

# OMC

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CONFERENCE & EXHIBITION

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*Reshaping the Energy Industry: Action for Transition*

**Call for Ideas – Mediterranean Region**  
*Pitch Presentation*

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# Pitch Instructions



<Name of the candidate>

<TITLE OF THE PROJECT >

<Affiliation>

*Sepideh Aghakhani*

Artificial intelligence-based solution for enhancing people participation in recycling program in the developing countries

*Department of Civil and Environmental Engineering, Payame Noor University, Iran*

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Context.  
Country / region of  
application

With considering the fact that the developing countries of the **Union for the Mediterranean** face a historical problem in very low recycling rate and the shortage of formal data in recyclables collection, these are appropriate regions to localize and launch this project while this innovative solution was launched and **has reached milestones in more than 10 big cities** of Iran.

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Objectives, scope

In spite of conducting excellent job on to better waste management and recycling all around the world, one point is not under well consideration: **“People participation in recycling program”**. One of the biggest Achilles heel of the increasing percentage of recycling is insufficient participation of people as the suppliers of recyclables. Thus, how to fill the recycling factories instead of landfills may be more important than how to well design the recycling procedure of waste especially in the developing countries including the most of the countries of the Mediterranean region. Another important issue in these countries is the considerable rate of informal recycling which results in dissipation of a big part of recyclables and sadly high rate of disease.

Therefore, we decided to concentrate on this problem and **found that utilizing Artificial Intelligence and also some new smart policies** are the best clues.

After datamining of the flow of waste production and producing smart and unique algorithms, we established a socially integrated waste management infrastructure in more than 10 big cities in Iran, in parallel with creating software applications for people to systematically collect, segregate waste and formally manage to export to the places to be recycled.

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## Objectives, scope

Nowadays, in Iran, this solution plays an important role to:

1. promote the culture of people about recycling, followed by **circular economy growth**;
2. raise Iran's contribution to protecting environment;
3. strengthen transition from informality to formality on waste industry and **job creation**;
4. produce reliable data about the social generation and flows of waste, the waste value chain and opportunities and challenges for advancing decent work;
5. collaborate with ILO-United Nations or other international standards on the improvement of occupational safety and health, work practices, skills and social security for use in the waste sector.

This solution highlights the complexity of but also the necessity of applying a smart and social network among householders and workers to shaping a future that works for all in the circular economy which can be localized and launched in the Mediterranean countries to appropriately assist them in increasing recycling rate.

As well as these 5 straightforward objectives, in fact, we will simultaneously contribute in the following targets:

1. **Improving energy efficiency;**
2. **Transition to circular economy for all stakeholders of this market even the householders;**
3. **Assistance for municipalities in their waste management system or Zero waste program;**
4. **Landfills reach capacity in a longer time;**
5. **Impact on Green gas and CO2 emissions by not burning recyclables in incinerators;**

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- 3 Business plan / feasibility study
- 4 Technical novelty

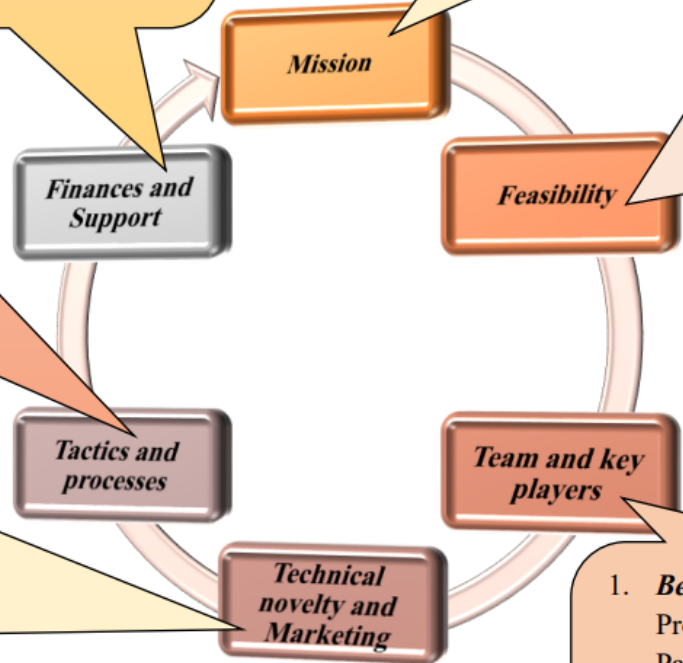
While this project needs deep support of environmental organizations and related ministries, the need of finances is of less importance than supportive policies because of joining to circular economy ecosystem.

Artificial intelligence based solution for enhancing people participation in recycling program

After the tendency of the municipalities as the responsible organizations for waste management to be assisted, we are ready to customize the algorithms depending upon people culture and wealth and consumption stream. The web and mobile applications come after these smart algorithms, several gamification tools and AI-based tricks in the target region.

- 1) Novel smart algorithms using Artificial Intelligence to encourage people to participate in recycling program by making them the straight stakeholders of the recycling market.
- 2) To motivate the waste transportation fleet companies to be involved in a different way.
- 3) To protect environment through a gap which is not under well consideration.

Profoundly successful in increasing recyclables collection, this project was launched in more than 10 cities in Iran. In spite of complexities, the ideas and smart algorithms managed to be turned into the reality. To be conducted in the countries of the Mediterranean, a MVP (minimum viable product) will be prepared in 4 weeks according to the successful proof of concept.



1. **Behnoosh Salimbahrami**, Assistant Professor, Chief Information officer, Payame Noor University, Iran
2. **Sepideh Aghakhani**, Environmental expert, Iran
3. **Behrang Salimbahrami**, Mechanical Engineer, Germany and Iran

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## Undergoing / not

Profoundly successful in increasing recyclables collection, this project was launched in more than **10 cities in Iran** 2 years ago. Nowadays, monitoring and Quality Control in these cities are implemented by municipalities and the project is alive to protect our Earth.

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## Funding sources

While this project needs deep support of environmental organizations and related ministries, the need of finances is of less importance than supportive policies because of joining to **circular economy ecosystem**.

We will produce a unique business plan with tripartite beneficial program between the waste transportation fleet, our team and the responsible organization. This project will be a profit-driven enterprise for them.

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## Networks and Synergies (Med region)

In this mission, potential supporters can be the Union of Mediterranean, governments, municipalities and Ministries of Environment and Energy.

**Recycling factories, waste transportation fleet companies and municipalities** in each developing country of the Union of Mediterranean can be our potential partners.

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## Scalability

In spite of complexities and challenges, the ideas and smart algorithms managed to be turned into the reality, in Iran. To be conducted **in the countries of the Mediterranean**, a **MVP (minimum viable product)** will be prepared in 4 weeks according to the successful proof of concept before. And After the tendency of the municipalities as the responsible organizations for waste management to be assisted, we are ready to customize the algorithms depending upon people culture and wealth and consumption stream. The web and mobile applications come after producing these smart algorithms, several gamification tools and AI-based tricks in the target region.