

**WP7 – PROJECT MANAGEMENT & DISSEMINATION ACTIVITIES by
IOS d.o.o. (T7.1) &
ROTO-GRAD d.o.o. (T7.2)**

DISSEMINATION ACTIVITIES period between 1.9.2020 to 31.8.2021 (2nd Project Year)

A) Management and Dissemination activities

- ▶ **In the period between 1.9.2020 to 31.8.2021 (2nd Project Year)**, prof. dr. Aleksandra Lobnik, as the leading project manager, successfully coordinated project activities, meetings and reporting on the progress of the project to the EU Commission (EC), or Eureka Secretariat (ESE). She supervised and ensured the coherence between the project activities and the procedures set out in the Consortium Agreement Eurostars HMRecycle - E! 113543_31.7.2019.
- ▶ Due to the intensity of research and technical work in individual work packages and planned tasks (Tasks), we had a large number of internal meetings within the Eurostars HMRecycle project, which she convened with the heads of individual work packages (WPs) by IOS d.o.o.
- ▶ She also called monthly meetings of the consortium, including WP leaders by the project partner ROTO-GRAD d.o.o. ; namely before the quarterly reports of the HR partner ROTO-GRAD d.o.o., and before the 3rd and 4th half-yearly EU reports. In order to promote mutual cooperation, networking of knowledge and implementation and dissemination of results, in addition to the 5th project meetings organized so far **(in the 1st project year), we have so far held 13 project meetings (or 8 meetings in the 2nd project year)**. During this reporting period, meetings were needed to keep track of the work done and the results; planning further joint work; solving problems with the purchase of missing equipment and reporting and preparing deliverables. COVID-19 meetings were held via the MSTeams platform.
- ▶ Her Project Management was exemplary, she coordinated and participated in conversations through the MSTeams platform, e-mail correspondence and telephone conversations. She was in contact with the project partner from HR on a monthly basis, and on a weekly basis, if necessary, through WP leaders.
- ▶ She took care of the rational use of project funds in accordance with the regulation and the rules set out in the Consortium Agreement Eurostars HMRecycle - E! 113543_31.7.2019.
- ▶ She supervised and directed the work of the heads of individual WPs and ensured the collection / archiving and processing of data on research work for individual results for the preparation of reports.
- ▶ Supervised and coordinated updates on the established joint website of the Eurostars E! 113543 HMRecycle project (<http://www.hmrecycle.eu>).

1. Project Meetings

- 1) Eurostars Consortium Meeting in Q5, 6.Nov.2020 - MSTeams Teleconference, (6th Project Meeting) with the aim of disseminating the results for the 1st project year (period Sep.19.- Aug.20) and reviewing the planned work for the 2nd project year;
- 2) Eurostars Consortium Technical Meeting in Q6, 4.Dec.2020 - MSTeams Teleconference, (7th Project Meeting / 4th Technical Meeting)
- 3) Eurostars Consortium Technical Meeting, Q6 Quarter, 1.Feb.2021 - MSTeams Teleconference, (8th Project Meeting / 5th Technical Meeting)
- 4) Eurostars Consortium Technical Meeting, Q7 Quarter, 1.Mar.2021 - MSTeams Teleconference, (9th Project Meeting / 6th Technical Meeting)
- 5) Eurostars Consortium Technical Meeting, Q7 Quarter, 13.Apr.2021 - MSTeams Teleconference, (10th Project Meeting / 7th Technical Meeting)
- 6) Eurostars Consortium Technical Meeting, Q7 Quarter, 11.May.2021 - MSTeams Teleconference, (11th Project Meeting / 8th Technical Meeting)
- 7) Eurostars Consortium Technical Meeting, Q8 Quarter, 14 June 2021 - MSTeams Teleconference, (12th Project Meeting / 9th Technical Meeting)
- 8) Eurostars Consortium Technical Meeting (M13 / TM10), Q8 Quarter, 12 July 2021 - MSTeams Teleconference, (13th Project Meeting / 10th Technical Meeting)

Eurostars project meetings took place via the MSTeams Teleconference, and correspondence with ROTO-GRAD d.o.o. by phone or email on a weekly basis.

2. Reporting

National Reporting:

- ▶ **IOS d.o.o.** in Oct. 15. 2020 successfully submitted the **1st annual national project progress and financial report**, for the period Sep.19 - Aug.20;
- ▶ By HR project partner ROTO-GRAD d.o.o. **for the period Sep.20-Aug.21, 4 quarterly project progress and financial reports** were also successfully **submitted**, namely:
 - a) in Dec.2020 for Q5 - period Sep.20-Nov.20;
 - b) in Mar.2021 for Q6 - period Dec.20-Feb.21; in
 - c) in Jun.2021 for Q7 - period Mar.21-May.21.
 - d) in Sep.2021 for Q8 - period Jun.21-Aug.21;

EU Reporting:

In the period **Sep.20 - Aug.21, 2 semi-annual EU reports** (EU PPReport) **were submitted** on the Eureka / Eurostars portal on time, namely:

- ▶ **2.-6 monthly EU reporting** for the period Mar.2020 to Aug.2020; by IOS d.o.o. 21.Sep.20. The **2.-6 monthly EU reporting** was also carried out on time **by the project partner ROTO-GRAD d.o.o.**, 22.Sep.20, and
- ▶ **3.-6 monthly EU reporting** for the period Sep.2020 to Feb.2021; by IOS d.o.o. 22.Mar.21, and **3.-6 monthly EU reporting by the project partner ROTO-GRAD d.o.o.**, 22.Mar.21.

3. Materials / Products / Technologies / Applications / Innovations

- 1) Using his own knowledge in the company IOS d.o.o. as an innovation, we managed to **successfully perform the first synthesis of stabilized and functionalized NH₂@F-MNP magnetic nanomaterials in three replicates in 11x magnitude**, in reactor volume (V = 10L).

"Scale-up" synthesis of basic stabilized and functionalized magnetic nanoparticles (SUP MND_sAM) with amino (-NH₂) group (SUP γ -Fe₂O₃ F-MND T: A_sAM) on an 11-magnitude scale introduced as an internal innovation at the headquarters of IOS d.o.o. (*Decision_INO_1_2021*); *Authors: A. Kořak, M. Bauman, P. Vouk, M. Lakić, A. Lobnik*

- 2) In cooperation with the project partner ROTO-GRAD d.o.o. we designed, developed and established DEMONSTRATION MBR REACTOR (DEMO MBR), which will enable testing of the method of installing a cartridge for nanomaterials, and enable easier planning of the final implementation and installation of the cartridge in combination with the so-called PROTOTYPE MBR system.
- 3) Using their own knowledge for the development of tools (according to the ROTOLiv procedure), the company ROTO-GRAD d.o.o. produced innovative PROTOTYPE MBR REACTOR (or reactor tank) with adapted opening for membranes, chambers, lids, inlet and outlet openings and sampling vessel.
- 4) Analyzed characterization results (batch mass; TEM; BET; FTIR analysis, TGA) of 3 replicates of synthesis and preparation of SUP NH₂@F-MNP material showed only minor deviation.
- 5) In cooperation with the project partner ROTO-GRAD d.o.o. we have successfully established the DEMO MBR SYSTEM with CONNECTED CYLINDRICAL CARTRIDGE with magnetic adsorption nanomaterial; and successfully implemented adaptation of the PROTOTYPE MBR or reactor tank (V = 6 m³); with 3 chambers and additional adaptation of walls and elevations of reactor tank openings).
- 6) IOS d.o.o. was selected by the Chamber of Commerce and Industry and the Chamber of Commerce and Industry as the recipient of the silver award for the best innovations of the Podravska region in 2020/21, namely for the MBR innovation; awards ceremony in SEP.21; *Authors of the innovation: A. Lobnik, M. Poberžnik, T. Lobnik, A. Čuješ, A. Klasinc.*

B) Dissemination, Education / Training / Knowledge Transfer

1. Online Project Promotion

- 1) Until SEP.2021, the presentation and promotion of the project took place only through the project website.
- 2) In cooperation with the consortium partner, we set up a new online platform for the project (<http://www.hmrecycle.eu>), and conducted necessary corrections to the web content and on the "Outcomes" tab (<https://hmrecycle.eu/outcomes/>) with pdf. documents (Annex 1) updated with illustrative pictorial material on the progress of project work, by both project partners.
- 3) Project partner ROTO-GRAD d.o.o. promoted the newly established project website (<http://www.hmrecycle.eu>) in Q5 (Oct.-Nov.2020) by linking to the website of ROTO-GRAD d.o.o. (<https://roto-grad.hr/>).
- 4) Online video promotion - Project partner IOS d.o.o. recorded and published promotional video # 1 HMRecycle <https://www.youtube.com/watch?v=FFTyjM1ohoc>, recorded at IOS d.o.o. 24.2.2021 → Promotion of the announcement on March 4, 2012 - on the YouTube channel; IOS FB Page on Twitter, HMRecycle website - Tab Outcomes
- 5) In Q5 (Oct. 2020), the website was updated in cooperation with the consortium partner with references from IOS d.o.o. and reference facilities from ROTO-GRAD d.o.o., which could potentially be upgraded with the newly developed MBR HMRecycle system.

2. Presentations and promotions of the project at conferences, workshops, exhibitions

- 1) Due to COVID-19 restrictions and unorganized events, project results could not be presented at lectures or scientific / professional workshops and project meetings.
- 2) The presentation of the research part of the project for the 1st project year (SEP.2019 - AVG.2020) was presented to the Slovenian Ministry of State (MGRT) - in the form of the 1st annual financial and substantive reporting, 15 October. 2020
- 3) PPT Presentation of research results of IOS d.o.o. and ROTO-GRAD d.o.o. and deliverables statuses for the 2nd-6-month EU reporting & for the 1st first project year (SEP.19 - AVG.20), at the 6th meeting of the consortium via the MStTeams teleconference (NOV.20), organized and led by IOS doo.
- 4) A brief presentation of the ongoing experiments, results and work plan for the adaptation of materials for the cartridge system was carried out (at the 9th technical meeting, (Mar.21); via MStTeams.

3. Publications

- 1) We updated the already prepared original scientific article with results for Hg²⁺ ions, with a new title "Removal of Pb²⁺, Cr³⁺ and Hg²⁺ ions from aqueous solutions using SiO₂ and amino-functionalized SiO₂ particles"; Authors S. Kranjc, AFPAM Raj, M. Bauman, A. Košak, M. Lakić, A. Gutmaier, A. Lobnik, and re-submitted it for publication in the *Journal of Sol-gel Science and Technology*.
- 2) Implementation of project results from the 2nd year of project work, until SEP.2021 also took place in the form of a working version of the original scientific article on the adsorption / desorption of heavy metals (Pb, Cr and Co) from model waters to functionalized magnetic nanoparticles based on iron oxide (γ -Fe₂O₃), including a study of the characterization of the synthesized nanomaterial and the adsorption kinetics, to be prepared for publication in an appropriate scientific journal.

4. Other

Marketing Plan

Within WP7-T7.2 ROTO-GRAD d.o.o., in cooperation with IOS d.o.o. updated the first working version of the Marketing Plan – Annex to the Deliverable D7.2.

- 1)** *data on competing companies & MBR systems (composition and prices); in Q5 (update of the Marketing Plan) (Oct. 20_version 1 → Nov.20_version 2), and*
- 2)** *by supplementing the bill of materials for the new HMRecycle MBR System and component price list; (Q7 version 2 update - Apr.21).*