



Waste Management
and Recycling Cluster

New ways to better business towards to circular economy,
including Industry 4.0 solutions.
Good Practices of the Waste Management and Recycling Cluster

Digitalization for Green Transition and Sustainability

SMARTY

3rd ITS, Digital and green

Warsaw 18/02.2021

www.klasterodpadowy.com





WMRC - role and members

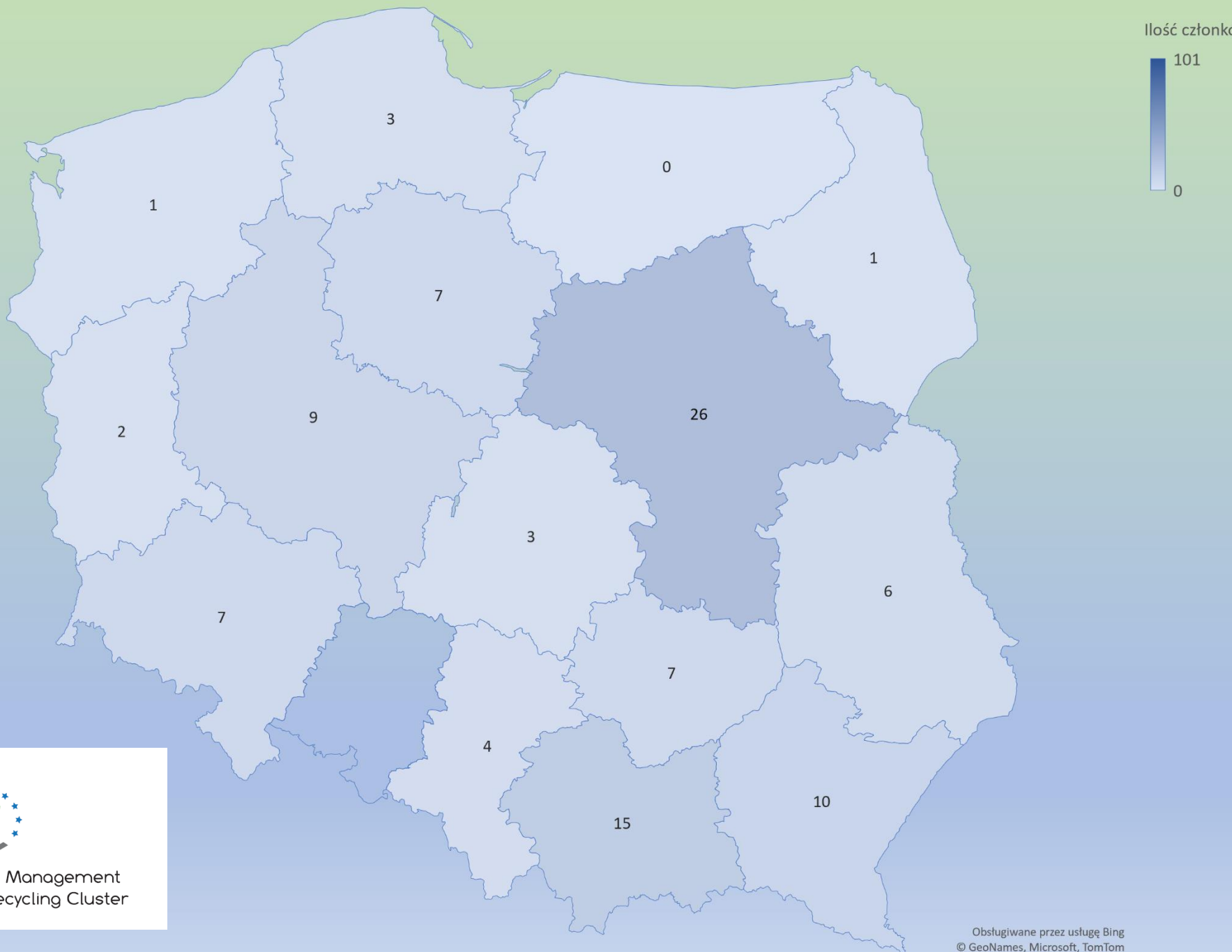
- ▶ The Waste Management and Recycling Cluster **provide a full range of waste management services for the main categories of waste** throughout the country as well as in most EU countries and outside the EU.
- ▶ **WMRC gather over 110 companies, mainly SMEs** involved in the collection, removal, treatment, recovery, recycling and transportation of all kinds of waste, manufacturers of machinery, equipment and technological lines for processing, recycling and disposal of waste as well as the manufacture of finished products using recycled material.
- ▶ Combined with **Scientific institutions, modern research and development centers, NGO's and consulting companies, actively cooperate on the cluster's platform.**



THE NETWORK



Koncentracja Członków KGOIR na dzień 16/02/21



Waste Management
and Recycling Cluster

Activities



- ❑ Participation in National Smart Specialization working group in.: Circular economy - water, fossil, raw materials and waste (Ministry of Development),

- ❑ Organisation different conference, workshops, fairs and congress

- ❑ Membership in platforms and networks, i.e. European Cluster Colaboration Platform, EU Circular Economy Stakeholder Platform Prometia

- ❑ Participation in different projects, supported from Structural Funds in Poland, KIC Raw Materials, H2020



GOSPODARKA O OBIEGU ZAMKNIĘTYM
- ROZWIĄZANIA DLA GMIN W PERSPEKTYWIE 2025 r.



GAPS?

- ❑ EDUCATION -To strengthen the skills of employees in the field of recycling and circular economy, it is necessary to introduce these topics as professions. It is necessary to study at the level of technical secondary school or dual education
- ❑ NEW BUSINESS MODEL
- ❑ ECO-DESIGN
- ❑ CREATION X-SECTORAL VALUE CHAINS

good practises



Waste Management
and Recycling Cluster

❑ BUSSINES LEVEL

- ✓ New value chains
- ✓ Networking
- ✓ Circular innovations, R&D services
- ✓ Projects: OTO-GOZ, MINE.THE.GAP, GREEN OFF SHORE TECH,
- ✓ Cluster Lab 4.0

❑ PUBLIC

- ✓ Geen public procurement - National Action Plan for sustainable public procurement for 2017-2020

I. Cluster Lab 4.0

- ▶ ClusterLab is the response of the coordinator of the Waste Management and Recycling Cluster to the challenges of megatrends and regulations related to the transformation towards Closed Circulation and Industry 4.0.
- ▶ addressed to companies from the area of green economy, associated in WMRC and outside the organization.
- ▶ It will introduce changes in management processes through automation and digitization, and will strengthen competitiveness thanks to innovative services included in innovative Programs Prolnno, PROGOZ.
- ▶ The process and product readiness of companies to face market challenges - will be confirmed by the certification of the established 1 Polish Recycling and Circular Economy Standard (GREEN).
- ▶ The services planned in the project and provided by the coordinator will be implemented with the help of the digital KlasterBox platform.

Cluster Lab 4.0

ClusterLab is:

- ▶ Digital transformation of collaboration processes
- ▶ An innovative platform that integrates modern process management tools Intelligent service personalized process management solutions
- ▶ Circular Transformation - preparation of companies for implementation and certification of circular economy
- ▶ Smart Money - value for companies, i.e. knowledge, experience, cooperation with experts, creating synergy

II.

GreenOffshoreTech/INNOSUP/H2 020

- ▶ GreenOffshoreTech aims to support innovation in SMEs and fostering the development of the emerging Blue Economy industries by creation of new products, processes or services towards a resource-efficient economy and EUs Green Deal supporting by the Industry 4.0 solution.
- ▶ GreenOffshoreTech's consortium will provide a structured framework to implement this innovation action and undertake two kind of activities to support innovation to SMEs directly:
 - ▶ 1) Direct funds support to SMEs
 - ▶ 2) A range of dedicated and tailored Business Support Services to the winner SMEs.
- ▶ GreenOffshoreTech's consortium will establish an open space, with a mixture of virtual and physical tools, to connect and facilitate collaboration of clusters and SMEs across sectors, regions and countries during and beyond the project..
- ▶ GreenOffshoreTech will support at least 100 SMEs and 100 SMEs innovation projects targeting to develop new innovative products, processes or services.

GreenOffshoreTech/INNOSUP /H2020

- GreenOffshoreTech is a cluster-facilitated project, bringing together 9 of Europe's leading clusters and SME intermediaries from 15 regions and 7 countries: Norway, Portugal, Latvia, Poland, Iceland, UK, Germany. In addition, 1 RTD and 2 SMEs as inter-cluster experts to support the project implementation.
- The GreenOffshoreTech is highly linked to Regional Smart Specialization Strategies and S3 partnershi



MINE.THE.GAP

The EU H2020 **MINE.THE.GAP** project aims to improve the competitiveness of small and medium-sized enterprises, SMEs, in the raw materials and mining sectors through cross-sectoral and cross-regional innovation and support services.

OUR MISSION

We are developing a support platform to SMEs for strengthening existing value chains and establishing new industrial value chains in the raw materials and mining sectors.



OUR APPROACH



Collaboration

Generate new services, solutions and products through cross-sectoral and cross-regional collaborations.



Funding

Direct financial support for product and service innovations of SMEs from raw materials and mining sectors in partner countries.



Support

Offer support services including matchmaking, demonstrating best practices, and mentoring.



Circular Economy



Information & Communication Technology



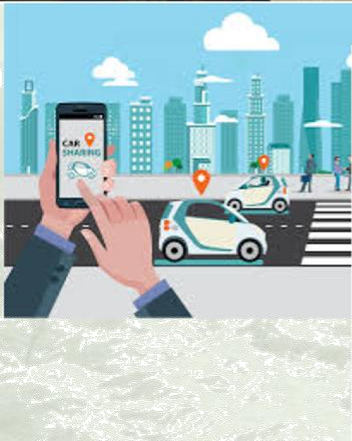
Advanced Manufacturing



Resource Efficiency



CASE of the CE



Odzież



Obuwie



Akcesoria



Mix cream



Mix domowy



Materiały recyclingowe



Wootex



Retextil



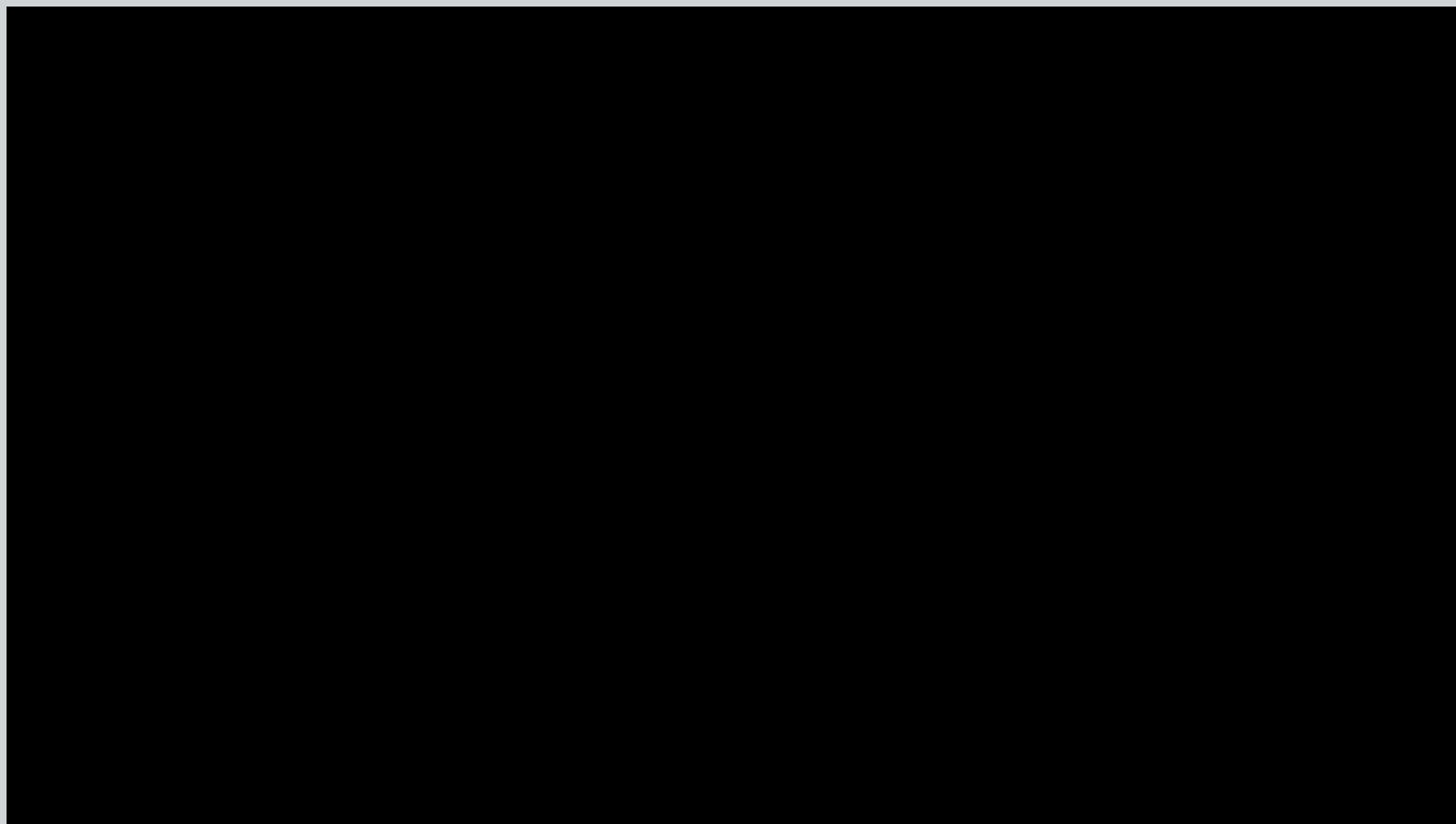


Klaster Gospodarki
Odpadowej i Recyklingu



KRAJOWY
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VIVE Texcellence



AVICON (Machine Vision)

INNOVATIVE OPTICAL SORTER

The brand new product is an innovative optical sorter for plastic bottles.

Developed in the x-sector approach in cooperation with PROTECHNIKA (producer of the recycling machines)

Innovative sorter functions:

- Using the experience of working with a hyperspectral camera
- classification of black polymers
- classification of objects based on inductive sensors



Klaster Gospodarki
Odpadowej i Recyklingu

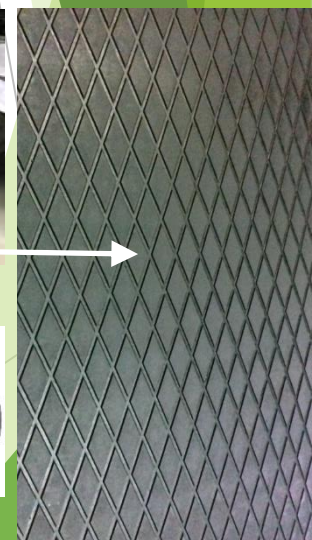
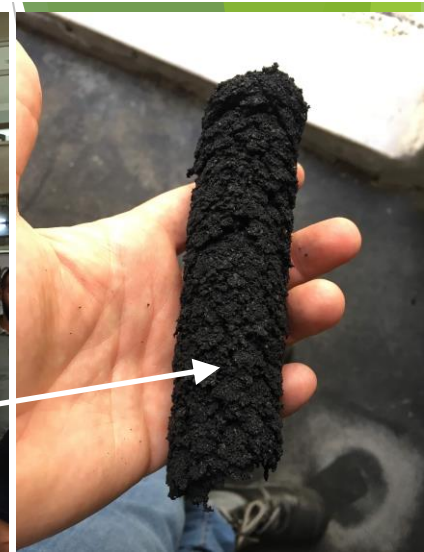


KRAJOWY
KLASTER
KLUCZOWY



SELECTED SHOTS

- Ultrasonic equipment (devulcanisation proces)
- Sample of devulcanised rubber (compound of rubber premix)
- Premix at test bench
- Comercial agricultural tire by Stomil S.A. (contains devulcanised rubber)
- Industrial and agricultural flooring (contains devulcanised rubber)
- Wheels for containers (example of crumb application)





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Waste Management
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KEY
NATIONAL
CLUSTER

Thank you for your attention and good luck😊

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