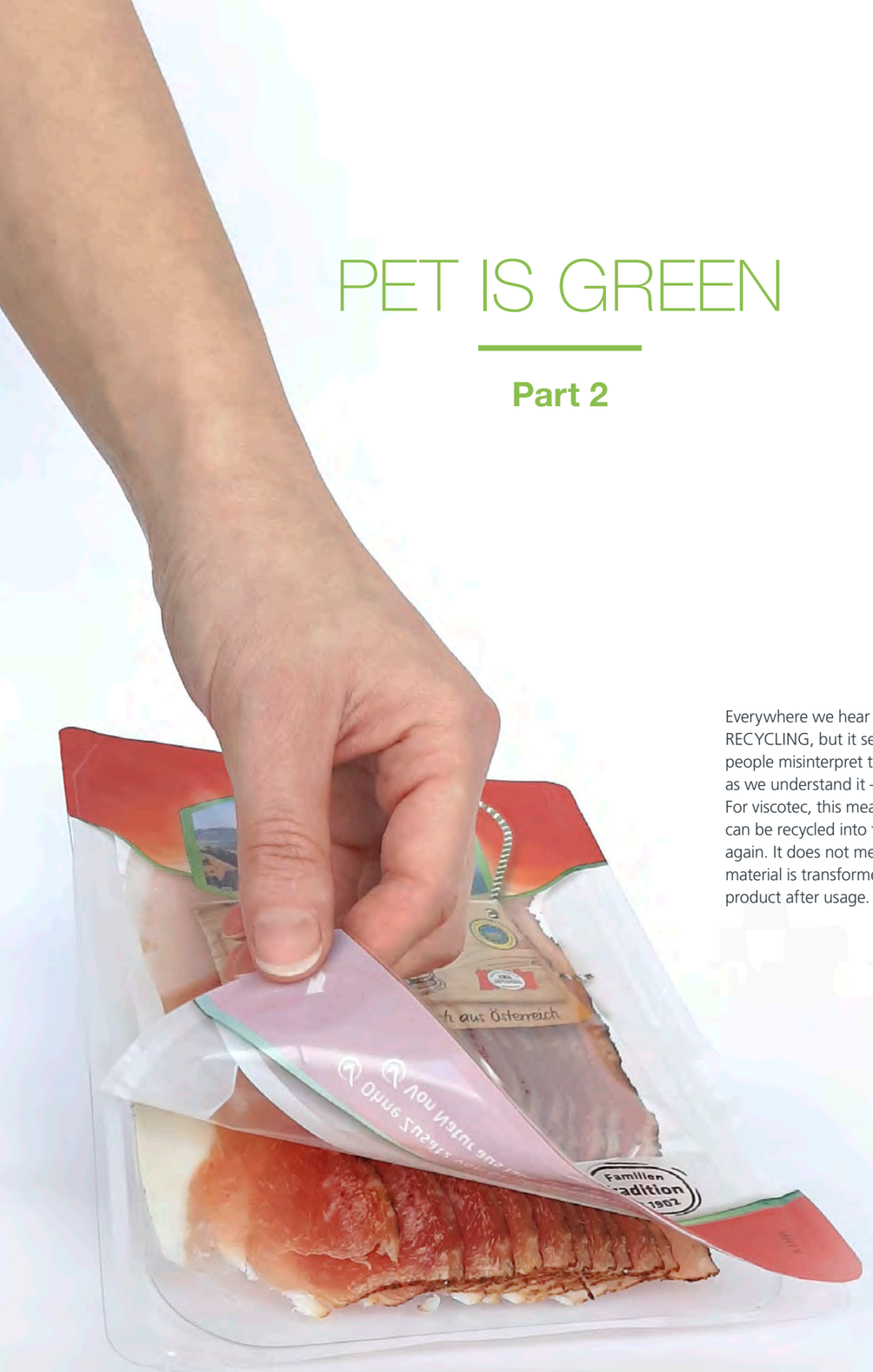
PET IS GREEN

Part 2



Everywhere we hear the word RECYCLING, but it seems that many people misinterpret this word. Recycling – as we understand it – contains "CYCLE". For viscotec, this means that a product can be recycled into the same product again. It does not mean that packaging material is transformed into an end-of-life product after usage.

In Life Cycle Analyses, real closed loop recycling is discriminated in the way how they are now conducted with the allocation and substitution factors. Different studies cannot be compared if you do not have access to the details of the study, especially the allocation and substitution factors used.

rPET has the lowest carbon footprint of all packaging solutions.
If these factors are used right, it shows one thing very clearly: rPET is unbeatable in packaging applications, much better than other plastics, paper, or cardboard, and even returnable glass in all categories such as CO_2 emissions, water consumption, acidification potential, and summer smog. On our webpage, you can find comparisons of different PET packaging solutions.

Yes. Closed loop is possible and done for more than 10 years.
True recycling is primarily done with PET bottles, where a bottle becomes a bottle again. For example, here in Austria, we have PET bottles in the market which contain a minimum of 70 % recycled content coming from the same bottles for 10 years. This proves that it is possible.

Compared to other plastics, PET is the only plastic that can be recycled in a closed loop. This is due to its unique properties for rebuilding the intrinsic viscosity (iV) during the recycling process and also its migration properties, which enables safe food-grade recycling.

Bottle to bottle is developed. Let's go for the other 1 Million tons of PET packaging waste in the EU and recycle.
If we disregard bottle recycling, the numbers for PET recycling are rather low. This is caused by the product design of the packaging, e.g. direct printing on PET cups, laminated PE film for sealing on the PET, additives, such as intrinsic viscosity enhancers, the usage of oxygen scavengers, and polyolefin-based nucleating agents. All of these are polluting the PET stream and make economical closed loop recycling impossible.
At viscotec we have made a lot of developments over the last years to make a closed loop PET recycling possible, e.g. to replace PE lamination with pure PET for Form Fill and Seal (FFS) packaging, to extend PET applications to higher temperatures, and to replace other plastics, such as PP and PS with PET.

In the European Union, we have the potential to recycle another 1 million tons of PET trays, cups, and thermoforms with a closed loop system and to save one million tons of CO_2 emissions at the same time.

Let's go for it.

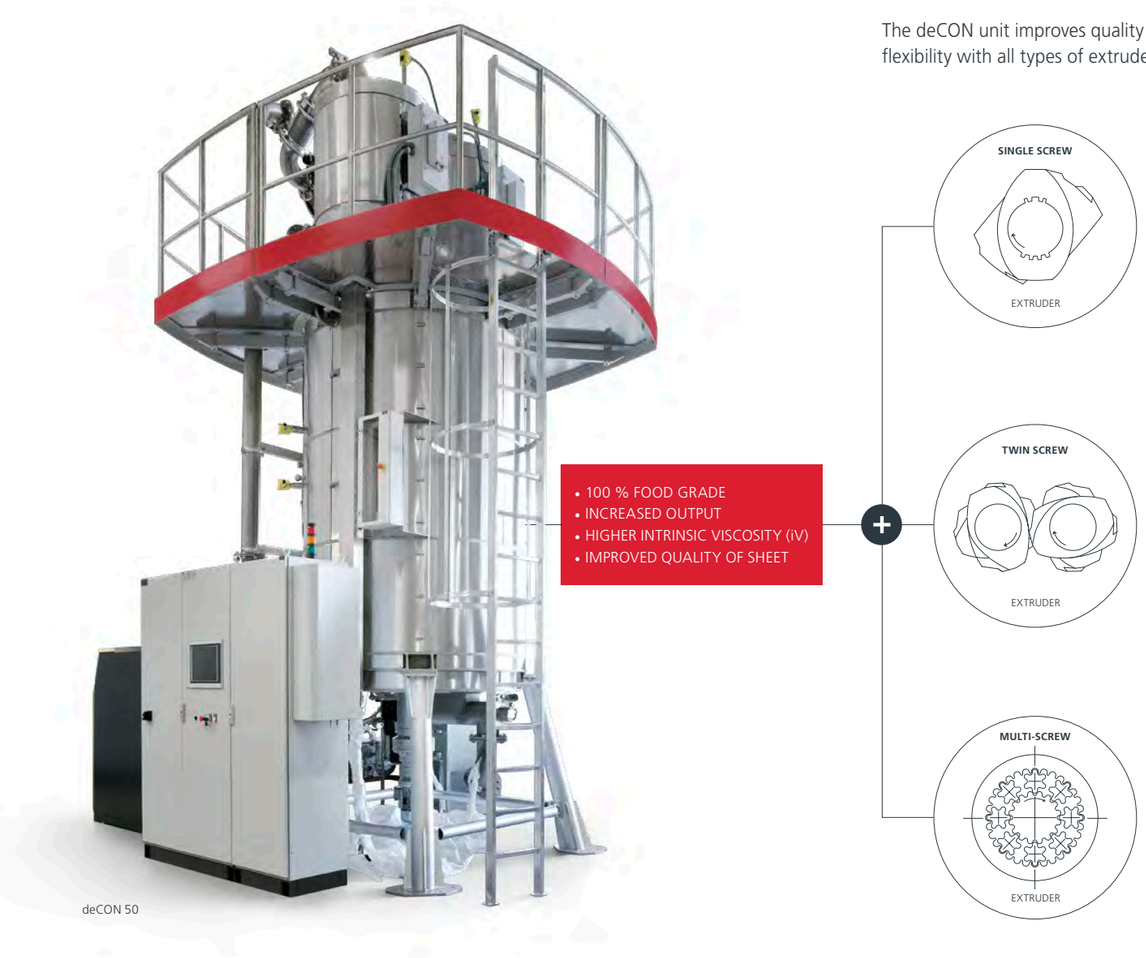
Markus Fellinger, viscotec

DESIGN FOR RECYCLING:
100% rPET FFS packaging without PE lamination and floatable printed seal film

SAVING 1 MILLION TONS
of CO_2 emissions through recycling PET trays and thermoforms

TECHNOPLASTIKA PRIMA PERDANA

Indonesian partner upgraded sheet lines to ensure 100% food grade production



Technoplastika obtained a striking argument to differentiate from competitors: food grade standards according to EFSA and FDA for recycled PET. How? They upgraded their sheet extruders with viscotec's decontamination technology and this promise has become part of their slogan "PT Technoplastika Prima Perdana – foodgrade and foodsafe products".

Packaging for food industry

Established in 1993, PT Technoplastika Prima Perdana became a prime supplier of recycled plastic packaging products and packaging manufacturers specifically for the food industry. The company runs two production sites located in Cikupa and Balaraja on Java, Indonesia, with machinery for extrusion, thermoforming, injection, and vacuum-forming. Their venues are ISO certified and equipped with test laboratories.

"Thanks to the cleaning technology of deCON, we had successfully played a part in supporting sustainability in Indonesia. Indonesia nowadays has moved past being a plastic landfill to a more environmentally friendly country." explains Mr. Oei, Owner Technoplastika. "The deCON technology helps transform plastic wastes, especially in concentrated tourism areas, into something more meaningful. With a cleaning line in our production process, we feel assured that our customers are using safe and sanitary packaging."

> Technoplastika added one deCON50 in front of their conventional extruders and achieved 100% food grade compliance for all their PET sheet lines.

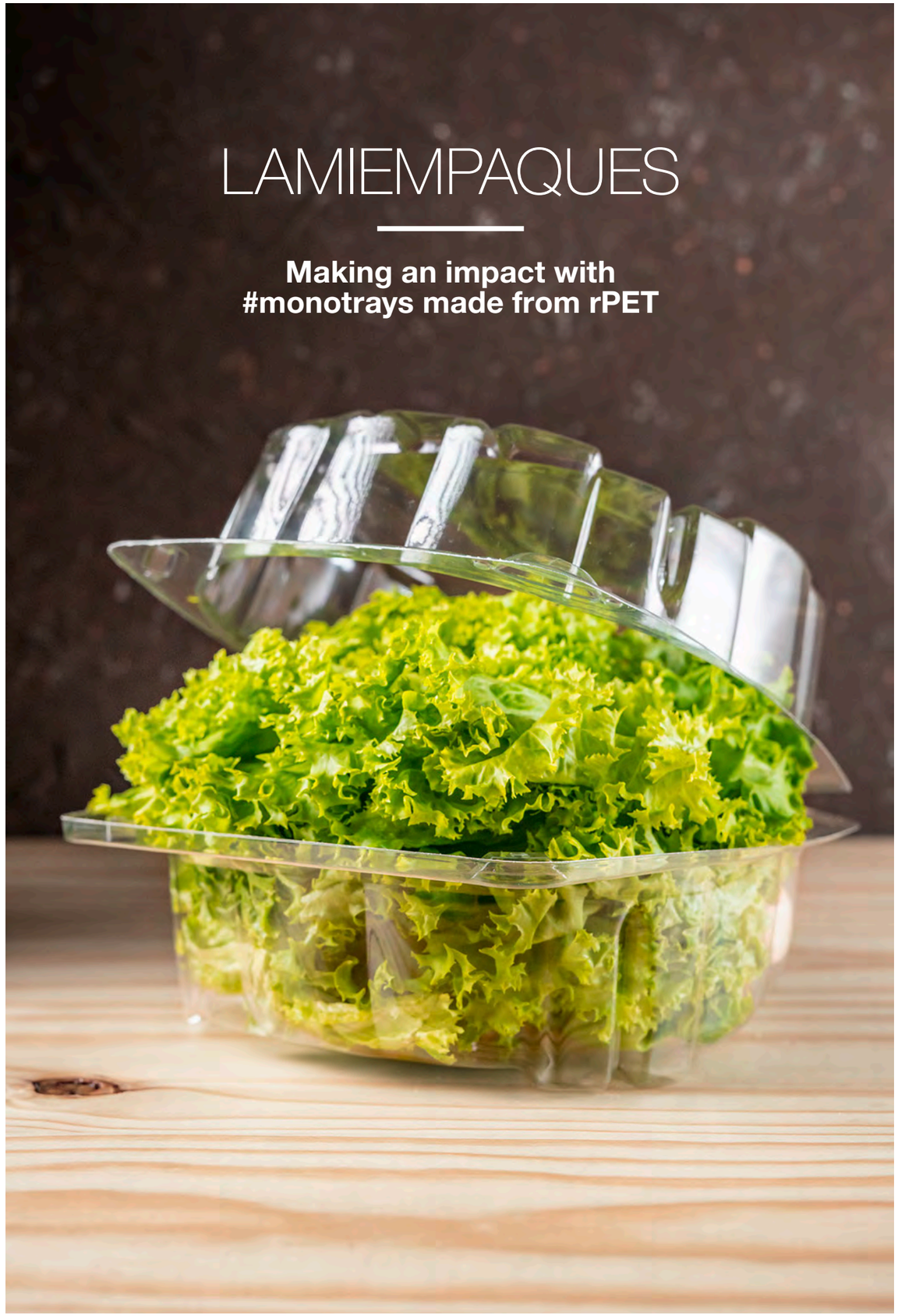
Upgrade: one deCON serves them all

The deCON technology is the perfect solution to upgrade existing PET sheet lines. Today this concept is more relevant than ever because it established a new standard in PET packaging. Technoplastika is one of many viscotec-customers worldwide that upgraded a conventional PET sheet line with a decontamination unit. The decontamination unit in front of the extruders is stabilizing the extrusion process, and improving the optical appearance and the mechanical properties of the sheet due to perfect de-dusting and increased viscosity.

> Thanks to the cleaning technology of deCON, we had successfully played a part in supporting sustainability in Indonesia. Indonesia nowadays has moved past being a plastic landfill to a more environmentally friendly country. deCON technology helps transform plastic wastes, especially in concentrated tourism areas, into something more meaningful. With a cleaning line in our production process, we feel assured that our customers are using safe and sanitary packaging.
>
> MR. OEI GIOK
> OWNER TECHNOPLASTIKA

LAMIEMPAQUES

Making an impact with #monotrays made from rPET



> We are relieved to deliver packaging with the highest standards for the food industry, thanks to the super cleaning technology of viscotec.

CRISTINA VÁSQUEZ MONSALVE
GENERAL MANAGER
LAMIEMPAQUES

The Colombian company Lamiempaques is a family-owned business established in 2001. Their philosophy of ensuring a positive impact on our earth has been a perfect match with viscotec's rPET technology.
Cristina Vasquez Monsalve, General Manager at Lamiempaques, explains: "Lamiempaques has always wanted to provide its customers with thermoformed, environmentally sustainable packaging made from 100% recycled PET sheet suitable for contact with food. We found in viscotec the perfect technology that has allowed us to achieve it with better profitability and quality."

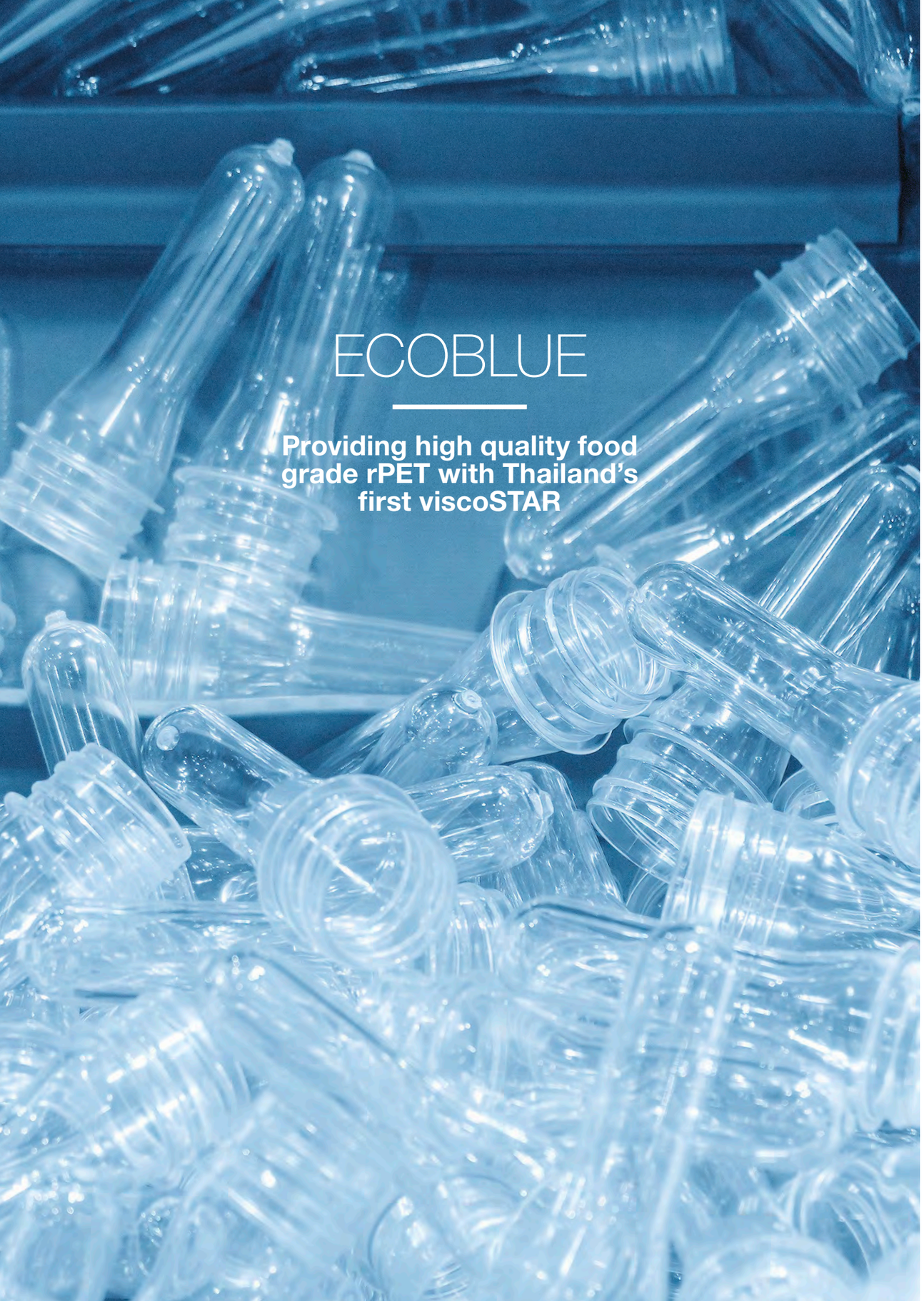
First viscoSHEET line in Colombia
Six years ago, Lamiempaques invested in deCON20 equipment which allows them to work with recycled PET for sheet and packaging which is safe for food contact. Now, they decided for the next step in terms of technology: the new extrusion line viscoSHEETone allows them to produce rPET sheet of highest quality.

Positive reputation for plastics
Lamiempaques' customers, e.g. brand owners, know that recycled PET is the sustainable alternative that so many conscious consumers require and look for. The trays, containers, and boxes produced by Lamiempaques are designed for recycling because they are made from a single layer, so they consist of one single material: 100% rPET.

Food grade packaging made from 100% rPET
The super-cleaning of the recycled materials is the decisive advance in technology for Lamiempaques. Other manufacturers who do not dispose of this decontamination technology by Starlinger do not have the advantage of producing sheet made from 100% recycled material in food contact quality. Those thus have to use layers of virgin material to cover the recycled PET which is not decontaminated (they opt for a A/B/A structure).

In contrast, Lamiempaques is the first and only company in Colombia that is preparing the post-consumer PET material with a deCON unit. After the pre-treatment, the material is pure and safe for food contact even before the material enters the extrusion line. The result? Sheet of highest quality, transparency and intrinsic viscosity (iV).

Taking care of mechanical properties
To invest in a viscoSHEET line for the extrusion process, proved to be the right decision. "With the deCON and the extrusion line viscoSHEET, we take care of the intrinsic viscosity level during the whole process." explains Juan Carlos Ocampo. "In this way, we can maintain the good mechanical properties of PET during extrusion and for the subsequent process, thermoforming."



ECOBLUE

Providing high quality food grade rPET with Thailand's first viscoSTAR

> By adding viscoSTAR in our capabilities, we will ensure that we can provide consistent and high-quality bottle grade rPET to our customers.

PRANAY JAIN
FOUNDER & CEO
ECOBLUE LTD

EcoBlue Ltd. is the first company in Thailand to install a viscoSTAR solid state polycondensation (SSP) plant. With this recent investment, EcoBlue will increase their capacity for their food contact bottle grade rPET resin to 15,000 tons per annum. The SSP technology is a leap forward for the bottle-to-bottle recycling business, which is one of the main priorities of the company.

Circularity of Resources for South East Asia

From the beginning, EcoBlue has focused on finding innovative recycling solutions for many kinds of packaging wastes, some of which are its patented technologies. It works towards Circularity of Resources by bringing in difficult to recycle materials, like coated films and laminates, in the recycling stream, which would have otherwise ended up in landfills.

Providing sustainable recycled resin to brand owners for reducing their carbon footprint

EcoBlue has developed unique capabilities to produce high-quality rPET, rPP, and rHDPE from post-consumer and industrial waste, providing a sustainable substitute to virgin resin. It is EcoBlue's commitment towards sustainability to not only provide high-quality recycled resin that can help reduce the carbon footprint of conscious organizations, but to also ensure that it is produced in safe and equitable working conditions with no harmful impact of production to people and the environment.

According to Mr. Pranay Jain, founder and CEO of EcoBlue Ltd., "In anticipation of increased commitments of organisations towards sustainability, EcoBlue has invested 25 million US Dollars to set up a new world-class recycling facility with the very best technologies for PET and Polyolefins recycling. By having Starlinger as a technology partner and by adding viscoSTAR in our capabilities, we will ensure that we can provide consistent and high-quality bottle grade rPET to our customers."

Food Grade rPET made from certified 100% PCR waste

EcoBlue is Thailand's first recycling company to receive the Letter of No Objection by the US FDA for its 3D Pure rPET for use in food contact applications. The decontamination technology of the newly acquired viscoSTAR equipment exceeds highest food-grade standards and will enable EcoBlue to provide superior quality rPET resin for bottle application. EcoBlue's 3D Pure rPET can be traced back to 100% post-consumer PET waste material through its Global Recycled Standard Certification process.

ECOBLUE´S ANNUAL CAPACITY POST EXPANSION WILL BE EQUIVALENT TO:

30,000 tons of PET (1 PET)

10,000 tons of PEHD and PP (2 PEHD, 5 PP)

SAVING

200,000 barrels kept underground

64,000 tons of emissions saved (CO_2)