build, own and operate model,

contract manufacturing and joint ventures with power plants and construction material companies.

### Fields of science (EuroSciVoc) 6

engineering and technology > mechanical engineering > manufacturing engineering
engineering and technology > environmental engineering > energy and fuels > fossil energy > coal
natural sciences > biological sciences > ecology > ecosystems
agricultural sciences > agriculture, forestry, and fisheries > agriculture > horticulture



#### Programme(s)

<u>H2020-EU.3.5. - SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials</u>

(MAIN PROGRAMME)

H2020-EU.2.3.1. - Mainstreaming SME support, especially through a dedicated instrument

### Topic(s)

<u>SMEInst-11-2016-2017 - Boosting the potential of small businesses in the areas of climate action, environment, resource efficiency and raw materials</u>

## Call for proposal

H2020-SMEInst-2016-2017

See other projects for this call

#### Sub call

H2020-SMEINST-2-2016-2017

#### **Funding Scheme**

SME-2 - SME instrument phase 2

#### Coordinator



#### **ZAAK TECHNOLOGIES GMBH**

Net EU contribution

€ 809 034,63

Total cost

€ 1 155 763,75

Address

**EUREF CAMPUS TORGAUER STR. 12-15** 

10829 Berlin

Germany

SME 1

Yes

Region

Berlin > Berlin > Berlin

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation [2]

Participation in EU R&I programmes [2]

HORIZON collaboration network

Last update: 5 April 2023

Permalink: https://cordis.europa.eu/project/id/738759

European Union, 2025