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Way2K 2025

"Design for recycling is the key"

Interview on the road to K 2025 with Dr. Stephan Gneuss, Managing Director of Gneuss Kunststofftechnik GmbH

Dr. Gneuss, how has recycling developed in recent years?

Many distributors of plastic products have now recognised that they also need to identify recycling routes for products. For this reason, recycling processes have been developed in recent years that did not previously exist. The aim is to show that products can be recycled or at least made recyclable in the first place. Many new applications have been supplemented with recycling concepts that at least work on a technical level. Whether they will work in practice remains to be seen. The collection channels need to be improved, as they are still far from perfect.

Has food suitability of recycled material already been achieved?

There have been some successes here, driven by the Americans. The admission board FDA in that nation is much more flexible in its approach than its EU counterpart, EFSA. In the US, the range of authorised plastic materials has now grown significantly. A lot has also happened in Europe; however, the solutions have so far been very unsatisfactory. In principle, food suitability can be realised for the vast majority of recycled plastic materials.

Has the use of recyclates meanwhile become economical?

There are phases in which virgin material is more expensive, but there are also phases in which recyclates are more expensive. The big boom in the recycling of PET bottle flakes came about because they were not more expensive; the situation has currently changed again, however. Virgin material is very cheap at present, and this is putting recyclates under extreme pressure. This is because their production costs are very high due to high energy costs and high costs for collecting, sorting and cleaning. This situation is particularly worrying for recyclers, and naturally also reduces the incentive for companies to use

recyclates in the first place. Basically, those parties who use recyclates today do so because they have to, either because there are legal requirements, or because their customers demand it, but if you don't have to do it for one of these reasons, nobody will, as it is simply more expensive.

What would have to happen for this situation to change?

There has long been talk of introducing binding quotas in Europe. Of course, these only make sense if the legal framework is in place. There are still a lot of problems to overcome. The quota provisions are expected to come into force very soon, but the legal framework has not materialised. For example, it would have to be determined which processes are approved so that recyclate can be used in the food sector. The EU has now found a kind of interim solution, granting the corresponding approvals subject to reservations. However, this is simply disastrous for machine manufacturers like Gneuss. Who is going to invest in a new machine with reservations that mean that they might not be allowed to use it later?

What do you think of quotas?

My take on them is a positive one. Quota specifications as content specifications, where it makes sense, and otherwise as usage specifications, because then design for recycling would win acceptance; that is the key. At the moment, design is mostly about visual or cost optimisation, which does not usually improve the recycling capabilities. I believe that there is still great potential to achieve simpler and more cost-effective recycling processes. Closed-loop recycling does not make economic and ecological sense for all products; in my view, the decisive factor is for as much plastic as possible to be recycled in the first place.

What is the situation of recycling elsewhere in the world?

We see some promising regions such as India, for example. There are already statutory quotas and corresponding regulations. This is currently triggering a boom in demand for recycling machines in the plastics sector. If other Asian countries take India as a model, the market can become huge. North and South America are also fuelling demand. There is still little legal pressure in the US, but in principle, we believe that the recycling segment has not yet exhausted its full potential in the US. By contrast, the economic situation in Europe is not good, and is particularly bad in Germany.

Are there nevertheless new competitors for Gneuss?

Yes, there are, and most of them come from China. It's a large, dynamic market. China has also taken a few regulatory measures to support recycling, which is why there are many new machine manufacturers in this area. Sooner or later, they will also want to serve other markets; initially perhaps the Asian markets, but eventually also those in Europe and the USA. However, we will find solutions that will allow us to continue to set ourselves apart technologically. It is simply our job to always be one step ahead.

Do you still see location advantages in Germany?

Germany traditionally has a competitive advantage in the area of vocational training. Thanks to the dual system, which does not exist in a comparable form in many countries, we still have relatively well-trained skilled workers. The US, for example, is a more

attractive location from a tax perspective, but the shortage of skilled labour there is much worse than here. Here in Germany however, the situation is also getting worse, due to demographic changes, as well as a growing hostility towards technology.

What do you want to convey at the K?

We want to emphasise that plastic is something positive and powerful and has considerable ecological potential. Of course it should be recycled. We are working on that. In this respect, I think the K motto "The Power of Plastics - Green - Smart - Responsible" is a good choice. The Gneuss slogan for K has not yet been finalised, but it will be something in a very similar vein.

Video statement by Dr Stephan Gneuss:

<https://www.youtube.com/watch?v=MkAPAgNSk8Q&list=PLN1k-IPccLmHTYB1hQyiJlIdtUDF5JrxA&index=2>

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Industry interviews on the way to the K:

It is impossible to imagine a world without plastic. And plastics are indispensable for mastering our future challenges. The plastics industry develops solutions so that a growing world population can live safely and prosperously. This important role as an enabler is expressed in the motto of K 2025: The Power of Plastics! Green - Smart - Responsible. Green, because plastics help to combat climate change and conserve resources. Smart, because digitalisation helps to increase efficiency. Responsible, because the focus is on people. To get in the mood for the industry meeting in October 2025, the VDMA is giving representatives of the plastics machinery industry and of all other stakeholders in the sector a chance to have their say in a series of interviews.

VDMA Plastics and Rubber Machinery

More than 200 companies are members of the trade association, covering over 90 per cent of industry's production in Germany. Ten per cent of our member companies come from Austria, Switzerland and France. The German member companies account for a turnover of 7 billion euros in core machine construction and 10 billion euros including peripheral technology. In terms of value, one in four plastics machines manufactured worldwide comes from Germany; the export rate is 70 per cent. Chairman of the trade association is Ulrich Reifenhäuser, Managing Partner of Reifenhäuser GmbH & Co KG.