

BRUSCHI

Focus on Smart Locks

According to the latest researches* smart locks global market will grow in the following years. These reports provide a deep analysis about different aspects: manufacturers, regional analysis, segmentation by type and applications and the actual process of whole Smart Locks industry, but all of them agree about the industry rapid growth.

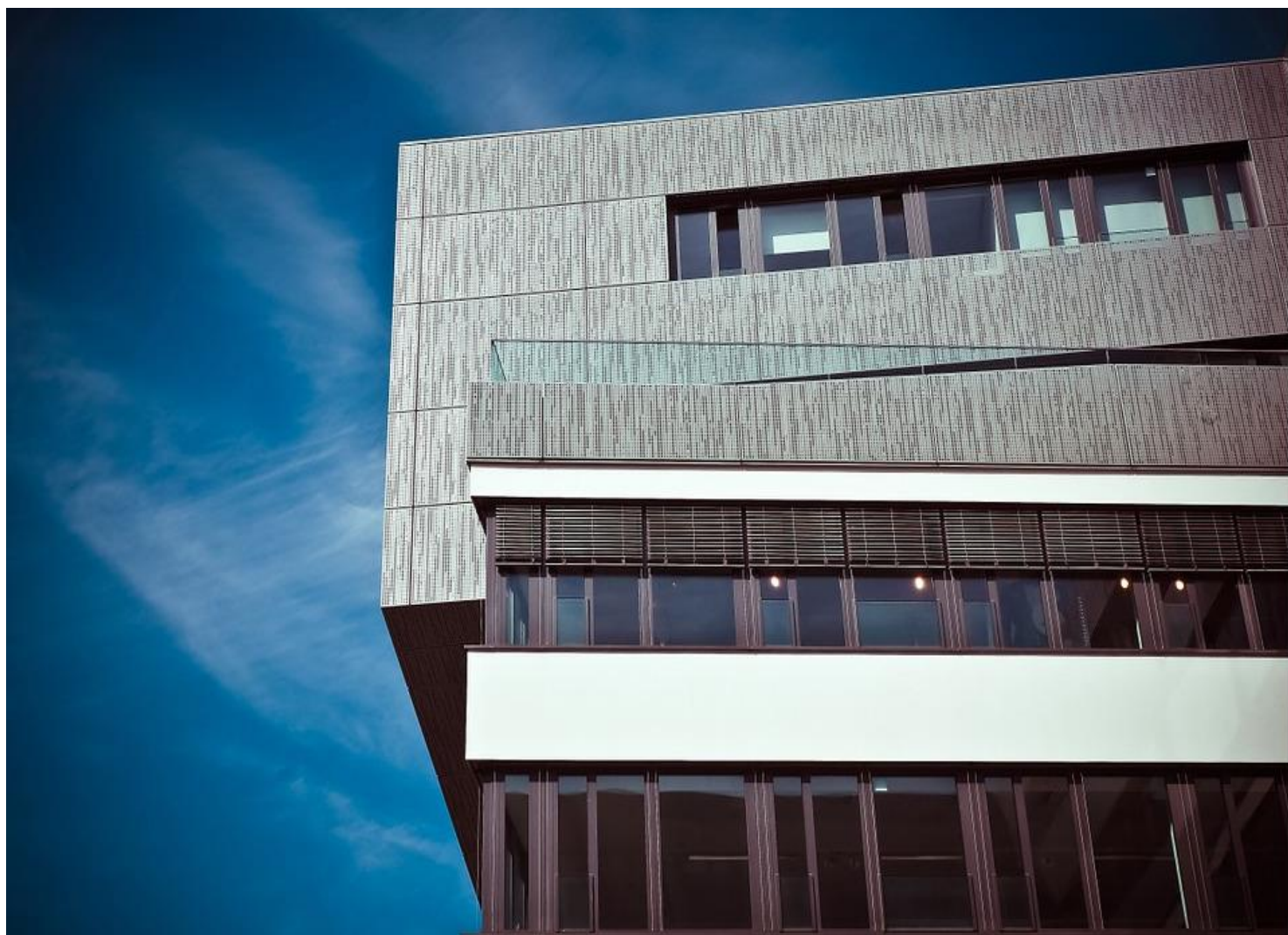
Smart locks can be used remotely for example with phones or with keyless fobs. The global market of smart locks has expanded in the past few years linked to technology innovation, the rise of smart homes or smart hotel, the industry digitalization and the increasing need to establish a connection across electronic devices.

This market is driven by the demand of safer quality life that can be reached with secure locks.

Nowadays smart locks are widely distributed and allow to open and close doors without keys. They can provide people a high level of safety that is not possible to reach with typical locks systems and alarms.

This means more customers and orders in the future.

Smart locks is expected to be one of the most promising offer of devices in the coming years.



[*GLOBAL SMART LOCKS MARKET BY MANUFACTURERS, REGIONS, TYPE AND APPLICATION, FORECAST TO 2021](#)

["Smart Lock Market Analysis By Type \(Deadbolt, Lever Handle, Padlock\), By Application \(Residential, Hospitality, Enterprise, Critical Infrastructure\), And Segment Forecasts To 2024".](#)

[Home Security Solutions Market by Product \(Electronic locks, Sensors, Cameras\), Solutions \(Intruder Alarm, Intercom, Access Control, Fire Protection, Integrated Security, Video Surveillance & Others\), Home Type, & Geography - Global Forecast to 2020](#)

HOW BRUSCHI COULD HELP TO SAVE IN SMART LOCKS SECTOR

Smart Lock trend is an evidence related to the innovative drive of manufacturing industries: brands lead the market developing more complex products need specialized suppliers to get the best from components which make up the product.

For this reason Bruschi helps everyday worldwide brands to improve zinc alloys components.

Bruschi is an Italian company focused on industrial design and mass production in zinc die casting with more than 70 years of experience.

To better serve its customers and help them to produce innovative products suggests a co-design activity during the initial phase of a production cycle. Click here to download a whitepaper about this service: [CO-DESIGN](#)

They can count on Bruschi Engineering Team.

Bruschi Engineering Team focuses its efforts to anticipate any possible issues: to determinate them simulation software as MAGMASOFT are used.



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Schneider
Electric



somfy.



TE
connectivity



TRW



vitra.



Webasto
Feel the drive



Whirlpool

THE BENEFITS OF DIE CASTING SIMULATION

Using simulation software is possible to modify parameters of different variables such as injection curves and mould temperature. This activity allows the simulation specialist to discriminate, since the very first phase, the optimal machine parameters to be used during mass production phase, such as the piston stroke. The simulation process reduces time required for machine settings in the product start-up phase, with important savings in terms of time and resources.

Click here to download a whitepaper about this service: [SIMULATION](#)

CUT YOUR PRODUCTION COSTS WITH BRUSCHI

In terms of saving and cut costs Bruschi can help its customers.

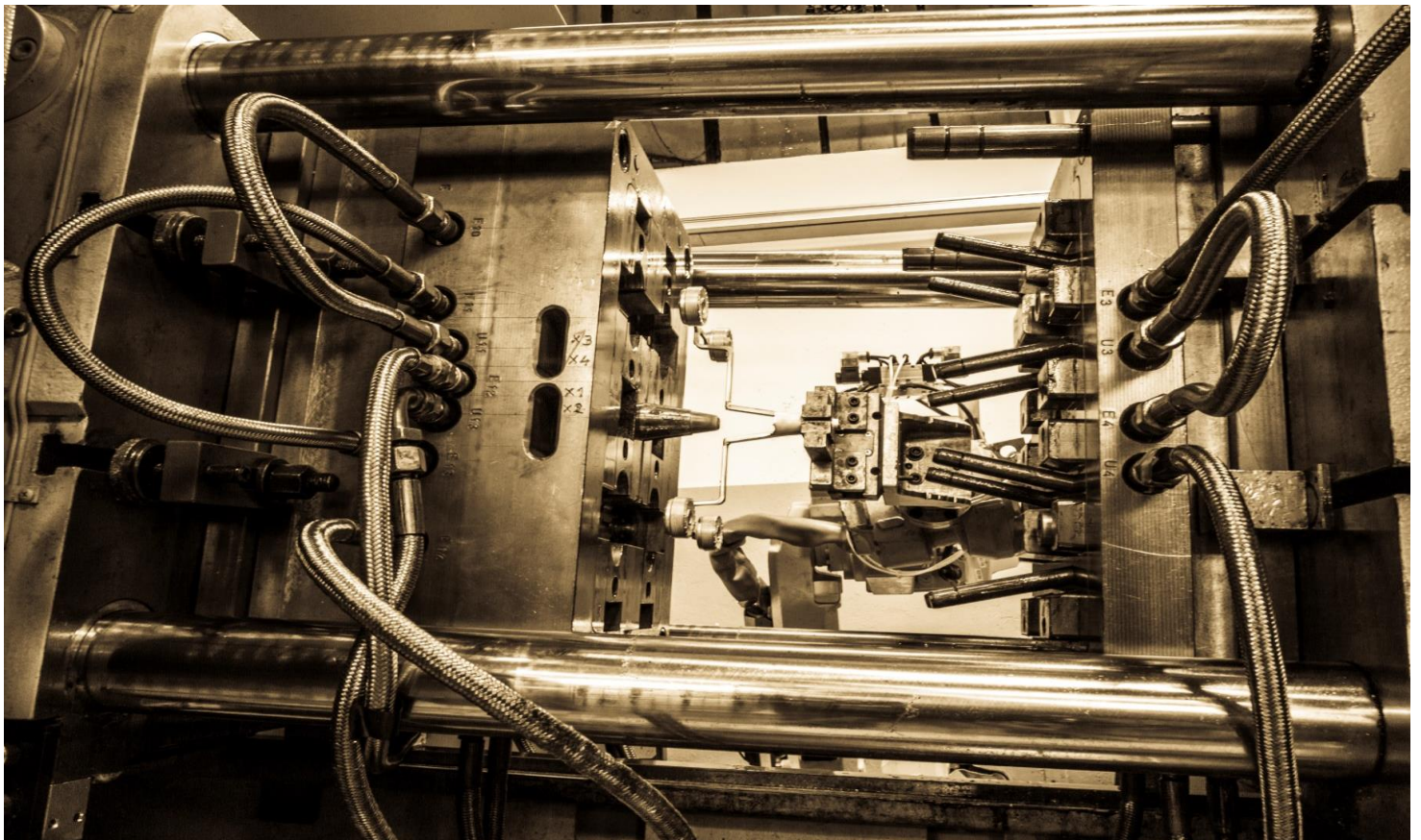
The first step of cost reduction is to decrease material and production costs: it is important to choose the right material, the most useful assembling process and to use a prototype and simulation tools to avoid any problem during the production cycle.

Bruschi has the chance of using simulation, prototyping, testing and process optimization: analysing the entire process in order to optimize and improve it.

Bruschi suggests three areas where is possible to save: Co-design and Simulation, previously shortly described, and Benefits of Zinc.

If you are interested in how Bruschi can help you in your company VAVE you can download a whitepaper here: [VAVE](#)

Instead if you want to know zinc alloys benefits for smart locks continue your reading.



WHY USE ZINC TO PRODUCE SMART LOCKS?

Zinc alloys have many important characteristics: strength, toughness, rigidity and economical castability.

For reasons above mentioned, their properties are much more than the one of other materials such as aluminium, magnesium, bronze, plastic and other cast irons.

It is important that at the moment of choosing the material, the designer picks the right and most convenient material.

One of the most important benefit of zinc is its accuracy and the fact that it allows narrower tolerances than any other material. Secondly is important to highlight that with zinc is possible to avoid many secondary operations, that with other materials would be necessary, and to obtain anyway a better outcome.

Zinc alloys can be casted with less draft angles and this can be seen as an advantage during the mechanical process. Furthermore zinc has faster cycle times with HPDC, that allows a better pricing.

In addition with zinc is possible to diminish the amount of waste of material and in this way is possible to obtain saving.

For all these reasons is possible to say that zinc allows a huge saving in economics and lead time terms and that it can be defined as the material with more benefits compared to others.

Here the list of our premium whitepaper previously listed.

CO-DESIGN - [Click here to download](#)

SIMULATION - [Click here to download](#)

VAVE - [Click here to download](#)



ZINC ALLOY COMPONENTS FOR SMART LOCK

As a company specialized in zinc die casting Bruschi already produces, for some of its customers, very specific components for smart lock sector.

This experience allows to find components that are possible to be developed with zinc alloys. These kind of components will have innovative and complex geometries, but will have lower production costs compared to other materials. Zinc benefits may be useful for the following components:

- Door lock carters
- Panic bar door handles
- Door handles
- Keypad covers

For each of these components Bruschi has an experience with a client. Here some case studies.



DOOR LOCK CARTERS - GIESSE

Giesse, Italian Brand part of Schlegel Group, focused its collaboration with Bruschi on door and window handles.

Giesse had issues with its previous zinc die casting suppliers about costs then decided to change supplier and started to collaborate with Bruschi. As a result Giesse obtained a great saving.

This has been possible thanks to the collaboration between the companies in terms of co-design on a special carter: working together Bruschi and Giesse technicians focused their efforts to find a solution to reduce scrap rate and to reduce weight.

In details, thanks to this collaboration, Giesse reduced scrap rate from 30% to only a few parts per million. This result was achieved thanks to vacuum casting technology which allows to avoid blistering.

In terms of reduce weight, which led to a consequent raw material saving, the solution was to develop a new design for components. In particular Bruschi technicians worked to design a new mould changing the cooling system: using conformal cooling channels technology they obtained to cool down parts of the mould which otherwise would deteriorate and would cause defects due to high temperature. This technology was perfect to create complex conformations in order to save raw material, reduce weight, reduce scrap rate caused by temperature and cut down mould wear.



PANIC BAR DOOR HANDLES – ISEO

ISEO is a leading Italian company in locker sector.

Before starting its collaboration with Bruschi they had issues in term of cost and scrap rate caused to the previous supplier about an important component for panic doors.

In details components were produced injecting materials in the visible part of the piece, right on the side where users could see imperfections on surface. This did not get client's requirements in terms of extra-costs related to secondary manufacturing applied in order to delete that imperfection.

Once got the project, to avoid this issue Bruschi designed a new mould, where the metal could be injected from a hidden point, in a functional area with no impact on the aesthetic quality of the product.

The new mould design was made possible thanks to MAGMASOFT® simulation software and Bruschi technicians. Innovative techniques such as simulation software allowed Bruschi to optimize the product both in terms of performance and quality, leading to consistent saving for the customer as well.

Turning to Bruschi the customer reached an improved aesthetic quality, a reduced number of rejected products, a shorter production cycle, an improved process efficiency, and a cost reduction due to secondary manufacturing removal.

Searching for new solutions is a crucial point in smart locks sector. As ISEO case showed Bruschi has a tailor made process designed for every client, both for a new product or for the optimization of an already existing component.



DOOR HANDLES - SAVIO

Savio is a company specialized in hardware for windows and doors. Its collaboration with Bruschi was about door handle developed in zinc alloy.

Normally it could seem an unconventional choice.

In fact usually products like that are developed in aluminium and brass, but SAVIO designers preferred zinc as this material allows features in order to obtain new geometries and innovative shapes with narrow tolerances, less secondary operation and special aesthetic finishing.

In fact thanks to zinc die casting split lines are less significant, secondary operations to prepare the surface for finishing treatments are less expensive and galvanic treatments give a better outcome compared to aluminium. This means better performances at lower cost if compared to aluminium and brass.

Even the top of electronic smart lock, the most innovative one, need a handle or knob!

Cutting costs, without compromising the design, could be the best way to develop the best product possible.



KEYPAD COVERS - SOMFY

Somfy is the world leader in the automatic control of openings and closures in homes and buildings. It is a multinational group of companies that is active in design, development and manufacture of automatic controls for opening and closures.

Its collaboration with Bruschi started to produce smart lock keypad covers. Bruschi took the place of the previous supplier who did not get the aesthetic quality. Bruschi worked deeply on the mould design and on the finishing to improve the process asset and got the quality required.

Developing keypads in zinc alloy allows geometries and shapes suitable for both engineering team and design team. In fact this material provides protection characteristics added to aesthetic requirements: one material, two tasks accomplished.

This is the reason why manufacturers prefer produce zinc alloy keypad covers.



ABOUT BRUSCHI

For over 70 years Bruschi has been working in industrial production in the field of zinc die casting. Over time the company distinguished itself for efficiency, accuracy, ability to listen to its customers' needs and innovative drive in technology, co-design and mass production.

Bruschi technicians apply the know-how acquired by working in many sectors of industry during co-design activities with the client. In fact it is an interdisciplinary knowledge placed at the service of the client's engineers. A huge expertise in the zinc alloy die casting industry allows to anticipate the customers' needs and expectations, by providing engineering solutions to accelerate time of delivery, improve performances, and simplify integrations.

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