

MAXImolding!

MAXImolding! Technology GmbH



Project idea: MAXImolding!

Call area: No. 3

Contact

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Project Description

MAXImoldings Canadian and German Team invented and patented a new vertically oriented, environmentally friendly Semi-Solid Metal (Mg) Injection Molding Machine (SSM-IMM). The molding processing parameters are optimized without a human operator by closing a real-time x-ray feedback control loop based on quality indicators of the produced parts and proper AI algorithms. This is an intrinsically safe, energy and material efficient, environmentally sound magnesium-molding self-learning factory, with no emissions outside of factory parameters limit.

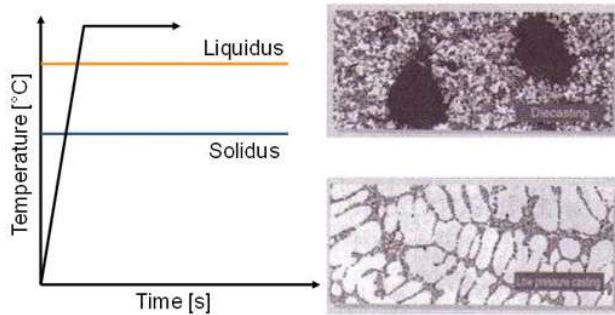
Project Objectives

1. Build a Prototype of the MAXImolding! machine
2. Build another 15 Production machines
3. Build environmentally sound magnesium-molding self-learning smart factory
4. Multiply this same factory 15.000 x worldwide

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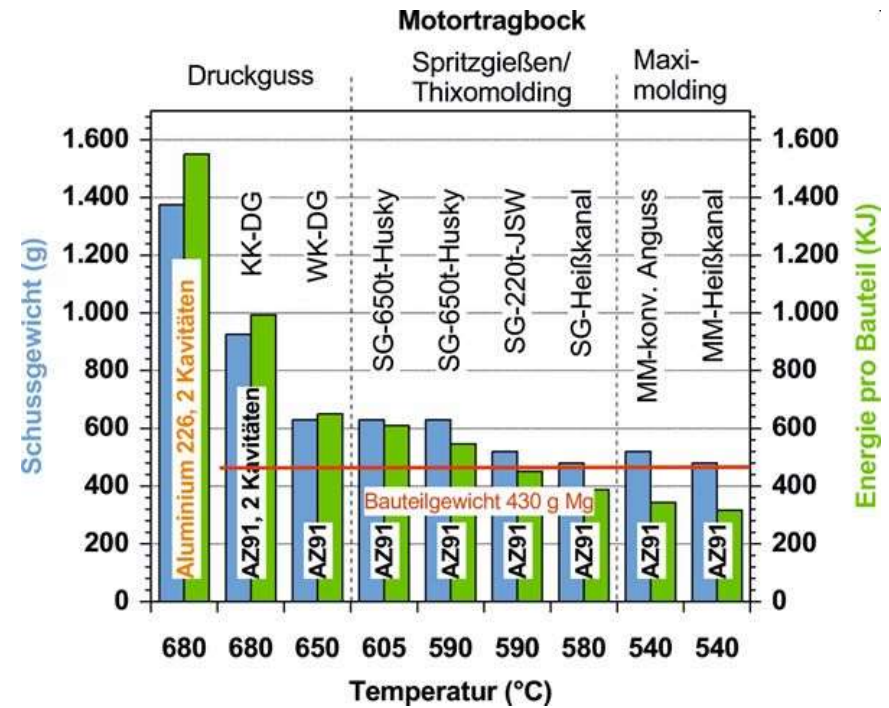
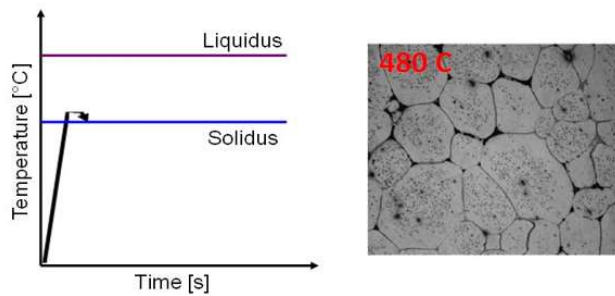
Die Casting

{ CC – 680-700°C HC – 630-650°C }



MAXImolding: Low Processing Temperature

{480-580°C}



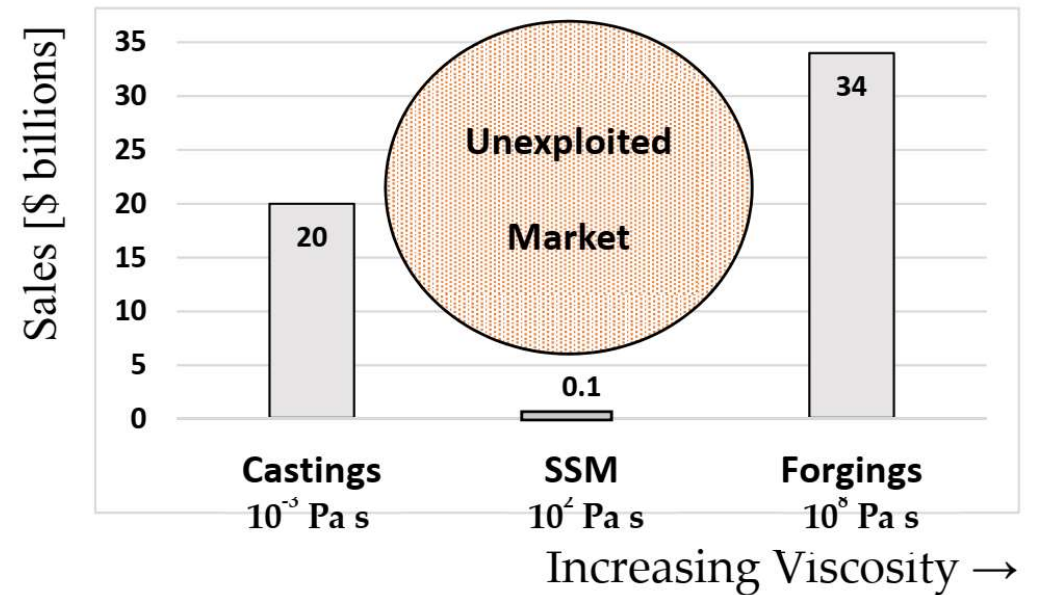
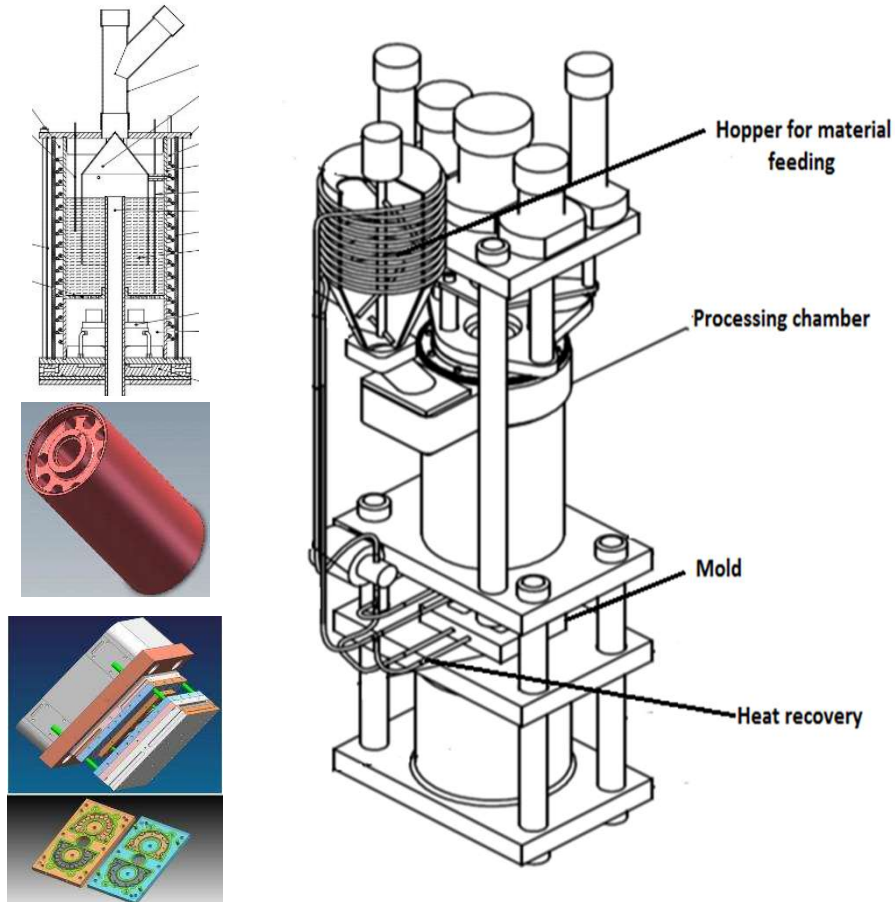
Source: Dr. Lohmüller, NMF GmbH, Germany

MAXImolding! 1/3 of Energy vs. CC (KK-DG)
MAXImolding! 1/2 of Material vs. CC (KK-DG)

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Semi-solid market annual US sales est. 35 \$ billions
Worldwide market more than 100 \$ billions

Source: U. S. Patent No. 10,046,386 & EU Patent 2,106,867

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Magnesium: Metal of the future

	MG AZ91	Al A380	1020 Steel	PC	PC /ABS	PP	PP 30% GF
Density (g/cc)	1.81	2.68	7.83	1.20	1.14	0.90	1.22
Yield (MPa)	160	165	230	60	58	35	90
Modulus (GPa)	45	71	203	2.3	2.2	2.5	9
Elongation (%) (@break)	3	3	36	125	122	150	3
Specific Strength*	88	62	42	50	52	39	74

almost 20 times the stiffness

* Specific Strength = Strength / Density

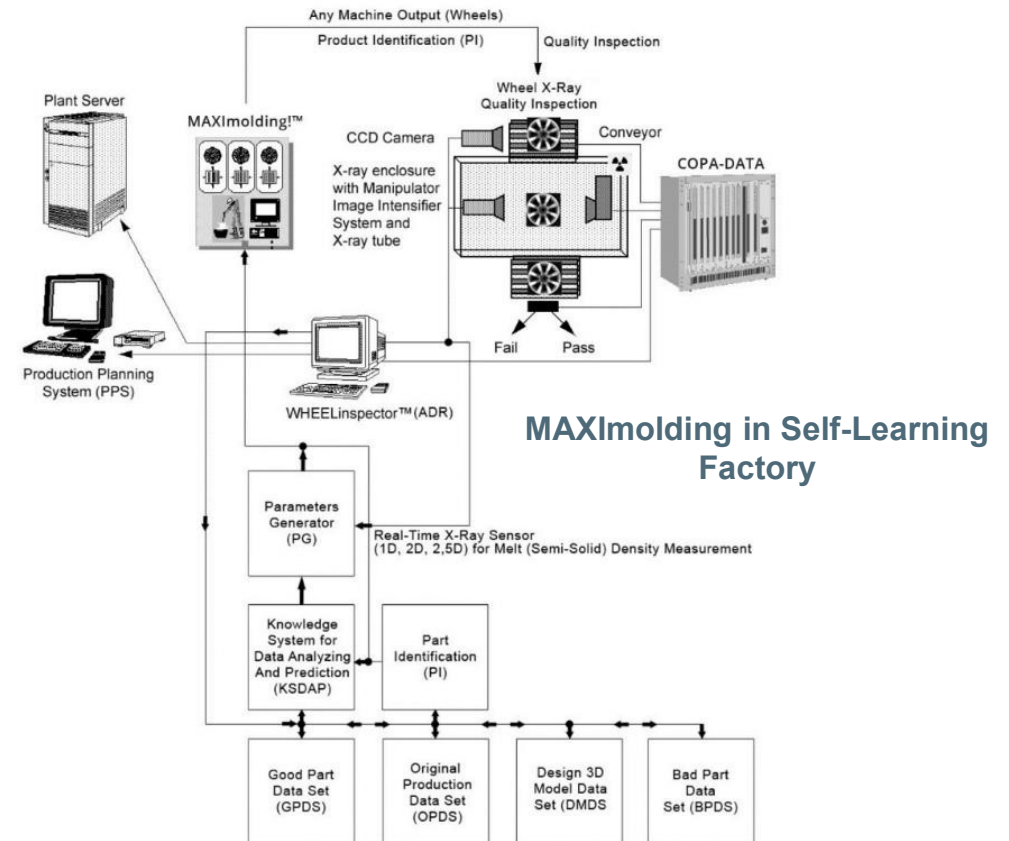
- Jacobsen strictly confidential -

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JACOBSEN Real-Time X-Ray Machinery Inc.

Recycling magnesium with 4% energy only

Source: U. S. Patent No. 10,528,024



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Our know-how...

1. Building of custom-made fully automated ADR real-time x-ray inspection systems for automotive industry and others
2. Building of new MAXImolding! Metal Injection Molding Machine
3. Merging both machines in one production cell
4. Building linear robotic systems
5. Building machine vision systems
6. Building smart self-learning digital factories for discrete production

We are looking for...

1. Partners (machine builders) to use our technology in their own area of expertise
2. Partners to buy our technology
3. Partners to license our technology
4. Governments to buy our technology and give it free of charge to proper companies