



HASCO

HASCO DIGITALIZES STANDARD COMPONENTS

Success Story powered by:



NEOSID
Expertise in components

HASCO
Ermöglichen mit System.



for Injection Moulding Tools

Two-Stage Ejector with
Mould RFID Tag and USB Reader

Hasco has been tagging two-stage ejectors with RFID since 2023. The tag, which is just a few millimetres in size and has an orange design, optimizes processes and services for mould manufacturers worldwide. From the perspective of the medium-sized company with around 700 employees, the RFID tag represents an innovative novelty in the mould making market. Alexander Ulman and Andre Brandt explain how RFID optimizes processes and why the solution represents a leap into the digital age for mould making.

Hasco has defined international standards with the invention of the standard component and the introduction of the modular standard mould system.

Company History

- 1924
Founded as a handicraft business
- 1930
Start of production of compression and injection molds
- 1962
Introduction of the modular standard mould system
- 1968
Development of own sales structures
- Since 1973
Global expansion with over 35 branches
- 2008
Technology offensive and focus on mould making and injection moulding
- 2012
Installation of fully automated plate production with product and process standardization
- 2023
Investment in a fully automated small parts and plate warehouse
- 2023
With the UWB solution Mould Track for precise indoor localization of injection moulds and RFID integration, Hasco is launching two digital innovations in one year.



► Hasco, the standard components specialist, has been headquartered in Lüdenscheid, North Rhine-Westphalia, Germany, since 1924.

Injection Moulds Conquer the Industry

Hasco is a supplier for tool and mould making, the plastics processing industry and injection moulders. The portfolio includes all the components that a manufacturer of plastic components needs to produce an injection mould. This includes a total of over 100,000 products. The company gained international significance with the patented invention of the modular standard mould system in the 1960s. Hasco has been expanding globally since the 1970s and is now represented at 35 locations worldwide. The main markets include Europe, Asia and North America. Growth regions include Mexico and India. Around 180 technical sales representatives are direct contacts for customers worldwide. Production and logistics take place at the two production sites in Lüdenscheid, Germany and Guntramsdorf, Austria. Over 30,000 customers value the expertise of the standard components manufacturer.

Digital Offensive

The fully integrated automated plate warehouse is one of the most modern in Europe. It has 5,000 pallet spaces. Hasco has also invested in a state-of-the-art, fully automated small parts warehouse at the Lüdenscheid site. The new Autostore System has a storage capacity of 24,000 boxes. Twenty robots equip the picking workstations and enable around 720 retrievals per hour. The logistical preparations for increasing market requirements have thus been implemented. With the integration of UWB and RFID technology, the company is taking a consistent step towards digitalization. Since 2020, the company has been focusing intensively on the digital connection of all tools and is launching an innovation on the market with the two-stage ejector: a small orange RFID tag measuring just 8 millimetres turns the tool into a digital and smart component.

The full-range supplier for mould making is the first player on the market to introduce the RFID Mould Tag for sophisticated products such as the two-stage ejector.


DIGITIZATION OF STANDARD COMPONENTS



“Alexander and I have been developing components for mould and tool making for many years. Our goal is to always be one step ahead and offer innovative solutions for injection moulds. Hasco's portfolio now includes more than 100,000 different components. All of them are designed for plastics processing industries, tool-making and injection moulding shops.”



Andre Brandt
Executive Vice
President Mould
Base Technology,
Hasco



“The project arose from discussions with customers. We were repeatedly asked whether it would be possible to link 3D data, installation instructions or maintenance instructions directly to the product in order to reduce the need to search for documentation. We are now receiving recognition and positive feedback from customers. The "aha effect" has been achieved.”

Alexander Ulman
Team Leader and
Product Manager,
Hasco

Small Component – Great Relevance

Numerous plastics processing industries such as the chemical, automotive and packaging industries as well as the consumer goods industry rely on large quantities of high-quality plastic components. These components are almost always manufactured using an injection moulding process. A complex forming process is used for this. Hasco has been manufacturing standard components, which can be described as the central assembly in injection moulding, for almost 100 years. These tools are not part of the production system itself. They have to be specially developed, designed or individually adapted for each article to be produced. If a tool has faults or is not optimally adapted to the plastic component in the design, this will result in deficits in the quality of the moulded part.

Tool Assembly for Injection Moulding Machines

In principle, every mould design for injection moulding machines is identical. However, each injection mould is individually manufactured in two halves – a nozzle side and an ejector side. These mould halves contain complex components that include the cavity inserts, the sprue systems, the cores, the ejector elements and the cooling system.

Two-Stage Ejector

Simply explained, the two-stage ejector ensures that the plastic article is ejected in two stages. These components are used to demould plastic parts from the machine movement and enable complex movement sequences. Several separation stages can be realized with two-stage ejectors. To protect the product, the movements can be carried out slowly. Hasco offers a total of seven different two-stage ejectors in various dimensions. Since 2023, every two-stage ejector has been fitted with an RFID tag at the factory.

Service for Customers

With the introduction of an RFID Mould Tag, Hasco offers its customers a digital option for the counterfeit-proof identification of products. While optical codes can be copied, the contactless solution offers unique identification with counterfeit-proof originality verification. In addition, every customer receives fast and digital access to important product information. This includes information such as CAD data, product animations, order designation, product categories, product type, material number or the maximum tool size to ensure the correct installation of standard components. In the future, the RFID solution will also be extended to other products. Hasco sees the offer as a service and tool for customer loyalty.

COUNTERFEIT-PROOF PRODUCT-ID



Direct access to relevant product information and links to all order data.

The Solution

Two-stage ejectors are products with high mechanical requirements. This also applies to maintenance. Due to the way they work, they are more cost-intensive than other standard components and, above all, require more consultation. Hasco has been equipping these components with an orange-colored RFID tag as standard and at the factory since 2023. The tag is pressed into an indentation and is clearly visible on the steel surface. Even when installed, the customer can read the tag with a mobile phone or RFID reader. This makes handling easy.

What Benefits Does the Customer Generate?

1. The UID (Unique Identifier) consists of 64 bits, i.e. 8 bytes, and enables proof of originality and traceability. The customer thus receives the ordered quality, service and warranty.
2. Functional data, 3D data, installation instructions, assembly videos, maintenance plans, maximum load values or mould sizes are stored in the customer portal for each tagged product. These can be accessed at any time via the Hasco app. Materials can also be added and updated at a later date.
3. The long service life of the components is also associated with long customer loyalty. It therefore makes a lot of sense to invest in service and communication with the customer.

4. There is a link between the order, task and customer data, and the haptic product. This facilitates communication. As soon as the machine operator registers a fault in production, they can independently call up initial information about the component on their cell phone and view order or design data and 3D models via the Hasco app.
5. The supply of spare parts is made easier. Long search times are eliminated.

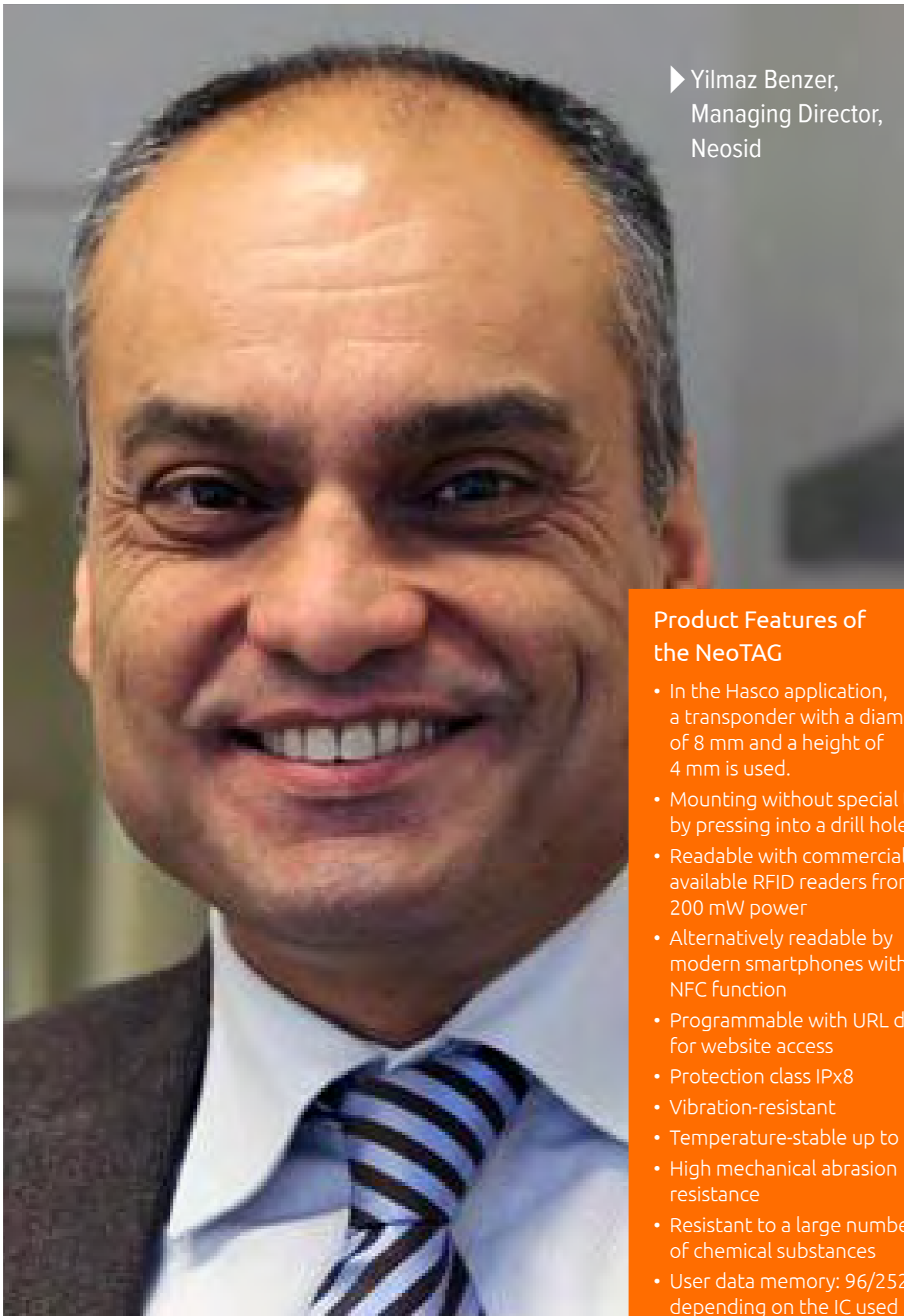
The Future

Hasco is laying the foundations for its planned digitalization strategy with the RFID tag on the two-stage ejector. Further products are to follow. The functionality and range of communication options are to be expanded. The aim is to optimize direct communication with the customer and thus also improve the value chain. Numerous process steps are part of the manufacturing process. Starting with the design of the plastic article, through the construction of the tool and the actual production, to sampling and modification grinding. Each of these process steps requires coordination. Communication with the customer and the constant updating of drawing data is crucial to the success of production. In the future, Hasco also plans to launch the use of a USB stick and its direct connection to the customer portal.

The RFID Mould Tag is installed as standard in all two-stage ejectors and enables access to relevant data such as 3D models, installation and maintenance instructions or technical limit values. The new Hasco app shows the counterfeit-proof originality of the products when the tag is scanned. The tag can be read directly with an NFC-enabled mobile phone.

Why Did Hasco Opt for the RFID Solution?

1. The RFID solution from Neosid is standardized.
2. The counterfeiting rate on the Asian market increased and there were regular complaints about counterfeit products.
3. A new generation of toolmakers and mould makers increasingly expect digitalized processes and communication channels.
4. Process-reliable and structured companies also require a digitized product history.
5. While the invention of the modular system in the 1960s marked the international breakthrough, this solution is intended to accelerate digitization. –
User data memory: 896/2528 bits depending on the IC used.



► Yilmaz Benzer,
Managing Director,
Neosid

Product Features of the NeoTAG

- In the Hasco application, a transponder with a diameter of 8 mm and a height of 4 mm is used.
- Mounting without special tools by pressing into a drill hole
- Readable with commercially available RFID readers from 200 mW power
- Alternatively readable by modern smartphones with NFC function
- Programmable with URL data for website access
- Protection class IPx8
- Vibration-resistant
- Temperature-stable up to 275 °C
- High mechanical abrasion resistance
- Resistant to a large number of chemical substances
- User data memory: 96/2528 bits depending on the IC used

NEOTAG AND NFC SMARTPHONE

8 MILLIMETER AND SUITABLE FOR METAL!

With its specialized injection moulding process, Neosid is the world market leader in the production of complex ferrites, the basis for high-performance RFID transponders.

What were the deciding factors for Hasco to implement the NeoTAG Plug?

In many cases, a 10 mm hole is already provided at the factory on tools or standard components. The NeoTAG Plug can be pressed in safely and reliably with the easy-to-use press-fit housing. In the end, it was the tag's size of 8 millimeters that tipped the scales. The decision-makers were convinced by the fact that we also coated the tag in orange and added the Hasco logo. The tag can also be read with any NFC-enabled smartphone. This means that there is no need to purchase additional readers.

What makes the tag so attractive for manufacturing applications in particular?

Tools used in industrial applications in the smart factory can be turned into smart tools in just a few simple steps. They can then be located and seamlessly identified. Conclusion: These tools become transparent and digital, and can be integrated into other digital processes.

For which industries is the NeoTAG Plug designed?

It is suitable for all branches of industry in which miniaturized transponders are required in a metallic environment. This covers numerous sectors. In addition to Industry 4.0, they also include the construction industry, medical laboratories, the dental technology sector, mechanical engineering and mould making. These sectors include applications such as maintenance, product identification and tracking, inventory, and tool protection.