



Giesecke+Devrient
Creating Confidence

AUTOMATION

DIGITALIZATION

EFFICIENCY

SUSTAINABILITY

SECURITY

The NotaTray[®] Ecosystem

OUT OF THE BOX.

» **What if efficiency becomes
the most important currency?** «



Dear partners,

At G+D, innovation is at the core of everything we do. Based on many discussions with customers around the world, we continually challenge ourselves to deliver groundbreaking ideas and innovative technologies. It is fundamental for us to implement solutions that transform our industry – together with you.

We believe this is the most exciting time ever in the cash industry, where the power of innovation is key to shaping the vital role of cash. Efficiency, sustainability, and resilience are critical factors in the cash cycle. They pave the way for future developments and highlight how our solutions can support you in reaching your goals.

So, what is needed? A holistic approach and integrated solution that addresses the key criteria for all participants in the cash cycle. We need a seamless interaction of all components, taking a transformative step towards handling our resources in a smarter way.

I'm pleased to present our latest innovation, the NotaTray Ecosystem. A global, holistic, and customizable solution that is able to set new standards by enhancing efficiency, sustainability, and resilience for all stakeholders – at every step of the cash cycle.

I feel confident enough to say:
With your partnership, we are about to transform our industry again!

Sincerely, Wolfgang Kneilmann

Wolfgang Kneilmann

Member of the Board

Head of Currency Management Solutions

Make the global cash cycle more efficient? Challenge accepted.

The world is changing fast, and new times bring new challenges – but also new solutions. With innovative ideas, and by raising the level of automation and standardization, we're making the cash industry more resilient against future disruption.

Our solutions increase security, help speed up processes, and push efficiency forward. By reducing manual involvement in stacking, storing, and transporting banknotes, we can further lower the cost of cash, because this enables employees to use their time more productively and effectively. An additional positive effect: More efficiency also leads to more sustainability.

Requirements for the cash cycle:

- › EFFICIENCY
- › SECURITY
- › SUSTAINABILITY

How to keep the cash cycle running – in a sustainable manner.

Sustainability is one of the most important uniting topics of our time. Recent years have seen growing demands on governments, corporations, and associated institutions to address the challenges connected with the climate crisis.



This makes ESG imperative for corporations in the cash industry. Our innovative solutions at G+D have the goal of not only increasing efficiency in cash handling, but also limiting the resources used for it by switching to recycled materials, replacing single-use packaging, and optimizing global logistics.

Thus, our industry and partners are able to visibly reduce their carbon footprint and contribute to tackling the global challenges ahead of all of us.

New standards lead the way to a connected world.

Standardization has the potential to radically change not only the world of cash centers, but also the entire cash cycle, just as the freight container once revolutionized global logistics. From a standard unit to a highly efficient and successful ecosystem.

Freight containers speed up global flows of goods by allowing goods to be loaded easily on other means of transportation. This allows companies and logistics service providers to enjoy substantial savings in both time and money.



G+D has transferred the basic principles behind the freight container to the cash cycle, achieving increased automation through comprehensive standardization.



A box full of revolutionary potential.

We have developed a reusable tray for banknotes, which can offer all the advantages of an industry standard in terms of efficiency and security: The NotaTray.

This box eases the delivery of cash and marks a paradigm shift that will optimize the cash cycle and reduce the cost of cash.

Transports cash. Shifts paradigms.

NotaTray has the potential to be a game changer not only in the world of cash centers, but also for the entire cash cycle.

Before NotaTray:
Banknotes were strapped into packages with banderoles and wrapped in plastic foil for transport.



With NotaTray:
Banknotes are transported in reusable trays free of foil and banderoles.

What makes the NotaTray® a game changer:

Our standardized, secure, and reusable tray for loose banknotes replaces the classic single-use banknote packaging in multiple areas and facilitates increased automation. It means less human involvement is needed and packing materials are reduced, while an individual tray ID makes digital tracking easy.

The result: While security, sustainability, and efficiency increase, the cost of cash goes down.

- › Features secure automation
- › Enables seamless processing, storage, and shipping
- › A secure and reusable box
- › Reduces packaging and CO₂ footprint
- › Improves transparency with ID tracking via barcode or RFID
- › Facilitates automated information flow

STANDARDIZED TRAY
READY FOR AUTOMATION



DIGITAL TWIN
READY FOR IoT



Even more sustainable: NotaTray® made of new material.



At G+D, we are committed to protecting the environment and constantly strive to make our products more sustainable.

By using bio-based and recycled materials, we have further reduced the carbon footprint.

>50% less CO₂ compared to the previous NotaTray material

At the same time, the tray color has been changed to match the BPS M evo visual design. The NotaTray is now available with transparent and opaque covers.

Where opportunities grow: A unique ecosystem.

The NotaTray is far more than a box for delivering cash. To maximize efficiency and realize the full potential of this innovative idea, the tray is at the center of its own ecosystem.

Success factors for the
NotaTray Ecosystem:

- › STANDARDIZATION
- › AUTOMATION
- › DIGITALIZATION
- › COLLABORATION

The NotaTray® Ecosystem.

Several components work seamlessly together to support a variety of use cases.



NotaTray®



SOLUTION DESIGN



COMPASS SOFTWARE SOLUTIONS



SERVICES



STORAGE + LOGISTICS SOLUTIONS



BPS M evo
NotaTray LOADING +
NotaTray FILLING



BPS C5 ROBOTICS*
NotaTray LOADING +
NotaTray FILLING

* in development

STANDARDIZATION

Having a clear standard
has clear advantages.

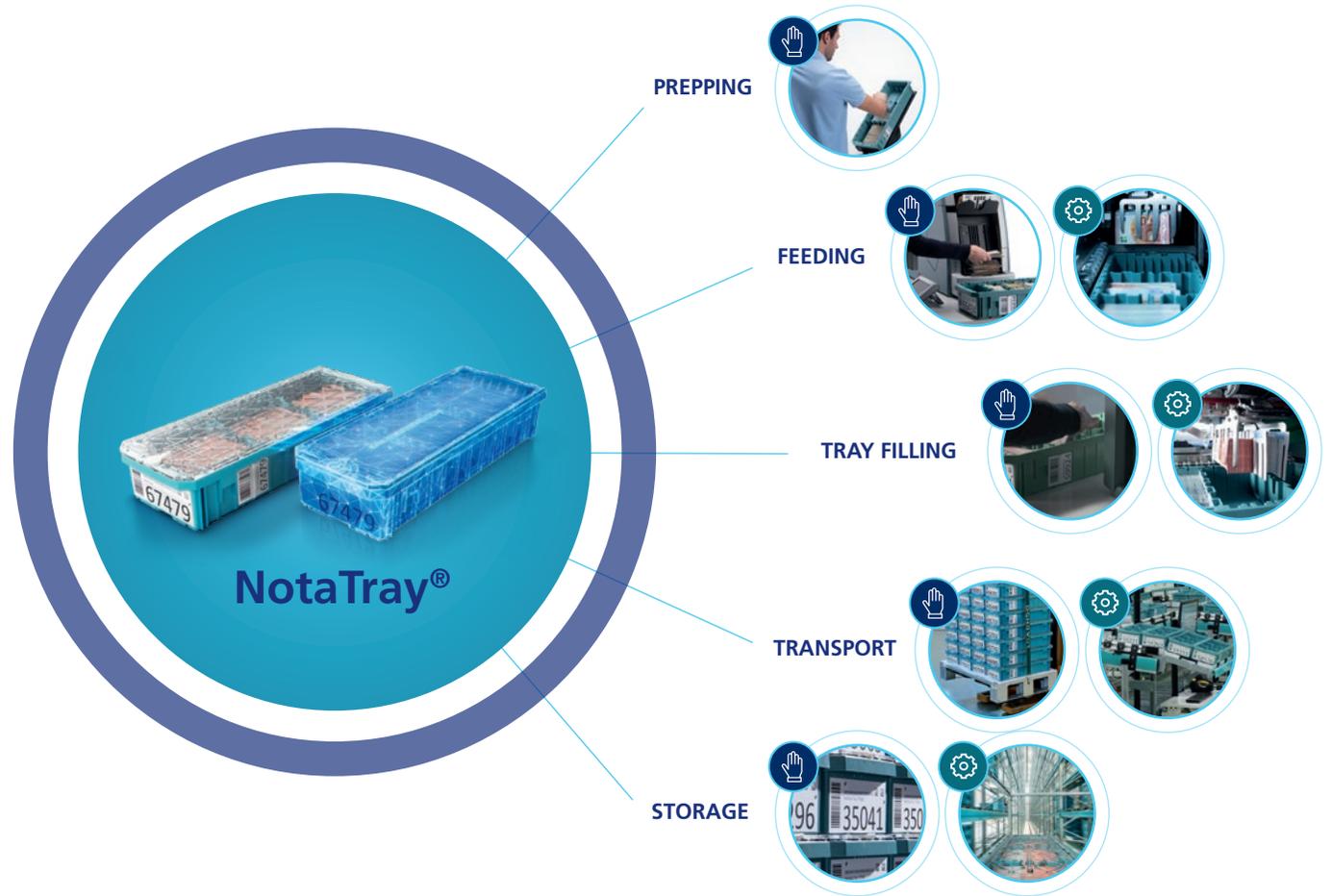
The NotaTray may appear to be just a simple box – but it's amazing what will happen when this secure and robust box becomes standard and widely used in the cash industry.

One tray fits all tasks.

The standardized tray already boosts efficiency even in manual operation. As the degree of automation increases, so does the capacity of the NotaTray to ease processes from prepping to tray filling to storage and transport.

It has the power to reduce the effort required for handling and to optimize logistics, with seamless integration between stations in the cash cycle – such as bank branches, cash centers, and CiTs. Moreover, it facilitates improved tracking and information flow, as every tray is always connected to a Digital Twin.

The NotaTray not only means an end to the days of transporting banknotes in cartons and plastic safe bags; it also means higher levels of efficiency, security, and sustainability.



MANUAL OPERATION

AUTOMATED OPERATION

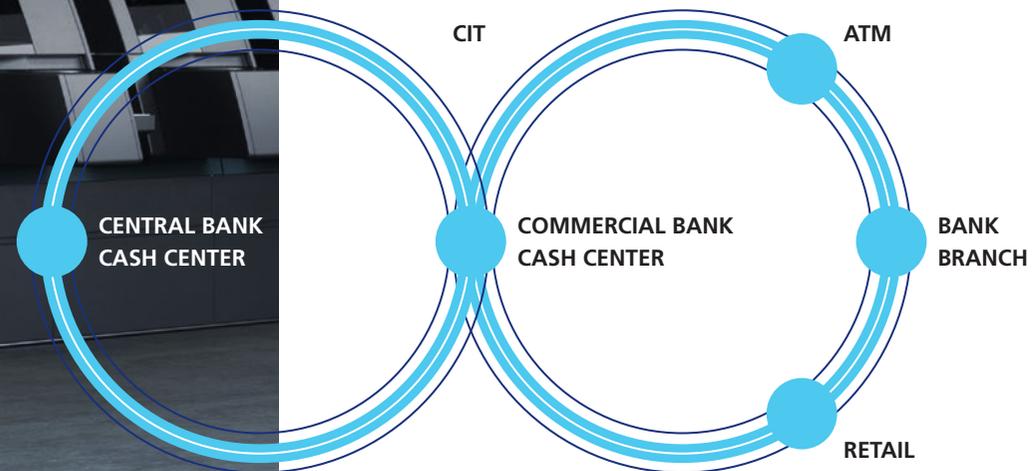
AUTOMATION

Let your employees
handle progress.
Not banknotes.

Imagine your employees focusing on more important tasks than processing banknotes. Does this seem like a distant future vision?

It shouldn't. NotaTray, with its high potential for automated use, represents the key solution for making cash processing without human intervention an imminent reality.

The NotaTray® Ecosystem supports different levels of automation.



Designed to be handled by machines, NotaTray already works with the BPS M3, M5, and M7 systems to form a perfect partnership that proves itself every day.

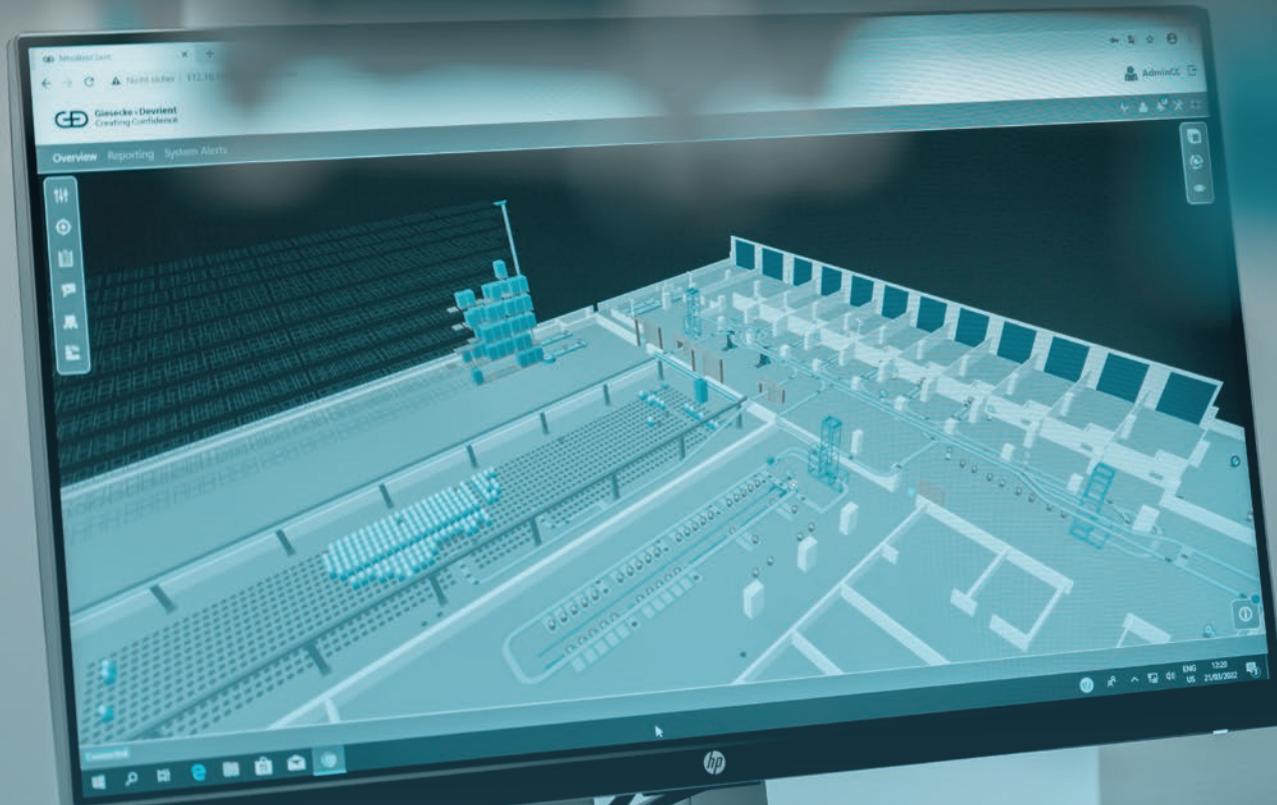
Fewer hands on cash leads to more security, as opportunities to access banknotes during processing are considerably reduced. It also increases efficiency by limiting the workforce effort needed, as employees become supervisors rather than operators.

Inside different cash center sizes and beyond.

- › Highly efficient manual handling
- › Semi-automation
- › Full automation
- › Process elimination

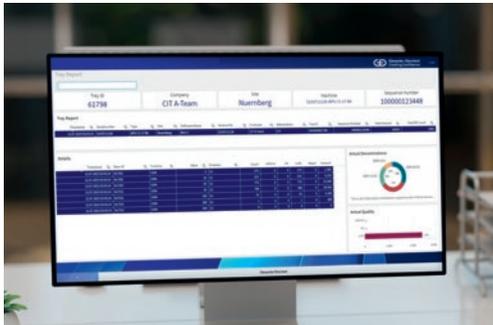
DIGITALIZATION

Doubles the advantages: The Digital Twin.



We aim not only to produce a global physical standard for cash handling; we want to modernize and digitize the data flow of the entire cash cycle for the world of tomorrow. Therefore, NotaTray wouldn't be complete without its virtual equivalent: The Digital Twin.

The Digital Twin functions as an equivalent to the physical tray at all times and is seamlessly tracked and traced by cash management software. In this way it not only secures the entire logistic chain; it also supports simple and precise accounting and helps with planning and improving overall processing.



Supervision of every detail made easy.



A virtual tray with real impact.

Within the NotaTray Ecosystem, physical cash is seamlessly connected to digital devices. This helps to make the cash cycle more resilient by giving you a real-time overview of exactly where the cash is, as well as helping avoid errors, as NotaTray is easy to integrate with digital accounting systems such as Compass Cash Center.



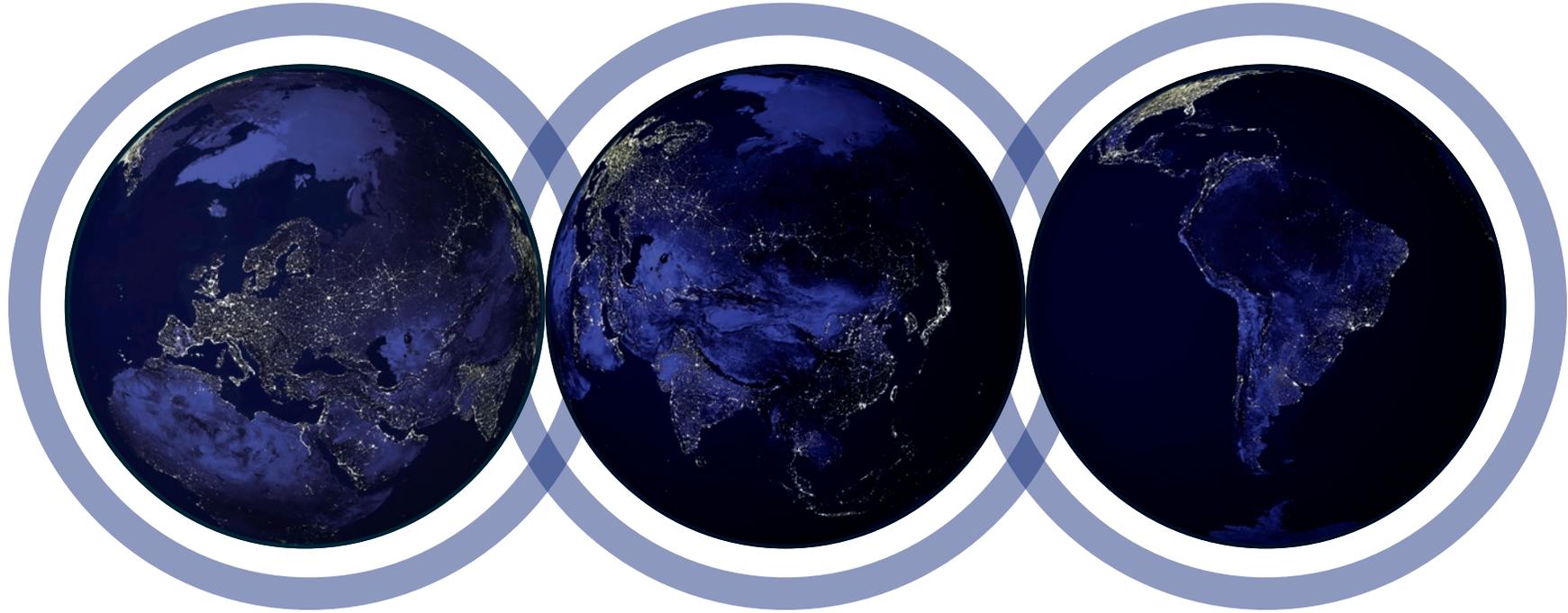
Manage the cash cycle wherever you are.

COLLABORATION

**Because the biggest
wins are the win–wins.**

In a highly connected world joint standards are essential. Now you can further simplify collaboration with your partners thanks to the NotaTray Ecosystem. Standardization and automation create win–win situations for all players. The global economy might be complex; cash handling doesn't have to be.

Approved by the toughest jury: The international market.



G+D has always been on hand to help companies and institutions create synergies in the cash cycle. And our innovative NotaTray Ecosystem has been developed to further facilitate teamwork and collaboration. It has already become a preferred solution for

companies in all business segments around the world. As a trusted partner we have created innovative solutions that have become success factors for players like GSA & LOOMIS, NatWest, and Magyar Nemzeti.



USE CASES

How the NotaTray® works: Pretty well, say our customers.

The NotaTray is in the best position to become a new, widely used standard. Many corporations and institutions have already put it into use. Have a read to see how it worked out for them!

United in efficiency: GSA and LOOMIS.

GSA Geldservice Austria and LOOMIS Austria have partnered to improve the efficiency of their joint cash processing through automation: Since 2018 LOOMIS has been directly delivering its deposits to GSA in sealed NotaTrays, replacing the bundles of banknotes they previously packed and shipped – thereby eliminating

the unpacking and prepping processes. The tray creates the necessary standardization to make automation cost-efficient. If banknotes are directly made available via the NotaTray system for automated processing, this ensures greater efficiency, security, and sustainability.

»An innovation that measurably reduces costs of cash.«

Stefan Varga
Managing Director of GSA



» One important function for NotaTray was to offload our teams and let the NotaTray Loading Module do this job, fully automated.«

Dave Lea
Operational Development Manager, NatWest

Sustainability out of the box: MNB.

In 2022, the Hungarian Central Bank, Magyar Nemzeti Bank (MNB), decided to implement NotaTrays for inbound deliveries of loose banknotes by commercial cash cycle partners. The NotaTrays are provided free of charge by the Central Bank. All unfit banknotes and – optionally – fit banknotes are delivered this way. The Central Bank's requirement for seamless integration with the existing automated processes was suc-

cessfully met while further benefits were also realized. When a pallet shipment of closed and sealed NotaTray boxes arrives, the entire pallet can be stored directly in the vault. Subsequently, the NotaTrays containing banknotes can be processed without the need to unpack and prepare banknotes, therefore increasing efficiency as well as security.

Automated savings: NatWest.

In 2017, National Westminster Bank replaced the existing BPS 1000 banknote processing system with its successor, BPS M5, and the NotaTray loading module. In doing so, NatWest not only increased the speed of the processing systems by 10%, but the entire concept of cash processing was reviewed.

While they processed about 1 million pounds per hour on the 12-pocket BPS 1000, they now achieve 1.5 million pounds per hour on the 20-pocket BPS M5 when combined with NotaTray, and they have also raised sustainability levels as NotaTray significantly reduces plastic waste.

» The NotaTray Ecosystem is a valuable solution that assists us in achieving our sustainability goals. We completely avoid the use of any plastic films.«

Péter Klein
Head of Control and Technology
Support Division at MNB

Setting global standards: We've got some experience.

Giesecke+Devrient has been shaping the cash industry for over 170 years. As a partner to institutions and companies with the highest demands, we are trusted worldwide to secure essential values with our digital and analog solutions.

Just two examples of groundbreaking innovations:

In 1975, G+D introduced automated banknote processing systems and the first machine-readable banknote worldwide. Amongst other features, it contained magnetic properties in the security thread.

With the M-Feature, G+D introduced the first Level-3 authentication solution. It is the most trusted and proven standard for Central Bank authentication to reliably detect even the most elaborate counterfeits.



NotaTray[®] at a glance:

- › A standardized cash box designed for seamless logistics and automation
- › Reduces manual cash handling to a minimum
- › Raises security levels
- › Makes every part of the cash cycle more efficient
- › Fully digitized thanks to Digital Twin
- › Reduces packaging and CO₂ footprint

You want to know which new standards we can set together?
Give us a call!

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Find more information
on our website:

www.gi-de.com/en/notatray

