

# WEIGH UP

## How 2D codes are changing the retail sector

The new standard for marking

## A clear view of the production process

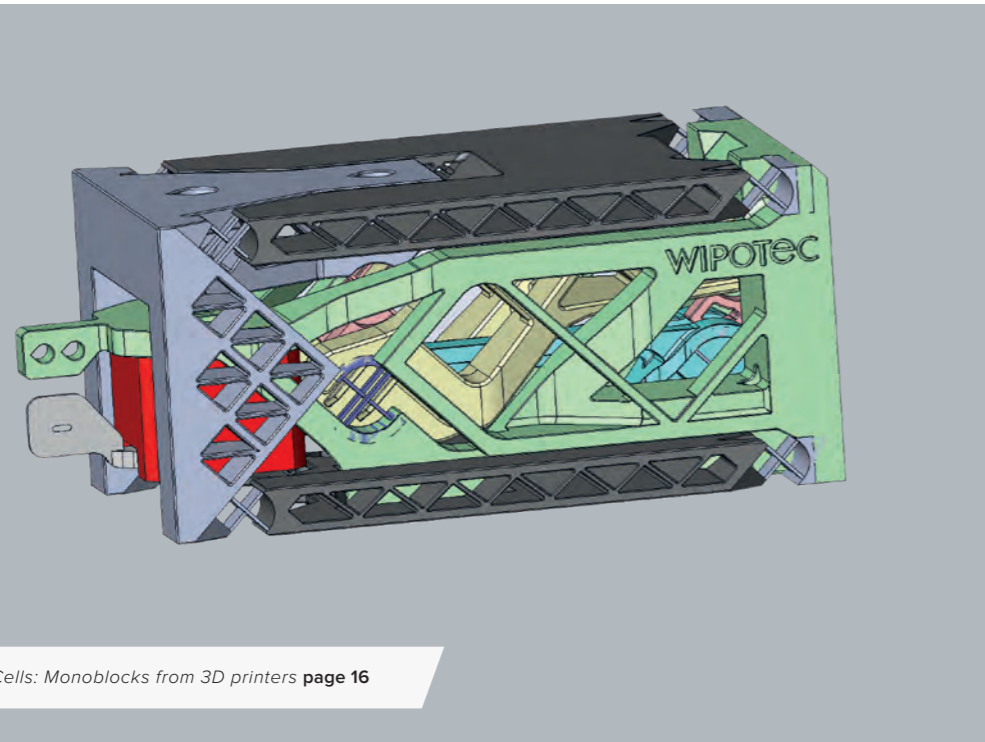
Automatic systems for optical inspection

## The new recyclable materials concept

Focus on sustainability and resource conservation







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# Sustainability.

## What matters most

by Theo Düppre  
Founder and CEO of Wipotec

“We  
save  
more CO<sub>2</sub>  
than we  
produce.”

Theo Düppre  
Founder and CEO of Wipotec

### Dear customers, dear readers:

This edition of our magazine features an article about our new recyclable materials concept, which I highly recommend you to read. This recyclable materials concept is a subject close to my own heart. It is a vital component of our sustainable production process, which we are striving to implement at Wipotec and have already implemented in many areas. This concept, which is closely linked to the desire to be as self-sufficient as possible in our use of energy, can only be put into practice at Wipotec if all our employees contribute. But I am confident that we are capable of achieving this.

### Thinking in cycles

Sustainability I: We will construct a recycling center. This center will aim to create recycling cycles by recycling materials and reusing these materials for other purposes. One example of this is carton packaging, for example, which we reuse in the form of packaging material. Or aluminum chips, which we press into briquettes so that we can market them directly. We use a similar process for PE (polyethylene) films. Our employees are key here:

We want everyone to be aware that every substance they discard is valuable and that sustainability also includes the complete cycle of recyclable materials. The aim is to recycle waste from the production process as extensively as possible and to sort it according to type.

### Sustainable production

Sustainability II: Machines like those built by Wipotec are not disposable products. Only when they are designed to be particularly durable and have demonstrated their durability are they also synonymous with sustainability. This is currently the case for many Wipotec systems, some of which, at the age of almost 30, are as old as Wipotec itself. Thanks to their extensive product life and correspondingly long service life, they conserve resources – for our customers and in the production process.

But it's not just about what you produce and how your products prove themselves to customers and in daily use. It also depends on the way you produce your products. If sustainable production is one of the company's key objectives, as is the case at Wipotec, this also includes the efficient use of raw materials and energy: We now practice sustainable production on an area of over 32,000 square meters. We have more than 1,200 employees around the world and had a turnover of €175 million last year.

### Smart energy use

For some time now, Wipotec has been integrating its most important energy areas ever more efficiently by means of sector coupling with the aim of using energy as efficiently as possible. But only if we are successful in converting our company to green electricity in all areas around the clock will we achieve our goal of reducing emissions from all our energy sectors to zero. For Wipotec, this means that we need to interlink the renewable energy sources already in use, such as geothermal and solar thermal energy, photovoltaics and, in future, wind power, even more efficiently and smartly to achieve the maximum effect for reaching climate protection goals. That is what we are currently doing, and we are very successful at it.

But sector coupling is more than just interlinking renewable energy sources in a smart way. As Wipotec does with every new construction phase, we have to include the heating and cooling sectors ourselves to obtain a holistic picture of our company. And we need to do even more.

### Mega-battery for energy storage

We will soon be expanding our installation by a large electric redox flow battery storage system with 4 MWh capacity. This battery storage system, which we are going to install on the company premises, consists of six separate tanks with electrolytes. The actual energy store is therefore a large quantity of energy that is buffered in the liquid. This storage system, which is charged by our solar modules during the day, is used to supply power to our buildings (ventilation, heating, servers, climate chambers, etc.) at night and to operate the energy-intensive CNC milling machines unattended. In this way, we are increasing the proportion of solar power we use ourselves from its current level of 39% to 60%.

Our energy management system therefore covers our entire infrastructure, including production, both in terms of time and space. At our primary and sole production site in Kaiserslautern, we obtain all of our electricity from renewable energy sources. This is because the energy purchased from the city also consists exclusively of green electricity. Taking into account the electricity fed into the grid, our carbon footprint is around -107%, meaning that we save more CO<sub>2</sub> than we produce.

### In the mood for innovation?

If, after reading our latest Customer Magazine, you would like to see for yourself what is new at Wipotec: Come and pay us a visit at the upcoming Anuga FoodTec or AACHEMA shows. Search specifically for your solutions or let us surprise you. You know that Wipotec knows how to be innovative.

I wish you every success in your endeavors.



Regards, Theo Düppre

### Dear customers:

The Handelsblatt newspaper recently wrote about us: “Wipotec creates its own energy supply.” The article highlighted our efforts to decouple Wipotec from the public energy supply, thus achieving energy self-sufficiency. What is this about?

At Wipotec, we have been dealing with the issue of renewable energies for some time now. Fifteen years ago, we took the decision to use geothermal energy. We are talking about an innovative overall concept, now consisting of energy-saving building envelopes, solar thermal cooling using absorption chiller systems, water-to-air heat exchangers, geothermal energy storage, surface heating and cooling and highly efficient ventilation systems: in other words, a holistic energy management system. Not forgetting our photovoltaic systems, and soon wind turbines and the planned state-of-the-art redox flow battery storage to operate our milling machinery at night. We are constructing this on our company premises, right next to our production halls.

More than €15 million have been invested in these projects to date. This is a lot of money that we had to put forward first. But so far we do not regret a single euro that was spent on these projects. For many years, it was unimaginable that this expenditure would be economically viable. It was a matter of conviction. Faced with today's peak energy prices, these investments are beginning to pay off, and many other medium-sized companies in Germany are following our example.

And, of course, we continue to produce our world class weighing and inspection solutions. At the same time, we continue to be innovative: In this issue of WEIGH UP, you can find out what's new at Wipotec.

Prepare to be surprised!

We hope you enjoy this edition.



Regards, Theo Düppre  
Founder and CEO Wipotec



# News in brief



## /MI(N)Tmachwelt

### Experimental days at the garden show:

MI(N)Tmachwelt took place in Kaiserslautern one weekend in September. This event featured various workshops for children between the ages of four and 18 encouraging them to get active.

The name MINT refers to the fields of mathematics, IT, natural sciences and technology. The university, Chamber of Trade and many institutes and companies from the region took the participants on a journey into the exciting domains of MINT.

They presented glowing bacteria, insights into the world of magnetism, electronics and AI, and an introduction to robotics and cosmetics from the test tube, not forgetting lightweight construction, climate protection and microalgae. Something for everyone! Wipotec was also present this year with its own stands and is one of the regular co-organizers of this event. ▲

## /Aenova celebrates anniversary with Wipotec: System 100 in the spotlight

Aenova, a longstanding and loyal customer of Wipotec, is celebrating a significant anniversary that underlines their longstanding partnership success story:

### the system with serial number 100.

This special system is not just a technical milestone, but also a symbol of the strong bond and successful cooperation between Aenova and Wipotec over many years. "The system with serial number 100 has contributed significantly to our success, something we are extremely proud of," said an Aenova spokesperson.

"Wipotec's generous support for our anniversary is a true expression of their appreciation and underscores our longstanding partnership."

The anniversary marks a symbolic milestone for the successful cooperation between Aenova and Wipotec. Both companies look to the future with confidence and are focusing on innovative solutions and outstanding service as the foundations of a partnership that will continue to flourish. ▲



## /New CSO Michael Schläger



Michael Schläger, CSO

Parallel to the global growth in sales, two top sales positions at Wipotec were filled this year: Michael Schläger, formerly Vice President of Wipotec USA, took over the position of CSO for Australia, New Zealand, Singapore and the Americas, including North America and Latin America, at the beginning of the year, when he was still based in the USA.

During Michael Schläger's time as Vice President USA, the company developed very successfully on the US and Canadian markets. Since June, Michael Schläger has been in his new position and with a significantly expanded area of responsibility working from his new office at the company headquarters in Kaiserslautern.

We wish him continued success. ▲



## /Available? Immediately!

Wipotec's stock machines are used machines from the demo pool, training centers or presentation stands.

All machines are thoroughly checked and overhauled before being marketed and can be delivered and installed at short notice.

With an attractive discount and a full manufacturer's warranty, stock machines are technically flawless systems that are offered with all the services which are also available for new machines. The Wipotec homepage provides an overview of currently available stock machines. ▲



## /New VP USA Holger Ferst

Wipotec USA has a new Vice President: Holger Ferst, previously Sales Director Mail & Logistics, became Vice President USA in June 2023. Holger Ferst, during whose time and under whose responsibility Wipotec USA was able to record the largest order in its history to date (at the time, the Mail & Logistics division supplied the US Postal Service with 1,200 plug-and-play weighing solutions), has been with Wipotec since 2013.

Holger Ferst: "I am grateful for the opportunity to work in the position of Vice President in an environment that I know very well. Cutting-edge technology and a great team really make it a pleasure to be a part of it all." All the best, Holger. ▲



Holger Ferst, Vice President USA

# / Award for innovation management

The climate of innovation and external orientation earned an award this year – the TOP 100 seal was awarded for the second time in a row.



“Can't we do that ourselves? is not a question, it is a program.”

Congratulations were in order at the German SME Summit: Science journalist Ranga Yogeshwar congratulated Wipotec on being awarded the TOP 100 seal. The award ceremony took place in Augsburg in June during the summit. The well-known journalist was once again a mentor for this year's innovation competition, which was held for the 30th time. In the selection process, Wipotec impressed in the size category with more than 200 employees, particularly in the categories “Climate of Innovation” and “External Orientation/Open Innovation”. For this anniversary edition, 550 companies applied for the award – more than ever before. 300 companies qualified, including 107 national companies and 43 global market leaders. More than two thirds of the award-winning SMEs were family-run businesses. This is the second time that Wipotec has been one of the most innovative medium-sized companies in Germany.

#### Promoting creative potential

“Wipotec systematically promotes the creative potential of its employees. Doing so does not require an institutionalized, cumbersome suggestion scheme,” according to Managing Director Jens Kühn. Classic suggestion schemes and lengthy discussions are clearly not designed for people who advance creative ideas. Here, the spirit of research and curiosity about new technologies went hand in hand.

Above all, employees in R&D departments should not be subjected to excessively strict limits; they need room for maneuver beyond specific customer orders as well as a generous financial budget and time frame for such activities. All of these measures combined foster an exemplary climate of innovation at Wipotec, which makes it possible to combine specific customer requirements and innovative strength.

#### TOP 100 seal of quality for innovation management

Since 1993, the TOP 100 seal of quality has been awarded to medium-sized companies with particular innovative strength and above-average innovative success. The scientific management of the award has been in the hands of Prof. Dr. Nikolaus Franke since 2002. Dr. Franke is the founder and head of the Institute for Entrepreneurship and Innovation at the Vienna University of Economics and Business. Science journalist Ranga Yogeshwar is the mentor of TOP 100.

According to Jens Kühn: “We are committed to this goal in basic research and application development as well as in order processing. This three-way approach creates a productive mixture of a forward-looking spirit and a sense of reality.”

This is not a coincidence. It is the result of this creative work: more than 650 patents have been or are currently held by Wipotec. They give a clear message. To change things radically, these innovations are sustainable. They are not the result of coincidences. They are the outcome of pioneering work, technical inspiration and creativity. >>





left to right: Alexander Schulzki, Ranga Yogeshwar and Volker Ditscher

In order to solve tasks at the highest technological level, Wipotec relies on Open Innovation, which is the second category in which the company was recognized. In this way, innovation processes are opened up for partners and universities again and again. “We regularly enter into cooperation agreements, which enables us to achieve our goals much faster and better,” says Managing Director Theo Düppre. Customized yet speedy development – Wipotec also achieves this goal with efficient processes based on a modular system.

#### Can't we do that ourselves?

When such a question arises, it is a direct invitation to change the status quo. It is also a call for innovation, if possible and necessary. Not because it comes from a managing director, but because it describes a challenge, changes the status quo, and triggers developments. It is not a question, it is a program. The aim is to arouse interest, preferably passion, because this is when people are at their most creative. And the best way to turn creative ideas into reality is through innovation.

“Our team, and also our customers, accompany us with every new development,” says the Managing Director. The company has its own academy and a technology center where customers can experience innovations first-hand. The global sales and service employees are also constantly learning new things here. Theo Düppre: “Our team is in close contact with our customers around the world. For us, this is a continuous and shared development process.” ▲

## / The new recyclable materials concept – Focus on sustainability and resource conservation

At a time when sustainability and the efficient use of resources are becoming ever more important, Wipotec is taking a major step towards a sustainable recycling system. The planned new recyclable materials concept aims to reduce the volume of residual waste, conserve resources and focus more on recycling.

**W**ipotec currently produces around 70 tons of residual waste every year. Collecting this waste costs a lot. To tackle this problem, the company relies on the magic formula of sorting waste according to type. Various recyclable materials like paper, PE films, cartons as well as coffee and food residue should be collected separately. Collection points are installed around the production facilities and the offices to facilitate sorting of recyclable materials. Implementing this system has led to an impressive reduction in the volume of waste to around 47 tons per year and the number of collections has been reduced to 18.

Sorting recyclable materials by type also reduces the quantity of mixed scrap. Currently, around 25 tons are produced annually. In the first stage, this ratio is set to be reduced to approximately 15 tons. To achieve this, investments are being made in more chip carts and collection bins to sort scrap consistently directly at the machines. High-quality materials are thus kept in the recycling loop without the need for complex sorting processes. At the same time, transportation of mixed scrap to the recycler is almost halved.

A key focus of the new recycling concept is three selected recyclable materials for which Wipotec is developing innovative solutions to optimize the recycling loop.

#### Recyclable material no. 1: Carton

Every year 60 tons of carton are produced at Wipotec, which previously required 60 trips for disposal. To make these cartons recyclable the company is planning to purchase its own press. Pressing these cartons will produce more than 120 carton bales requiring only four collections every year. In future, some of the carton will be recycled on site and reused as packaging material. This action reduces the need for new packaging material and helps to further conserve resources.



*Sustainability concerns everyone.*

**Lennard Wagner**  
Wipotec Production

#### Recyclable material no. 2: Aluminum chips

The production of aluminum parts at Wipotec generates over 50 tons of chips per year. To reduce the approximately 33 collections, the company is planning to use its own aluminum press to press the chips into briquettes. The coolant adhering to the chips is removed so that the briquettes only have a residual moisture content of approximately 1%. By pressing the chips, the company achieves a volume reduction of 1:6, thus reducing the number of collections to 10 a year. Furthermore, the recyclable briquettes can also be sold directly.

#### Recyclable material no. 3: PE film

Polyethylene film (PE film) is a valuable recyclable material that previously ended up in the residual waste at Wipotec. The new concept envisages pressing PE film into bales at the plant and transferring them directly to the disposal company. >>



**Introducing a traffic light system**

To help employees sort recyclable materials, Wipotec has introduced a traffic light system, which gives a visual representation of the recycling principle. This serves to raise awareness for the recoverability of the sorted materials and the importance of sorting them according to type.

To implement the new recycling system efficiently, Wipotec is planning to construct a recycling center where the collected recyclable materials can be stored and processed centrally.

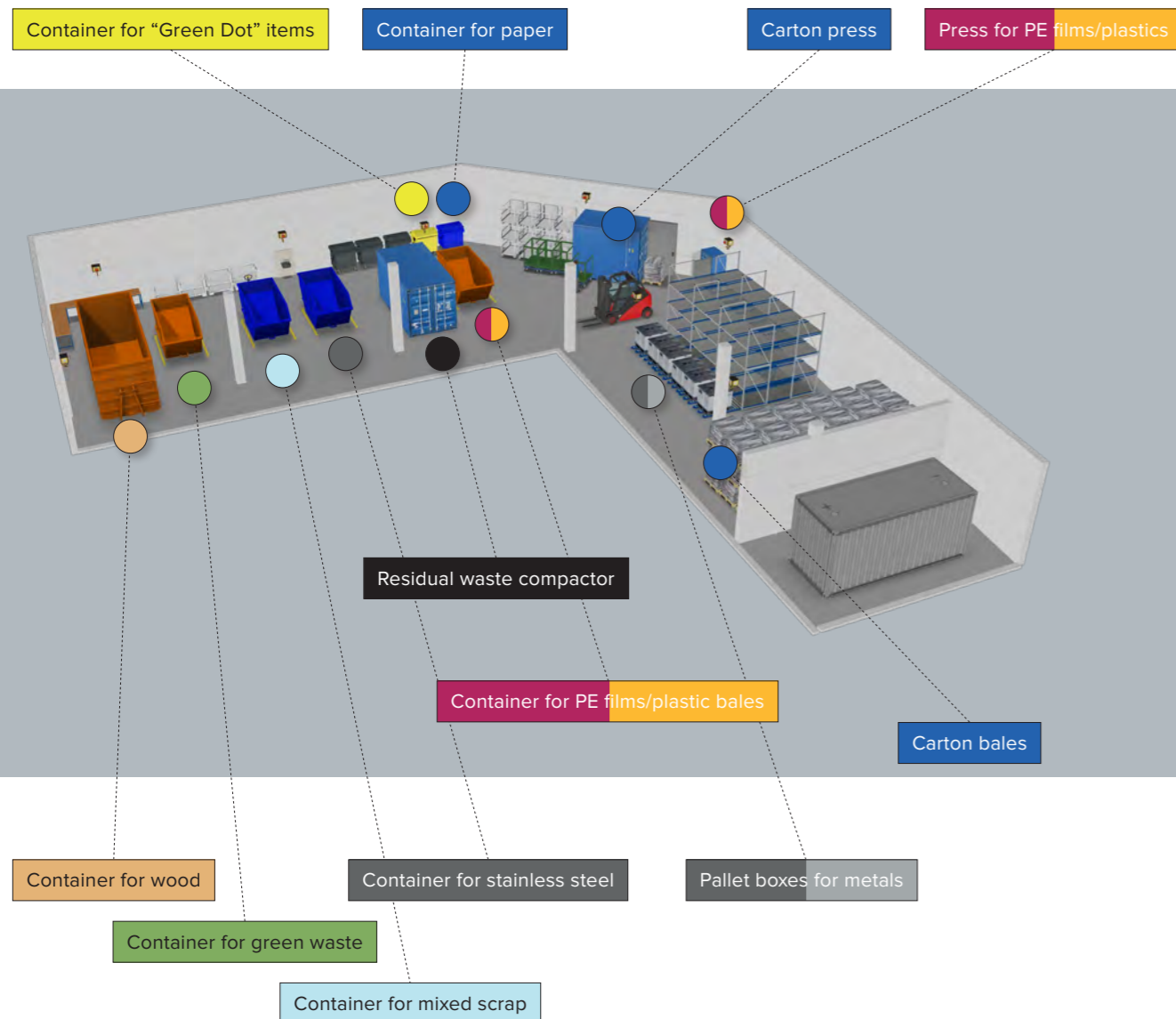
The presses will also be located here. These presses process the recyclable materials for recycling and thus also generate higher returns. Wipotec's goal is ambitious: a 70% reduction of waste transportation per year and a reduction of the residual waste volume by more than one third.

With this new recycling concept, the company is setting an example for sustainability, resource conservation and is making an important contribution to protecting our environment. ▲

**Overview traffic light system – Recyclable labels**

Carton	PE film	Paper	Wood	"Green Dot" items
Food waste	Residual waste	Green waste	Plastic	Aluminum chips
Aluminum briquettes	Aluminum scrap	Mixed scrap	Stainless steel chips	Stainless steel scrap
Brass chips	Brass scrap			

**Recycling center layout**



# Coca-Cola wins award with Wipotec technology

We wish to congratulate our customer Coca-Cola Latin America on winning the prestigious GS1 Brasil Automation Award in the sustainability category. This remarkable achievement underscores Coca-Cola's ongoing commitment to environmental protection and sustainability.

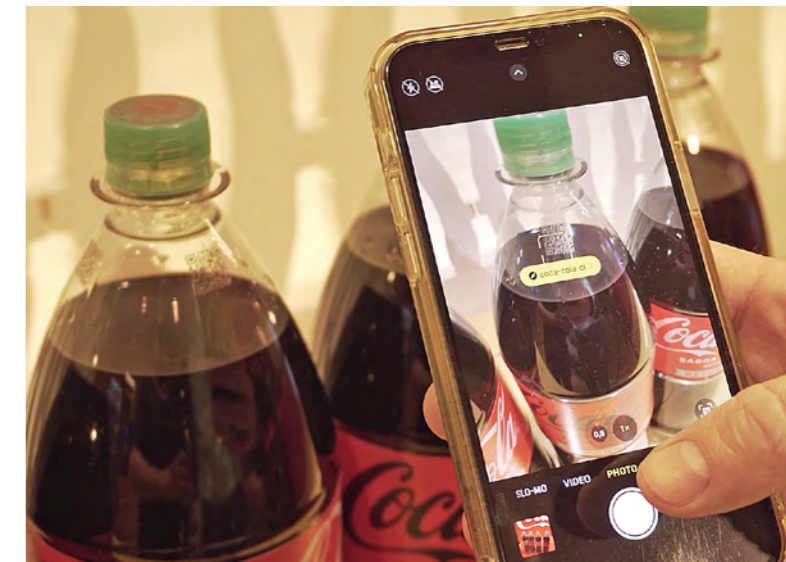
The award is a testament to outstanding contributions in the pursuit of eco-friendly practices. GS1 recognizes companies applying GS1 standards in the pursuit of this goal. Coca-Cola has achieved this by introducing the innovative "refPET" system for the circular economy of bottles.

RefPET increases the use of refillable PET bottles. Each bottle is returned and reused as often as possible. For this purpose, every bottle needs a durable unique marking. At the same time, the return process must be as simple as possible. The solution is a serialized QR code with GS1 Digital Link standard, which can be scanned by any smartphone. This code is applied during the bottle manufacturing process – and this is where Wipotec comes in.

"The spark already ignited in 2019 at an event at GS1 Brazil," says Volker Ditscher, Director Global Sales Track & Trace at Wipotec, who then gave the initial impulse together with partner MCPack. However, laser marking of PET bottles presents different challenges than printing on boxes. It "took a lot of extra development by Wipotec's technical team but resulted even better than the original specifications", as Alfeu Junior, specialist for new technologies at Coca-Cola Latin America, explains.

"Thanks to the extremely close collaboration and trust of our customer, we were able to push the boundaries of what is technologically possible," states Global Account Manager

Thomas Krämer, adding "What makes me even happier is that with this innovation we make a valuable contribution to a sustainable future." This is also particularly important to Wipotec CEO and founder Theo Düppre: "We are extremely proud of this development because it combines everything that Wipotec stands for: superior technology, relentless innovation and sustainable action." ▲





# Trade shows: interpack & Co.

Please do not touch? You won't hear this from Wipotec. It's the reason why we attend trade shows. Touch, ask questions, try out: At interpack, Wipotec was impressive on all levels. And the next shows are just around the corner.



Two-level Wipotec exhibition booth at interpack: Modularity at all levels

Nothing convinces more than a personal impression. That is why customers visit trade shows, why they want to see machines in real operating conditions and why they ask questions at exhibitors' booths. So Wipotec's trade show philosophy is based on not just announcing technologies, but also demonstrating them. Technologies you can touch, try out and understand. This was the case at interpack in Düsseldorf in May. On site, in direct contact with the machines designed for the packaging tasks

which the customers have come to see. Wipotec presented solutions to customers – on over 400 square meters, in the form of modularly designed systems to satisfy even the most individual requirements.

At the Wipotec booth, customers met highly competent application specialists who, in addition to their technical expertise, see themselves first and foremost as consultants. They know and recognize the visitor's application environment and work out solutions.

## Exhibition booths for visitors

It is probably due to the wide range of Wipotec solutions that more visitors were attracted this time than ever before. With innovative weighing and inspection solutions, two main applications in the processing and packaging environment were presented at the Wipotec booth, which attracted the interest of many show visitors: Checkweighers and X-ray and optical inspection solutions. Both applications also play a key role in product safety, which was one of the hot topics at interpack 2023.

In addition to quality assurance, serialization using Track & Trace is one of the main tasks in the packaging sector for the pharmaceutical industry. At this year's interpack, Wipotec presented the Traceable Quality System (TQS), a highly flexible track and trace platform for reliable and future-proof solutions for pharmaceutical customers.

## Modular on all levels

The motto "Modular on all levels" was so obvious and at the same time so impressive in its consistency that visitors were able to appreciate what it actually meant after initial contact with the machines on display: product architecture for all solutions based on clearly delineated functional elements.

At Wipotec, these elements are each assigned to a system component responsible for weighing, optical and X-ray inspection, metal detection or serialization. In contrast to integral systems, systems such as those offered by Wipotec to its customers can be dismantled into their components, redesigned according to individual specifications and reassembled much more easily without any loss of functionality. For customers this means: Wipotec's modular solutions are more flexible, scalable and future-proof than conventional systems. This allows flexible adaptation to changing market conditions with minimal effort.

It gives producers of all packages maximum freedom to customize their products. Wipotec Weigh Cells and weighing kits, which were also presented, offer unprecedented modularity and are of particular interest to mechanical engineers and system integrators among the show visitors.

In many instances, they were looking for technical solutions that enable them to achieve their requirements for maximum precision when detecting product weights. And they found solutions with Wipotec at interpack.

## Trade shows: Always a good opportunity!

In 2023, Wipotec was represented at more than 70 trade shows around the world. Because trade shows, major ones and smaller ones, are all back, like last year Wipotec will use many opportunities to be present at shows in 2024. For example, by participating in the upcoming FachPack in Nuremberg, the European trade show for packaging, technology and processes: Last time round there were a record number of visitors and live-streaming directly from the booth.

There were live reports on weighing technology and systems and information was provided about the latest developments and trends in inspection technology. This year's focus will also be on Anuga FoodTec andACHEMA. These trade shows, which are vital for Wipotec, are a central launch pad for business opportunities and facilitate informative product presentations. What else is on offer to show attendees in 2024? In any case, there will be many opportunities to gather information relating to the latest developments and trends in the field of inspection, serialization and weighing technology. And so Wipotec is already looking forward to all the upcoming trade shows – just like every year! ▲

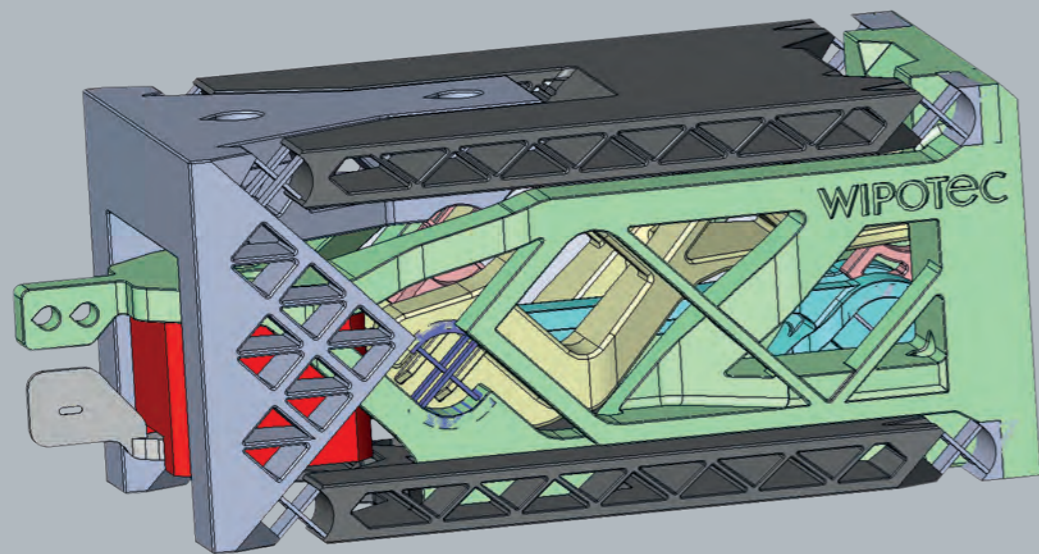


The team at interpack



# / Weigh Cells: Monoblocks from 3D printers

The central element of scales is a Weigh Cell with its monolithic controller and lever mechanism, the monoblock. Monoblocks developed by Wipotec are unique in their design and are masterpieces of 3D CNC production. Future monoblock production using 3D printing technology opens up a new chapter in weighing technology.



Complete 3D printed monoblock: Load introduction (light gray), parallel controller (dark gray), solid surface (green) encloses two levers (turquoise and yellow), coupling rod (pink), swivel joints (purple and gray)

**W**ipotec Weigh Cells have always used the principle of force restoration in combination with a monolithic aluminum block – the Wipotec monoblock. Up to now, this has been produced on a CNC-controlled cutting machine. A monoblock weighing around five kilograms forms the core of a high-precision, industrial-grade automatic scale, which can dynamically weigh 15 kilograms of load capacity with maximum accuracy at high transport speeds.

In the pharmaceutical sector, there are different requirements: here it is a question of milligrams or micrograms. The monoblocks used are delicate and weigh just a few grams. But they are also produced fully automatically on ultra-precise tool machines, the acquisition costs of which can be in the seven-figure range.

### It all started in 2D

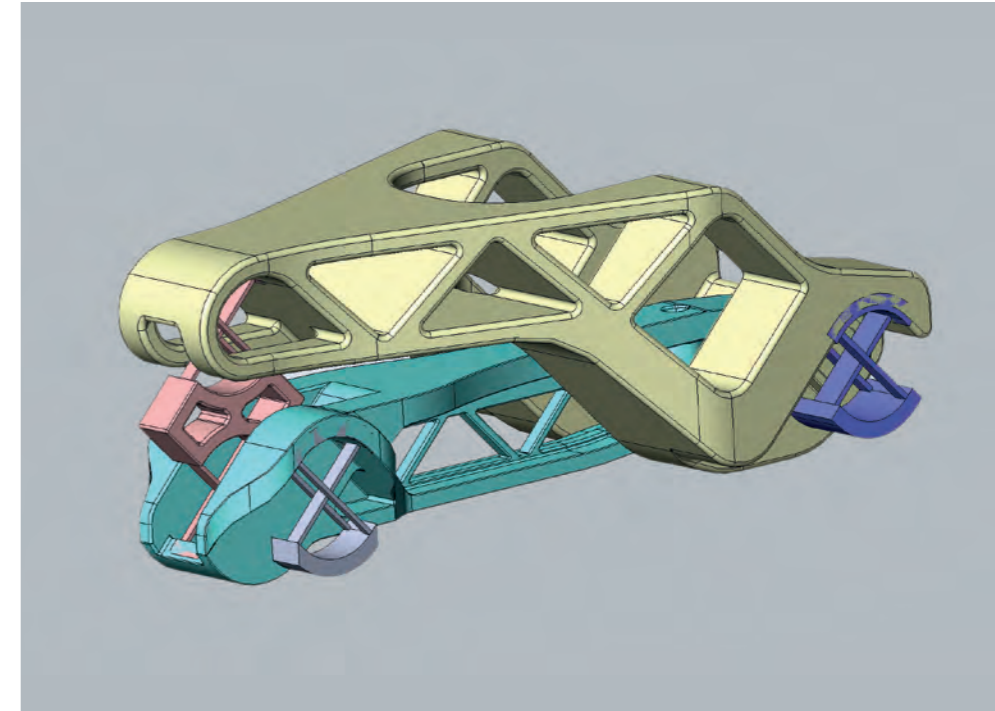
Initially, the geometry of the controller and lever mechanism of the finished monoblocks was only two-dimensional, until the ability to create undercuts was added with the advances in 3D machining technology, which then made it possible to create more complex and smaller structures.

However, this technology is now also reaching its own limitations – specifically when different components of the monoblock's controller and lever mechanism need to be arranged in an even more space-saving arrangement, nested inside each other. This is precisely where 3D printing comes in.



*3D printing is a quantum leap in the design of monoblocks.*

**Bernd Zinke**  
Head of Metrology at Wipotec



Two nested levers (turquoise and yellow), coupling rod (pink), swivel joints (purple and gray)

### A technology on the move

Several years ago, Wipotec began to conceive and design monoblocks that were suitable for 3D printing technology. In 3D printing, one material layer is applied after the other and is liquefied by a laser beam so that it can bond with the previous layer (additive manufacturing).

Completely new design possibilities arise in particular from the fact that the layered material structure of one monoblock component can be interrupted by the material structure of another component. Wipotec has now filed several patent applications for 3D printing technology in weighing technology, in which various materials are also used for different structures.

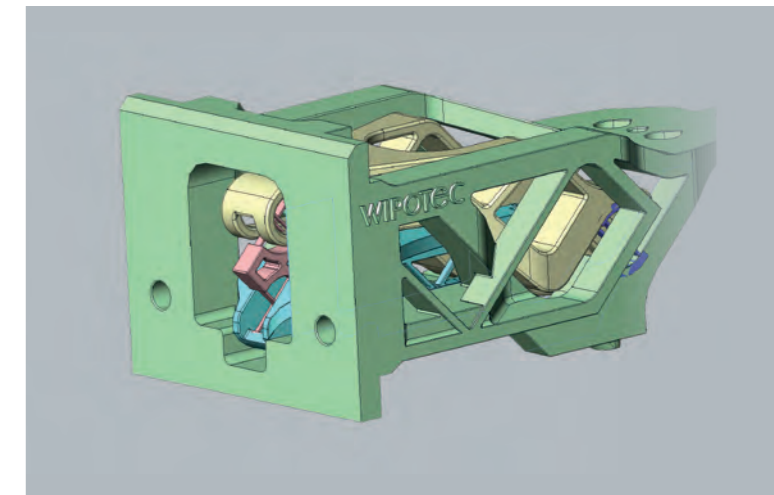
### What will be possible in the future

Monoblocks produced using 3D printing look very different than previous monoblocks. Their size has “shrunk” and they comprise much less material, which is positive for the ecological balance. The test methods also need to be redesigned, as the highly nested structure means that tactile measurement methods can no longer reach all the required measurement locations. X-ray processes are thus in demand, a technology that Wipotec also develops and manufactures in-house.

### A technological quantum leap

3D printing technology is now widely used in various industries, for example for printing lightweight frameworks and in lightweight construction. It is also used in prototype construction, for example in some areas of automotive engineering. However, in weighing technology it is still in its infancy, and Wipotec is definitely a pioneer with regard to new design possibilities for monoblock geometries. In future, the aim will be to use this technology more cost effectively in series production.

The future of monoblocks at Wipotec may no longer be in machining, but it will be all the more exciting ... ▲



Solid surface (green) encloses: two levers (turquoise and yellow), coupling rod (pink), swivel joints (purple and gray)



# /Wipotec on the Road

Mobile showroom truck in a class of its own – a recipe for success in Europe is now also becoming a reality at Wipotec in the United States. Naturally larger and expandable, as it should be, because in the USA everything somehow feels bigger, taller, wider ...

**T**he showroom behind the Ford Pickup is more than eleven meters in length and is expandable in width by means of a moveable side wall module. The mobile exhibition area behind the towing vehicle can thus accommodate three machines. The showroom contains the most powerful and universal protagonists from Wipotec's fleet of machines: including the All-in-One, which performs an X-ray inspection in a single pass, followed by metal detection. Both inspections together stand for reliable foreign body control.

This is followed by an optical product inspection and subsequently checkweighing. The four control systems in a single compact unit thus represent a full and top-class quality control. Visitors to the mobile showroom can inspect all control processes in practice and on site: this is precisely what the hands-on principle means, with which Wipotec's US subsidiary is promoting its show truck in the USA with considerable success.

## You can't get any closer

For Wipotec, one thing is clear: if the customer cannot come to Wipotec's booth, Wipotec will come to the customer. So what could be more obvious than designing a mobile exhibition booth in the United States that can be driven to any factory site? A truck, comparable to the one in Europe, that is full of innovative solutions and ready for demonstration on real products. Weighing and inspection technologies "on the road", in the truest sense of the word.

What sounds like a huge effort, on closer inspection turns out to be an ideal solution, a win-win situation for visitors and application specialists. Demonstration-ready machines, just a stone's throw away from your own production line – you can't get any closer. Testing the machines on site with real products – it couldn't be more realistic. Just like at an exhibition booth: documentation, information, machinery, close enough to touch and with demonstrations by application specialists. Companies that take advantage of this opportunity experience their own private trade show, directly on their company premises. >>

“*Demonstration-ready machines, just a stone's throw away from your own production line*”







Interior of the show truck

### Experience in practice

However, anyone who thinks that the US show truck will only feature glossy showcases, leaflet stands and flat screens will be in for a surprise. The machines installed in the mobile showroom are ready for demonstration without any restrictions, are switched on for the demonstrations and run in “real operating mode”. Of course, they run with manual feed, but with full functionality, which makes no difference to real operating conditions later on. This means that no questions remain unanswered during demonstrations and all other questions are answered by the experts on board.

The equipment in the mobile showroom is primarily aimed at customers in the consumer goods manufacturing and the pharmaceutical industries. The “rolling in-house trade show” showcases the latest Wipotec machines from the field of multi-inspection technology.

### Solutions on board

There will be an opportunity to discuss proposed solutions for a wide range of applications with specialists and experts in the show truck. The fourfold multi-inspection system, All-in-One, has already been mentioned.

But precise weighing at the highest cycle rates, as mastered by the HC-A, is also demonstrated in the truck. The HC-A checkweigher is the flagship of the Wipotec checkweighers and so it is naturally also included on board. A solid stainless steel frame ensures maximum weighing accuracy even at very high belt speeds and throughput rates of up to 650 products per minute. This checkweigher is also suitable for complex multilane applications.

A wide range of sorting devices ensures that products with incorrect weights are reliably ejected according to their packaging. Whether folding boxes or bottles: top-bottom conveyors, lateral side grip conveyors and transport screws ensure optimum product handling in all applications.

The TQS-HC-A-TE is also on board. Customers from the pharmaceutical sector will be spoiled here. A compact serialization machine, equipped on both sides with thermal printers and labeling systems for labels and vignettes, which can seal pharmaceutical boxes with tamper-evident sealing labels. Integrated camera systems verify all print data.

But that's not all. A weighing system, which is also integrated, checks that the already sealed boxes are complete and that the blisters are correctly filled or that the information leaflet is included. Here too, only absolutely faultless products can pass through the machine. All others are reliably sorted out according to the cause of the defect.

### On the road in the northeast USA

The first tour went to the northeast USA, to the New York metropolitan area, in mid-November. Visits were made to existing customers, who had previously requested a demo appointment. The European show truck had already covered more than 50,000 kilometers in 2021, visiting over 100 companies. Last year, the northernmost tour went all the way up to Finland. The longest tour, on the other hand, covered 11,000 kilometers through Spain – this record could well be beaten in the United States. The best is saved for last: like its European counterpart, the US truck can also be booked exclusively and free of charge (showtruck.us@wipotec.com).

What's the saying? Nothing beats the hands-on approach! ▲



## / End-of-Line Marking and verification

This close collaboration with Wipotec makes it possible for Block House to plan for the future and increasingly automate its production processes.



**B**lock House Butchery is passionate about food production and food wholesale. For decades, the butchery has relied on the highest technical standards in its production processes as a way to retain the trust of its customers. Its range of products for the food retail business comprises burgers, steaks, sauces, dips and many more.

To achieve the highest possible quality standards, Block House Butchery uses various Wipotec systems in the end-of-line functions: checkweighers, metal detectors, X-ray inspection and TQS for marking and verification. All recorded data is collected centrally using the networking capacities of Comscale. >>





Jörg Jablonski, Managing Director  
for Production and Technology  
at Block House Butchery

### Grown with requirements

Jörg Jablonski is Managing Director for Production and Technology at Block House Butchery. He and his team have been working together with Wipotec for almost 15 years. “We use Wipotec technology in the end-of-line functions. Primarily, we use technology to ensure quality, but also to document controlled processes.” This is why systems and software from almost all of Wipotec’s business areas are in use at Block House Butchery – also expanding historically together with customers’ requirements. So this collaboration has a long history, but it always looks towards the future.

Block House increasingly relies on automation in its production processes and requires technology that can meet this demand: “We guarantee our customers’ trust in our brand using state-of-the-art technology for quality assurance purposes.”

### Core competence checkweigher

Block House’s hygiene standards are just as high as the demands on quality. Even in the final packaging area, wet cleaning must take place on a daily basis.

Combined with the low temperature, this is a particularly challenging environment for technical equipment. The first Wipotec checkweigher was installed in the butchery back in 2010 – and is still operating perfectly. The ambient temperature in the butchery has a significant influence on the equipment and the accuracy of the various systems.

### Our customer Block House Butchery

The company is part of the Block Group, which employs around 180 people and has an annual turnover of approximately €120 million. On the basis of their experience in the restaurant business, a passion for gastronomy and stringent quality standards, the present group of companies gradually came into being.

**Established:** 1972

**Location:** Hamburg, Germany

**Products:** Meat products

**More information:**

[www.block-fleischerei.de](http://www.block-fleischerei.de)

Special accuracy is required here. After all, Block House also wants to live up to its quality standards and comply with the stated weight values in accordance with the prepackaging directive. As Jörg Jablonski states, the fact that all determined weight values are recorded and stored centrally in Comscale is a great help.

### Foreign body detection at its best

Is a metal detector not sufficient to eliminate foreign bodies? In view of Block House’s sense of responsibility for the production process, it is definitely not the case.

Of course, Wipotec metal detectors are also in use in the butchery. According to Jörg Jablonski, they are “the absolute basic requirement for a company producing food.” Just like the checkweighers, they are connected to a network using Comscale, making all collected data traceable and comprehensible.

In meat processing, it is important to filter out not only metallic foreign bodies but also a wide range of natural foreign bodies. The raw material may contain cartilage, bone, or other particles that the metal detector would not detect.

This is where Wipotec’s SC-E X-ray technology takes over. Block House even detects spice nests with the scanner, preventing affected products from coming off the production line.



Even the smallest foreign bodies are  
reliably detected and discharged

### Impressive print result

The latest acquisition from Wipotec is TQS – Traceable Quality System. It is also installed at the end of the line and handles product marking. And again, Block House proves to be exceptionally conscientious and foresighted: “In view of the speed of the automated process, it was essential for us to integrate a camera inspection system into the line to avoid recall campaigns due to incorrectly declared or undeclared goods from retailers.”

Unlike the regular approach of installing a separate printer in line, Block House has opted for a holistic system. Printer, camera and transport are coordinated and unified in a central control system. The result speaks for itself and Jörg Jablonski has significantly optimized the production process:

“We create the layout once, and that then applies to both printing and camera setup, so the operator does not have to teach in the printer and camera separately, as is the case with traditional devices.” Jörg Jablonski appreciates the system’s thermal inkjet printer (TIJ): “We are very pleased with the print quality, accuracy and clarity of the cartridge system.

The classic inkjet printer always has its disadvantages.” The production staff at Block House are particularly impressed by the fact that the time and effort required for refilling and cleaning has been significantly reduced. >>



*We must ensure 100% that the product we place on the market is fully and correctly marked.*

**Jörg Jablonski**  
Managing Director





The printer and camera work together.

**Economic foresight**

Currently, Block House products are labeled with the freeze date, best before date and lot number. With TQS, Jörg Jablonski has also planned ahead: "In the future, the market will develop in such a way that we will increasingly use two-dimensional printing, a QR code for example, to be able to integrate much more information in marking and labeling.

Using this technology, we are ready for the future. We are able to place 2D codes on our products and thus provide food retailers with more information." As soon as the code contains production-related data, it can no longer be pre-printed in the packaging design. The TQS at Block House then generates a code from the text content and also prints it out.

**Comscale has everything in view**

Block House uses Comscale for quality assurance purposes and to maintain an overview during dual-shift operation. The fact that all Wipotec systems are interlinked via this system is an enormous added value for Jörg Jablonski: "The software takes care of all the documentation, reporting and data archiving for us. We can access the data at any time, evaluate the statistics, and even detect where problems have occurred in the past. Especially for audits, Comscale is highly relevant to us."

**"Thanks to Comscale software, we have seamless documentation with very clear traceability."**

**Powerful service**

For Jörg Jablonski, excellent service is one major reason for the longstanding collaboration with Wipotec: "We have very good support in-house." The more different systems are used in the butchery, the more the benefits are for Block House. Instead of hiring different companies and service technicians for checkweighers, metal detectors, X-ray inspection, printers and cameras, all systems are serviced together. ▲



*We want to continue in this way with Wipotec in the future because we are very satisfied with both the technology and the service.*

**Jörg Jablonski**  
Managing Director

# / HC-A-EX in action

## Our solution for ATEX Zone 2

Every element of a production facility must meet certain requirements to minimize the risks to people and machinery in potentially explosive environments. Certain recommendations, rules and regulations exist for meeting these requirements. For example, our HC-A-EX is designed for precise weighing in accordance with the ATEX Zone 2 standards.

If combustible materials and oxygen inevitably come together in a confined space during production, every effort must be made to prevent a source of ignition. Otherwise, there is a risk of life-threatening situations and explosions. To prevent this extreme occurrence, the ATEX regulations were created as a standardized set of rules for companies operating in this country. Directive 2014/34/EU specifically defines various preventive and protective measures for hazardous areas.

A detailed risk assessment should thus always take place as the first step. The classification of the ATEX zones ultimately determines how often or for how long a potentially explosive atmosphere can exist. The lower the zone number, the higher the requirements for protective measures.

**Creating ideal conditions**

The modular system of the HC-A-EX adapts fully to the desired application. Nickel-coated strips (electrical conductivity) and the pressurized enclosure of the control cabinet (to prevent the ingress of flammable gases) ensure the best possible protection against explosions. Nonetheless, a throughput of more than 300 pieces per minute is achieved. The core of the system is formed by the EC-FS-EX series Weigh Cell, which complies with ignition protection type EX II 3 D Ex tc IIIB T100 °C Dc. Packaged in high-quality stainless steel, the cell has a weighing range of up to 15 kilograms at a sampling rate of one millisecond. As usual, optimum protection is ensured with complete functionality. ▲



HC-A-EX checkweigher with integrated EC-FS-EX Weigh Cell

Watch this video to see how 300 aerosol cans per minute are checked using precise high-speed checkweighers:





# / Weighing technology in battery production

The main components of electric vehicles include drive batteries. They are the actual force driving e-mobility and are proving to be a prime example of innovations whose time is now. In the production of battery cells, Wipotec weighing systems carry out most quality assurance for drive batteries by enabling the weight of the electrolyte in each cell to be checked.



The automotive industry is experiencing a far-reaching upheaval around the world, as evidenced by the current approval figures: In 2021, hybrid and electric cars already accounted for 42.4% of new registrations in Germany.<sup>1)</sup>

Efficient batteries that are capable of supplying the vehicles with the energy they need are at the center of all efforts with the ultimate goal of e-mobility.

The latest-generation electric car consists of many systems. In addition to tried and tested components such as the chassis and the body, there is a new drive system with an electric motor and a battery system that is arranged at the center between the front and rear axles (and is thus best protected in conventional road accidents). The range of the vehicle, which is sometimes a decisive factor for the buyer, ultimately depends on how these components work together.

## Drive batteries and battery cells

Due to the long service life of the battery cells and their ever-improving performance data, almost the entire automotive industry relies on electrolyte-based lithium-ion technology. Pouch, prismatic and round cells prove to be particularly suitable designs. The manufacturer's requirements alone set the standard of production and define the design and material requirements of the cells in detail.

Wipotec supplies the weighing system for quality control, which is adapted to the different formats and processes in battery production. With sampling rates of one millisecond per measurement, the weight can be determined up to one ten-thousandth of a gram during the battery cell completeness check. Precision pays off.

## The price of sustainability

Many electric vehicles are currently more expensive to buy than comparable combustion vehicles. However, thanks to government subsidies and their significantly lower energy consumption, the overall costs of e-mobility quickly prove to be lower in continued use. The purchase prices can also be explained by higher costs associated with the production of lithium-ion batteries. Experience shows that the battery system can account for around 40% of the total added value of a vehicle. The cells alone account for much more than half of this and the manufacturing costs of these components regularly account for one third of the market value of an electric vehicle.

This means that there is a considerable incentive for vehicle manufacturers to minimize these expenses. Investment in research is just as critical as improving all production sequences to ensure that large quantities are devoid of risks and defects. The pursuit of innovation should never detract from the quality of the end product.

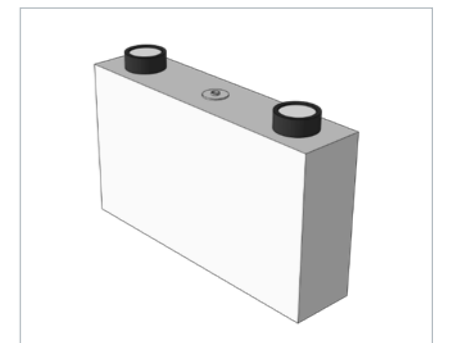
## Quality assurance: Batteries on the test bench

In the automotive industry, all process optimization measures are high priority. Working with valuable materials like cobalt, nickel or lithium, which are needed for the manufacture of battery cells, requires these materials to be used optimally.

For example, a control system that limits the amount of electrolyte in ongoing production of thousands of cells to the exact amount in each case can result in significant savings. The more accurate the individual weighings are, the more stable the whole production process becomes, resulting in batteries of consistent quality. The focus is on the quality assurance of battery cell packs. Quality control using state-of-the-art Wipotec Weigh Cells ensures that subsequent improvements or recalls, which could be detrimental to the brand image, can be avoided right from the outset.



Pouch cell



Prismatic cell



Round cell

## Wipotec makes the difference

Quality assurance in e-mobility using the example of battery cells begins with precise inspection of the individual components of a battery. During production, each cell is subject to close scrutiny, which comprises several inspections. Wipotec has developed AVC technology specifically for production environments that are prone to interference and where vibrations are an everyday occurrence. Adequate results can only be achieved by effective weighing. The right procedure therefore remains essential. >>

<sup>1)</sup> <https://de.statista.com/infografik/2870/new-registrations-of-hybrid-and-electric-cars-in-germany>



Unlike systems based on strain gauges (SG), Wipotec Weigh Cells dispense with a mechanical intermediate stage and operate according to the principle of electro-magnetic force restoration (EMFR), comparable to a simple beam balance. If a weight is placed on one side of the beam, the opposite side of the weighing beam attempts to move out of the magnet's magnetic field. The position indicator detects this deviation and the amount of current required for balancing the beam and ensuring that no position change can occur is transmitted through the coil. As the current is proportional to the weight and can be measured via a resistor, it can be converted into a digital signal which is used for further processing.

#### Electrolyte weighing

The main area of application for Weigh Cells in the production of drive batteries for electric vehicles is checking the electrolyte weight. The weight of the electrolyte in the battery cell accounts for only 10–15 % of the total weight, so the tare-gross method<sup>2)</sup> is used for weighing. The weighing system first determines the empty weight of the cell and in the next step compares this value with the new measurement of the total weight including electrolyte after filling. This ensures that the amount of electrolyte filled is always the same and corresponds to the individual specifications. If the electrolyte fluid is too low, the battery may fail. Too much electrolyte can cause elementary damage to the battery system due to the fact that the liquid expands during operation.

#### Ahead of the times with Wipotec

E-mobility is gaining ground. At the heart of these environmentally friendly technologies are the battery systems installed in electric cars, where the smallest fluctuations in product quality can make the difference between success and failure. This is why the German government offers generous subsidies to support research into battery cells. Ideally, the German government expects ten million electric vehicles on the roads in Germany alone by 2030, and even more in the rest of Europe.<sup>3)</sup>

<sup>2)</sup> <https://www.wipotec.com/us/media-library/detailed-view/news/tare-gross-weighing-of-batteries>

<sup>3)</sup> [www.bmwi.de/Redaktion/DE/Dossier/batteriezellfertigung.htm](http://www.bmwi.de/Redaktion/DE/Dossier/batteriezellfertigung.htm) (Batterien „made in Germany“)



*Recall campaigns reduce confidence in manufacturers and their vehicles and lead to lost sales.*

Particular attention is paid to a sustainable value chain. A digital battery passport will thus soon become mandatory throughout the EU, allowing the entire life cycle of a battery to be tracked, from its production and use through to recycling. Wipotec is already using systems of this type in other areas. So, it is not difficult to transfer this to other areas: Innovative Track & Trace leads to seamless aggregation. Quality assurance does not have to remain a dream of the future. ▲

Visit us at the Battery Show in Stuttgart.  
June 18 – 20, 2024  
Hall 6, Stand B16



Lithium-ion battery

# Complete safety for Perfecto Quality Food

To increase food safety and protect against potential fraud, Perfecto Quality Foods decided to install an X-ray inspection system in its new packaging line.

Perfecto Quality Foods has been around for over 40 years, says Michael Barbara from the management team. The company was founded by his father and is still family-owned today. In the early 1990s, Perfecto Quality Foods was the first supplier to bring fresh chicken kebabs to the refrigerated shelves of Australian supermarkets. In Riverstone in the Australian state of New South Wales, three production lines are now in operation at two different sites in direct vicinity of each other. From there, various supermarket chains in Australia are supplied with fresh, tasty and high-quality chicken kebabs and, more recently, also with cooking boxes. >>







Fresh chicken kebabs

**Maximum food safety**

Following installation, the impression of Wipotec and Diverseco was that the system in which the cooking box sets are packed is an extremely clean system. When asked about the general approach and philosophy of his company with regard to food safety, Michael Barbara explains: “We always strive for the highest standards in everything we do, especially when it comes to food safety.” And: “If [something] doesn’t meet the criteria, we say: Stop everything and let’s see what’s going on.”

**Perfecto Quality Foods cooking boxes**

The Perfecto Quality Foods cooking boxes offer a wide variety of flavors and aromas. The range extends from tacos with guacamole to pasta with fresh chicken. All ingredients are already washed and cut, the meat is marinated and everything else is prepared. The cooking time never exceeds Michael Barbara’s stated target: 10 minutes. And you never have the problem of forgetting to buy an ingredient – or as Michael Barbara says: “It’s all in the box.”

**Our customer  
Perfecto Quality Foods**

Perfecto Quality Foods is a family-run company that has virtually pioneered the field of fresh chicken kebabs in Australia. The company has recently expanded its range to include cooking boxes, which focus on high-quality fresh ingredients and cooking times of less than 10 minutes.

**Established:** 1980

**Location:** Riverstone (New South Wales, Australia)

**Products:** Chicken kebabs, cooking boxes

**More information:**

<https://perfectofoods.com.au>



Tacos with desiccant bag

**“X-ray was really the only option.”**

Michael Barbara explains that Perfecto Quality Foods have been using metal detectors on the chicken packaging lines for years. With the new line and the new type of products, it was very important to take it to the next level and so the decision was made to install the first X-ray inspection system. “We were most interested in the taco box.” The difficulty here was that the tortilla packaging contains a desiccant bag.

This protects the taco from moisture, but contains iron powder, among other things. “And the avocado also has an aluminum foil lid. So we needed something that would allow us to carry out an inspection observing the highest standards, and X-ray was truly the only option.” Both components of the packaging, iron powder and/or aluminum-coated foil, preclude the use of a metal detector for adequate foreign body inspection.

**Safety for retailers and manufacturers**

In addition to increasing food safety, Perfecto Quality Foods also wants to ensure that no other complaints are received for which the company is not responsible, Michael Barbara explains. So, we analyzed what could be a source of contamination when preparing food at home.

Special test items were created for this purpose, which are used to validate the machine – in addition to the test specimens that are usually used for X-ray inspection systems. This approach is very effective, not only to protect Perfecto Quality Foods and the retailers from complaints or potential lawsuits, but also to protect their reputation and brand. ▲



Michael Barbara with one of his cooking boxes in front of the X-ray inspection system



# / Glass-in-glass inspection

## Carl Durach's quality standards

Processing natural products places special demands on manufacturers. Safe production that satisfies both consumers and lawmakers therefore requires rigorous controls. In Wipotec, Carl Durach has found a reliable partner for this.



The 15" HMI shows the X-ray images of the beet jars

Directly from its home location in Bavarian Swabia the acclaimed family business Carl Durach GmbH & Co. KG produces pickled products and vegetable preserves for the European market. Well-known bulk consumers as well as prominent discounters have always been some of the satisfied customers of a company that can rightly be proud of over 130 years of experience with natural products. Today, Günter Durach Jr. is the fourth generation to run the family business.

"We fill jars, soft packaging (pouches) and cans. So, between wet production and pasteurization, our machinery has to operate without a hitch in highly adverse conditions." The solution for Carl Durach? Dynamic weighing and inspection solutions from Wipotec meet these high demands.

The filling process is supported by classic checkweighers, while X-ray systems detect foreign bodies.

### For a glass full of beet

To produce Durach's popular beet, farmers from the surrounding area supply fresh, unprocessed beetroot, which has to be further prepared. After being cut into slices and undergoing an initial inspection, they are then used to fill the typical faceted glasses. However, natural products are rarely homogeneous, which makes dispatching them more difficult.

A precise verification of the filling quantities is thus absolutely essential. Carl Durach uses checkweighers from the HC-M-WD series for this purpose. This system enables high-precision measurements at equally high speeds. The checkweigher also shines during regular cleaning. WD stands for Wash-Down, a hygienic design with numerous impressive advantages.

### Cleaning made easy

Beet leaves a lasting impression – when eaten, of course, but also during bottling. To ensure that floors and production plants are not forever tainted by the impressive color of the beet and that aggressive deposits do not do any damage, immediate cleaning should be a top priority. Acidic foodstuffs containing vinegar, sugar or salt are aggressive and require thorough cleaning of any surfaces they come into contact with. The hygiene concept of the HC-M-WD makes intermediate and final cleaning much easier. >>

### Our customer Carl Durach

As a manufacturer of pickled products and vegetable preserves, the family-owned company offers a wide range of services with several decades of experience in the food sector. Working together with the farmers in the region, Carl Durach always strives to achieve the highest quality.

**Established:** 1891

**Location:** Todtenweis/Sand, Germany

**Products:** Pickled products and vegetable preserves

**More information:**

[www.durach-konserven.de](http://www.durach-konserven.de)





*We see glass in glass inspection as the supreme discipline. To protect our customers, there must be no shortcomings in quality assurance.*

**Stefan Tarnowski**  
Management team

#### No danger due to glass in glass

The faceted jar is to beet what the doypack is to sauerkraut. Detecting and removing foreign bodies can be a real challenge without the right technology. As Stefan Tarnowski of the management team states: "Here at Durach, we rely on X-ray technology from Wipotec as the last stage for preventing foreign bodies in the product." "In addition to our own high standards, every product must both comply with all official regulations and meet the expectations of end users in every respect."

Carl Durach uses the SC-S 5020 Dual View X-ray scanner for this purpose. The hygienic design of this solution also stands out, with extra ground clearance and an integrated water drain. A highly accurate two-beam system inspects the contents of the glasses from multiple angles. So, critical areas like the lid or the base are inspected closely and are ejected if contamination with foreign bodies is detected.

#### Software for production optimization

The data collected from the checkweighers and X-ray systems are also aggregated using Comscale software.

"For us, this is a clear advantage of Wipotec's software. Less effort together with very effective data transmission saves time and costs in ongoing operations. If trends emerge, we can adapt the production processes in real time," Günter Durach Jr. states. ▲



Separation of beet jars for weight checking

## / Full view X-ray inspection with Dual View

The reliability of an X-ray inspection depends primarily on the selected camera positions. The more room for maneuver a system offers, the more accurate foreign body detection can be. The Dual View X-ray scanner enables the full inspection of products packed in upright containers in various orientations.

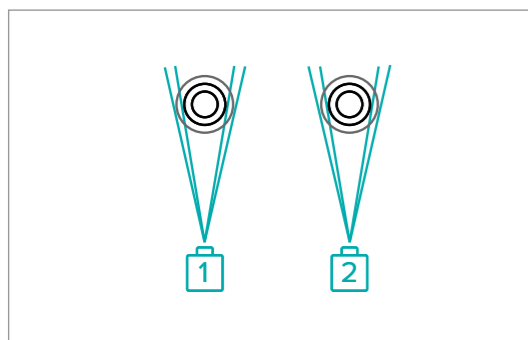
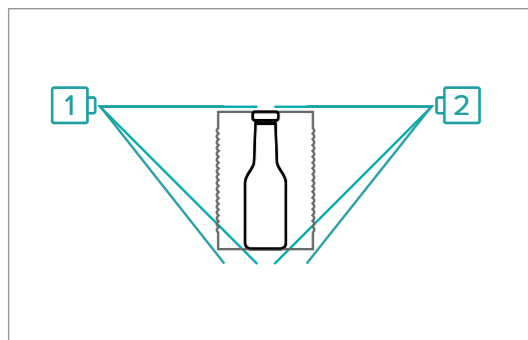
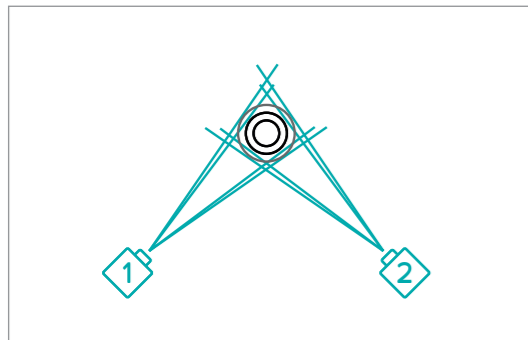
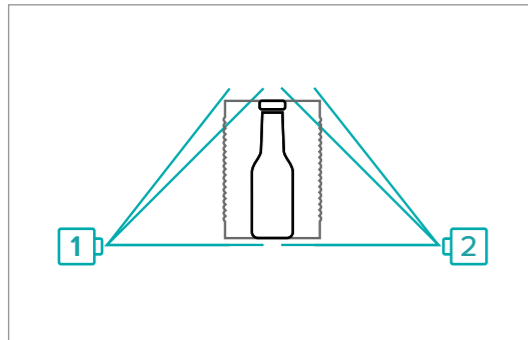
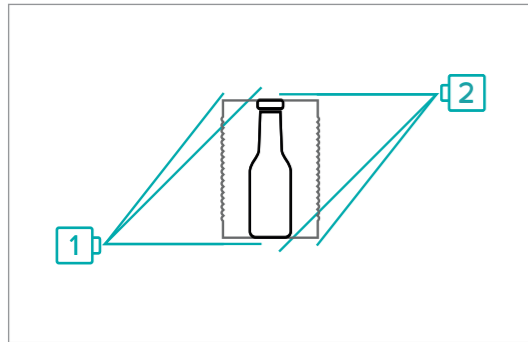


Upright products are regularly used in food packaging, and their special properties make it difficult to check the contents. Glass jars and cans in particular are typical packaging. X-ray inspection systems have therefore long been part of the basic equipment in many production facilities.

In most cases, however, a simple top-down system is not sufficient to reliably detect the product; the limitations of such solutions are quickly reached.

All too often, blind spots create unseen areas that jeopardize both care and safety. Wipotec therefore relies on two flexible X-ray detectors throughout. >>





Five possible arrangements of the beams for cans and bottles

**Precisely positioned**

The high flexibility of the Dual View SC-S 5020 X-ray scanner in the arrangement of the X-ray sources and detectors optimizes foreign body inspection to a maximum compared to conventional dual-beam systems. Two detectors can be aligned at different heights and positions so that the entire product area is covered. The possible arrangements include both cameras parallel to the floor or cover, combinations of these as well as exposure at 45° and 90° angles.

Adjustment is made by means of an integrated servo drive. A wide range of product heights is thus not a problem, nor are complex liquid or solid fillings. At the same time, software optimized for inspection divides each inspected product into several individual segments. No foreign body is left undetected.

The compact and hygienic design of this inspection system fully meets the special requirements of the food industry. The X-ray system reliably achieves excellent inspection results at high throughput rates of up to 1,200 items/min. – with the lowest false reject rates. ▲



X-ray image of a bottle from two different sides

# High accuracy with next to no loss – For securing bulk goods

Manufacturers use X-ray systems to remove foreign bodies from bulk goods. Our SC-B 30 achieves this in very restricted spaces: At the same time, it has a high detection sensitivity with minimal rejection of good products.



Coffee beans, rice grains and sunflower seeds, for example, are typical foodstuffs that are delivered in bulk. They especially benefit from the inspection capabilities of the SC-B 30, as natural products often contain various types of contamination that pose a risk to product quality.

Instead of end-of-line inspections, it is therefore advisable to test the raw materials before they undergo further processing. As a result, significantly less good product is discharged and no machine parts are damaged, for example due to contamination. The purity of the products must be a priority.

**Extremely accurate inspection**

The SC-B 30 model has remarkable detection sensitivity to detect any foreign bodies. These results are achieved using diode line technology with a resolution of 0.4 mm. The multiple blowing nozzles and the flap ejectors are as accurate as they are thorough, and fit perfectly into the space-saving balcony architecture of the SC-B 30. The design with beveled surfaces and a comprehensive hygiene concept, which is ideal for the production of food, is generally impressive.

**SC-B 30 application video: Magic Flame**

Our customer Magic Flame demonstrates the precise approach of the SC-B 30 when inspecting sunflower seeds. The application impressively illustrates why the X-ray system is considered to be a critical control point by the manufacturer. Because for Magic Flame, the quality of the end product is paramount. ▲

Watch the video here.





# / The world of labeling

How long has Wipotec actually been constructing labeling machines? And why bother with this complex undertaking at all, as other manufacturers already have decades of experience? Lukas Müller is a project engineer at Wipotec. His specialty is labeling systems. In the interview, he provides exciting insights into the world beyond the technology.



Lukas Müller, Project Engineer at Wipotec



*We deal with a wide range of products and packaging forms – and new ones are being added all the time.*

**Lukas Müller**  
Project Engineer at Wipotec

**If you type “labeling” into a search engine, you will find everything from office supplies to parcel shipping. What areas is Wipotec active in here?**

We are in our own familiar environment: end-of-line processes for packaged products. We are currently highly active in the healthcare and food sectors, which we know from other areas of operation. However, because we are highly flexible due to our systems' modular design, we constantly receive new inquiries from many other industries, such as cosmetics, motor oil and agrochemicals.

**In these industries, you will find many different types of packaging. Can Wipotec produce labels for all of these products?**

Certainly not all of them, but we already cover a very broad spectrum. We started by sealing pharmaceutical folding boxes with tamper-evident labels. This was the logical extension of our serialization systems. In this context, we then also combined technologies to develop systems for label serialization and apply them to bottles and vials. In the meantime, we are dealing more and more with products such as thermoform packages, films, cartons of different sizes through to shipping boxes – and even canisters and other types of packs.

**Do these types always incorporate serialized labels?**

No. Of course, a pharmaceutical manufacturer who has to comply with serialization regulations benefits greatly from our holistic systems. However, with increasing automation, consumer goods manufacturers are also recognizing its benefits. Some already mark their products with 2D codes, which contain batch-level information. Others employ our systems to prepare for this change, but are currently still using classic labels with an expiration date and a batch number.

The great added value lies not only in the label content, but above all in the extensive control options. Instead of operating transport lines, printers, cameras and label dispensers individually, everything is integrated into a single system. And we wouldn't be Wipotec if this system didn't weigh as well.

Printing and applying shipping labels to cartons



Providing bottles and vials with serialized labels

**How many different labeling systems are currently on offer from Wipotec?**

Labeling is a module of our TQS portfolio. In this product line, we have decided not to give each machine its own name. There are so many possible combinations that we see no added value in naming each one individually.

What is important is that the system is designed to suit the application. For this purpose, different technologies are available to generate flat, all around or corner labels. And each of these is also scalable.

**What are the biggest challenges facing the further development of labeling technology?**

First of all, the variety of existing solutions is exciting. After all, there are manufacturers who have been building labeling machines for 30 to 40 years. They have a lot of experience and offer tried and tested quality. We are building on that experience. Our greatest challenge is actually to live up to our own standards. Precisely because we are entering a new market here, we remain true to our position as an innovation leader. We always endeavor to be at the forefront of technological advancements and to deliver the most innovative and efficient solutions. As we work on many different projects with new packaging forms, it is a new challenge every time. We ourselves claim that the systems we offer our customers provide real added value. >>





Top and bottom labeling of thermoform packages

### Lukas Müller

Project Engineer

has been working at Wipotec since 2011. After gaining experience in several areas of the company, his focus since 2018 has been on labeling technology.

He works closely with customers on projects to constantly solve new challenges with systems that push Wipotec's technological standards.



*Demand  
is growing  
– and  
we can  
meet it.*

**Lukas Müller**  
Project Engineer at Wipotec

#### What is this added value?

We know that our customers, who are familiar with and appreciate our weighing technology, also have a need for labeling, printing and camera inspection in their production lines. We see this as a natural extension of our existing know-how and have learned to integrate labeling into our holistic systems. This combination of cameras, printers, labeling and weighing technology allows us to offer our customers a unique solution. Compared to established labeler manufacturers with extensive expertise in mechanical design, our strength as a mechanical engineering company is our in-depth understanding of software and automation. We are able to seamlessly integrate all these modules into a central, coordinated system that meets the customer's specific requirements for individual features.

#### What does the future hold for labeling technology?

We can already see today that systems are becoming more and more complex. It is no longer just a mechanical task. More and more functions are being added. Software is becoming increasingly important for article management, user management, format changes and audit trails. Many market players need to look at how they combine technologies not only when applying labels, but also when individually marking and inspecting them. Our systems can do all of that already. So the market demands are growing to exactly where we already are today. ▲

# / 10 years of Track & Trace

## An adventure.

**B**ehind our current Track & Trace range of products is an extensive team of motivated and dedicated individuals who have accomplished extraordinary things. To mark the anniversary, we look back at the journey of two key players: Sales Director Volker Ditscher and Product Manager Daniel Anders.

### In the beginning

Kaiserslautern, October 1, 2007 This is the first day of work for a young technician at an up-and-coming technology company in his home town. Project planning of checkweighers. His enthusiasm and determination quickly become apparent. Because of his previous experience with camera systems, he is entrusted with the first serialization projects. Global legislation for the pharmaceutical industry is being drafted and is soon to be implemented.

### Moving towards a brave new world

We are talking about Wipotec – and Volker Ditscher. In line with the company's deeply rooted spirit of innovation, the opportunity is quickly identified: Serialization systems will soon be in high demand. Previous partners also recognize this opportunity and are themselves tackling the issues that have previously been worked on together. Without your own solution, you have no future in this market. Time to act. Volker Ditscher drafts a business plan, which he presents to management. Following a customer visit the decision is made, during which company founder Theo Düppre personally gets a picture of the current state of the art. "We can do it better!" he announces with determination giving the starting signal for a new product. >>



### The difficulty of simplicity

The system has to be simple. Easy to use. User-friendly. That would be a real unique selling point, but it would first push the mechanics and software to their limits. Where there is no path yet, paths must be created. True to the company motto "There's no such thing as impossible," the company is actually exhibiting the first unit for serialization of folding boxes at ACHEMA 2012. The motto "Discover Simplicity" appears in large letters above it. The Traceable Quality System is presented to the public. The fair is a complete success and leads to the first orders.

### Together strong

Equipped with a generous room for maneuver and development resources, the only thing missing is manpower.

Wipotec is growing steadily and everyone has their hands full. Additional energy is required. The presence at ACHEMA also has an effect, and a face already familiar from joint projects joins the Wipotec team: Daniel Anders, an experienced product manager. The entrepreneurial spirit and innovative drive quickly win him over. From the first day, the team throws itself into work. Orders have to be completed and the next milestone is already on the horizon.

### A great honor

European Commission health officials meet in Brussels to decide whether to implement a draft law: Not really the type of event to which a mechanical engineer from Kaiserslautern is invited. But Volker Ditscher is on stage to present TQS. His enthusiasm is catching. The MEPs are finally persuaded that serialization is feasible in practice. The law comes into effect.

### Critical stage

From this point on, Wipotec is in full swing. All departments, from sales to production to service, align, interlock and get to work. An international team of specialists is set up to support projects around the world. The volume of orders exceeds forecasts several times over. The company invests heavily. Despite all the time pressure, one important principle is never forgotten: Vertical integration. Instead of outsourcing the component production, the company's own portfolio is constantly being expanded. TQS customers obtain the usual "Made in Germany" quality. To this end, internal processes are optimized in such a way that a Fast Track machine can be delivered to the customer within six weeks. It must have been at this time that Volker Ditscher received his infamous mug with the inscription "I don't have time for burnout", which still sits on his desk today. Yet he remains modest:

"Without the extraordinary commitment of our team, we would never have been so successful. I'm incredibly proud of everyone who made the impossible possible on an almost daily basis during this time."

### After the summit comes the descent

By law, pharmaceutical manufacturers are required to introduce serialization starting on February 9, 2019. So by this date, all lines have to be equipped with systems. And what comes next? No further demand? Even though the TQS team has little time to deal with such issues during this boom, this scenario would be conceivable. But this is where perfected standardization pays off, as Daniel Anders recalls:

"During the first wave of introduction, both vendors and customers were under time pressure. The topic was new to everyone, and driven by short-term regulatory requirements, so optimal solutions were often missed. When we were confronted with the first inquiries in the cooldown phase, we realized that we already had at our disposal a significant part of the technologies that were in demand – and had implemented solutions that others were still looking for."

### Here to stay

In the meantime, a few years have passed since the heyday. The success of the Track & Trace business unit has stabilized. The projects are complex and thus long-term, and customers receive in-depth consultation. And the sales director still takes each consultation to heart: "Even though we are already way out in front in the market, to this day every new customer we acquire is very special to me."

When we talk about customers here, we are no longer just talking about pharmaceutical companies. Manufacturers from all industries, from cosmetics and hygiene products to food and chemicals, need reliable and user-friendly systems for marking their products. Because TQS is no longer just serialization and aggregation. Best before dates, batch numbers or codes are also printed and checked with modular versions of the system. All those involved are sure that this is where the future of TQS lies. Daniel Anders, Volker Ditscher and their team are preparing for it. Because the next boom is just around the corner: "All the products we know from the supermarket will soon have to be marked with a 2D code containing variable data. These are printed in line, and for this task manufacturers need precisely those systems that we already have in our portfolio today." ▲





# /How 2D codes are changing the retail sector

Major changes on the horizon Two-dimensional codes are set to be the new standard for labeling consumer goods as of 2027. Conversion of labeling and checkout systems is already in full swing.



**A**lmost exactly 50 years ago, a supermarket in Ohio sold a pack of chewing gum and made history: For the first time, the now all too familiar beeping of a barcode scanner could be heard in the check-out area. Now the retail sector is undergoing a similar revolution. Instead of simple bars, dynamic 2D codes will appear on all products in future. To this end, manufacturers worldwide are initiating the preparatory processes.

**A leap forward**  
This change is not being initiated by a new law. Rather, the advantages of the technology are convincing across the board. The information content and flexibility of 2D codes simply prove to be highly advantageous in practice. They combine the capabilities of the current barcode, the static QR code often used for advertising purposes and even add information that could previously only be captured in plain text.

### New dimensions

In addition, this coding opens the door to the Internet thanks to "Digital Link" technology. The target page can be customized as desired without making any changes to the packaging. Around Christmas, for example, customers are inspired by festive recipe ideas or can try to win exclusive prizes in a special Advent calendar. It's about rethinking advertising. 2D codes are interactive and thus increase engagement significantly.

In general, trust in a brand is boosted when the product is presented transparently. Safety is a major factor here. The integration of batch identification into the code plays a central role. On the one hand, manufacturers are combating counterfeiting, as they can add a serial number to the code for unique identification. On the other hand, this connection also digitizes and facilitates the execution of recall campaigns.

### The future awaits

This means that the way we deal with consumer goods will soon change significantly. The production lines must also adapt accordingly. Printing is more complex and the print quality must be consistently high.



To ensure that labels remain legible at all times, manufacturers need suitable printing systems. A camera for checking the print image is also a must. Experience from the pharmaceutical industry shows that a coordinated system is far better suited to this than independent individual parts.

This is why our modular TQS solutions for Mark & Verify are based on the usual fully integrated approach. More on this on the following pages. ▲





# /TQS – Mark & Verify

The modular solution for product marking and inspection.



**Printer**

Thermal inkjet printing technology for maximum quality and legibility in retail stores.

**Central control system**

All modules are presented in a touch display – no teaching-in of printers and cameras!

**Camera**

Vision inspection verifies the printed result so that only 100% correctly marked products are delivered to stores.

**Weighing**

The checkweigher is fully integrated and legal for trade.

**W**ipotec's proven Traceable Quality System (TQS) is a system with unique modularity and depth of integration, offering the advantage of being able to combine several production steps in one solution and control them via a single operator display.

**TQS modular marking and inspection solution – flexible configuration to meet your requirements**

In many production lines, products are checked for the correct weight using checkweighers and, in some cases, also for foreign bodies using metal detectors. TQS solutions incorporate these two modules and also offer several other options:

Multiple print modules, cameras and labelers can be fully integrated and thus controlled via a shared user interface. The cameras are able to not only verify the printed data, but also, for example, check that labels have been correctly applied and not mixed. In addition, a single camera can be used to check whether bottles or canisters are properly sealed.

The modular design of TQS enables very compact systems and thus also maximum integration flexibility in production lines for a wide range of industries. Implementation either takes place as a stand-alone solution, as an integration kit, or as a combination of both these options.

You have only a single contact person for the whole system instead of a different supplier for each component. Furthermore, all modules can be controlled using a single central display. This enables simple and uniform operation across a wide range of packaging types and process steps – and thus also faster, more cost-effective commissioning, training and maintenance, and far shorter format changeovers.

**TQS software – an integrated operating concept**

All print layouts can be created intuitively and adjusted quickly using the central TQS display in the patented "ConfigureFast" mode. Directly afterwards, the machine can print batch-specific information such as GTIN, batch number and best before date, and also check directly that this information is legible.

This is possible because complete software integration means that the print layout is also automatically transferred to the image processing system. This step eliminates the otherwise time-consuming process of teaching in the camera to preprinted data, thus saving considerable time and money, especially with new layouts.

However, the software enables much more: 2D codes such as DataMatrix or QR codes can be used to make the above human-readable information also machine-readable in order to make it available quickly in the supply chain and in the FMCG sector. Using GS1 Digital Link, this 2D code can also be used to point to a batch-specific or target group-specific website.

**TQS solutions: modularly optimizable for your product and future-proof**

The TQS modular system offers many options for designing the ideal marking and inspection solution for your products.

Several TQS applications can also be integrated into one line – if you wish, even including serialization and aggregation, this means assigning the primary packaging to shipping case and pallet, which enables traceability and counterfeit protection for your products.



Track & Trace has been standard practice in the pharmaceutical industry for several years, but there is also demand for such solutions in the agrochemical, baby food, cosmetics and personal care sectors. And for greater supply chain transparency, other industries are sure to follow. ▲



# A clear view of the production process thanks to optical inspection

Manual checks can hardly be carried out during operation without sacrificing speed or precision. This is why modern production facilities increasingly rely on automatic optical inspection systems.

Some errors in labeling and packaging are obvious. However, others are often difficult or impossible to see with the naked eye at high throughput rates. High-resolution cameras, combined with dedicated software, can detect inaccuracies even where most employees do not notice any issues. But whether they

are obvious at first glance or hidden in the label code so that people cannot read them, all faulty products must be reliably sorted out before the end of the line. Ideally, manufacturers use a coordinated system for this, which performs other checks in addition to visual inspection.

### The overall picture must be just right

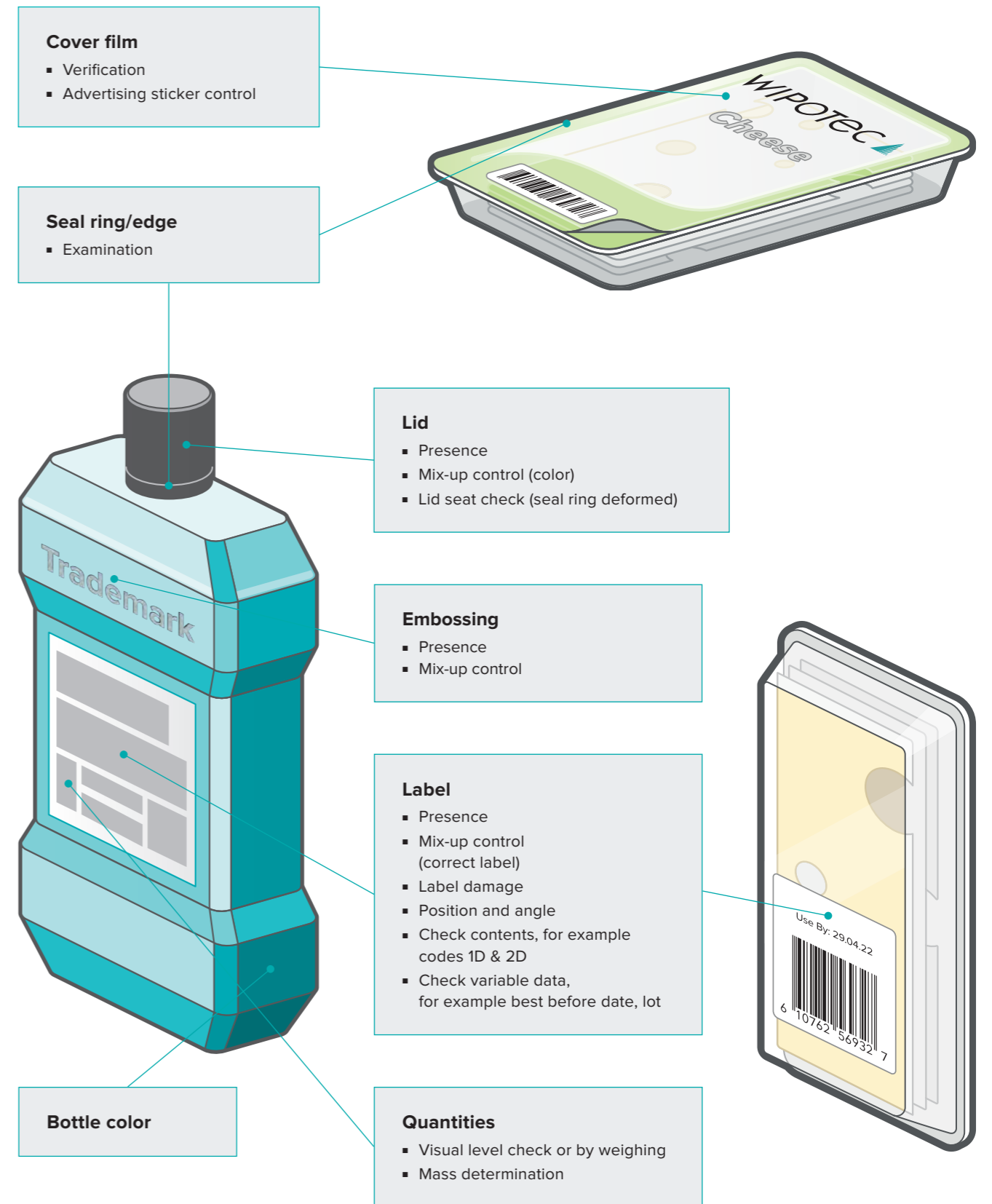
A large number of elements can already be controlled on a visual level. Checking can begin, for example, with the markings which every item designed for retail must have. This includes the familiar barcode as well as extended 2D codes. Due to the increasing relevance of dynamic information such as batch numbers or best before dates, this form of inspection can only take place at the end of the line. The situation is similar for the inspection of labels in general. A label must fit properly and also be perfectly aligned in the position provided on the packaging. Is the nutritional information correct? Is the company logo razor sharp? Precise camera modules capture the desired data, which the software evaluates. Thanks to the modular character, the positioning of the cameras is based entirely on the individual requirements of production.

Filling into bottles or canisters can therefore also include a detailed lid check, firmly integrated into the overall inspection. Is the closure securely sealed, is the coloring correct and is the correct shape preserved? Testing the lid colors at the same stage prevents problematic mixing. There are numerous variations.

### Product-specific and all-encompassing

In addition to visual inspection, a system from Wipotec offers additional functions that enable comprehensive quality control. This includes checkweighing and foreign body inspection using a metal detector or X-ray inspection. And all functions are easy to operate via a single display.

Vision systems inspect markings and labels, while more comprehensive solutions have printing and labeling modules. The central control system offers the user enormous added value. Instead of having to coordinate printers, labelers, cameras, scales, metal detectors, transport and ejection, everything is combined in one system – all from a single source. ▲





# / Beyond the end of the line

End-of-line refers to the end of a production and packaging line. Here, many manufacturers rely on Wipotec's reliable inspection systems for quality control. If the product passes all the tests, it rolls off the belt and continues on its journey along the supply chain. And our systems also accompany this process.



## Same but different

While a checkweigher checks whether the weight of the product matches the specified values in the line, dynamic scales in the intralogistics and shipping sectors face other challenges. Obviously, it has to process completely different packaging units and thus determine different weight values. Instead of individual products, we are dealing with shipping boxes and external packaging – instead of a few grams, several kilograms are concerned here. The dimensions of the units are also much larger and the scales require suitable conveyor belts. This entails differences in many minor and major details. The biggest difference, however, lies in the actual task.

## Not all scales are created equal

A checkweigher determines the weight, analyzes whether it is within the set tolerances and, if this is not the case, rejects the product. In the field of logistics, sorting also takes place, but for a different purpose. Catchweighers determine the weight value in this case and transmit the weight to a higher-level system. Depending on the position in the supply chain, this information is used to document inventory movements, to determine the total weight of combined shipping units or to check which postage category a consignment belongs to. The quality of the scales determines the maximum achievable accuracy and thus the precision when calculating the tariff.

## Use and application

Dynamic scales are found at the incoming inspection as well as at the final inspection before delivery to the customer – and also at the crucial points in between. In addition to verifying completeness, the weight is also an indication as to whether the correct product has also been packed. The data generated opens up many possibilities for your own inventory or to be able to create documentation for auditing purposes. However, the basis is always maximum precision taking into account the application. The scales must be suitable for both the task and the environment. Good advice from an experienced expert is expensive in this instance, and the old saying “buy cheap, buy twice” frequently applies. If, for example, oscillations, vibrations or similar interferences are detected at the place of use, the achievable accuracy can be greatly improved using the right technology.

## More than weighing

Even beyond the core competence of weighing, Wipotec offers solutions that are used in the field of logistics: Marking, labeling and optical inspection are not limited to individual packages thanks to the modular design of the systems. Our solutions, which are proven in the pharmaceutical industry for serialization and aggregation, also offer many advantages in the downstream processes with their user-friendly and open interfaces. ▲

# / Legal information

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