

ПАКОМАК Doo

Packaging Recovery Organization

N. Macedonia

Yerevan, 15 November 2022



Basic Data

Founded: **11.11.2010**

Population: **1,9 million**

Total Packaging Waste 2021:
103.500 tons annual

License granted by the Ministry:
From 2011 two times prolonged.
New license issued in March
2022 on undefined period.

About Pakomak:

- Not for profit organization
- Founders are companies from obligate industry
- Not vertically integrated company
- Pakomak is not owner of the material

Founders:



Ladna



What is PAKOMAK?

PAKOMAK is a legal entity - collective EPR* scheme or Packaging Recovery Organization who is operating with the management of the packaging waste.

It is the only company which every year is fulfilling the national targets.

From May 2011 it is member of PRO EUROPE and from 2013 member of EXPRA, the largest umbrella organizations of the biggest EPR companies in the Europe.

*EPR means – Extended Producer Responsibility

Goals of PAKOMAK

✓ Fulfil the National Goals for packaging waste, meaning that by 2030, **65% of total packaging waste** (plastic, paper, metal cans, glass, wood) **in Macedonia must be recycled or energy recovered!**

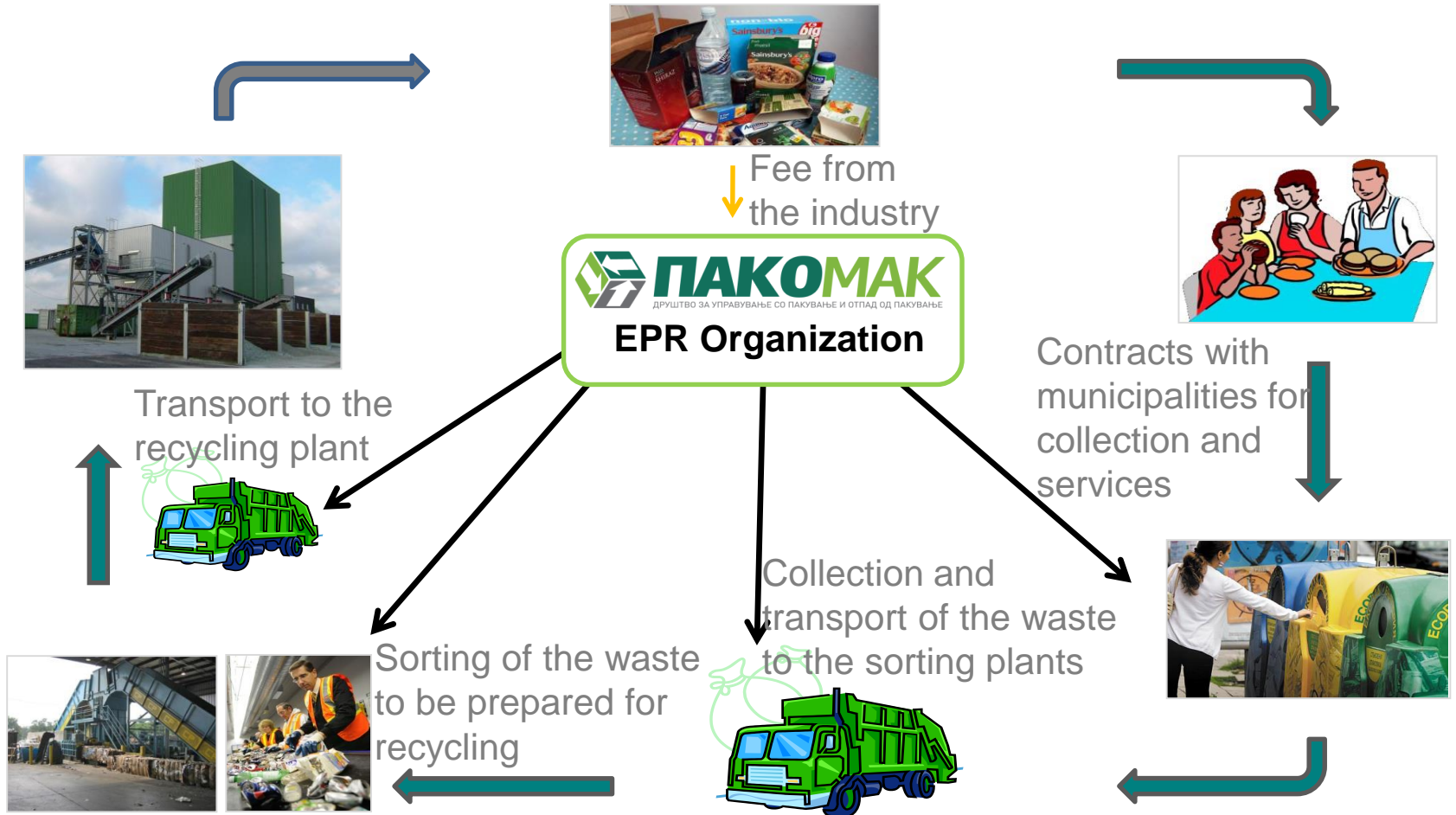
To achieve the goals, PAKOMAK and municipalities has to:

- ✓ Increase the capacity of communal infrastructure for “**primary separate collection**” of packaging waste, apart from so called “wet” communal waste (bins, containers, trucks..).
- ✓ Increase the capacity for “**secondary selection**” of primary collected packaging waste (sorting plants).
- ✓ Increase the **public awareness** for the need of the separate selection and global and local eco-benefits of recycling.

Five Principles of PAKOMAK

- ✓ Fulfilment of the Packaging Ordinance with greatest possible ecological benefit and minimum economic effort.
- ✓ Fee calculation for clients WITHOUT PROFIT; no distribution of unintentional surplus to owners.
- ✓ Transparent and auditable operation.
- ✓ Equal treatment of clients.
- ✓ Acting in goodwill partnership with the state ministries and the local communities.

EPR scheme



← Movement of the waste → Income → Taking part into the activities

Three basic activities of Pakomak

1. Investment in infrastructure PRIMARY SELECTION

(containers and bins for waste selection, vehicles for waste collection, selection lines)



Three basic activities of Pakomak

2. Waste **COLLECTION** and **TRANSPORT** to the recyclers (with public and private operators)



Costs for this activities are increasing every year due to the incensement of the national goals that should be achieved by Pakomak. For year 2020 Pakomak achieved **60% recycling rate**.

Three basic activities of Pakomak

3. Educational activities and public awareness

**ЛИЦЕНЦИРАНИ
40.000
ТОНИ ОТПАД**

**РЕЦИКЛИРАНИ
6.500
(До 1.10.2012)
ТОНИ ОТПАД**

Исполнети националните цели за 2011 година, а до крајот на ноември и за 2012 – сигурност за клиентите дека се усогласени со Законот

Вложување во комунална инфраструктура и едукација на населението

Green Dot заштитена марка на Пакомак за Македонија

Договори за соработка со општините во кои живее 70% од населението

Корпоративната општествена одговорност – мисија на Пакомак!

Грејките се животни, здравни и природни, но сепак нивната употреба, нивни остатоци и нивното складирање, како и нивното управување на отпадот од тешките метални материјали, на сепакот на Пакомак чинат над 30% од вкупниот вкупен внос. Корпоративна одговорност е комплексна и интердисциплинарна мисија. Со соработка со сите степенци, од локалните власти до клиентите, па до нашите партнери, ние работиме за да ги зацврстиме нашите стандарди за квалитет и заштита на животната средина.

Визијата на Пакомак е зголемување на квалитетот на животот во бизнисот.
Воспитно-образовни активности работат на зголемување на еколошкиот потенцијал на бизнисот, нивните
Заштита на животната средина и инфраструктура со соработка со општините во образовните институции. Во друго зданије Пакомак е дел од мисијата на еколошкиот партнерство со сите степенци на бизнисот, од локалните власти до клиентите, па до нашите партнери.

— Еколошка едукација на клиентите, со придружението од општинските институции.
— Партнерство со сите степенци на бизнисот, од локалните власти до клиентите, па до нашите партнери.

Green Dot – Заштита на животната средина на Пакомак за Македонија
Пакомак во рамките на доброволниот стандард за квалитет, Паконек, стави цел да се воведат Green Dot, со што сите македонски бизниси ќе се здобнат со квалитетна заштита на животната средина и општествена одговорност. Оваа мисија е дел од мисијата на Пакомак за квалитетна заштита на животната средина и општествена одговорност.

Зелената мисија на Пакомак никогаш не престанува...
За 2012 година, 600 лиценцирани над 40.000 тони отпад на сепакот на Пакомак, од кои 6.200 тони отпад, сеа рециклирани. Со ова ние надминуваме националните цели за рециклирање и нивниот дел во квалитетот на бизнисот. Сепакот на Пакомак, со својот внос од 180.000 тони годишно, е во водечка позиција во квалитетот на бизнисот, нивниот дел во квалитетот на животната средина и општествена одговорност.

ПАКОМАК - СИГУРЕН ПАРТНЕР ЗА ВАШИОТ БИЗНИС!

ПАКОМАК GREEN DOT ЗАШТИТЕНА МАРКА НА ПАКОМАК И ПАРТНЕРИ



Public Awareness Major Activities

Trash for Art - contest

More than 300 arts each year.

TRASH FOR ART
2022



СПЕЦИЈАЛНА НАГРАДА ОД ПИВАРА



TRASH FOR ART
2022



СПЕЦИЈАЛНА НАГРАДА ОД БИМИЛК



TRASH FOR ART
2022



1 МЕСТО - КАТЕГОРИЈА ГРАДИНКИ



Public Awareness Major Activities

ECO Café & restaurants

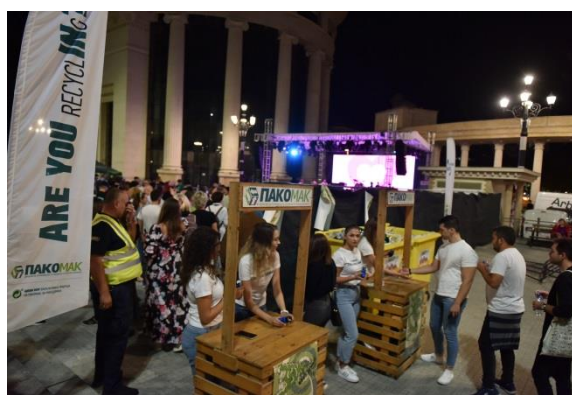
In the system more than 1800 objects covering 80% of the whole territory.



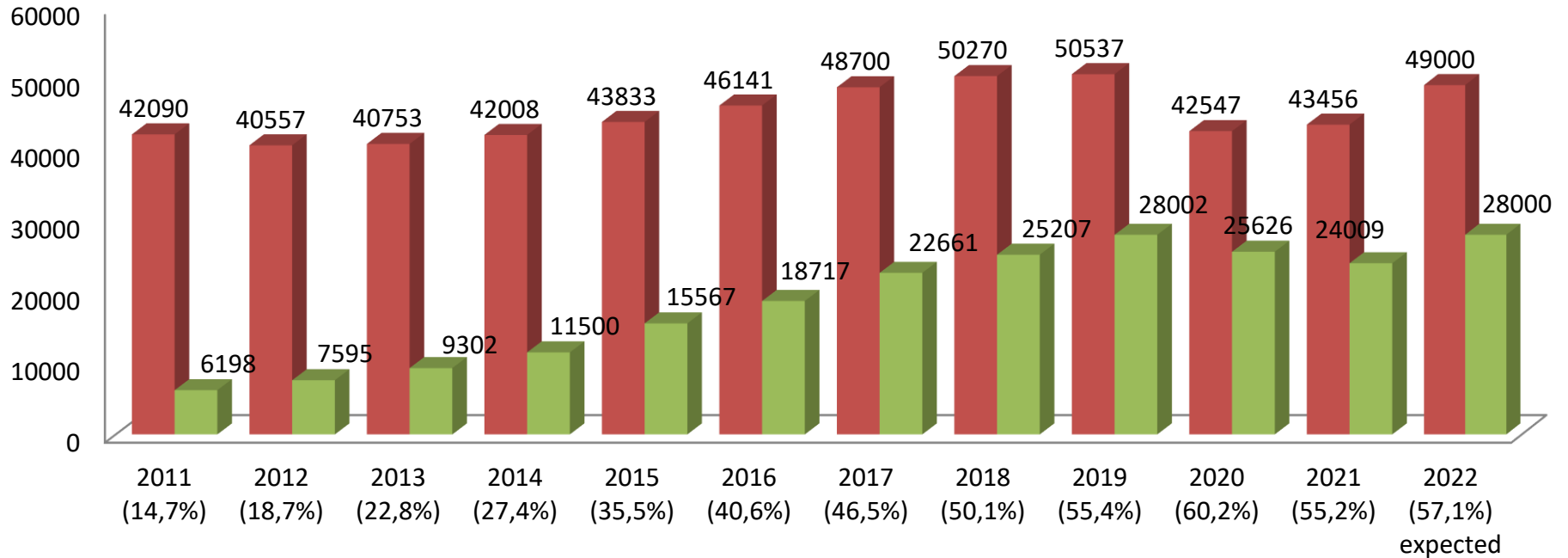
Public Awareness Major Activities

Sound of Green

Eco concert - entrance with one empty PET bottle or aluminum can.



Licensed quantities & Recycling rate



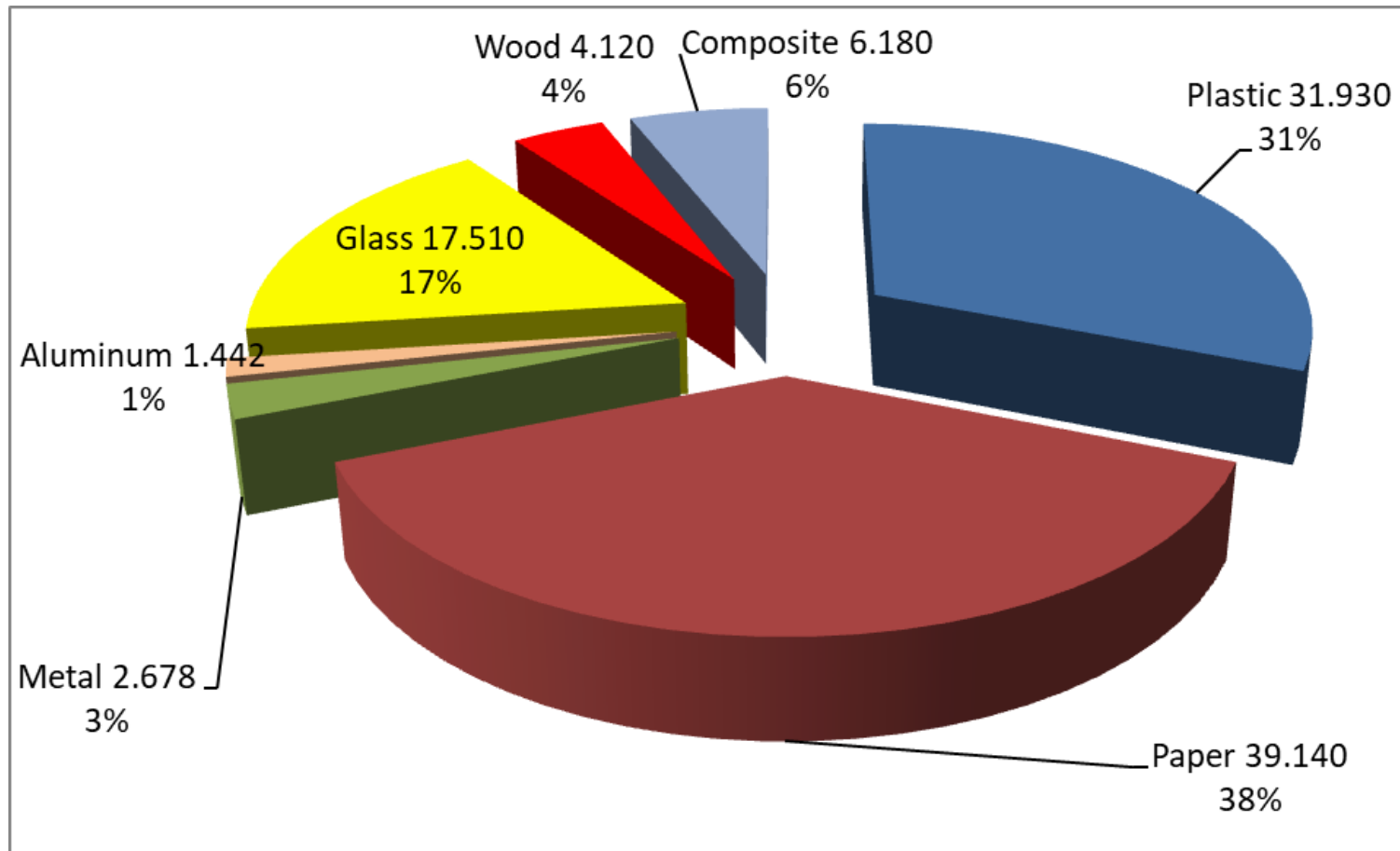
■ Reported ■ Collected & recycled

Cooperation with municipalities

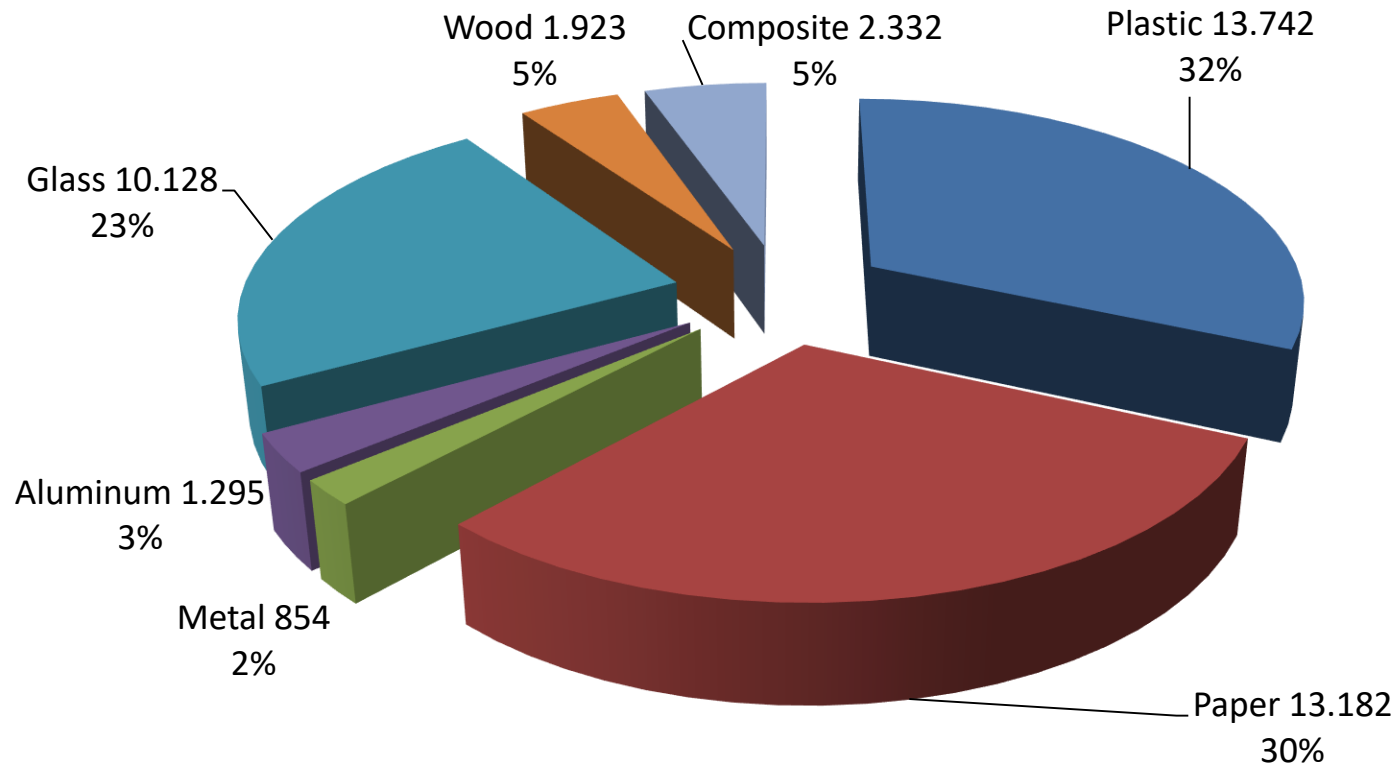


- Cooperation with **61 from total 85 municipalities** for separate collection.
- Investment in infrastructure.
- **Covering 80%** of whole population of the country.

Market share per material in 2021 (103.000 tons) for whole market

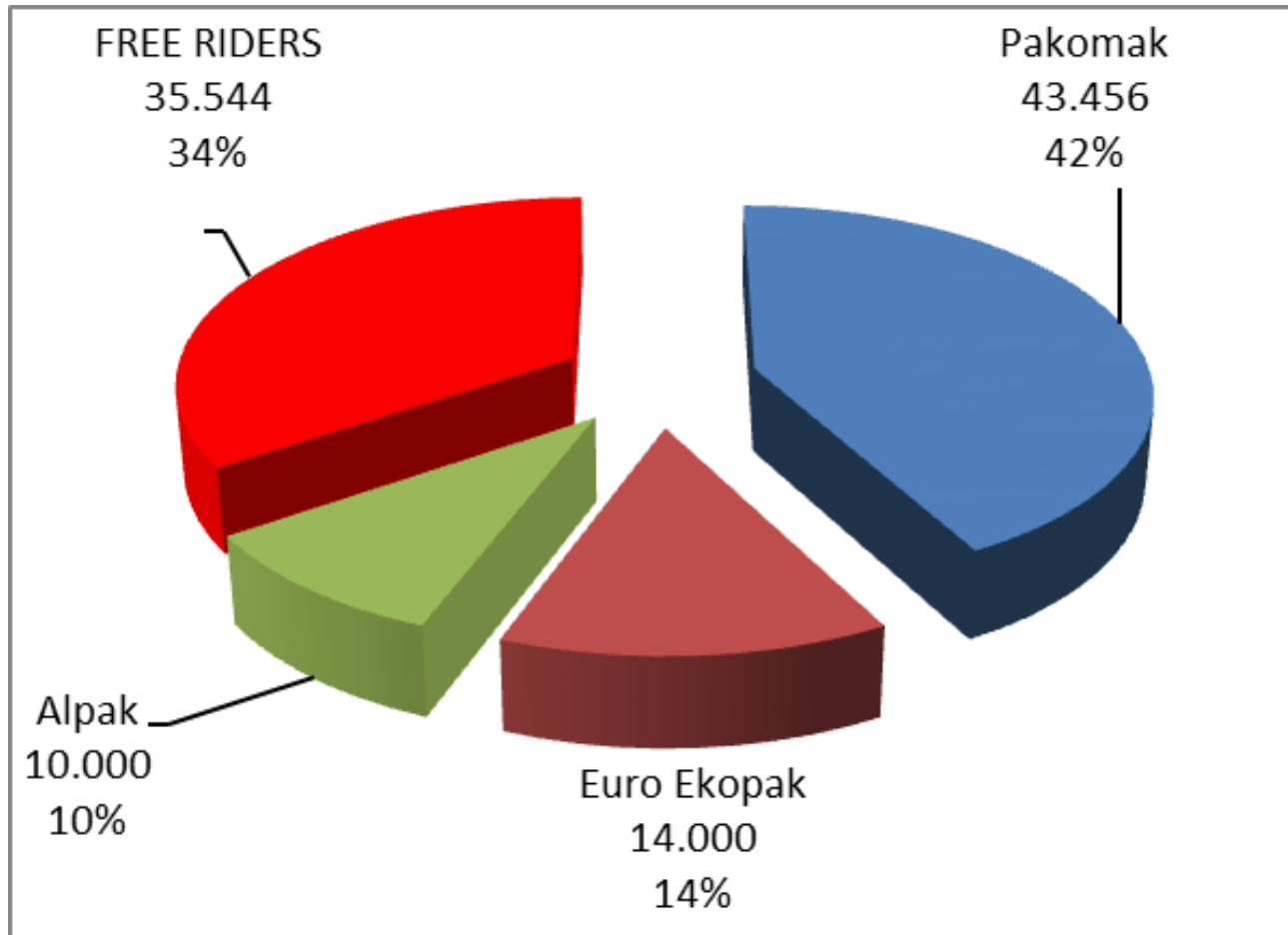


Pakomak share per material in 2021 (43.456 tons)



Note: Share for the glass, plastic and aluminum in the Pakomak system is slightly bigger comparing whole market, due to the fact that the founders of Pakomak are the biggest generators of those materials on the market.

PRO Competitors and free riders in 2021 (tons)



Note: By the law PRO is **not allowed to have more than 49%** market share!!!

Challenges when implementing EPR

Commitment from the Ministries' and Municipalities!
Make the implementable Law!

Find a way to make all obliged industry to report producers/importers REAL packaging waste quantities!

Do not allow too much EPR's, max 3!
Competition on quality service, not on fees!

Develop a network of legal and licensed waste collectors and make them partners in the system!

Consider Informal Sector if you have it!

DO NOT GIVE UP! BE PERSISTENT!
It is a process that takes year!

Changes in the Law for Packaging Waste (year 2021) and new EPR Law

No	Subject	Old law	New law	Comment
1	Fees for the obliged companies	Free decision prices.	Minimal prices set by the law.	No discounts for clients, eliminating unfair competition.
2	PRO expenditures	Free decision for PRO investment.	Investment from revenue from fees set by the law: - 65% for infrastructure & collection cost, - 10% for marketing activities, - 25% for office and administration.	Fair competition.
3	Payment	Payment by obliged industry with no obligations.	On time payment set by the law. If the company has overdue for 6 months PRO should cancel the contract.	PRO liquidity.
4	Obliged companies	Small companies free from obligation.	All companies are obliged to pay fees.	Decrease of freerides.
5	Obliged companies secondary responsibility	No responsibility for obliged companies if PRO do not fulfill national targets.	If PRO do not fulfill national targets obliged companies also pay penalties to the state budget.	Advantage for serious PRO's on the market.
6	Bank guarantee	No bank guarantee from PRO.	Bank guarantee is requested from each PRO issued in favor of Ministry of environment.	Advantage for serious PRO's on the market.

Strategic projects for the next 5 years

- Instalment of **Reverse Vending Machines** (RVM) in order at least 80% of the population to be able to use the machines. “Deposit without deposit” or “Incentive Based System”.
- Instalment of **IGLO containers with SMART sensors** for receiving info about their location and fullness of the containers with packaging waste.
- Installment of **Line for Secondary Selection** for plastic and metal.

Project in partnership with Embassy of Switzerland

SMART system for packaging waste management

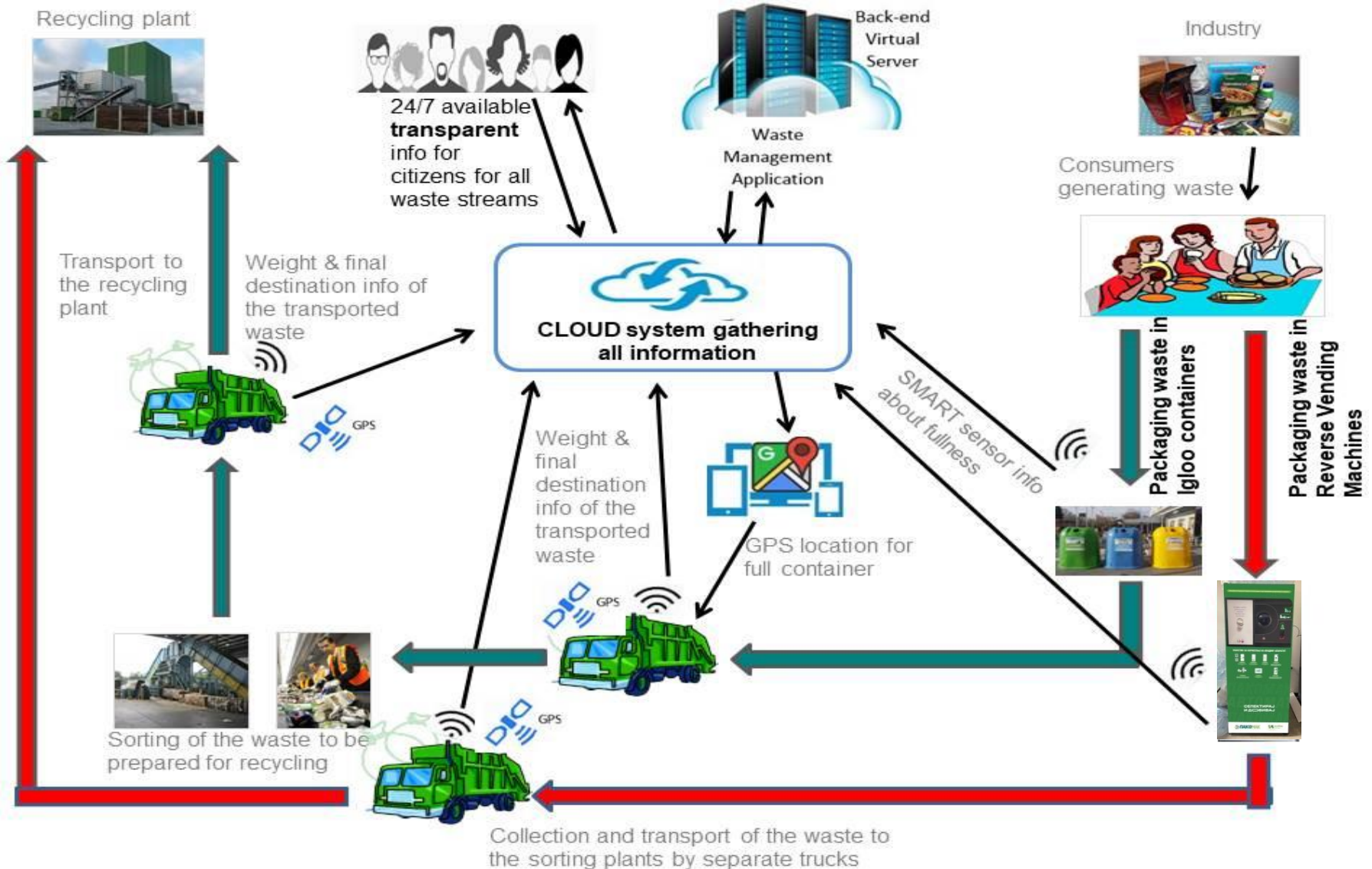


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Project in partnership with Embassy of Switzerland



SMART sensors for waste management

https://www.youtube.com/watch?v=ICsyY_DRK6E

Pakomak has developed SMART sensors and software for their management. Implementation in the period 11.2022 – 12.2023

SMART sensor characteristics:

- For containers up to 5m³
- Info about fullness & location of the container, tilt info, battery level info
- IP67 protection against moisture and debris
- Battery life time 6-8 years
- Operating network to communicate GPRS and NB IoT.
- Operating temperature: - 30 °C to + 70 °C



Expected results:

- Optimizing collection routes and reduce collection costs by 30%.



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What are the benefits for involved parties?

By using the system:

1. **Citizens** will receive Green points which can be used for paying:

- public services
- communal taxes
- certain products or discounts in retail stores
- humanitarian donation

2. **Retail chains**

- Increase of visiting clients in the stores
- Citizen will spend received green points in the retail stores
- Social responsibility of the company
- Positive public awareness as part of the system
- Digital signage media for marketing activities

3. **Pakomak**

- Collection of the packaging waste material
- Education of the citizens



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What are the benefits for involved parties?

By using the system:

4. Municipalities

- Less waste on the landfill and reduction of waste disposal costs due to the collection of packaging waste
- Ecologically clean municipality and educated population
- Promotion for the municipality



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RVM - Incentive system

No PRICE ESCALATION of the products. Citizens DO NOT PAY extra money when purchase a product, being returned when packaging (bottle/can) is returned to the RVM.

No need for IMPLEMENTATION IN WHOLE COUNTRY. Can be implemented step by step, municipality by municipality, region by region.

Citizens will be EDUCATED ABOUT THE ENVIRONMENTAL BENEFITS while recycling their waste, through messages generated by the system.



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**Make Waste Selection and Recycling
a Habit in Our Lives!**

Thank You!