



# **Environmental Improvement in Pancevo (Serbia) through the collaborations among academia, government, industry and citizens**

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# Why we continued our collaboration?

- concrete activities were implemented
- partnership has been established
- the wish to realise new useful activities



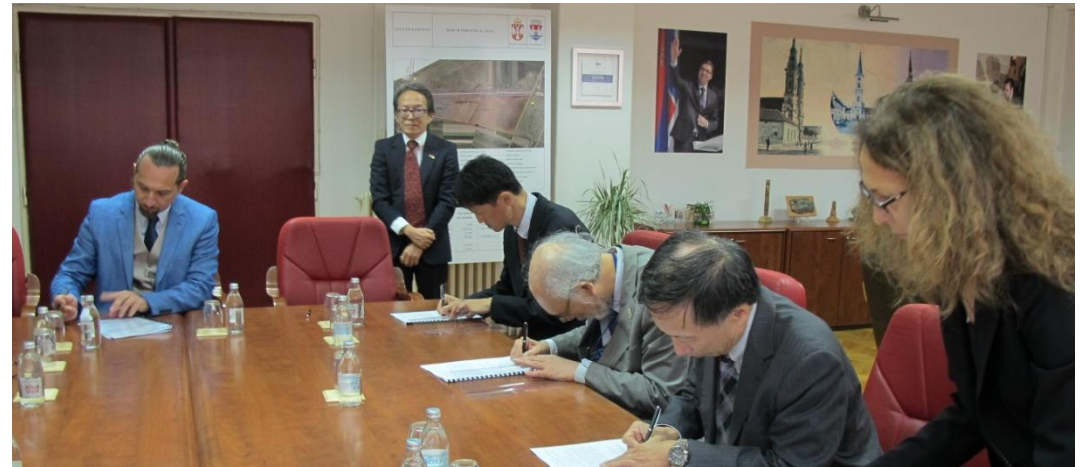
# Environmental Improvement in Pancevo (Serbia) through the collaborations among academia, government, industry and citizens

## A three-year project 2020-2022

**02.10.2019. the cooperation agreement was signed between**

- The Japan International Cooperation Agency (JICA)
- Hyogo Environmental Advancement Association (HEAA)
- University of Belgrade-Faculty of Chemistry and
- City of Pancevo

**about technical cooperation with Japan under the JICA partnership program**





# The purpose of this project is

- Knowledge exchange
- Education of the local people
- Environment improvement in Pancevo city through cooperation between academia, administration, industry and citizens

# Working Group „The Stork“

- Due to more efficient operation of the project we have created a working group
- Members of the Working Group are experts from Japan, representatives of the ministry, the city of Pancevo, faculties and public companies
- The nick name this group is „The Stork“

The reason for this nickname is the fond memories from Toyoka. It is a city that has made great efforts to bring back the stork. They succeeded in that. They made a real oasis. This working group also wants to be just as successful and as they are to make progress in solving environmental problems.

- Working Group will be focused on environmental problems in Pancevo:



# 1. Management of communal waste in Pančevo

- We have a small percentage of recycle waste
- A small number of citizens separate the waste into containers intended for these materials
- We have a sanitary landfill in the city (waste from the city and two villages), but we also have wild landfills in the villages (waste from seven villages)



As part of this project, we want to improve management of communal waste in the city of Pancevo with the help of experience from Japan


## 2. Pollutants outside the Petrochemical complex

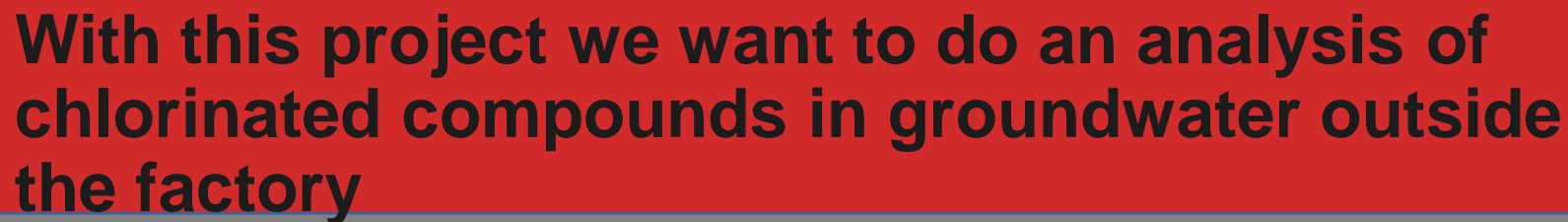
**1999 during the NATO aggression the Petrochemical complex was bombed**

**- a vinyl chloride tank was hit and 460 tons of highly toxic vinyl chloride monomer(VCM) poured**


**- 1.2 EDC (1.2 - dichloro ethane) tank was damaged, and this has resulted spillage around 2100 tons of EDC .**



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- In 2003, a groundwater remediation system was installed to reduce EDC**
  - The goal is to reduce the concentration of EDC in groundwater and prevent further spread of pollution**
  - about 1226 tons of EDC have been exhausted**



**With this project we want to do an analysis of chlorinated compounds in groundwater outside the factory**





### 3. Pollutant in the soil of the Petrochemical complex

- Also, during the bombing was hit factory of electrolysis
- There was a contamination of the soil by spilled mercury
- For this reason, removed a layer of soil that contained mercury and disposed of in a concrete sarcophagus



The project will analyze the soil around the sarcophagus

## 4. Environmental improvement of Ponjavica natural park

- Nature Park Ponjavica includes the middle course of Ponjavica length of 7.5 km
- Ponjavica is located in the villages of Banatski Brestovac and Omoljica
- Ponjavica has three levels of protection:
  - Grade I - 0.87 ha (island)
  - Grade II - 90.64 ha
  - Grade III - 211.44 ha
- The manager of this nature Park is the company „Zelenilo“ Pancevo





# Analysis of the sludge and the water in Ponjavica

**There are also some problems, such as:**

- sewages from houses on the riverside poured into Ponjavica and leads to eutrophication**
- poor water regime causes the bottom to become muddy**
- sludge prevents the flow of clean water from the underground released**
- there is a large number of arable farmland along the stream**



- In this project we will do sludge and water analysis**

# Remote monitoring and count of birds nesting near Ponjavica

One of the greatest values of this nature park is the large number of birds, some of which are under protection

Most of them on the island (1<sup>st</sup> degree of protection)



**Falco tinnunculus**



**Circus aeruginosus**



**Rallus aquaticus**



**Grus grus**






## Two observation posts were built



**In this project we will be monitoring the birds**



**These are the main things we plan to do within the project  
but I know we will do more than planned.**

**Thank you for your attention**

