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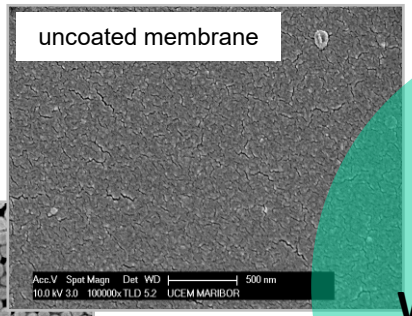
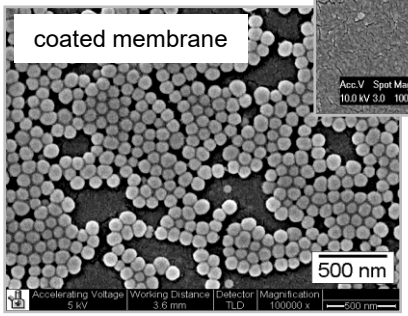
Prof.dr. Aleksandra Lobnik, CEO

IOS, Institute of Environmental Protection and Sensors, Ltd



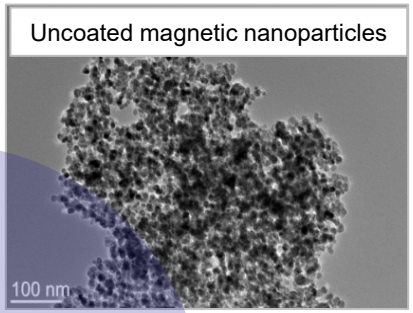


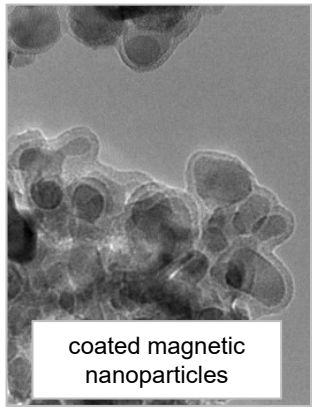
RECYCLING OF WATER & WASTES

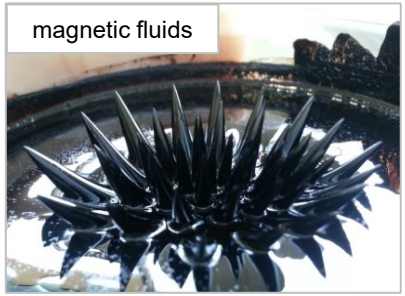
OPTICAL CHEMICA/BIO SENSORS

NANOTECHNOLOGY & NANOMATERIALS

PATENT: NM "20 patent applications" 10 EU and 2 USA
KOŠAK Aljoša, BAUMAN Maja, LOBNIK Aleksandra *"A method of surface treatment of thin film composite (TFC) membranes with tetraalkoxysilanes for retention of heavy metal ions in the membrane filtration processes of waste waters", Patent No. SI 23535 A, 2012,* **The Slovenian Intellectual Property Office, Ljubljana**





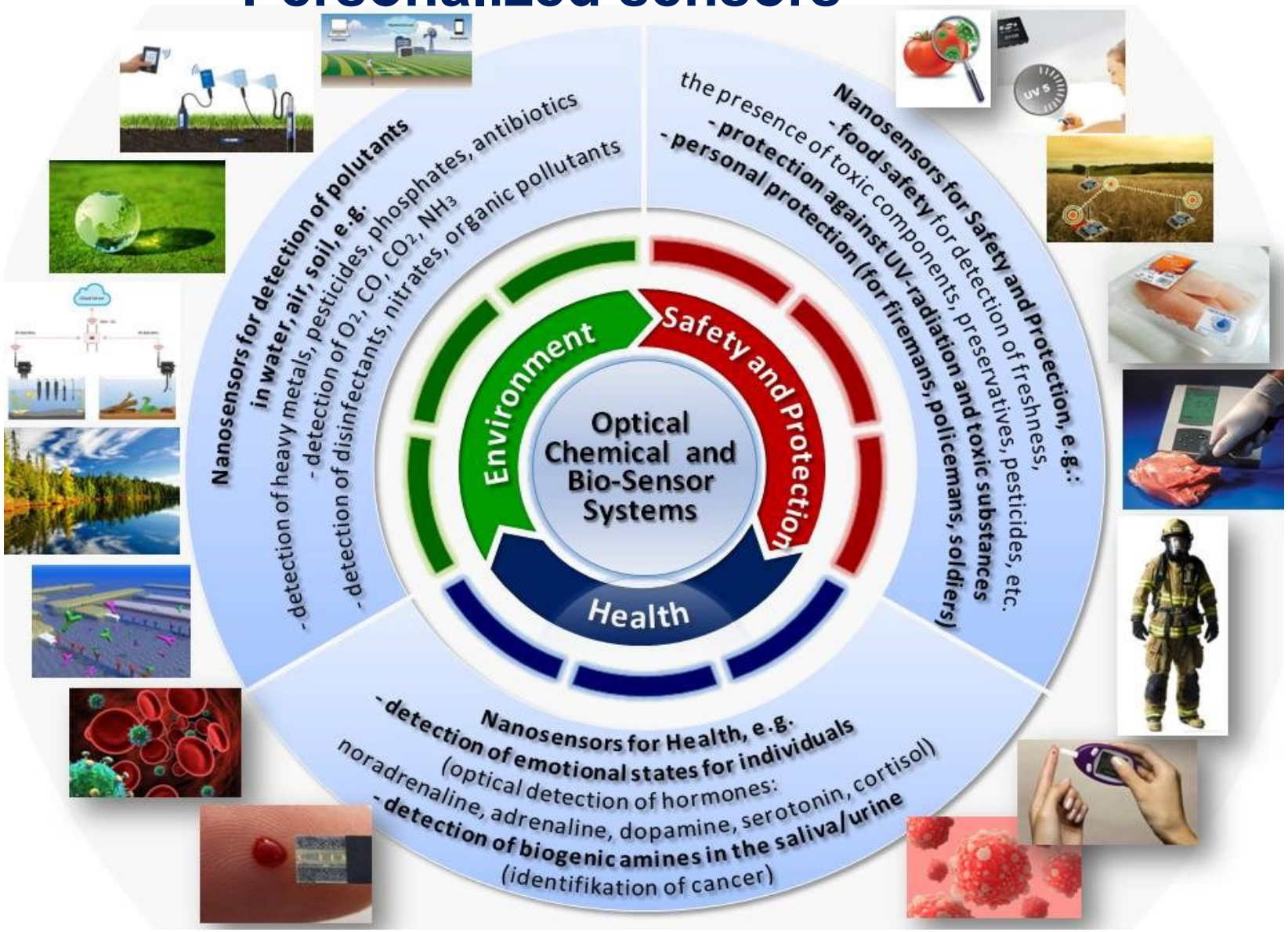


PATENT:
LOBNIK Aleksandra, KORENT UREK Špela. *"A method and an optical chemical sensor with a sol-gel membrane for the detection of organophosphates",* *EP 2 678 673 (B1), 2016-06-08*. Berlin, Germany: European Patent Office, 2016.

PATENT:
LOBNIK, Aleksandra ***"Sol-gel based optical chemical sensor for detection of organophosphates and method for preparation thereof"***: RU2013129043 (A), 2015-01-10; RS55040 (B1), 2016-12-30; *RS55040 (B1), 2016-12-30*. Beograd. USA patent under considaration.

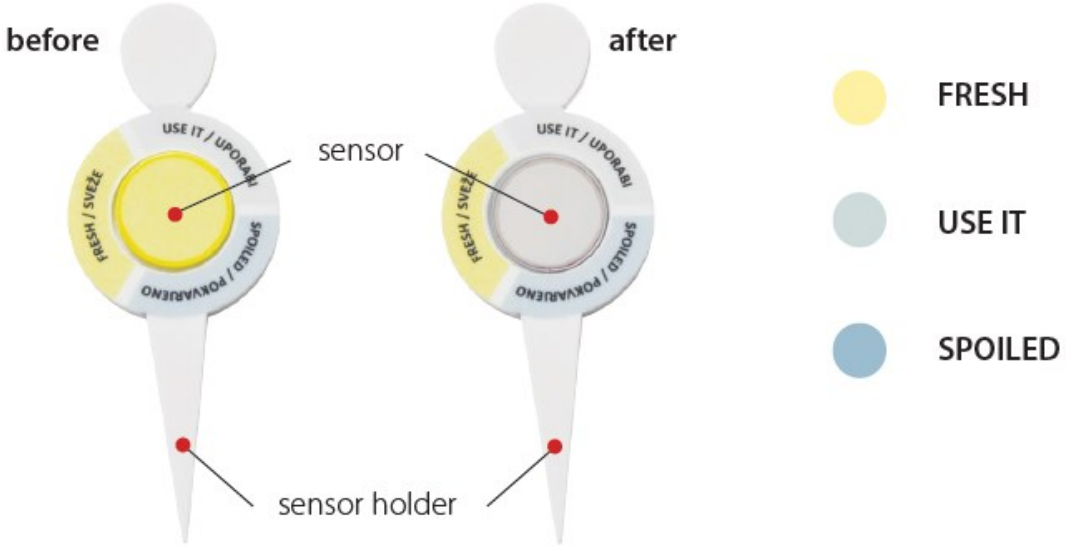
PATENT:
KOŠAK Aljoša, LAKIĆ Marijana, LOBNIK Aleksandra, ***"Process for the preparation of superparamagnetic hollow spherical nanostructures"***, *GB2526659 (A), 2015-12-02*. London: Intellectual property office, 2015.

Personalized sensors



Freshsens

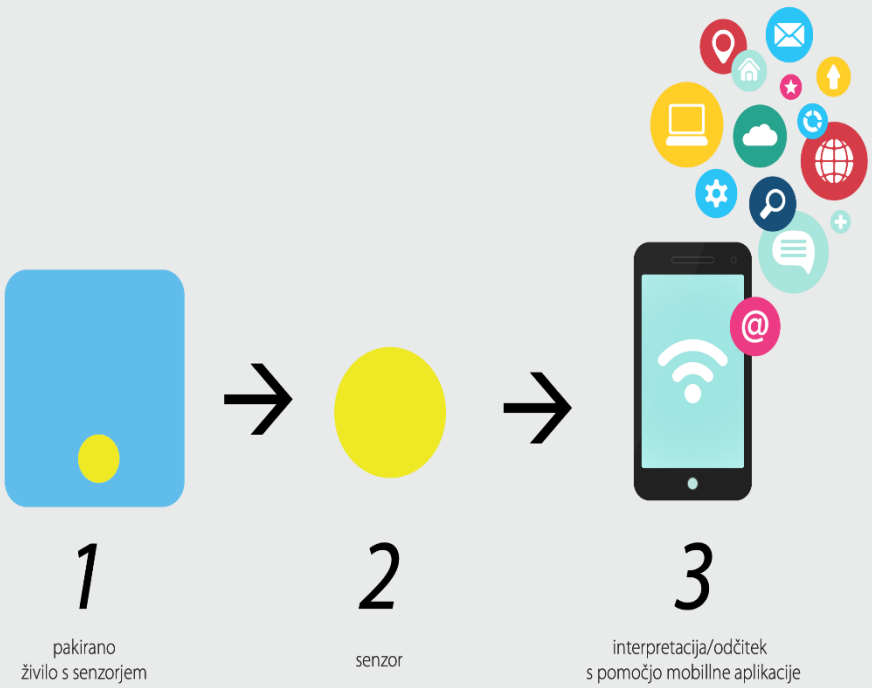
IOS & PRODUCT



- The sensor is suitable for raw, untreated fish and chicken meat
- Color change is a measure of the usefulness of the meat see color scale)
- Response time is 30 minutes
- The sensor is useful when blue coloration is reached (spoiled meat) and can be used again if the initial color was yellow

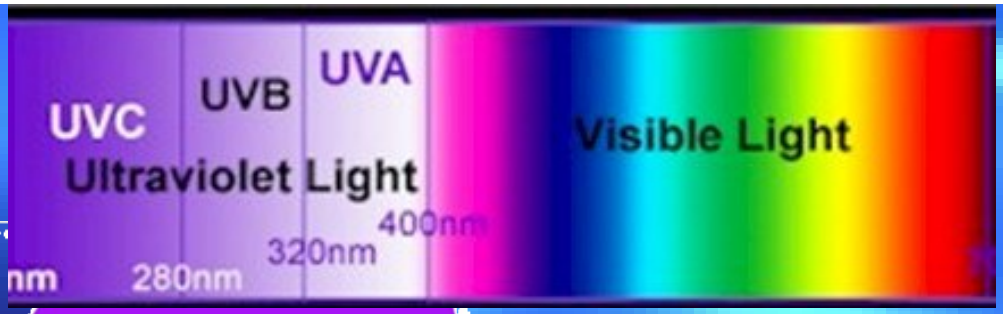
IOS PRODUCT

meatQ



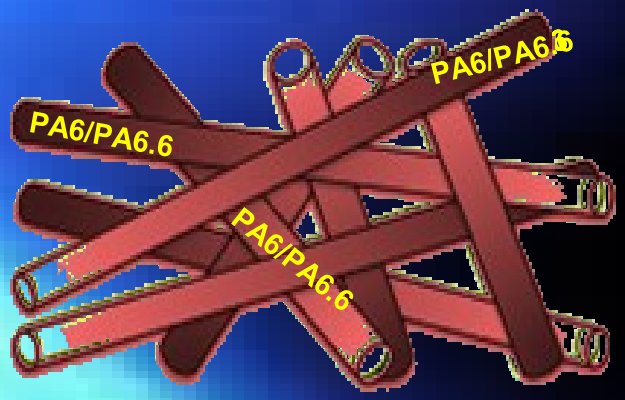
IOS PRODUCT – Sensors incorporated into drones

UVsens4Health



UV index	Colour
0 - 2	no change
3 - 4	green
5 - 6	yellow
>7	red

IOS PRODUCT



Water Innovative solutions/Products

WateReuse & Water4Future

Based on Membrane Biological Reactor (MBR)

IOS PRODUCT

TREATMENT EFFICIENCY:

Parameter	Wastewater (mg/L)	Effluent (mg/L)	Parameter	Effluent (mg/L)	WHO recommendation
COD	1000	15 (98%)	NH_4-N	4	10
BOD_5	400	8 (98%)	TN	5	6
Coliform index MPN/100 ml	> 50.000	0 - 10	TOC	3	0 - 50

OpenLOOP - DEMO PILOT PLANT FOR PLASTIC/TEXTILE WASTE RECYCLING UP TO 30 t/year

EIC Accelerator: OpenLOOP Timeline

1. In May 2020 - SME instrument Phase2 - Accelerator PILOT - project TexLoop - maj 2020 – UNSUCCESSFUL - end of program

2. **EIC Accelerator - project OpenLoop -** focus on profitable recycling technology of mixed PET-CELL textile waste (greatly narrowed project focus)
short application: Junij 2021 (successful, results: July 2021)

3. Long application: Preparation starts in September 2021 dedaline in June 2022 (successful, results: 18.7.2022), grant first option

4. Interview: 19.09.2022 (successful, results: 11.10.2022

5. Contract signature: 18.12.2022

6. Start of the project: 1.4.2023

EIC Accelerator: OpenLOOP activities

1. **Short application** = 10 pages + pitch + video

2. Full application - EIC AI platforme + Annexes (FTO, DMP, LOS, Financial Annex, Optional Annex) + pitch (could be different to the short application but it is used for the interview

3. Interview - based on the pitch from the Full App (it is not possible to change it - 10 minutes + questions of the jury - 35 minutes

EIC Accelerator: OpenLOOP experience:

1. **The EIC Accelerator application is more complex** than the SME Instrument application, if we only compare the length and complexity of the full app application

2**. if we look at the complexity of the process** (video presentation, pitch, short app, full app, interview) and the fact that each step has its own rules and peculiarities - **the process is demanding**

3. **For the EIC Accelerator FullApp application**, the management team almost necessarily needs additional support: length OpenLoop FullApp 172 pages + optional annex + financial annex + LOS + FTE + DMP

Why we think that OpenLOOP was successfull:

1. solving a very actual problem for the EU
2. technical concreteness/ technical solution
3. specificity of the applicatio/narrow project focus on one specific problem,
4. product,
5. clear business logic (profitability of recycling due to the high value, versatile end product of the recycling process)
6. precise project budget (a lot of investments, purchases, which were very precisely specified, estimated on the basis of subcontracts...)
7. well planned 2 phase - i.e. equity phase of the project (including the budget)
8. thorough interview preparation, professional interview production

IOS with OpenLOOP project

IS ON A MISSION
to change the perception of waste recycling

from PROBLEM to OPPORTUNITY

Inštitut za okoljevarstvo in senzorje

THANK YOU FOR YOUR ATTENTION

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