



Why consider the considerable cost and disruption of locating waste and recycling containers underground? What are the advantages? And the downsides? To get an update, Malcolm Bates travels to Toulouse, France, to view a recent Sotkon installation.

Out of Sight

Will 'Underground' Become Mainstream?

To the left is an ancient, recently restored church. In the foreground is a new 'water feature' with fountains and sculptures. And behind the tree is the refuse collection vehicle. Four 3-cubic metre Sotkon containers are also located here, but you can't see them. Because they're underground.

I'm heading south of Toulouse to the Narbonne region - a good hour down the Autoroute - to see one of the latest Sotkon underground waste container system installations. Over the years, WMW has covered several underground options including purpose-built integrated underground vacuum collection and side loading container systems.

However you cut it, installing a town or city-wide underground waste container system is going to fall under the heading of 'major investment'. Costs vary widely, but in Europe a figure of around €10,000 per silo nest is a typical installation cost.

A bright future?

So how is Sotkon riding this storm? With the Portuguese home market currently running at just 15% of its normal level according to recent figures - that's not a reduction of 15%, that's an 85% reduction - you might have been reading that the Sotkon system was a victim of the economic crisis. Instead, what we have is a 'Good News' story with the potential for a bright future.

"Clearly Sotkon does not have a future as a manufacturer producing solely for the Portuguese market," confirms Joao Martins of Sotkon. "So we have been looking to see how our system can benefit municipalities and commercial contractors in other parts of the Europe."

The result is that Sotkon underground waste container storage systems are now in service in Morocco, Angola, in South America, Lille, a suburb of Paris, Berlin - and more recently, down here in the Narbonne. But significantly, what started out as a 'zone trial' in the popular Portuguese tourist resort of Portimao, has been expanded to cover the entire town including residential

areas, the popular Old Quarter of the town and the busy market.

The Sotkon system comes as a 'set' of components. You get a standard-sized, mass-produced waterproof precast concrete 'silo' that goes into a hole excavated into the ground. Once backfilled, the silo is covered by galvanised metal lid and 'receptor' into which residents deposit waste and recyclable materials. The design of the receptor can be varied, depending on location - and colour coded to identify what kind of material should be placed in it. The remaining components? Well, obviously you'll need containers - in fact there are several options, but the 3m³ capacity is the most versatile.

Unlque feature

A unique feature is that all Sotkon containers are made of rubber and as they never have to be wheeled anywhere manually, they don't need wheels. Or a separate lid. Why rubber, rather than heavy duty plastic or steel?

"The rubber formulation we use is tough enough for the job and, is lighter than steel units, but the big bonus is, being rubber, the containers don't make any noise when being emptied," Stephane Papaix of Sotkon France suggests.

And the final component of the 'set'? That's the hydraulic lorry loader crane needed to lift the container out of its silo - and deposit the laden container down on the ground in front of the binlifter of a conventional refuse collection vehicle (RCV). While it is true that the Sotkon system comprises four distinct operations the big advantage of the system is that it can use existing compaction type collection vehicles. This is of course even more useful during difficult economic times, but



in operational terms, it means that existing RCVs can work on a mixed route containing manually loaded waste, conventional (above ground) domestic and/or trade waste containers as well as the Sotkon underground containers. The only major addition - which can be retrofitted - is the installation of a loader crane.

Added advantages

But down in the Narbonne region of France, I'm made aware of another couple of advantages of the Sotkon system. Firstly, it's perhaps easy to assume that the only potential location where the cost and disruption required to excavate all of the holes needed for the underground silos would either be a new development such as new luxury apartments or offices.

Papaix has brought me to a pleasant market square to meet up with Patrice Ramaud. He is responsible for the environmental management fleet for the region of Grand Narbonne - a 'Department' of France made up of 38 individual local town councils, each of which has its own specific priorities and local government structure.

The first observation to make reinforces my earlier remarks - this part of France is not a heavily populated urban area. But removing the existing metal and plastic bulk waste containers and locating them underground is just as much a bonus in a small town square, as it is in the big city.

Unexpected bonus

"But for us in the Narbonne, the biggest advantages relate to helping to promote a significant boost to our recycling ratios," he explains. I hadn't expected that. "In many old quarter areas, there was just not the space for a large number of containers at ground level. Also, during the summer months, it was essential that the residual waste containers were emptied every day. There wasn't the space to install larger containers and if we had, the increase in smell and insects would have been intolerable," he adds.

"By installing the 3m³ capacity Sotkon containers underground in sealed silos, we have discovered that not only can we now change the collection period of residual waste from daily to weekly, but because storage space is no longer the issue, we can also install separate containers for recyclables as well. In effect, we are able to offer a better service with the same number of vehicles and that's very important in smaller towns and villages in more rural areas," he explains. But there's another bonus yet.

"Traditionally, it was always the case that our drivers and crews worked on what we call a 'task and finish' system (in other words, the crews could work as fast as they could and when they had completed the collection round (route), they could go home for the day), but more recently EU health & safety laws prevent employers from allowing this. Of course we don't want our crews to be in any danger, but from a management perspective, they still need to be motivated," he suggests.

"When we decided to trial the Sotkon system, we have had to equip our collection vehicles with suitable cranes. This means we have had to ensure our workshop staff are trained to service the cranes. But our drivers and crew members have to operate the hydraulic cranes in sometimes restricted spaces, so they have required professional training also. This is an enhancement of their professional status - which has helped increase their motivation," he adds - although the fact that it brings with it increased pay, may also have helped, he agrees!



The container is dropped down to the ground in front of the RCV loading hopper...

So what is the next phase for 'Underground' in the Narbonne? "We do have some budget restraints which limit the number of extra installations we can implement," Ramaud confirms. "But the response from the first thirty installations has been very positive. In fact, we are now getting regular requests from residents and businesses in other towns and villages, asking when they can have an underground system installed," he explains.

Funded jointly by the 'Department' (helping installation costs) and the individual communes sharing the operational costs, the initial three year trial has been judged a success and underground installations will be expanded to cover all 130,000 residents if possible, I'm told.

Together with Stephane Papaix of Sotkon France, Patrice Ramaud and I are talking over a cool drink in a pleasant town square in the early afternoon. In addition to the water features and modern sculptures, there is a new piazza with outdoor seating next to a cafe bar. Over there is the ancient - but beautifully cleaned - church. A newly block-paved surface suggests an old world feel, while modern retractable bollards prevent parked cars from spoiling the view. To one side, almost unnoticed, is a 'nest' of four Sotkon underground container silos - one for each individual waste stream.

Before they were installed, the smell and insects from the conventional bins and container would have spoiled the whole outdoor experience. With the Sotkon system installed? Had it not been for having a plane to catch, I could have sat there for hours!

Malcolm Bates is the collection and transport correspondent for Waste Management World magazine.

email: malcolm@automotivespecialists.co.uk

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