

Less waste and financial savings. Waste container registration welcomed in Senec



+421 903 567 241



info@mim.sk



www.mim.sk



Branch office

MIM, s.r.o.
Hraničná 18
821 05 Bratislava
Slovakia

Headquarters

MIM, s.r.o.
Slnečná 211/1
010 03 Žilina
Slovakia

Less waste and financial savings. Waste container registration welcomed in Senec

Thanks to the registration of all waste containers, waste management is in well organized and payments for waste collection and removal are much more targeted, says Head of the Senec Municipal Office.

All waste containers were labeled with electronic RFID chips and, using the ESONA system, the authority obtained an overview of all waste containers and their emptying in the city. This is how we can describe the **smart solution** that the city of Senec implemented within the pilot project as the **first municipality self-government in Slovakia**.

After the deployment of the registration system, Senec City Hall (i.e. Municipal Office) signed an agreement with the waste collection company, also including an amendment on sanctions for the emptying/removal of an unlabeled container. Thanks to this, only labeled containers are emptied in the city today, which motivates citizens to register (label) them.

We talked to Ing. Jarmila Répássyová, Head of the Senec Municipal Office, and Bc. Ivica Gajdošová, Waste Management Officer, about the experience with the registration of containers and the electronization of waste management.

You can read about the following issues in the interview:

- how the waste container registration system works in practice,
- what savings the bulk waste collection brings,
- how the invoicing by the waste collection company to the city has changed,
- what further extensions of the system the city is planning.

WASTE MANAGEMENT USED TO HAVE NO “MASTER”

Two years ago, in the town of Senec, you started registering household waste containers. Why did you launch the project? The law on self-governments does not impose such an obligation.

Head of the Municipal Office: The previous waste management registration system was largely confusing and untargeted, and tempted the residents to "abuse" this system to their advantage. For example, when a resident had paid a fee to the city for only one waste collection container at his property (family house), but prepared two or more containers on the days of waste collection/removal. As no registration communication was set up between the collection company and the city authority, the collection company emptied all containers that were prepared on the day of waste collection/removal in front of the property (family house). As a result of such phenomena, the costs of collecting/removing mixed municipal waste (MMW) kept increasing and significantly exceeded the city's revenues, which resulted from the collection of fees. Thanks to the fact that we recruited our colleague Ivica Gajdošová into the team of the Municipal Office employees, whose

experience is in the field of waste management (WM), we established a separate expert department for the field of WM within our organizational structure.

Let's stay at the beginning of the whole project. What led you to the idea of registering all waste containers in the city? Was it your own initiative?

Head of the Municipal Office: The initial idea was born at a conference of heads of territorial self-governments, organized by our "professional" Association of Heads of Towns of Slovakia. There, I was interested in the presentation of the company MIM, s.r.o., whose representatives presented a ***simple and effective solution providing comprehensive registration and targeted waste management***. The conference was followed by another meeting at our Municipal Office, where we obtained more detailed information about the functionalities of the ***ESONA system***. As we were already strengthened in terms of personnel in this agenda and we liked the offered solution, we decided to go for it.

A similar system is not yet in place in other self-governing municipalities in Slovakia. You had to start practically on a green field. How did you launch the project?

Head of the Municipal Office: The ***change in the form of the ESONA smart solution*** did not only affect the work of the Waste Management Officer, but it was also necessary to set new elements in some modules of our information system. Cooperation with other colleagues was also important in this regard, for example, it was necessary to add new information to the register of fee payers; which was linked to the system of population registration, etc. At the same time, I would like to point out that with the company MIM, s.r.o. the mutual "chemistry" worked perfectly for us in the implementation of this pilot project. Just like our colleague Ms. Gajdošová, the whole team has always been enthusiastic to get to solve any problem or obstacle that emerged during the implementation of the system.

Can you evaluate today what results the waste container registration brought?

Head of the Municipal Office: ***The new registration system brought the city a positive trend in the economy of waste management***. By adding new information, the system became significantly targeted and began to reflect the average waste generation per capita per year. Thus, we introduced financial incentives for residents and related efforts to separate as much waste as possible. These steps have helped to gradually change the mindset of waste generators, i.e. our residents and the realization that ***WASTE is not free of charge***.

The first results came gradually. While in 2018 we generated 7,763 tons of mixed municipal waste in Senec, ***last year it was only 7,014 tons***, which is a ***decrease by almost 10%***.

When we compare the first 5 months of 2019 with the year 2020, ***we decreased the amount of waste by up to 16% from 2,924 tons to 2,465 tons***. On the other hand, the volume of sorted waste components in Senec is growing significantly. Last year, the city

sorted 33% more plastics and 36% more glass than in 2019. **These are excellent achievements.**

Waste Management Officer: The introduction of waste container registration was of great importance to us. Regarding invoicing and properly organizing our waste management, **we are very satisfied with the new system.**

However, the implementation of the new system meant that the local self-government voluntarily assumed new obligations beyond the respective legislation. Didn't that discourage you?

Head of the Municipal Office: The city of Senec is an important center of Slovak tourism and it is important that we maintain the standard of quality environment in the future. One of the important elements constituting this city's goal is a visually "tidy and clean city" without illegal waste dumps. We also realized that, as a city, we give more money to waste management than the income obtained from the collection of fees from the residents, i.e. waste generators. And this is not in line with current legislation.

Another benefit of the new registration system was that we made the **container passportization** as a result. Today, we know exactly how many containers we have, how many people use them and how often they are emptied. Prior to the implementation of the ESONA system, the registration of waste containers was largely confusing and, above all, untargeted.

So the new system is already reflected in the city's economy?

Waste Management Officer: **We have full control over the costs.** We immediately see in the system that the waste collection company employees handle a container without a chip. We can warn them immediately and the city will not reimburse the waste collection company the costs of such a waste container. **Finally, the city is only billed for what waste is actually collected/removed.** Prior to the introduction of the container registration system, we did not have the opportunity to check the invoiced amounts with the reality.

RESIDENTS PREPARE FEWER CONTAINERS FOR EMPTYING

So far, we have only discussed the registration of waste containers from the point of view of the city. What were the people's reactions?

Head of the Municipal Office: At first, many of our fellow residents did not like it and they complained.

Waste Management Officer: However, I must say that many residents appreciate the **new Client Zone**, which gives them a **constant overview of how much waste they pay for. They can easily find their way around the issued decisions and can pay the fees online.**

In addition, the people of Senec began to realize that waste existed as well. In parallel with the new system, **we introduced a quantitative fee system.** And this was when many

people found that they would pay for each waste container. They started to re-evaluate and just one of the several containers is currently enough for them.

Did the residents also obtain new information thanks to the registration of containers?

Waste Management Officer: Residents have an accessible **Client Zone** via the Internet, where every fee payer sees exactly what we see. A fee payer has an **overview of when their container was emptied, with each container being precisely located in the system**. Other benefits include a resident's **overview of billing and payments, online payment options, information on changes and exemptions in waste collection/removal**, and important city information on waste.

What does the container registration look like in practice for waste collection? Do the waste collection/removal personnel scan the container code at each act of emptying?

Waste Management Officer: No, the chip readers are placed directly on the waste collection vehicles. As soon as the employee hangs the container, the reader is activated and the RFID chip of the container is recorded. The container must therefore be hung and emptied. The whole process is without the personal intervention of the employee.

The only thing the employee checks is whether the container turns green in the system. Red or orange indicates that the container is not registered.

Have you noticed a decrease in the number of containers in the city since the introduction of the system? Did some residents start to prefer a less frequent waste collection – every other week?

Waste Management Officer: From the beginning, we informed people that the **fee will depend on the size of the container, the number of containers and the frequency of emptying (waste collection)**. Later in the second wave we had to repeatedly adjust or deactivate the number of containers at the request of residents. The number of containers has decreased as a result.

What significant decrease was it?

Waste Management Officer: When we completed the passportization of the entire city and the waste collection company began to invoice us only the residents really served. The **cost of handling**, i.e. container emptying, has **decreased by approximately 30 to 40%**.

If a resident has waste collection set at two-week intervals, but sometimes needs the container more often, do you invoice them for these "extraordinary" manipulations additionally?

Waste Management Officer: We would like to gradually get to this. A resident who pays 26 waste collections/removals per year and prepares the container more frequently during

the year will receive a billing invoice and will pay the additional collections/removals in the following period. At present, however, we offer an opportunity for residents who particularly need more waste to be collected, for example at larger family celebrations. Then they can buy a bag with the logo of the waste collection company, while the price of this bag includes its collection/removal.

Can you quantify how much the waste collection company's invoicing to the city has decreased since 2018?

Waste Management Officer: When you realize that the statutory fee has risen from EUR 10 per ton to EUR 22 per ton of landfilled waste, I consider it a success that we stick to roughly the same amount on the billing basis.

Head of the Municipal Office: In addition to the income from the collection of the fee for MMW, in the past we had to subsidize the amount of costs up to about EUR 150,000 per year. With the introduction of the ESONA system and the increase in the separation rate in the city, ***we have finally achieved a balanced budget in the waste management economy.***

THE COLLECTION YARD WILL ALSO BE CONNECTED TO THE SYSTEM

This brings us to the cooperation with the waste collection company. Does it currently invoice you a specific number of serviced containers in a given month?

Waste Management Officer: Yes, thanks to the ***new ESONA system***, we have specific numbers and we provide the basis for invoicing to the collection company. If there is emptying of unlabeled containers, this is the responsibility of the collection company employees. The city does not pay for the given manipulation.

Which collection company does the city cooperate with? Was the company OK with the registration project from the beginning?

Head of the Municipal Office: We cooperate with the company AVE SK that also operates a landfill near Senec, which represents a certain advantage for the city in terms of cost. I must appreciate that although the registration of waste containers brought new obligations for AVE SK, they did not resist inclusion in this pilot project.

Did the city bear all the costs of implementing the system or did the collection company also participate?

Head of the Municipal Office: The collection company financed its part of the ESONA system solution, as well as the installation of reading devices on its vehicles. The city paid the costs for its part of the system, including ensuring the labeling of containers with an RFID chip.

So far, we've only talked about the registration of container emptying. Do you also have an overview of how many kilometers collection vehicles will travel around the city?

Waste Management Officer: This is our next issue, because the ***system can also provide routing and logistics data***. The next step will be to optimize the waste collection/transport routes and ensure precise registration of the number of kilometers traveled, which can bring further savings to the city.

Are you also considering other system improvements?

Waste Management Officer: Yes, we are working on new solution options, specifically on ***connecting (linking) ESONA to a weighbridge (truck scale) at the waste collection yard***. In addition, we want to use the registration for the collection of kitchen biodegradable waste.

Let's discussed the waste collection yard in details. What exactly do you expect from connecting the weighbridge with the ESONA solution?

Waste Management Officer: First of all, we want the collection yard to be used only by our fee payers. The system is simple. As soon as there is waste on the weighbridge from a resident who is not a fee payer, we will be notified. The resident then reports to the municipal office for registration and becomes part of it.

So far, we've only talked about, I suppose, containers in individual homes and houses. How is the system set up in the case of apartment buildings?

Waste Management Officer: As we mentioned at the beginning, all containers in the city are labeled with an RFID chip. Although apartment buildings are still on a flat fee, we also have these containers registered. Each apartment building section is assigned a specific container, thanks to which we know which specific residents put their waste into it.

Even in the case of ***apartment buildings, we can switch to a quantitative fee system*** if residents want it.

But how do you make sure that only the residents of the given apartment building section put their waste into the given container? After all, there is free access to the containers and virtually anyone can put waste there.

Waste Management Officer: We are also working intensively on this requirement. We see the solution in locking and unlocking containers them via RFID chips.