Sustainable WC facilities: From planning to upcycling

Using materials and product components in such a way that they're useful for a long time and that they can also be reused in future processes is the goal of any sustainable circular economy. HERING Sanikonzept GmbH is also tackling the topic of creating sustainable material cycles in the planning, construction and operation of WC facilities.

Sustainability is also becoming increasingly important in the development and construction of modern sanitation facilities. Customers are already regularly requesting water-saving technologies, green roofs and power-generating solar panels. Companies are further being challenged to use construction materials that will last for as long as possible and to return these materials to cycles even after many years of use. WC facilities may also be subject to the requirements of a sustainable circular economy. Returning sanitation facilities to material cycles means that construction needs to be considered as a whole – from development and planning to building, operating and recycling the entire facility as well as individual product components. That also includes the responsible utilisation of resources, making buildings last and making using them again possible. New approaches to planning are essential if the resources employed are to be utilised for as long as possible and prevented from ending up as waste. That's the only way to increase added value and reduce the burden on the environment.

Durable materials – WC facilities that last for 45 years.

That WC facilities are able to last that long is due to the use of concrete for the supporting structures. Most of the company's WC facilities, some of which are more than 45 years old, are still in use today or have been refurbished. The manufacturing of concrete is associated with high CO2 emissions but – compared with such structures as containers – WC buildings realised with concrete will last for up to three times longer. CO2 footprints and resource consumption may be reduced even further by replacing up to 30% of the aggregates with recycled materials and by using new cements. "We're working continuously on the further development of the materials that we use. New types of concrete will enable us to reduce Co2 emissions by up to 40% in the future," Georg Huckestein, CEO at HERING Sanikonzept GmbH, says. "Sustainable building materials constitute an essential element within ecological construction. They're the only way of reducing pollution and environmental burdens. Our products are also characterised by the facts that they are highly durable and that it's possible to dismantle and recycle them."

Individual construction: sustainable and flexible.

Individual customer demands require individual buildings and furnishing options. Even if each WC facility is manufactured as a one-off, it's important that the individual components are interchangeable, separable and, in the end, recyclable – and that it's therefore possible to return them to material cycles. That's where manufacturers of public WC facilities rely on modular technologies and equip their structures with door, washbasin, access-control, seat-cleaning and lighting and control as well as smaller technology modules. These are installed into recesses in the concrete. That means that it's usually also possible to use new modules for replacements and retrofitting in old WC facilities without the need to carry out extensive conversion measures.

Most of the installed modules may also be disassembled into their individual components and recycled. The homogeneous and easily separable materials transform the overall building into a sustainable structure.

Operating WC facilities sustainably.

There are also some aspects of operating WCs that contribute to the longevity and sustainability of the buildings that house them, e.g. the use of 100% biodegradable cleaning agents. The reduction of plastics waste by 70% through the use of detergent concentrates and refilling sachets. And the use of special coatings – such as the company's 'easy-to-clean coating' – to not only reduce the consumption of cleaning agents but to also effectively help save time during the cleaning process. Water- and electricity-saving technologies, power-generating solar panels and green roofs to save energy and purify air round off the available options.

Upcycling: Old facilities on a new level.

Renovating instead of demolishing. Concrete buildings are very robust and durable. Just because a WC facility is getting on in years doesn't mean that it has to be demolished. That's why HERING Sanikonzept provides its customers with full renovation services to bring their WC facilities back up to the latest standards. The WC expert is further able to take old systems back into its own inventory. They'll then for the most part be refurbished, converted or technically upgraded, i.e. returned to use and thus to the cycle. The recycling rate here is 95%.