

- founded: October 2019 in St. Gallen (CH)
- spin-off from NTB Buchs by 4 co-founders
- patented technology owned by matrig
- initial capital of 200k CHF, Series A: 1.75M CHF
- Innosuisse-granted projects: 1.22M CHF
- VentureKick I, >>venture>>, Startfeld Diamant

matrig AG has innovative marking and security solutions based on its DynamicMold® technology. Every single plastic part is individually marked right in its forming process without delaying cycle time. A mold insert is creating a 2D-code watermark as unique device identity for product tracing and brand protection. And: we have re-invented the date stamp for plastics: welcome to digital.

the problem

Today, many products must be tracked during their entire life cycle, particularly in automotive and medtech. The latter has been set in force by EU regulations for MDR/IVDR 2017. For plastic products, this marking is often made by laser, ink jet, or adhesive labels. Laser marking is often no option, since it needs additives in the polymer that are not compatible for medical use. Marking always needs additional equipment, handling systems, marking machinery, consuming space in the fabrication site (often precious clean room space). This means more process / production time and higher costs. Part marking adds 7 to 10% to the total production costs of injection-molded goods. Moreover, quite a few products today face counterfeiting, and need therefore clear attributes to the original manufacturer for brand protection and trust. The common features such as holograms used therefore are themselves prone to counterfeiting.

the solution and our usp

matrig's *DynamicMold®* technology makes it possible to mark plastic components as well as plastic foils **directly with an individual code for each component** during primary forming or reshaping processes. The *DM®* mold insert is placed directly into the wall of the forming shape. The marking evolves **without any additional time and factory space**. Within milliseconds, a 2D-code (data matrix) is written onto the surface of a plastic part, in-mold and independent of the machine type.

We create a clear cost advantage and less hassle with peripheral equipment. The technology also makes it possible to directly combine the individual code with optical security structures. There is no other solution on the market that generates a pre-determined 2D-code directly during the manufacturing of a plastic part – which is, at the same time, counterfeit-proof and unique.

market and competitors

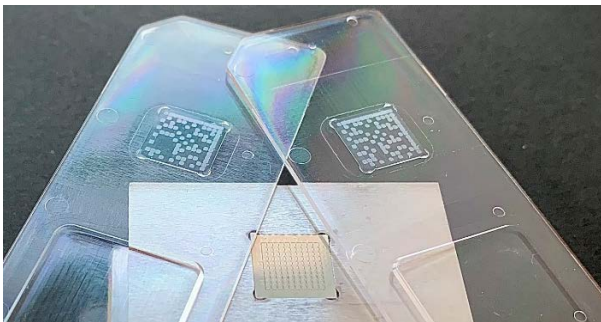
The markets for tracking products and for brand protection are very large: The marking market has a volume of around EUR 7 billion (with 7% CAGR) without including the anti-counterfeit / security markets. The market of injection molding, a key method for producing plastic part, is worth around EUR 200 billion worldwide. The market for counterfeit medicines is developing particularly dramatically: 1-2% in the EU and 20-50% in Asia and Africa are already counterfeit.

There is a multitude of different solutions that address the requirements of individual marking, and anti-counterfeit: from laser, adhesive labels, fingerprint analyses, to static optical security structures, or material additives called tagging such as DNA or nanoparticles. This means that a living market is established. However, all existing solutions have disadvantages compared to our *DynamicMold®* technology.

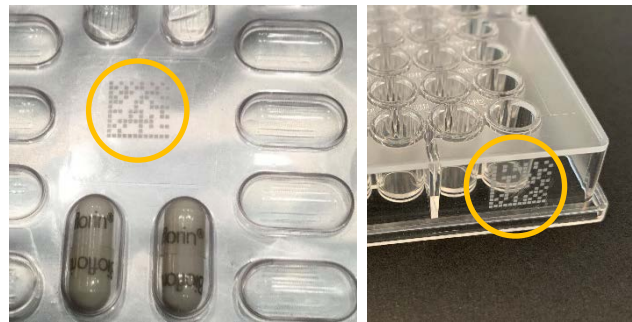
business model and products

matrig sells individual markings for injection molding and other plastic forming machines on customer's plastic products (B2B): We charge a fee per marking in a prepaid model – the smart *DM®* mold insert *senses* every perfect triggering moment and records all marking data: *real marking 4.0*. Customers are medtech, diagnostics, and automotive parts manufacturer. Our first product, **DM-date**, launching 4Q20, is the world's first digital date stamp, replacing its manual, mechanical predecessor. Our follow-up products are 14x14 and 16x16 data matrix code generators (**DM-qode**) for tracking and UDI of products and assemblies. When combining 2D-codes with optically active and brand-specific features, we offer authenticity marking (**DM-brand**). Here, our customers are manufacturers of products, who must protect themselves against falsifications effectively (e.g. pharma-packaging).

illustrations

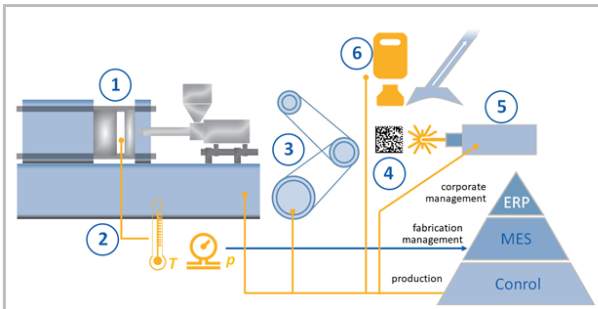


DynamicMold® mold insert prototype (coding chip 12x12 version, middle) and two injection-molded part from a series of over 100'000 manufactured and individually marked parts (data matrix code).

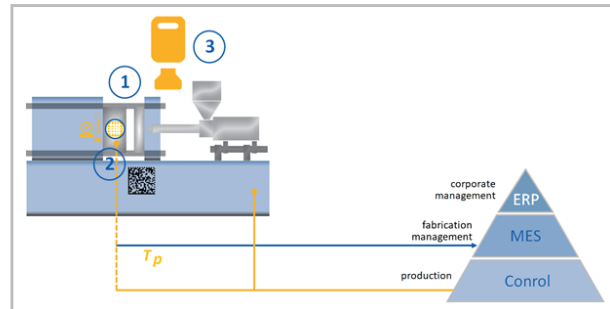


Pharma blister and microtiter plate with a DataMatrix code in a DynamicMold® style. Such products can be marked without additional external marking process.

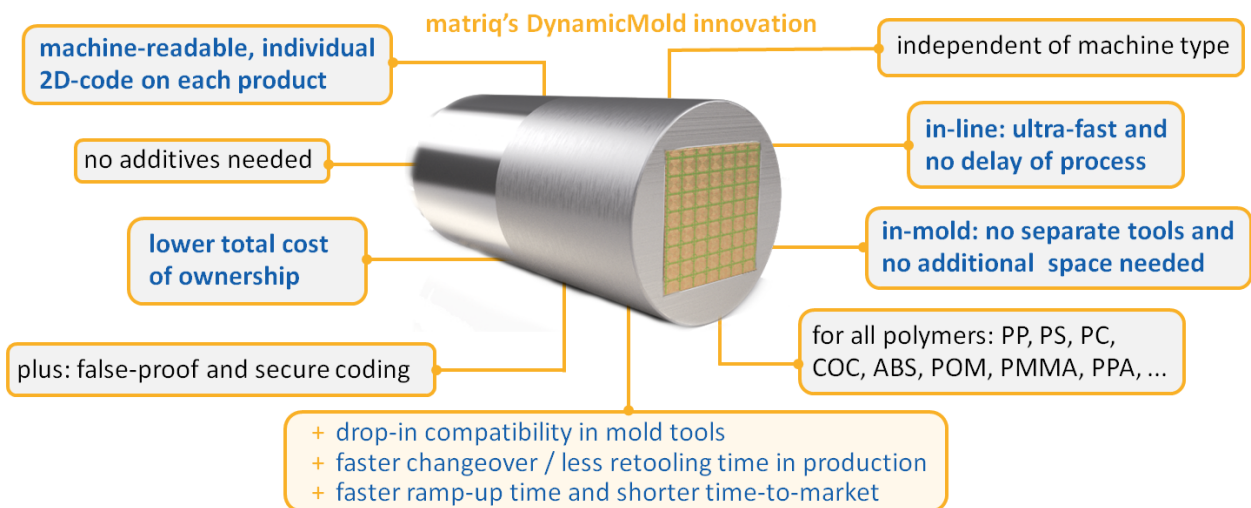
injection molding with laser marking and necessary periphery



injection molding with DM marking, no periphery needed



Comparison of conventional marking-, verification-, monitoring- and data handling process combined in a standard setup with the same process using DynamicMold®.



DynamicMold® becomes the new standard particularly for pharmaceutical and medical markets for its many advantages.

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