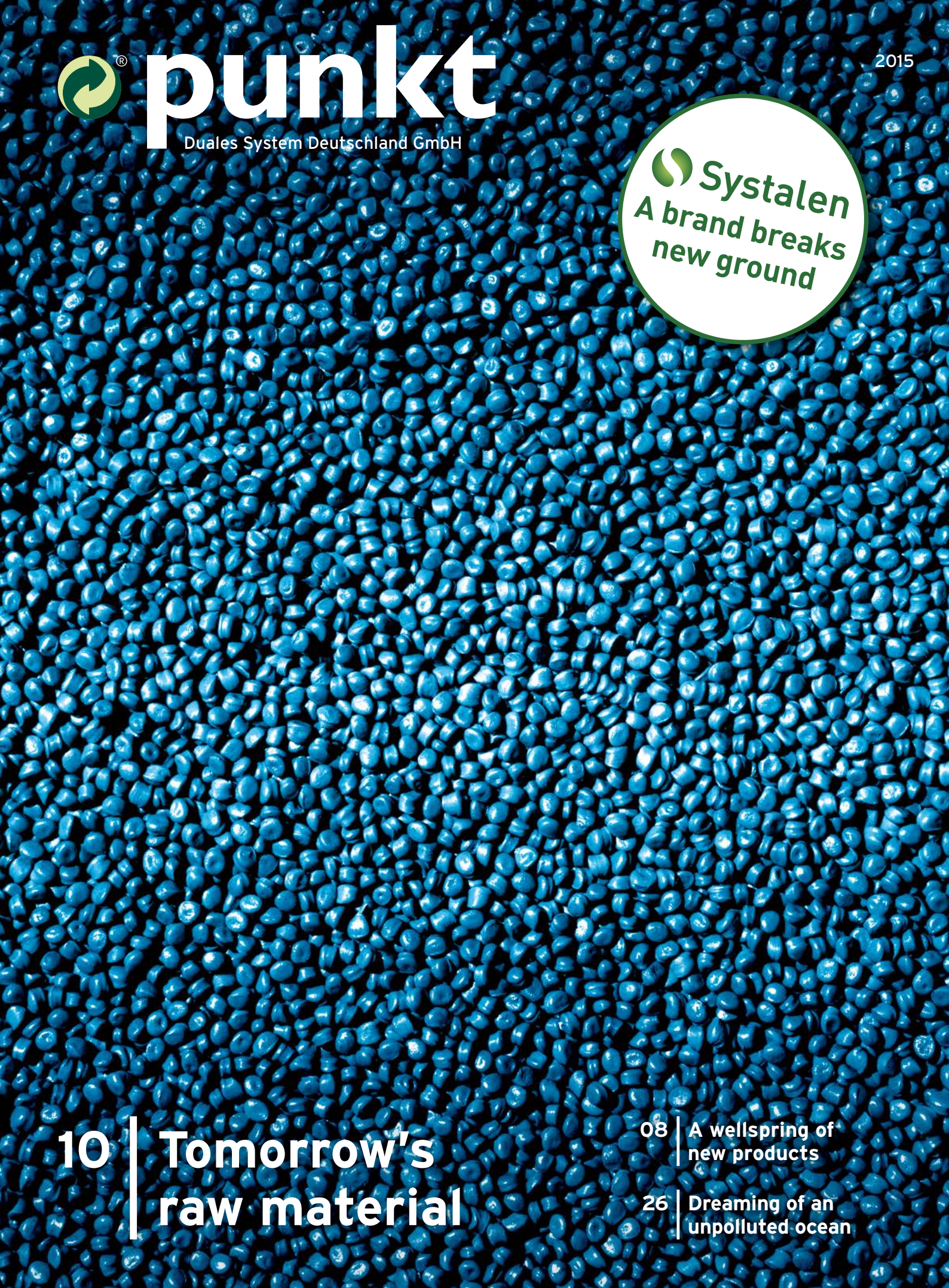
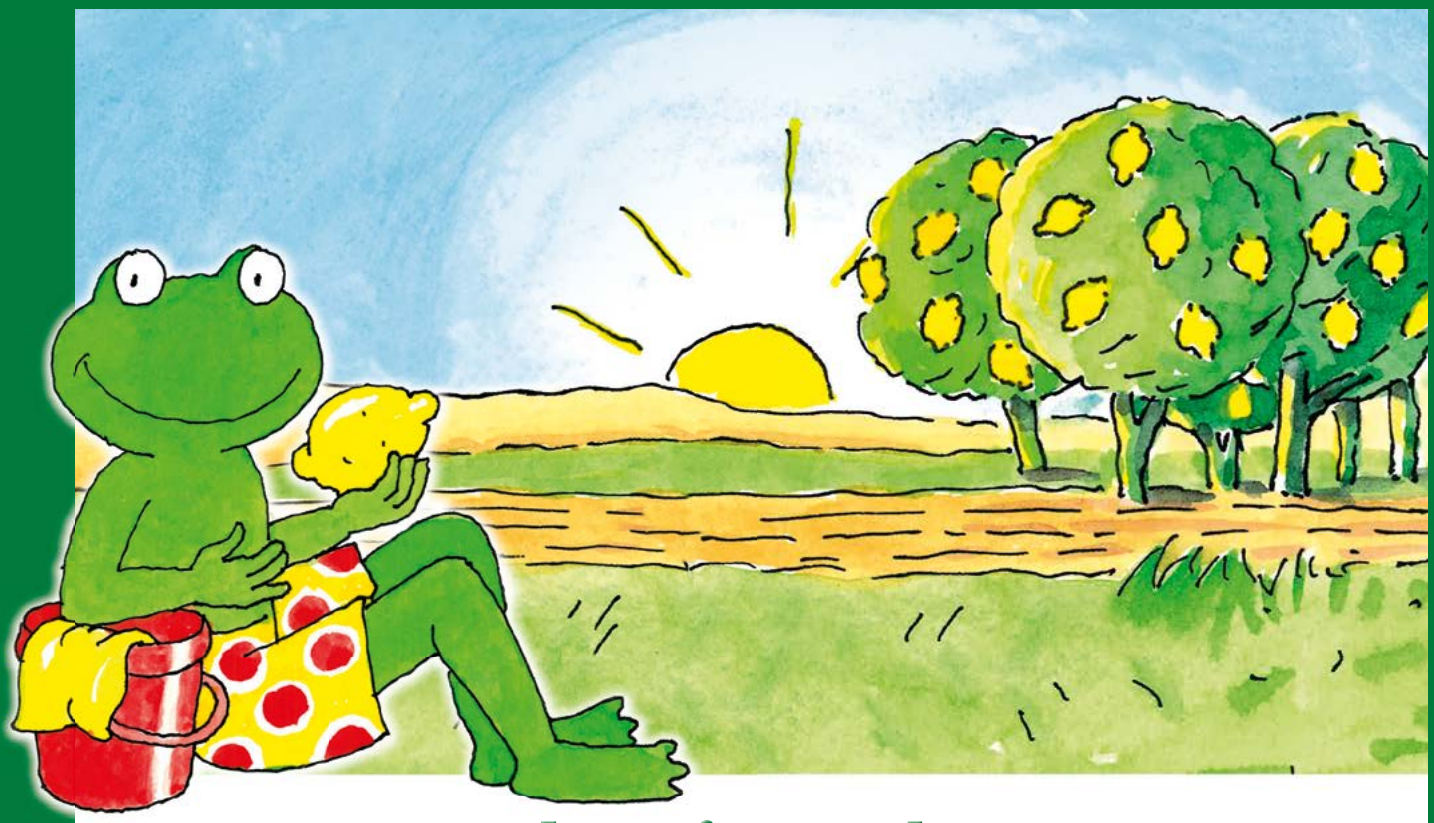
punkt

Duales System Deutschland GmbH

2015



Systalen
A brand breaks new ground



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Published by: Der Grüne Punkt – Duales System Deutschland GmbH, Frankfurter Straße 720–726, D-51145 Cologne, Germany

Responsible for the content: Klaus Hillebrand

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Text, layout, and implementation: komm.passion GmbH, Düsseldorf, Germany, www.komm-passion.de

Lithography: peters produktion, Erftstadt, Germany

Translation: Anthony and Sybille Hood, Schönbrunn, Germany

Printed by: das druckhaus, Korschenbroich, Germany

Cover: DSD GmbH/Matthias Heynen

FSC www.fsc.org MIX From responsible sources FSC® C008024

ClimatePartner° climate neutral

Print | ID: 53124-1411-1002

DEAR READERS,

There is hardly any other part of the recycling sector that exhibits such fast-paced development and such rapid progress as does plastics recycling. Park bench – that's old hat. Today's recyclates are top-notch raw materials from which new products can be made. The market is growing swiftly, and as far as applications for high-quality plastics are concerned, the sky's the limit.

This issue of punkt magazine devotes a lot of space to the recycling of plastics, showing where the raw materials come from, what is needed for processing them, and spotlighting the kind of products they can be used for. We perceive this as a market with an auspicious future, offering major opportunities, not least for the German economy. After all, there is no other country on Earth that's so forward-looking and innovative when it comes to the issue of recycling. Technologies that were developed for Germany's dual system back in the 1990s are nowadays bestsellers on the world's export markets.

These innovations, and the concomitant technical advances, were created through private-sector initiatives, springing from the necessity of having to stand up to tough competition time and again, every day anew. So despite all the criticism that the dual system may justifiably come in for, the following points should always be borne in mind: only when private-sector companies, operating nationwide and independently of the disposal firms involved, assume the requisite responsibility will it be possible to carry this form of continued progress into the future. We should not allow any retrogression to a time of monopolies, no matter whether these are municipal or private ones.

Monopolies of this kind will increase the risk of important flows of recyclables going down the wrong channels. In Germany, we will for many years to come still have massive overcapacities in refuse incineration plants. Valuable raw materials, like plastics from packaging, and those contained in domestic and commercial refuse, should not be wasted on filling these overcapacities.

The simple reason: it would be a pity to burn such valuable substances. If we are to create for the recyclates market the kind of future that we perceive today, then such a market will need a broadly based, stable foundation of raw materials' supply. And this is what Der Grüne Punkt has put in place. We shall do everything we can to ensure its lasting expansion.

Yours truly,
Stefan Schreiter

Managing Partner and CEO of
DSD – Duales System Holding GmbH & Co. KG

Photos: Andreas Teichmann/DSD GmbH; Ute Sweekhorst

For the "Upcycle" art project, children at the Max School in Düsseldorf addressed the issues of how clothes and materials are both used and wasted. The focus here was on the following question: how can pre-owned clothes and materials be reused as important resources and upgraded? This results in "upcycled objects." For this purpose, the kids created their works on large panes, which were then artistically photographed.

CREATING JOBS BY TAKE BACK SYSTEM

The project kicked off in the autumn of last year – and its pilot phase at Stuttgart airport has meanwhile been completed, with other airports, too, like Dortmund, preparing similar projects. The concept on which the "Donate your bottle deposit" pilot project is based is as simple as it is effective: empty your returnable bottle and put it in dedicated collection bins located at publicly accessible places. The bins holding the valuable returnable bottles are then emptied and cleaned by employees of the "Trott-war" association, an organization that helps socially disadvantaged people to be reintegrated into a permanent job. "Thanks to the revenue we get from the deposits, we can meanwhile even finance four full-time jobs," says Helmut Schmid, Executive Director of Trott-war.

On a peak day, e.g. during the summer holiday season, the employees of Trott-war collect more than 2,000 bottles. "That then adds up to 400 to 500 euros a day. In winter, by contrast, it's substantially less. Our revenues come to just under 8,000 euros a month on average," says Helmut Schmid. Equally satisfied is Prof. Georg Fundel, Managing Director of the airport operators Flughafen Stuttgart GmbH: "We're glad that through this initiative we've now found a solution to the returnable-bottle problem that lives up to our precept of sustainability." Der Grüne Punkt supports the "Donate your bottle deposit" campaign and Trott-war by arranging for the bottles' recycling and by ensuring that the requisite deposits are paid out to the association. "This project is an exemplary symbiosis not only of environmental protection and resource economy but of social commitment as well," says Michael Wiener, General Manager of Duales System Holding. ●

Puppetry: Teddy explains to the kids how they can avoid waste.

European Week for Waste Reduction (EWWR)

REDUCED IMPACT ON OUR NATURAL ENVIRONMENT

Shoppers who use and recover their products in such a way as to minimize waste incidence are making a crucial contribution towards protecting our natural environment. Even though many consumers are basically interested in reducing waste, they frequently do not know how to go about it. During the fifth "European Week for Waste Reduction" from 22 to 30 November 2014, committed campaigns and projects will show ways in which everyone is able to improve his/her personal waste statistics.

Multifaceted initiatives ranging from consultancy stands all the way through to theater plays and swap-meet shops invite visitors, both national and international, to get proactively involved. The theme week calls upon everyone to downsize the amount of waste they produce – whether it's at the workplace, when shopping, or at home. It is an initiative launched by the European Commission. ●

You'll find further information under www.nabu.de/aktionenundprojekte/abfallvermeidung/

SCIENCE FICTION FOR OUR FOOD

Its new "Iron Man" research project is Nestlé's attempt to look for ways of producing food supplements that are precisely tailored to an individual's needs. One of these "customized" vitamin mixes would then be made right there in the user's home when he/she presses a button. The vision is reminiscent of the food replicator from the highly successful *Star Trek* series, which supplies the *Enterprise's* crew with synthetically produced food.

To make sure that this idea takes the leap from a utopian vision to shop-shelf reality, the food producer is investing massively in this project, the responsibility for which lies with the experts from the Nestlé Institute of Health Sciences at Ecole Polytechnique Fédérale de Lausanne (EPFL; Swiss Federal Institute of Technology in Lausanne). Should the researchers in the future succeed in launching a financially viable product, this would totally revolutionize the market for food supplements. ●

Recovering raw materials from monitors

"OLD TUBES" ARE KEENLY COVETED

The disposal of old TV sets continues to pose problems – concealing as they frequently do both toxic heavy metals and valuable raw materials. Scientists from Freiberg have now found a solution to these problems. The new process developed by the Freiberg Mining Science University (TU Bergakademie Freiberg) and the Helmholtz Institute in Freiberg, Germany, revolutionizes the procedure involved in recovering raw materials from monitors and TV sets. Previously, the disposal of old units with a cathode-ray tube posed a hazard for the natural environment, given the high proportion of lead they contain. Thanks to the innovative melting technology from Freiberg, however, the toxic heavy metal can now be recovered.

What's more, the new recycling technology also enables valuable substances to be filtered out of LCD monitors. In the EU alone, approximately 550,000 tons of scrap with an LCD content will have accumulated by the year 2018. "This will contain small quantities of the valuable metals indium and zinc, for which there is a huge demand on the world market; the metals are also of major importance for our industrial sector," says Prof. Michael Stelter of the Freiberg Mining Science University. So the recycling process is of commercial interest as well. ●

Sustainable construction with 3D technology

RECYCLING FROM THE PRINTER

Design enhancement of 3D printers is in full swing. Whereas they were initially used for making models in small numbers, they nowadays serve for large-scale production of workpieces. The process involved is not only efficient, but sustainable into the bargain: there are hardly any material losses encountered in 3D printing. What's more, the units also work with recycled materials like synthetic resin, plastic, ceramics, and metal.

Fields of application for this process include medical and dental technology, plus the aviation and automotive sectors. One company from China has already translated its plans into tangible reality, and started to produce entire residential buildings using 3D printers, which create 50-centimeter-wide sections, with these then being put together section by section when the actual building is erected. The material used by the construction company is liquid concrete made from recycled building materials. ●

A WELLSPRING OF NEW PRODUCTS

At its facility in Cologne, Der Grüne Punkt has installed a pilot plant for SYSTALEN products, which enables these to be developed on a large scale and to an unprecedented degree of detail. Thus entirely new options are opened up for the use of SYSTALEN – top-quality recyclates obtained from post-consumer plastic waste.

When the injection molding machine hydraulically closes the mold, high-pressure injection of the liquid plastic starts – and seconds later the mold opens again and the finished test specimen falls out. "Doesn't look at all bad," says Dr. Ines Schwarz after she has looked it over critically while the machine is already molding the next workpiece. Dr. Schwarz will now be producing a whole series of color panels for subsequent colorimetry, using a special device.

"The color must conform to the RAL color specified," she explains. "The test specimens enable us to take highly accurate measurements so as to find out how closely our product approaches the RAL color concerned." But this is just one of the quality criteria that the SYSTALEN granulates under test here have to comply with. Aspects like moisture content, inorganic residues, volatile constituents, and flowability are all being factored into the testing here.

Dr. Schwarz heads the pilot plant of Duales System Holding for SYSTALEN plastic recyclates in Cologne where the technicians of Der Grüne Punkt check the quality of the SYSTALEN regrinds and various granulates while also developing new recipes and compounds. For this purpose, the equipment of the pilot plant includes a new double-screw extruder, in which regrinds and granulates are melted, homogenized, and filtered, and additives admixed to them. This machine can produce up to one ton of sampling material per day. "Our aim is to make a new product every day and hand it over to our customers for testing," says Christian Müller, who is in charge of product development at Der Grüne Punkt. "Once trialing has been successfully completed, we pass on the recipes in question to the relevant production facilities."

The kit required to do all this includes several extruders, a film-blowing line, and an injection molding machine, plus state-of-the-art laboratory equipment for measuring SYSTALEN's physical properties, all of it backed up by a sophisticated EDP system that serves to record and process the recipes tested, the measurement series taken, plus the results obtained in their entirety. "We are always able to trace back, to the minutest detail, the conditions that are responsible for a particular test result," says Dr. Schwarz.

The quality and possible applications for SYSTALEN are thus reaching new dimensions, so far unprecedented on the market. "The pilot plant has succeeded in bringing about a change of perspective in plastics recycling," says a confident Christian Müller. "Way back when, regranulates were produced which could be used to make a simple product. Today, we take a long hard look at our customers' products and processes and then supply them with the tailor-made, fit-for-purpose SYSTALEN granulate they need. And for this our pilot plant is an indispensable prerequisite." ●

Photos: DSD GmbH (l.); DSD GmbH/Matthias Heynen (5)


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1 At the new pilot plant in Cologne, innovative SYSTALEN products are examined against the individual requirements posed by the customer involved. Ultra-accurate test methods to the latest state of the art are an indispensable prerequisite for doing this.

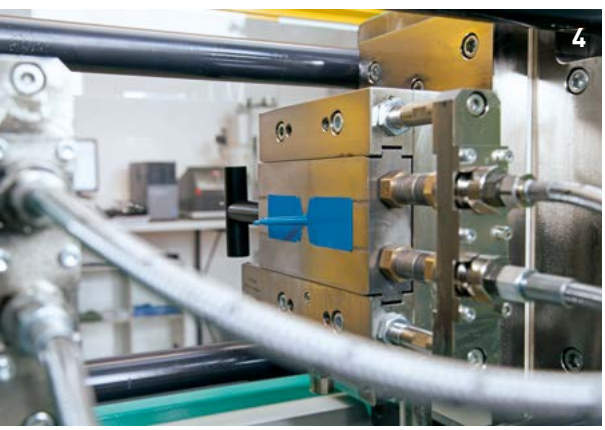
2 In the extruder, new plastics can be created by additive admixture, homogenization, and filtration.

3 Dr. Ines Schwarz gets the newly formed plastic into shape.

4 At the injection molding machine, test specimens for the new SYSTALEN products are made.

5 Christian Müller tests the specimens for their properties such as color intensity, for example.


3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TOMORRO
RAW MATERIAL

W'S

Our everyday lives would be inconceivable without plastics. Products in both households and the industrial sector are nowadays unimaginable without them. From packaging and children´s vehicle to high-tech machinery – for almost every application category, there are top-quality products. Plastics are made from crude oil – this is an expensive and scarce raw material. Recyclates are thus gaining steadily in perceived importance. punkt has taken a long hard look at the closed-cycle economy.

Recycling is actually an old idea: even back in the Iron Age, humans were collecting waste made of the coveted metal to melt it down for new goods. Nowadays, we call this idea "urban mining." Everything is a raw material, and in the near future the aim is to eliminate refuse – at least, that's what the European Union wants. This is because raw materials like metals and rare earths, but also oil and gas, are becoming ever-scarcer worldwide, and concomitantly more expensive. So alternative sources of raw materials are gaining steadily in importance.

Under the SYSTALEN brand, Duales System Holding, the group with the Green Dot, is offering plastics made from post-consumer recyclates, meaning plastic packages and products that consumers have discarded as waste. "SYSTALEN epitomizes top-quality raw materials for injection-molding and extrusion," emphasizes Michael Wiener, Managing Partner and General Manager of Duales System Holding and CEO of Deutsche Gesellschaft für Kreislaufwirtschaft und Rohstoffe mbH (DKR). "We offer dependable products of optimum quality, responsively matched to customers' wishes, and with crucial pricing advantages compared to their primary counterparts."

Systec Plastics in Hörstel and Eisfeld, and Systec Mixed Plastics GmbH in Genthin, both of them owned by Duales System Holding, produce SYSTALEN, and have been certified under EU-Cert. The certificate confirms the origin and composition of the granulates, regrinds, and agglomerates concerned, and renders the entire delivery chain involved in manufacturing the finished products from recyclates transparent and traceable. This means manufacturers of new end-products made from SYSTALEN can apply for these products to carry the Blue Angel, with yoghurt tubs, shampoo bottles, and plastic bags being turned into products that are not only new, but eco-friendly into the bargain.

The closed-cycle economy begins at home

The key to SYSTALEN lies in its quality – not just in the machine hall, but already in the consumer's home. To put it more precisely, when collecting the recyclables. With the the collection of lightweight packaging via Yellow Sack and the Yellow Bin, Der Grüne Punkt has set new standards, ones that are indispensable in making their use as a raw material possible. Year by year, in this way, the dual system collects 2.5 million tons of lightweight

packaging made of plastics, metals, and composites. Since the mixture exhibits an almost constant composition almost everywhere in Germany, it can be processed to a high level of quality and in largely automated mode in industrial facilities.

In Germany, there are state-of-the-art sorting plants like those of the Tönsmeier Group, in which the various plastics, metals, and other materials are separated from each other into largely homogenous fractions. "Lots of people may not be aware how long their yoghurt tub's journey is going to be when it's dropped in the Yellow Bin," says Peter Berlekamp, Technical Director of the Tönsmeier Group.

Sorting is crucial

In the lightweight-package sorting lines at Tönsmeier, the used packages are sorted in almost fully automated mode. Large-size screen drums first of all separate the waste by its size – the large packages would otherwise cover up the smaller ones on the conveyor belt. After this, an air classifier, which with the aid of a powerful blower creates an area of underpressure above the belt, extracts lightweight films from the flow. "The lightweight recyclables, which are often made from polyethylene plastic, can be made into good bin liners, for example," explains Berlekamp.

From delivery of the recyclables in the sorting plant ...

The magnetic separator selectively picks out ferrous metals like cans or crowns from the mass. "Around 90 percent of metals can be recycled like this. And without any impairment of quality," to quote Berlekamp. The eddy-current separator uses a rotating magnetic field to induce an electric current in packages containing aluminum, thus rendering sortable a metal that is not actually magnetic. This means that coffee capsules, tubes, and trays made of aluminum can also be obtained for recycling.

There's no escaping infrared

Fifteen near-infrared separators, the heart of the Tönsmeier line, detect beverage cartons and different kinds of plastic. For this purpose, they irradiate the articles with halogen light – a computer uses the reflected light of a particular wavelength in the near-infrared range to analyze whether polypropylene (PP), polyethylene terephthalate (PET), or another type of plastic is involved. The detected material is separated from the rest using compressed-air jets.

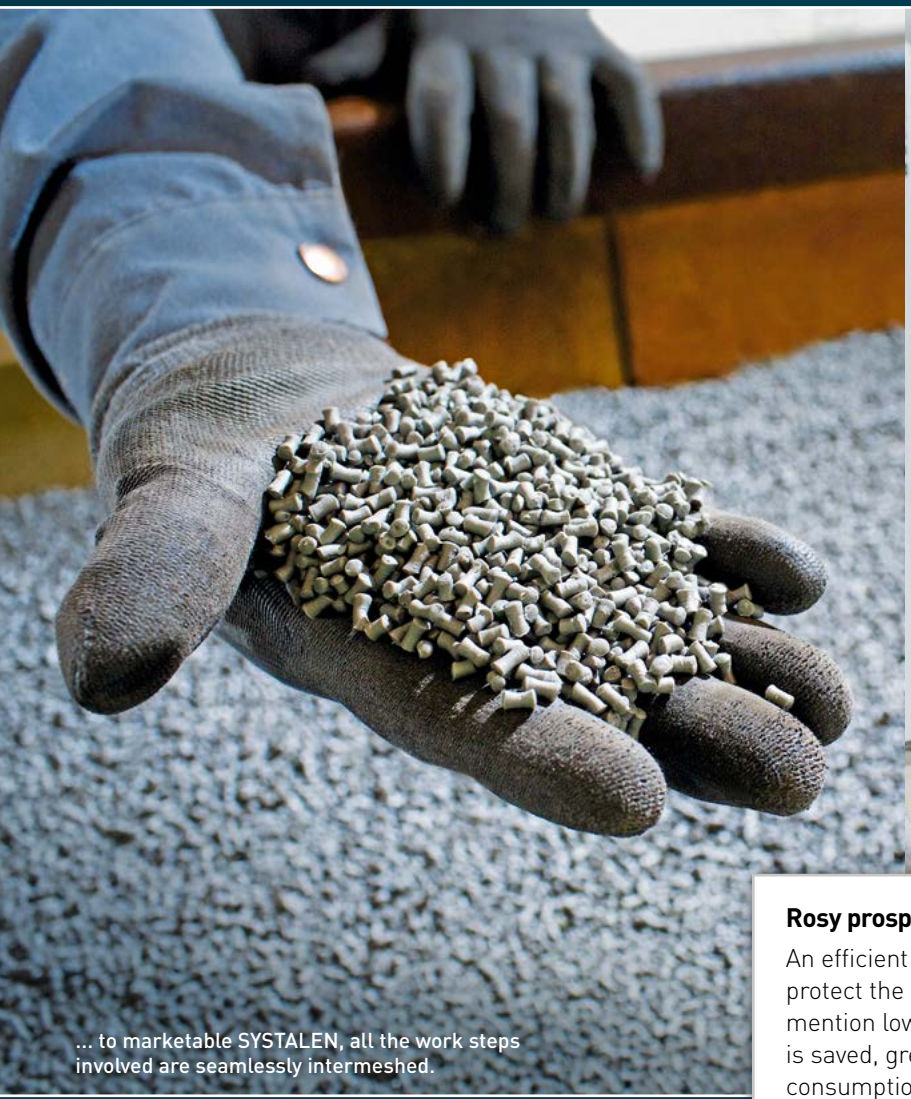
Following a quality check, which even today is carried out by human beings, the sorted packages are temporarily stored in what are called bunkers, and finally compressed into bales. In the end, a sorting residue remains comprising about 30 percent of the total waste volume. "This will then include highly disparate waste, like old shoes or nappies, which quite definitely do not belong in the Yellow Bin," says Berlekamp.

Whereas homogenous plastics are always mechanically recovered, mixed plastics can mostly be used only for energy recovery or feedstock recycling. For energy recovery, special lines process mixed plastics and sorting residues to create substitute fuels, thus downsizing the consumption of fossil energy sources like oil and coal, e.g., in cement, lime, and power plants. Feedstock recycling utilizes the chemical constituents of the plastic so as to replace heavy oil in blast furnaces, for instance. There, the oxygen is removed from the raw iron with the aid of this reducing agent.

Rapid advances in recycling technology

Around 40 percent of the plastics collected in the Yellow Sack and in the Yellow Bin, however, are made into new plastics, such as SYSTALEN granulates. Systec Plastics GmbH in the North Rhine-Westphalian town of Hörstel ranks among the most sophisticated facilities around for recycling plastics. Here, the bales delivered are first of all checked for their quality. "Our inspection teams take random samples, so as to ascertain whether the sorted material meets our stipulations," explains Dr. Michael Heyde, General Manager of Systec Plastics. Specifications that have been contractually agreed lay down precisely what composition a bale of sorted plastic may have. The inspection teams of Der Grüne Punkt are in action not only here, but nationwide, in order to guarantee the quality of the sorted material.

The bales that have been approved by quality control are first of all coarsely shredded and then have their impurities extracted in various stages. Here, too, a magnet is used to remove ferrous metals. In a first heavy-substance trap, a water bath, the PP, the plastic, which is what Systec processes, floats to the top, while impurities and residual contents are washed off, and sink to the bottom. What are called friction washers rub the labels off the plastic flakes. After another bath in a sink-or-swim basin, the flakes are dried and finally melted in the extruder, degased and



... to marketable SYSTALEN, all the work steps involved are seamlessly intermeshed.

Rosy prospects for secondary raw materials

An efficient closed-cycle economy helps to protect the climate, air, water, and soil. Not to mention lower costs for resources: primary energy is saved, greenhouse effects are reduced, and consumption of fossil resources like crude oil is downsized. In addition, water and soil benefit from less overfertilization and acidification. Secondary raw materials obtained through recycling today account for 14 percent of the raw materials used in the industrial sector. New legislation could ensure even more recycling (see "Opinion" on P. 25 in this issue).

micro-filtered. The end result is a granulate that's an ultra-pure starting material for new plastic products.

The technology and processes involved have made great strides in recent years, and are being rapidly progressed still further. "We separate the polypropylene we receive into more and more different fractions," explains Michael Heyde. "For example, we extract PP film pieces from the hard PP flakes, and recycle both of them separately, which provides major advantages." Some of the flakes are color-sorted by special machines. "We thus obtain a fraction that consists predominantly of transparent or white flakes," to quote Heyde. "This makes possible an entirely new spectrum of colors in the recycled plastic."

In terms of extrusion technology, too, the Grüne Punkt Group is embracing fresh approaches: "With the aid of this technology, and by admixing additives, we can selectively influence the properties of the granulate being produced, and tailor it responsively to our customers' needs." New recipes and processes are developed by Der Grüne Punkt in a pilot plant built specifically for this purpose (see P. 8 in this issue).

The spectrum of new products that are manufactured from the granulates is well-nigh unlimited. Packages, too, a particularly sensitive product, are made from SYSTALEN (see "From the field" on P. 30 ff in this issue). What began with collecting recyclables in your own four walls thus begins anew – top-quality end products made from eco-friendly granulate re-enter the closed-cycle economy. ●

www.systalen.de

01

After the infeed dosing units have mechanically opened the Yellow Sacks and distributed their contents evenly onto the conveyor belts, the recyclables clock up a distance of 1.5 kilometers in the machine hall on 135 conveyor belts.

"We get the best out of it!"

Under this motto, the Tönsmeier Group offers a wide spectrum of environmental services all over Europe. The family firm collects an enormous range of different recyclables and waste, and organizes them into material flows. In the sorting and recycling lines, the different fractions are first processed and then prepared for material recycling. In mechanical processing lines, Tönsmeier produces substitute fuels of high calorific value from non-recyclable waste, which are marketed by energy-intensive industries or utilized for energy recovery in the Bernburg energy plant. The group's customers are municipal clients, dual system operators, partners from the industrial and commercial sectors, and private consumers. Tönsmeier employs more than 3,500 people at 70 facilities in Germany, Poland, the Netherlands, and Austria.

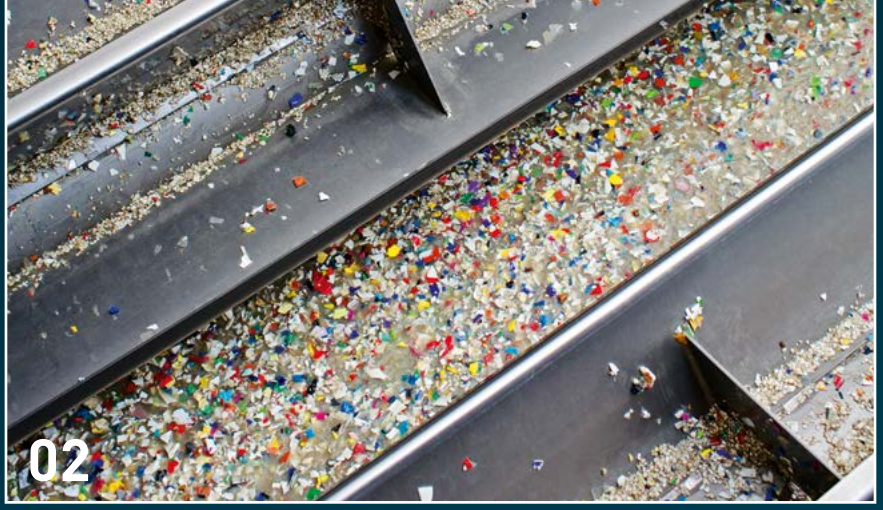
More information on this under www.toensmeier.de

Photos: Tönsmeier Dienstleistung GmbH & Co. KG

Intelligent technology: near-infrared sorters detect the type of plastic using its reflected light – compressed air ensures maximally accurate separation.

The screen drum separates the packages by size.

After the recyclables have been separated into many different fractions, the bale press shapes them into blocks of identical size.



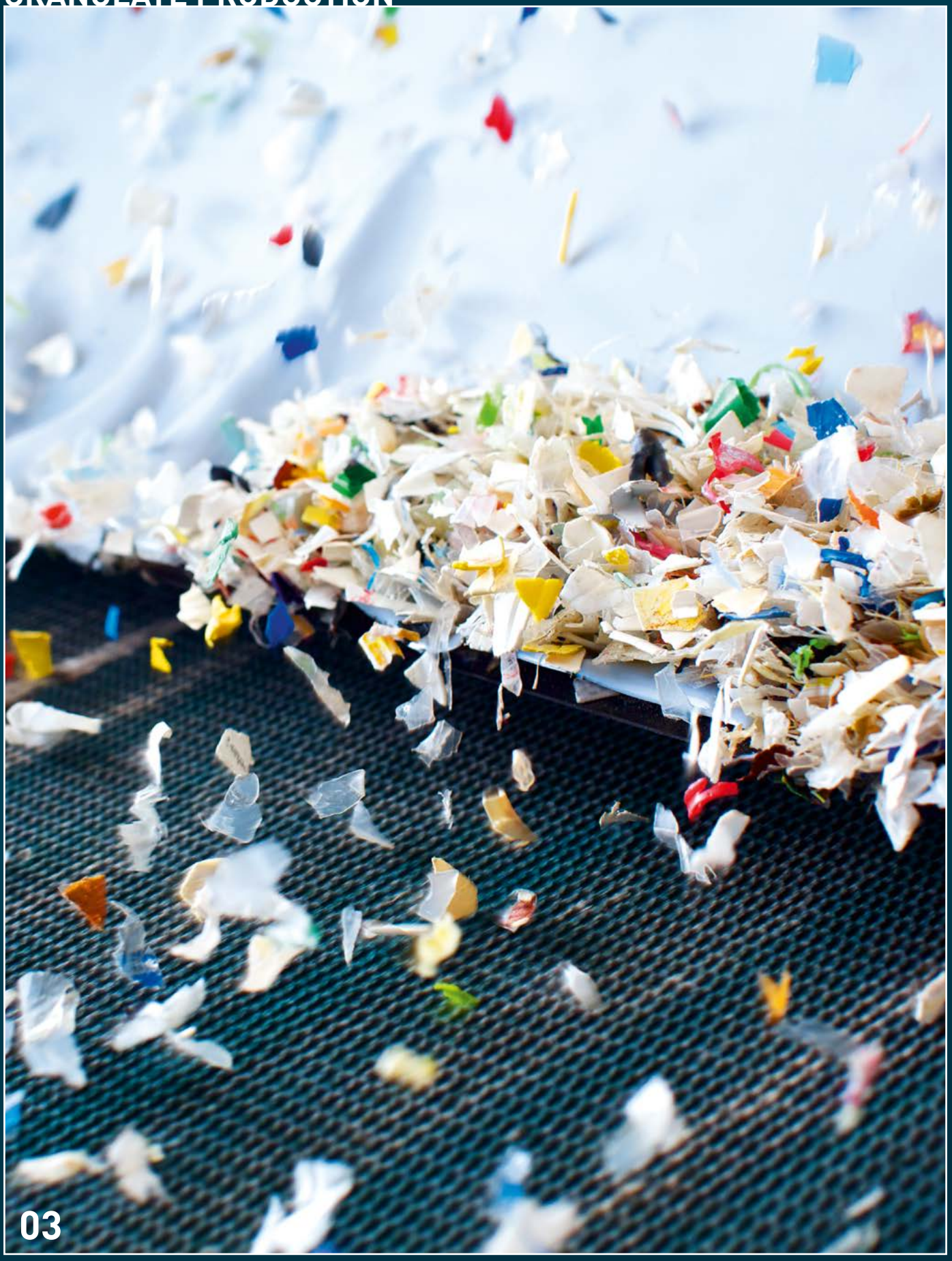
Polypropylene floats in water. In the sink-or-swim basin, this effect is utilized in order to remove from the plastic any unwanted heavy particles adhering to it.

After coarse shredding, a magnet removes ferrous metals, which are still present in the plastic as impurities.

In the extruder, the flakes are melted, degased, homogenized, and filtered. Finally the granulate is created – new plastic for new products.

Once it's been packaged in sacks, SYSTALEN is ready for dispatch. The plastics industry uses the granulate for new products.

GRANULATE PRODUCTION



Lots of differently colored flakes, if they are all melted together, will produce a gray granulate. This is why some of the flakes are sorted by color. The fast-running belt (bottom) spaces out the flakes, so that a color line scan camera can detect each and every one of them.

Photos: DSD GmbH

HEAVENLY HOSTS

COMBAT EXPLOITATION AND JUTE SACKS

Martin Höfeler is the co-founder of the "armedangels" green fashion label. The former business administration student wants to clothe people more appealingly – with a fashionable collection comprising clothes from a fair production operation.

Artificial light and creative silence: this was the ambience in Cologne's Seminar Library when the MBA students Martin Höfeler and Anton Jurina were revising for their next exams. Almost incidentally, when taking a break from their studies, they hit upon a rather attractive idea: how about setting up the world's fairest fashion label? Today, a good seven years later, the dream has long since become corporate reality – and armedangels is a growing company with a stylish product portfolio.

Sack-shaped dresses made of jute, with a string around the waist – Martin Höfeler reduces this hoary cliché of green fashion ad absurdum. "We believe that sustainability doesn't have to be visible from outside," says the youthful entrepreneur. "We want our customers to enjoy wearing our clothes. It's the inner values that are sustainable – knowing that the materials used are eco-friendly and that the people who have made the product are being treated fairly."

But in the fashion business, the first step is always the hardest. Höfeler and Jurina launched the fashion label in their student flat-sharing community, and a 15-square-meter rented office. First they had to familiarize themselves thoroughly with the requirements of the textile industry. "Finished articles of clothing have gone through numerous production processes. Each step has its own idiosyncrasies: whereas the primary considerations in dyeing operations are the consumption levels for chemicals, water, and energy, in putting together the actual clothes the major focus is on the human factor and occupational safety. It's complicated to put all the different steps properly in place and monitor them effectively," explains Martin Höfeler.

armedangels has triumphantly demonstrated that this is not impossible. Meanwhile the company possesses nine production facilities, two in Portugal, one in Morocco, four in Turkey, and two in India. The entire production chain has been certified to stringent standards, and is inspected at regular intervals. The managing directors visit the producers themselves, and keep a keen eye on workplace conditions, safety standards, and environmental compliance. But that's not all: "At present, we're engaged in developing a kind of Wikipedia for sustainable production in the textile industry, so that we can effectively pass on the expertise accumulated to our expanding team," says Martin Höfeler. "Since sustainability in the production process is the core tenet of our corporate philosophy, we are continually progressing our development here, and still have plenty of ideas for improvements, which we shall be bringing on line in the years ahead."

armedangels aims to sell 500,000 textiles in 2014, and is targeting a turnover of twelve million euros. Results so far have been rather impressive: from 2012 to 2013, the company's sales rose from three and a half to seven million euros. The label is meanwhile employing 30 permanent staff, and produces a broadly diversified assortment ranging from T-shirts, jeans, and skirts to dresses and accessories. The next milestone is a net annual profit of ten percent, reveals the former student. "This will enable us to prove that a sustainably operating enterprise can be commercially successful as well." ●

www.armedangels.de

Photos: armedangels (5); Hocus Focus Studio (Getty Images)

AS FROM 2015: DSD TENDER FOR BETTER QUOTATIONS

DSD Resource GmbH helps companies to cut their disposal costs. For this purpose, the Cologne-based consultants have now developed an innovative tender platform.

The consultancy wellspring originally joined the DSD Group as HPI Resource, and is nowadays a wholly owned subsidiary of Duales System Holding. Its core business consists of providing advice for companies on how to optimize their costs incurred for the disposal of all kinds of waste. This means that it assumes a special role within the matrix of the holding, whose principal remits are system business, and the production and trade with raw materials.

"Needless to say that all the disposal channels involved must be legally watertight and the service provided absolutely top-notch," says Thomas Müller, the Managing Director of DSD Resource. "Our team consists of specialist engineers and geographers, who – taking our clients' targets as their basis – formulate customized solutions, because, you see, every facility and every company has its very own idiosyncrasies to be considered."

After the go-ahead has been given for the project, the experts from DSD Resource start by recording on the spot the as-is disposal situation. After that, they look into alternative disposal channels and put the disposal services required out to tender. Here, DSD Resource provides its consultancy independently of the Duales System Holding's other divisions. Whether sister companies are allowed to take part in a particular tender is at the customer's discretion. There are no connections to other disposal firms. In this way, clients obtain a neutral overview of the market and are presented with a variety of concepts to choose from for optimizing their current disposal situation. If the customer decides to change over his/her disposal operations, then DSD Resource will accompany him/her throughout the entire changeover process this entails. In the support phase, the consultants from DSD Resource will handle time-consuming jobs here, so as to relieve the responsible employees' workload.

"Liaising closely with the customer is crucial to the success of the project," emphasizes Thomas Müller, "because as an external consultant we depend on the know-how and expertise of the employees responsible on the spot." The remuneration of DSD Resource is linked to the savings achieved; in other words: no savings – no fee.

As from 2015, DSD Resource will be expanding the range of its services, by setting up the DSD TENDER portal, so far unique in the sector, which enables an invitation to a centralized tender for disposal services to be issued, covering several facilities simultaneously, while at the same time providing the participants with important details on each facility. This enhances both the quality of the incoming quotations and their comparability, while also reducing the work involved. Further consultancy capabilities are under preparation. ●

You will find more information on this under www.dsd-resource.de

BETTER RECYCLING FOR REDUCED ENVIRONMENTAL IMPACT

It was in 1867 that Henri Nestlé premiered his children's flour, a simple-to-prepare food based on milk and cereals, as a nutritious option for infants who could not be breastfed. It was sold in an unpretentious tin can. The group's present-day product packages are significantly more complex, but they're also required to be just as amenable to recycling as the can. An ambitious goal.

The redesigned packaging for Maggi Topfinito (right) makes for easier automatic sorting.

The food producer Nestlé intends to create eco-friendlier packaging for its wares. One of the most important aspects in this context is the recoverability of the materials used. In a project carried out jointly with Der Grüne Punkt – Duales System Deutschland GmbH (DSD), the group is developing solutions aimed at facilitating recovery of the recyclables involved. This is an exemplary alliance worthy of emulation throughout the FMCG sector.

The company's environmental targets are highly ambitious. By the year 2020, it aims to use only packaging that can be mechanically recycled, or to put it another way: that serves to make new products. Moreover, the aim is to render the recycling process itself simpler. "Used packaging is a valuable source of raw materials. Even during the development phase, care should therefore be taken to ensure that a package is easy to sort automatically and amenable to subsequent recovery," to quote Dr. Jochen Hertlein, at Nestlé responsible for packaging technology, talking to the food periodical Lebensmittel Zeitung.

Joint workshops on the spot

So as to simplify recycling, Nestlé has decided to tap into DSD's professional expertise. As part of a comprehensive cooperative arrangement, the group's employees acquire the requisite recovery-related specialist knowledge. In several hands-on workshops, they familiarize themselves with the various recycling processes directly on the spot: the seminars are held on premises where the packaging mix collected in the Yellow Bins and Yellow Sacks is sorted. Here, the people responsible at Nestlé for packaging development can observe, using trial quantities, how "their" packaging materials actually behave in the sorting process.

"The package's design is crucial in deciding whether it can be efficiently recovered," says Dr. Michael Heyde, the Technical Director at DSD. "The recycling machines' efficiency is enhanced, for example, when labels are easily detached from the package proper. What's even better, though, is when both label and package are made of the same plastic material right from the start."

Analysis to precede every product launch

A typical example for recycling-focused modification is the packaging used for the "Maggi Topfinito" microwave meals. Since an aluminum ring had been integrated in these, the plastic containers concerned were sorted into the aluminum fraction. This aluminum ring was removed from the package in a first step of optimization. So as to enable recycling-friendlier packaging variants to be designed in future for the other products as well, DSD and Nestlé have drawn up a comprehensive list of criteria, which rates the material properties as being good or bad in terms of the recycling process, and serves the people responsible for packaging design as a basis for creating sustainable variants.

In the FMCG sector, in particular, companies should analyze their packaging prior to every product launch (or relaunch) and improve it whenever and wherever necessary. DSD can and will support them in this with comprehensively responsive advice. Because in the final analysis, it's recycling-friendly materials management that upgrades the added value created throughout a product-package's entire lifecycle, thus making an important contribution towards both raw-material efficiency and environmental protection. ●

Photos: Nestlé

MORE SUSTAINABILITY THANKS TO PET UPCYCLING

The Werner & Mertz company attaches top priority to environmental protection, not least in regard to its products' packaging materials, such as the bottles for its cleaning agents (top). It is not least the frog, perhaps Werner & Mertz's best-known symbol, keeping watch over the roofs of the firm's headquarters in Mainz, Germany, that epitomizes this company's commitment to minimizing the impact on our natural environment.

Werner & Mertz is right on track to render the packaging for its sustainable detergents and cleaning agents even eco-friendlier than before. Since 2010, recyclates – so far obtained from returnable bottles – have accounted for 80 percent of the PET packaging for the Frosch (Frog) brand. State-of-the-art laser technology has meanwhile enabled recyclables from close-to-home collections to be used as well. This means that up to 20 percent of the recyclates for producing the packaging involved now come from the Yellow Sack.

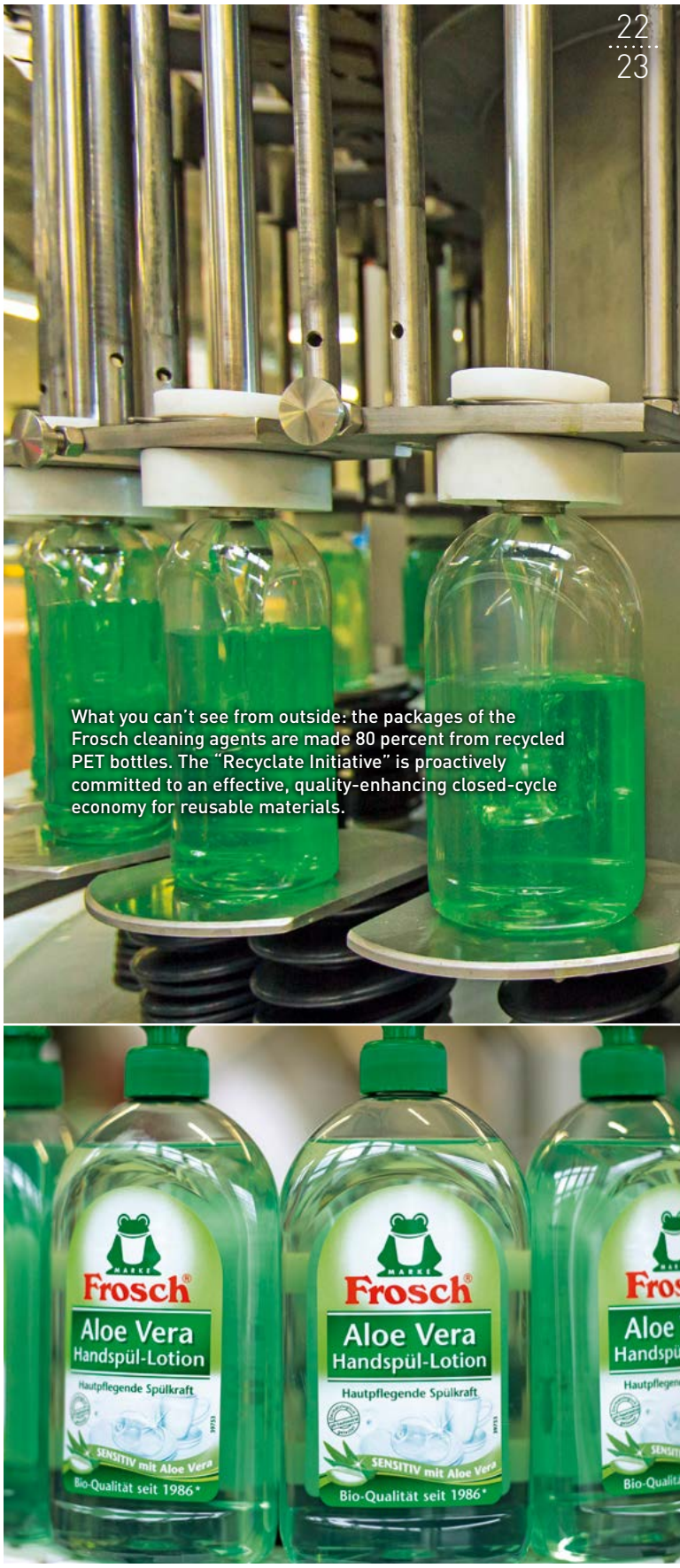
Turning used plastics like packaging into PET offers twin benefits for our natural environment, as compared to conventional production of PET from crude oil: firstly, the manufacturing process takes as its base material not a fossil fuel but a recyclate, and secondly, it consumes up to two-thirds less energy. In 2012, Werner & Mertz, in conjunction with Der Grüne Punkt – Duales System Deutschland GmbH (DSD), the German Nature and Biodiversity Conservation Union (NABU), the ALPLA and UNISENSOR companies, and the REWE retailing conglomerate, set up the "Recyclate Initiative." Most recently, Werner & Mertz, together with the REWE Group, have even been presented with the ECR Award in the Supply Side Corporate Cooperation Category (see P. 24 of the issue) for this initiative. The aim is to open up an effective, quality-preserving closed-cycle system. "Together with our partners, we have created a process that enables us, for the first time, to obtain plastics for our PET production from the collections in the Yellow Sack," says Reinhard Schneider, Managing Director at Werner & Mertz. "In our opinion, this form of upcycling breathes new life into eco-efficacy."

High-tech in the closed-cycle economy

Laser technology to the latest state of the art is instrumental in assuring extra-fine sorting for the recyclables from close-to-home collections, so that it is possible to obtain high-quality PET granulate, of the grade required for the manufacture of homogenous PET bottles with a uniform color. In this context, DSD provides the material concerned, and processes it as well. Important: the plastics involved must be sorted and given a thorough cleaning, so as to remove any product residues, labels, and types of plastic other than PET. The results obtained in the alliance between Werner & Mertz and Der Grüne Punkt are not to be sneezed at: in the meantime, the new process has enabled 100,000 bottles for Frosch washing-up liquid to be produced.

Flagship project with a lighthouse effect

The Mainz-based company's targets in terms of recycling are no less ambitious for the time ahead: "In future, we aim to exploit the potential offered by one and a half million tons of plastic waste collected in the Yellow Sack to an even higher degree," says Reinhard Schneider. "Moreover, we are working to ensure that increasing use is made of the new technologies, and that other companies from our sector see their way clear to opting for our high-quality recycling process." Stefan Schreiter, CEO of Duales System Holding, is fulsome in his praise for the alliance between Werner & Mertz and Der Grüne Punkt, calling it a role model for others to emulate. "The Recyclate Initiative is a flagship project with a significant lighthouse effect, strikingly demonstrating just how much can be done with recycled plastics from the dual system." ●



What you can't see from outside: the packages of the Frosch cleaning agents are made 80 percent from recycled PET bottles. The "Recyclate Initiative" is proactively committed to an effective, quality-enhancing closed-cycle economy for reusable materials.

Photos: picture-alliance/dpa (Fredrik von Erichsen) (2); Herbert Piel/PIELmedia (2)

ECR AWARD: VALUE CREATION FOCUSED ON THE CUSTOMER

For what is already the twelfth time, GS1 Germany has chosen the recipients of its ECR Award. ECR stands for "Efficient Consumer Response" – the accolade honors achievements for an outstanding, mutually supportive contribution to value creation chains meaningfully focused on customers and consumers.

For its successful Recyclate Initiative, Werner & Mertz, a producer of detergents and cleaning agents, together with the REWE Group, Der Grüne Punkt, ALPLA, UNISENSOR, and the German Nature and Biodiversity Conservation Union (NABU), won the award in the Supply Side Corporate Cooperation Category.

A ceremonial gala evening on 9 September in Nuremberg's Meistersinger Hall provided a fitting backdrop for bestowing this coveted award. 400 invited guests from the top management echelons of front-ranking industrial and commercial enterprises attended the event. In the jury, too, there were some celebrity faces to be seen, including Gerhard Berssenbrügge, Managing Board Chairman of Nestlé Germany, METRO's CIO Silvester Macho, and Peter Esser, Managing Director of the food periodical Lebensmittel Zeitung.

Added value for consumers and the natural environment

Der Grüne Punkt supports the ECR Award as a partner and sponsor. "The accolade offers valuable impetus for a sustainable closed-cycle economy," says Stefan Schreiter, Managing Partner and CEO of Duales System Holding. "Because the award pays due tribute to companies and initiatives that create added value for the consumer and the natural environment – an ethical commitment with which Der Grüne Punkt fully identifies."

The winners in the Supply Side Corporate Cooperation Category at the prize-giving ceremony for the Recyclate Initiative.

» NEW LEGISLATION COULD PROVIDE A SIGNIFICANT BOOST TO THE CLOSED-CYCLE ECONOMY «

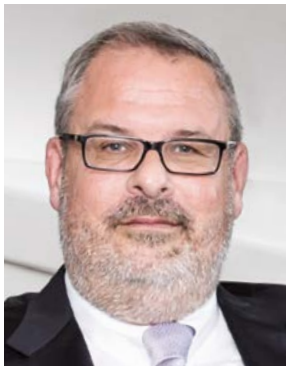
For almost 25 years now, Der Grüne Punkt has been progressing its success story. Stefan Schreiter, the CEO of Duales System Holding, does not beat about the bush when describing where gaps continue to exist in the closed-cycle system and how the politicians could close them.

A good 25 years ago, we assumed a leading role in Germany's closed-cycle economy with the introduction of the Green Dot (Der Grüne Punkt). Up till then, glass and paper were collected in this country on a rather sporadic basis; in isolated cases, plastic waste was collected as well. The vast majority of this municipal waste was being dumped on landfills – with concomitantly adverse effects on our natural environment. What's more, this meant that valuable raw materials were being lost to the economy.

This has meanwhile changed: in Germany, consumers can collect their used packages separately – free of charge since the costs for the whole system are borne by the manufacturers concerned. By collecting and recovering used packaging, the dual system achieves substantial savings in CO_2 emissions; secondary raw materials obtained by recycling have in the meantime become indispensable for the industrial sector. Der Grüne Punkt is regarded as a trademark and driving force behind the closed-cycle economy. A landfill ban for untreated waste was even enacted in 2005, something which gave Germany global pioneer status yet again.

Our customers who have to foot the bill for collection and recovery of their packages today – after introduction of competition in the dual system – can choose among a variety of service providers. Together with the enormous technical advances made in that field, this has resulted in cost reductions of more than 50 percent in the past ten years.

There are currently ten dual systems in Germany, which use a shared infrastructure consisting of Yellow Bins and Yellow Sacks, plus bottle banks, so as to collect used sales packages from private consumers. The system, however, has most recently suffered from unscrupulous exploitation of gaps in the regulations involved: some system operators were reporting fewer and fewer quantities to the clearing office that calculates how the costs for the requisite infrastructure are to be distributed. The tried-and-tested system was threatening to collapse in view of the concomitant lack of funding. This was why the federal and state governments put a stop to this kind of misuse by amending the German Packaging Ordinance.



Stefan Schreiter is the Managing Partner and CEO of DSD – Duales System Holding GmbH & Co. KG.

The amendment was intended to close those gaps that had previously enabled a company to make use of the existing infrastructure without paying for such use. Only time will be able to show whether the legislators have succeeded in this. The system's capabilities, however, go way beyond that: the federal government wants to introduce a standardized collection scheme for recyclables, which subsumes not only packaging but other scrap made of plastic or metal as well, thus expanding recycling operations in Germany still further. At a local level, e.g., in Leipzig, Berlin, Hamburg, and Cologne, municipalities and dual systems have already jointly translated this project into hands-on reality.

The Yellow Bin Plus, for example, serves to collect not only used packaging but also other waste made of plastic or metal, such as toys, tools, household goods. These latter have so far been lost for recycling and to the closed-cycle economy as well. If recyclables legislation were to be enacted, this could put in place binding regulations applying nationwide in Germany, thus providing a significant boost to the country's closed-cycle economy. ●

Photos: GS1 Germany (2); DSD GmbH (Artur Lik)

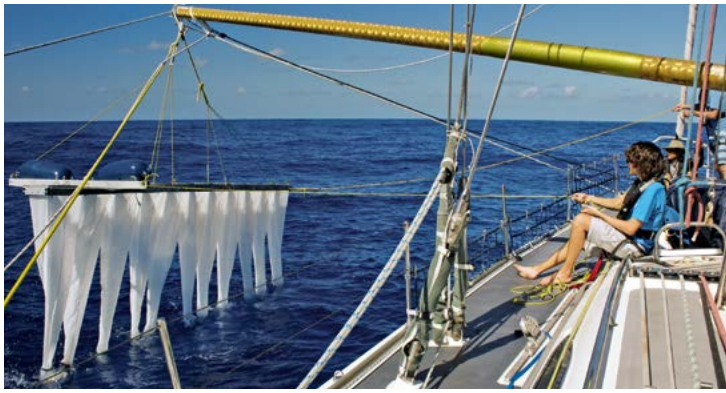
THE VISION OF A PLASTI

Ever since Boyan Slat discovered more plastic waste than fish when he was diving in Greece, the 19-year-old Dutchman has had a vision: to free the planet's oceans from plastic refuse. The aerospace technology student from Delft has developed what is called an "Ocean Cleanup Array," a floating barrier designed to capture the plastic waste drifting around in the seas.

C-FREE OCEAN

Photos: The Ocean Cleanup; Christopher Swann (Getty Images); jchauser (Getty Images); The Ocean Cleanup

Boyan Slat and his team in action: they used prototypes to conduct a feasibility study so as to find out whether Boyan's idea is in fact practicable – yes, it is.

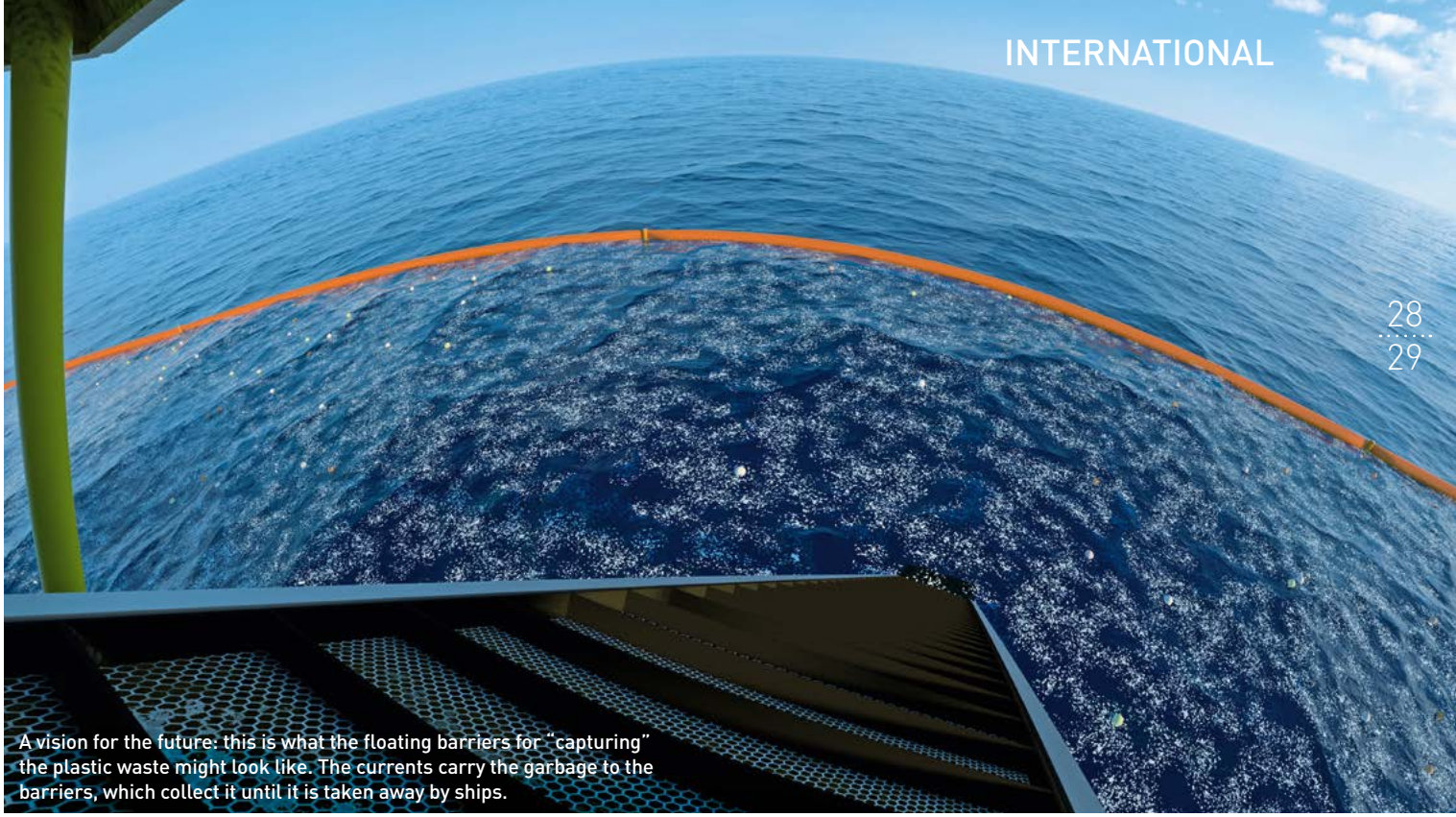


Boyan Slat has turned his entire daily routine upside down: he has interrupted his academic studies, and put his social life on the backburner as well. At the moment, his entire concentration is focused on the opportunity to bring about a change. "I cannot think of anything more worth doing than translating your own ideas from theory into practice."

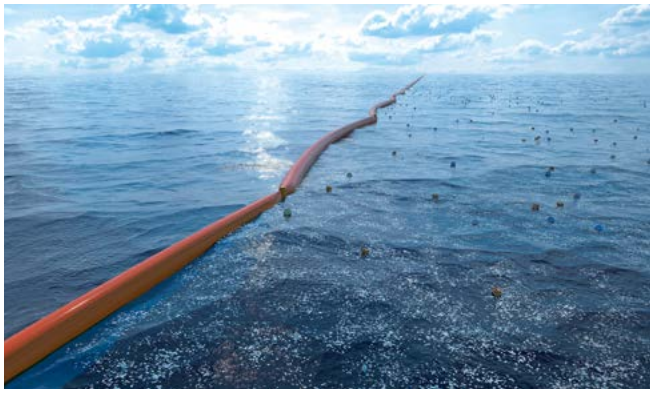
More than 300 million tons of plastic are produced every year. Not everywhere on this planet is there such a sophisticated waste management system in place as in these parts, and it's not least "thanks" to marine traffic that loads of plastic ends up in the sea. According to estimates, no less than 142 million tons of plastic are drifting in the seas of our world. This is equivalent to a volume of three million cubic meters. As stated in the United Nations Environment Program (UNEP), the UN expects this figure to increase by almost seven million tons of plastic waste a year. But merely preventing further plastic waste from being dumped in the seas is in Boyan's opinion not sufficient on its own, since plastic cannot be degraded.

So meanwhile, waste concentrated in large currents called gyres is drifting through the oceans, like the Great Pacific Garbage Patch, covering an area the size of Central Europe. As refuse from the tourism sector, and from the fishing and marine traffic industries, causes damage quantified at 9.6 billion euros, its effects on our natural environment are tremendous. More than a million seabirds and hundreds of thousands of marine mammals are killed every year as a direct result of that pollution, because frequently the animals mistake plastic garbage for food and die a painful death. But let's not forget that for us humans, too, the garbage is dangerous: through the animals of the sea the pollutants enter the human-food chain and end up on our dinner plates.

The idea that Boyan had for ridding the oceans of this waste is to use floating barriers attached to permanently installed, solar-driven platforms, which serve to collect the plastic. In this process, he says, the sea's circular currents would be utilized, which pick up the plastic garbage and flush it into the platforms' barriers. At this point, the barriers function as "tentacles", so to speak, that keep the refuse together. After that, ships can transport the waste to the mainland where it will be recycled. "It took me one year to move my idea away from conventional, purely ship-based methods and towards a passive system," explains the environmentalist. His critics doubt, though, that this project can actually be implemented. The plastic is too deep down in the sea, they say, for it to be "skimmed off", and the barriers envisaged are not stable enough



A vision for the future: this is what the floating barriers for "capturing" the plastic waste might look like. The currents carry the garbage to the barriers, which collect it until it is taken away by ships.



for coping with wind and weather. And Boyan's project gives rise to the question of whether the entire outlay is really worthwhile – after all, the ships would gobble up vast amounts of fuel for transporting the garbage. Wouldn't that mean that in the final analysis the damage to our natural environment would even be greater than the benefits this project creates?

First feasibility study yields positive results

The results obtained in the first feasibility study in the shape of a pilot project, which was financed by donations, seem rather auspicious: not only is plastic garbage being "captured" but the floating barriers at the platforms above all have the big advantage of not impeding the sea creatures, which can dive under the barriers, thus preventing by-catch as is the case with fishing nets, for example. The study reveals that the majority of the plastic garbage is to be found at a depth of up to three meters below the surface of the sea and can thus be picked up by the barriers. Moreover, the study says that Boyan's idea is more affordable than other suggestions put forward for cleaning up the seas. "It's definitely a pretty straightforward, simple idea, and I think this is one of the reasons why nobody hit upon it before. More often than not, we believe that a complicated problem calls for a complicated solution," says Boyan.

Meanwhile, a team of 100 people is busily working on implementing the "Ocean Cleanup Array." The massive support he got back then came as a big surprise for the young Dutchman: "No way would I've thought I'd get so much help. It was quite overwhelming to receive 1,500 emails a day from people who wanted to help me." But of course, it's precisely these people who keep the project alive by contributing their time, knowledge, and money, so that the "Ocean Cleanup Array" can be progressed to full viability.

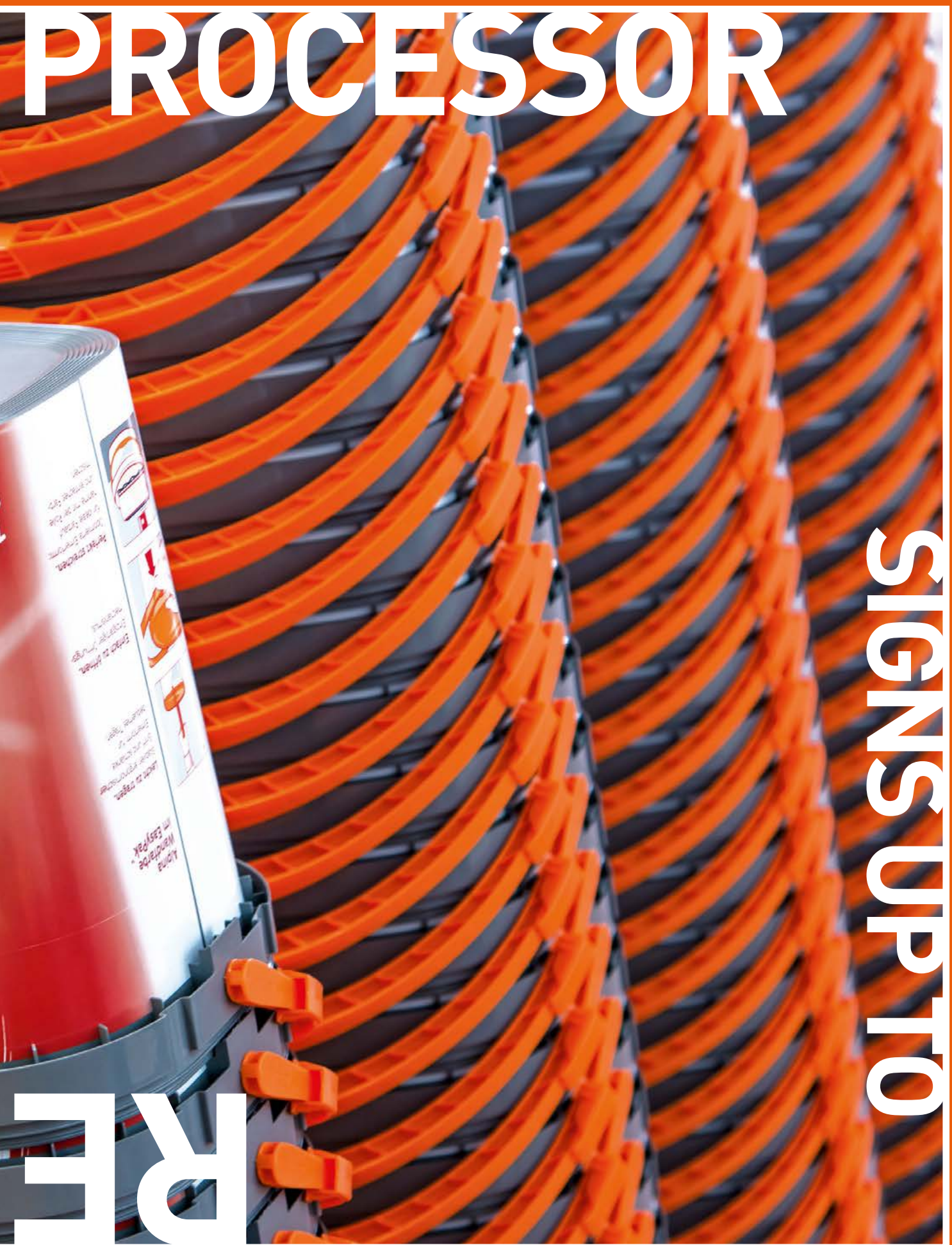
After the highly promising results obtained in the feasibility study, the plan is to let further large-scale pilot projects follow, with these, too, being financed by donations. So far, the vast majority of donations have been collected through crowd funding. Two million dollars were Boyan's target at the beginning of the project for translating the cleansing of the seas into engineered reality. More than 2.1 million dollars have already been donated: "Up to now, everything is going according to plan, and by 2020 it will be possible to start the biggest cleanup campaign in the history of mankind." ●

You can retrieve the results of the feasibility study under www.theoceancleanup.com

Photos: The Ocean Cleanup

A PLASTICS CYCLING

PROCESSOR

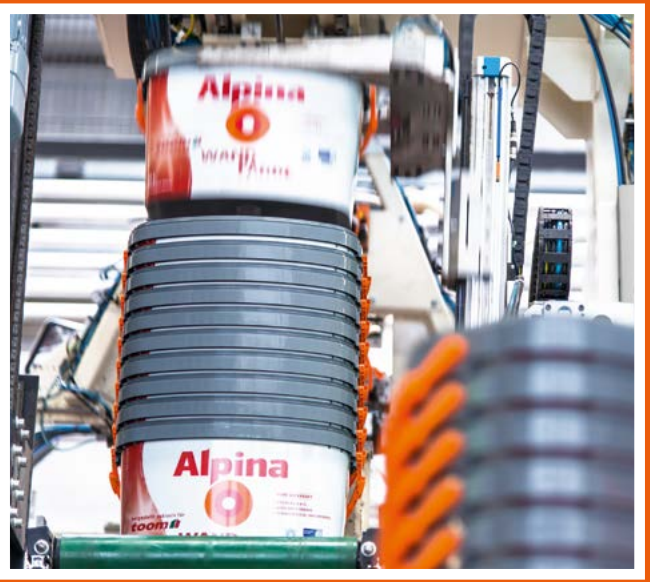


SIGNS UP TO

RE

From the used plastics processed into recyclate, packaging buckets for paints are manufactured.

Before the buckets are stacked, and finally filled with the paints at Alpina, they first have to pass the compression test.



As a material for packaging, plastics offer a multitude of advantages: they don't weigh much, thus saving energy during transportation compared to other materials. Since they are extremely moldable and stable, they can be used to manufacture almost every conceivable form of packaging. However, the predominant raw material for plastics is crude oil – a resource of only limited availability. As an alternative base material, recyclates are one of the obvious options – as can be impressively observed at the Jokey Plastik company in the Oberbergisches Land, Germany.

With 14 production facilities worldwide, and around 1,700 employees, Jokey Plastik is one of the biggest producers of rigid plastic packs. In Germany, the company is the market leader when it comes to packaging buckets for dispersion paints. Practically every household has used these packages at least once, and lots of them probably still have them standing around in the cellar. For the craft sector and the industrial segment, they are the standard choice. Because they are not only packages, they are also multifunctional processing vessels for the professionals.

To manufacture them, Jokey uses the injection molding process: here, the plastic is fed into an injection molding machine as a granulate, and melted inside it. The melt is injected into a mold under very high pressure, and sets inside it to form the end-product desired.

For the melted plastic, this means that it has to fill up the mold completely within a very short time, and then solidify in just a few seconds. "Thin-walled parts, in particular, pose stringent requirements for the quality of the plastic, since the finished parts otherwise can't be manufactured in the desired quality," says Michael Schmitz, Head of Marketing and Communication at Jokey. The specialist for plastic packages predominantly uses polypropylene, from which yoghurt tubs, fruit and salad trays, icecream, and confectionary packages are also produced for small and large consumers in the food and beverage industries, plus many other packages and customized solutions.

Packs have to be sturdy and capable: "A ten-liter bucket filled with paint weighs about 15 kilograms," explains Schmitz. "For transportation, the filled packs are stacked on pallets and dispatched to the customers. The transport and logistics involved entail very high mechanical and dynamic stresses on the packs." At low temperatures, the plastics must not become brittle, and at high ones not too soft. And all this while using significantly less material: "Nowadays the buckets are 15 to 20 percent lighter than previously and even more stable into the bargain."

Then there are the product-related and technical filling conditions that the packs have to meet. It's also important in this context that the packages cover the entire spectrum of packaging communication. In order to meet these disparate requirements, the company possesses a large number of recipes and its own mixing shop.

Jokey has been using plastic recyclates for many years now. It's long been standard practice to recycle the raw materials in the production process itself and not to discard them as waste. Regranulates that Jokey produces in-house come from its own production residues. "Thus from production waste new raw materials are being continually created," emphasizes Schmitz, "only the choice of colors is in subsequent reprocessing restricted," because these plastics are already colored, you see, or have been decorated using in-mold labeling, (IML), digital or offset printing. Mixed together, what you get here is a light gray as the

Photos: Jokey Plastik Wipperfürth GmbH [7]

Regular maintenance work – like here on a quadruple mold – guarantees a consistently high level of product quality (top). An employee of Jokey Plastik is connecting up a silo in which the recyclates are stored (bottom).

basic coloration, onto which individualized decors can be superimposed, from simple line drawings to high-definition print images. For many products, like black buckets, this is not a problem. The paths of secondary raw materials like recyclates and regranulates, however, undergo strict separation when utilization as food-grade packages is involved: "Here we use only primary raw materials which meet the stringent food-technology requirements for these packages."

More technically sophisticated, by contrast, is the use of post-consumer recyclates, meaning plastics that are made from packages already discarded by consumers. "The material is a bit more brittle than new goods," says Schmitz. "But conversely has a higher compression-resistance, which offers advantages in terms of stack stability." At very low temperatures, however, this plastic may become too brittle.

This is why the packaging manufacturer from Wipperfürth opts for recipes containing 50 to 100 percent post-consumer recyclate, supplemented by its own regranulates or new goods – individually tailored to the particular requirements of the product concerned. Jokey imposes stringent stipulations on its vendors, not least on SYSTALEN: "Crucial criteria include dependability of supply and a consistently high level of quality," emphasizes Schmitz. "After all, our customers rightly expect a lot. The packaging embodies their brand, and is thus their calling card." Packaging-related quality problems would be counter-productive here.

Customers' interest in products made from recyclates is growing, since consumers, too, want to buy sustainable merchandise that minimizes the use of natural resources. Which explains the demand for recycled plastics that can be used without any loss of quality.

One example of these is SYSTALEN granulates, which Jokey is using in growing quantities. So persuasively indeed, that even products from major brands are being filled in these packs, such as Alpina White – a wall paint in premium quality that thanks to its eco-friendly constituents bears the Blue Angel. Alpina is sold in buckets made from SYSTALEN granulate. "You can tell it's a secondary raw material only from the gray edge of the bucket – otherwise the pack is decorated with a full-surface in-mold label that can, of course, like the pack itself, be subsequently recycled in its entirety and used again as an original product," explains Michael Schmitz. There is no qualitative difference from buckets made of new plastic.

The recycled buckets, however, are particularly sustainable, since only a small amount of new plastic has to be used for them. "And when they're empty, they belong back in the Yellow Sack or the Yellow Bin," says a confident Michael Schmitz. "They'll be recycled again – which closes the circuit." ●

www.jokey.com

Produced in a single work step: the finished Alpina bucket.

Sustainability fourteen times over

It's not only with its products, but also with its own plant, that Jokey Plastik targets maximized energy efficiency. For this purpose, the company invests primarily in production technology and building systems. For example, Jokey uses the cooling water from its injection molding machines for heating all the buildings on its premises. In addition, the firm is also proactively aware of its responsibility to society as a whole: each of Jokey's fourteen plants worldwide donates to charitable causes in the surrounding region and beyond the borders of its own location. For instance, Jokey also helps the aid efforts after earthquake and tsunami disasters, digs wells in Cambodia, and makes regular donations for children from Chernobyl.

RECYCLED PLASTICS INCREASINGLY COVETED

DEMAND IS GROWING, AND SO ARE THE PRICES

Demand for top-quality recycled plastics in Germany is growing, which means prices are rising. Michael Wiener, CEO of Deutsche Gesellschaft für Kreislaufwirtschaft und Rohstoffe mbH (DKR), sees the reasons for this firstly in economic growth, which is causing sales of homogenous bale goods, regrinds, and granulates to increase substantially, and secondly in altered awareness throughout the plastics processing industry. "The markets have realized that recycled plastics are becoming more and more attractive as a base material for manufacturing plastic products," to quote Michael Wiener.

In individual cases, demand may already be exceeding supply. "Since the beginning of the year, we've been observing prices that are ten percent higher," says Frank Böttcher, General Manager of Systec Plastics Eisfeld GmbH (SPE). "Customers will have to anticipate further mark-ups." As far as the dependability of supply is concerned, however, Böttcher is confident: "Within the Grüne Punkt Group, we are broadly diversified, which means we possess a resilient raw material base. Our customers can rely on continual deliveries." ●

DKR at PLAST 2015
The DSD Group is marketing its top-quality granulates, regrinds, and agglomerates under the brand name of SYSTALEN. Anyone who's interested in these products, or would like to talk to SYSTALEN experts about the market for recycled plastics and its prospects, can do so at the PLAST 2015 fair in Milan, Italy, held from 5 to 9 May 2015, where DKR will be one of the exhibitors.

RAW MATERIALS FOR THE ECONOMY, REDUCED ENVIRONMENTAL IMPACT

The Grüner-Punkt companies put more than three million tons of recyclables back into the economic cycle and urge Politicians to incentivize even more recycling.

Der Grüne Punkt has presented its Environmental Performance Balance for the year 2013: it reveals that the companies of Duales System Holding, by their work last year, avoided the emission of more than 1.5 million tons of CO_2 equivalents. This corresponds to the quantity of greenhouse gases produced if 300,000 fans were to fly from Frankfurt am Main to Rio de Janeiro for the 2014 World Cup final. With the amount of primary energy saved by the DSD Group, more than nine billion TVs could be supplied with electricity for the duration of the final – more than twice as many sets as there actually are on the planet.

"We supply the economy with raw materials while at the same time downsizing the environmental impact of pollutants," says Stefan Schreiter, CEO of Duales System Holding. "For a country like Germany, which is not overly blessed with raw materials, and in fact for the entire European Union, there is no alternative to the closed-cycle economy. Der Grüne Punkt laid the foundations for this almost 25 years ago."

In 2013, the DSD companies recovered from waste 2.8 million tons of secondary raw materials like glass, paper, plastics, and metals and returned them to the economic cycle. "The lion's share of these quantities comes from the Yellow Sack and the Yellow Bin, the glass containers, and waste paper collections," says Schreiter. "But we're processing ever-larger quantities of recyclables from other sources as well, from facility disposal collections, for example."

In 2013, the Grüner-Punkt Group recovered 2.3 million tons of waste from the Yellow Sacks and the Yellow Bins alone, plus the glass containers and the waste paper collections. "This means we more than met all the recovery targets laid down in stature law, as indeed we do every year," emphasizes Schreiter. "In the context of a Recyclables Act and the introduction of harmonized recyclables collection in Germany, the politicians will have to lay down much more ambitious targets for the recycling sector than they have so far. This is of crucial importance for the future of Germany's economic viability." ●

You will find all the latest data under www.dsd-holding.de/nachhaltigkeit

BIOLOGY FOR BETTER AIR

Systec Plastics Eisfeld GmbH produces top-quality granulates – and has opted for biological exhaust air purification.

WORKSHOP FÜR KUNDEN

The DSD Group has now opted for biological exhaust air purification not only at its plastic recycling facilities in Hörstel and Genthin, but in Eisfeld, Thuringia, as well. Bio-filtration is currently regarded as the most reliable process for eliminating odorants. Biological exhaust air purification utilizes micro-organisms living in a filter material in order to remove odorants and pollutants from the exhaust air by means of microbial degradation. The micro-organisms convert the unwanted substances with the aid of oxygen into harmless, odorless molecules. Bark mulch is used as a carrier and filter material. The systems in Hörstel and Genthin have been up and running for quite a long time already. The bio-filter in Eisfeld was installed during the early summer of 2014, a second and even bigger one will be built until spring of 2015. ●

"RECYCLABILITY CERTIFICATE"

STRENGTHENED PRODUCT RESPONSIBILITY

Packaging waste is collected and processed in Germany using standardized methods. It starts off with a largely automated sorting procedure: a package can be recycled only if it has been sorted into the correct material fraction. This means manufacturers can strengthen their product responsibility by already incorporating recyclability at the design stage of their packaging. On the basis of existing standards, the cyclos/HTP Institute has developed assessment methods for reliably rating the recyclability of a package. The results of the assessment procedure are summarized and quantified in a recyclability certificate. Der Grüne Punkt – Duales System Deutschland GmbH is the institute's exclusive partner – it supports these analyses, and supplies its customers with specific input on how to improve the recyclability of their packaging. ●

Contact: christina.schulz@gruener-punkt.de

Photos: DSD GmbH (3); DSD GmbH/marks (o. r.)

SANGUINE CONSERVATIONIST

As Damon Salvatore in *Vampire Diaries*, he plays a bloodthirsty vampire, but in real life Ian Somerhalder is meek as a lamb. With his organization, the "IS FOUNDATION," he initiates projects themed around protecting the natural environment. He talked to punkt about comfort zones, young saviors of the planet, and what men can learn from women.

What three things are in your opinion essential for far-reaching global change?

Empathy, gratitude, and respect. If we synergize these three things, we see the raw, wondrous beauty and value in all life. Irrespective of whether it's the creatures that live among us, the habitats they dwell in, or our young people who are reaching out to the world in order to save it. If we base our visions and our actions on these three fundamental principles, then we will be able to achieve a quantifiable, tangible, and indubitable transformation worldwide.

Talking of young people: with the IS FOUNDATION, you are committed to involving youngsters more closely in your projects. Where do you see their strengths?

Young people have the ability to explore, to comprehend, to think outside the box, and to leave the comfort zone in which most adults are imprisoned. Detached from the ossified structures and expectations of our society, young people are creating forms and ideas that expand the boundaries of the possible. By equipping them with the tools and preconditions required for translating these ideas into practical reality, we can bring about the transformation we want to see in the world.

Where do you think does the source of our global problems lie?

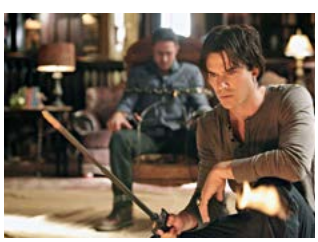
I would say it's the conceptual error of viewing the problems involved in isolation. The biggest global problems are closely intermeshed – which is why it's obvious that the solutions are interconnected, too, isn't it? When we realize how interdependent we are in such complex ways – whether it's the connective links between us humans or the symbiotic relationship in which we are holistically embedded in our natural environment. In actual fact, we have to see ourselves as a unified entity, in order to realize that it is vital to our continued existence.

You have a large female cross-generational fan base. How do you see women who take over the reins of leadership and develop new solutions for longstanding global problems?

We men can learn a lot from women. Women have the ability to look backwards and forwards simultaneously, synergizing both empathy and strategy in their thoughts and actions. The way in which women operate on a mental, emotional, physical, and spiritual level never fails to astound me. With the increasing number of women in leading positions (particularly in the fields of mathematics and science), we can look forward with keen anticipation to the years ahead. ●

Ian Somerhalder

Ian Somerhalder, born in Louisiana, USA, on 8 December 1978, is an actor, and best-known in Germany for series like *Lost, Vampire diaries* and *CSI – Tracking Down the Perps*. As a committed campaigner for nature conservation and animal rights, a few years ago he set up the "IS FOUNDATION", with the aim of raising public awareness for issues like deforestation, animal rights, and green technologies, by means of educational publicity and cooperation with other initiatives.



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