

# BRUSCHI

Bruschi VA/VE support for a leading company in lock sector



## HOW BRUSCHI CAN SUPPORT A CLIENT VA/VE

VAVE is a process of decision making, organized in a systematic way. Its aim is to accomplish a project, a product, a process or a system with a cost saving point of view. The center of this process must remain performances of the product. This process regards reducing costs in an already existing project without damaging the design.

VAVE is composed by two acronyms, VA and VE, that define two different processes.

### Value Engineering

Value Engineering (VE) is related to create new products. It regards product development and is focused on evaluation and analysis due to reduce costs and improve functions. According to many reports, almost 80% of products costs are related to design phase.

### Value Analysis

Value Analysis (VA) is related to existing products. It is the process of analysing and evaluating a product to try to reduce its costs and improve its functions.

Is a process step-by-step that is focused on different areas such as costs, functions, alternative components and aspects of design as assembling and manufacturing.

### Collaboration between Bruschi and a leading company in lock sector

As said before, best companies in manufacturing field are always trying to improve their performances: a constant process that, in cases of excellence, involves also suppliers.

In this particular case a leading company in lock sector has collaborated with Bruschi, with VAVE, to improve an already existing component (VA) and to develop a new product (VE). This company is top brand in locking systems, part of an international group entirely dedicated to security solutions.

We will start this case study talking about how is possible to improve an already existing component (VA).

### How Bruschi helps its Clients



## BRUSCHI – AUTOMATIC LOCKS FOR HOTEL DOORS (VA)

The leading company in lock sector, after an unsuccessful collaboration with a different supplier, decided to give Bruschi a project about automatic locks of hotel doors.

The client, given its high standards that has to provide its customers, decided to involve Bruschi in this process. This process was highly difficult for Bruschi, it was a challenge.

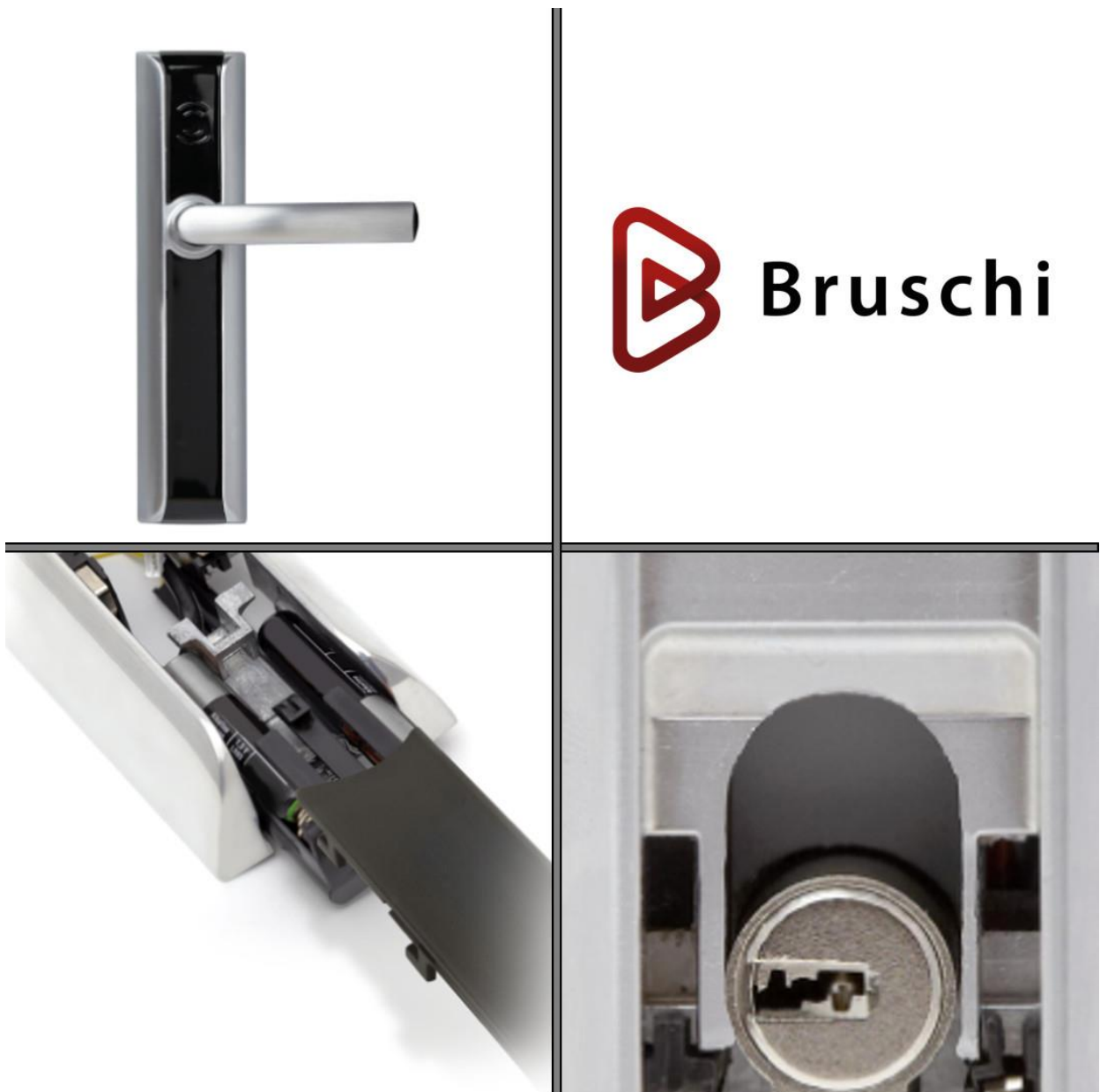
Difficulties were given by the finishing techniques of the product due to components complexity. Moreover than the need of product quality the client needed to guarantee a continual production and could not allow slowdown in mass production. The client needed a new supplier as Bruschi, able to minimize risks and finish the process without any other problems.

After a first study of moulds and filling simulations with Magmasoft, the product was prepared by Bruschi for finishing operations: a delicate operation that takes to standards requested by the client.

Bruschi contributed to create a product for common use, according to the clients' need on time.

To obtain an extra detailed study, please download our whitepaper: [Simulation](#)

Here the automatic lock of hotel doors.





## MAIN GOALS

### High finishing level: chromium plating and gold plating

One of the main goal was to reach a very high quality level of the casting surface as many different kind of finishing were required. These kind of high gloss plating coatings, such as chromium plating and gold plating, are commonly demanded by luxury facilities. To properly carry out these finishing the cast part must be perfect, without any flow mark or other even small defect.

Bruschi focused its effort on simulation to study the correct filling of the cavity, designing proper gate sections, runner dimensions and thermal balance. Just a supplier as Bruschi, with these engineering skills, can allow this particular type of work and meet clients' requirements and can guarantee to be successful producing these high level products.

### Process simulation & Accurate die design

Die casting simulation software is a product been developed in the past few years. The amount of data that are valuable obtained thanks to simulation phase allows customers and die caster designers to improve the final product or components in an economic and time saving way. During design phase the designer has not to be bounded to shapes that can be associated with common manufacturing tools but has to have a wide open mind and be free from usual techniques.

The former filling solution was based on usual system of gating design, usual system for machining the die, Bruschi focused its mold design activity on the component. In fact the gate of the previous system was just on one side of casting: the new mold, developed by Bruschi, although more complex, has the filling system on both sides of the product. The main and the most exposed sides of the product.

## MAIN SAVING

Due to waste reduction after finishing, Bruschi was able to obtain an important saving in economic and time terms.



## BRUSCHI – Special locking system (VE)

Our case study continues with the collaboration between Bruschi and the client for the development of a new product (VE).

In this case the client had not the chance of designing from the beginning a product that was already on catalogue.

In this particular approach Value Engineering (VE) has been possible thanks to co-design offered to its clients by Bruschi. It is an important service during product startup phase.

It is important to develop a product with technical characteristics related to functionality of the product itself and to the entire process of die casting.

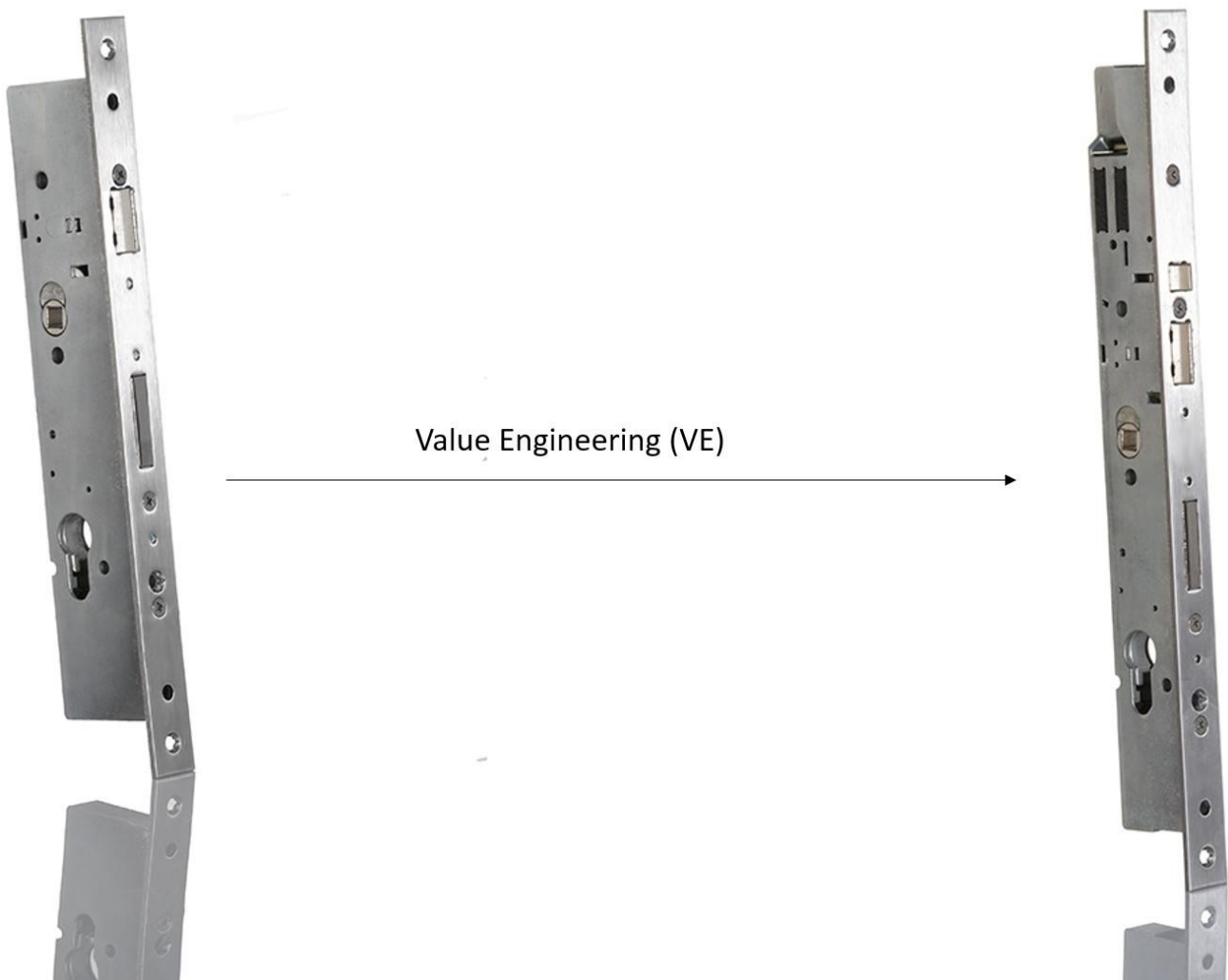
Choosing the right supplier allows to understand if the component requires a die casting technique and if die casting can be the right technological process for its production.

Co-design is a part of product design that during design process of production phase has some requirements to output a good product.

Another benefit of co-design is the collaboration between client and supplier that allows to gain better results and a strict relationship between them. The result is an expanded know-how and a better product in a cost saving way.

To obtain an extra detailed study about co-design, please download our whitepaper: [Co-Design](#)

Here the special locking system.





## MAIN GOALS

### Change of technology and change of material

This co-design service offered by Bruschi allowed its client to develop a product different from the previous versions. The idea was to start from a product normally produced in sheet metal stamping, that would have requested more secondary operations increasing the cost, to a product made with zinc alloy in die casting. This change allowed to decrease the cost and to produce new geometries for the product, in line with a more current design. One of the most important characteristics of zinc alloy is the chance to obtain more precise products allowing strict and difficult -to-reach tolerances.

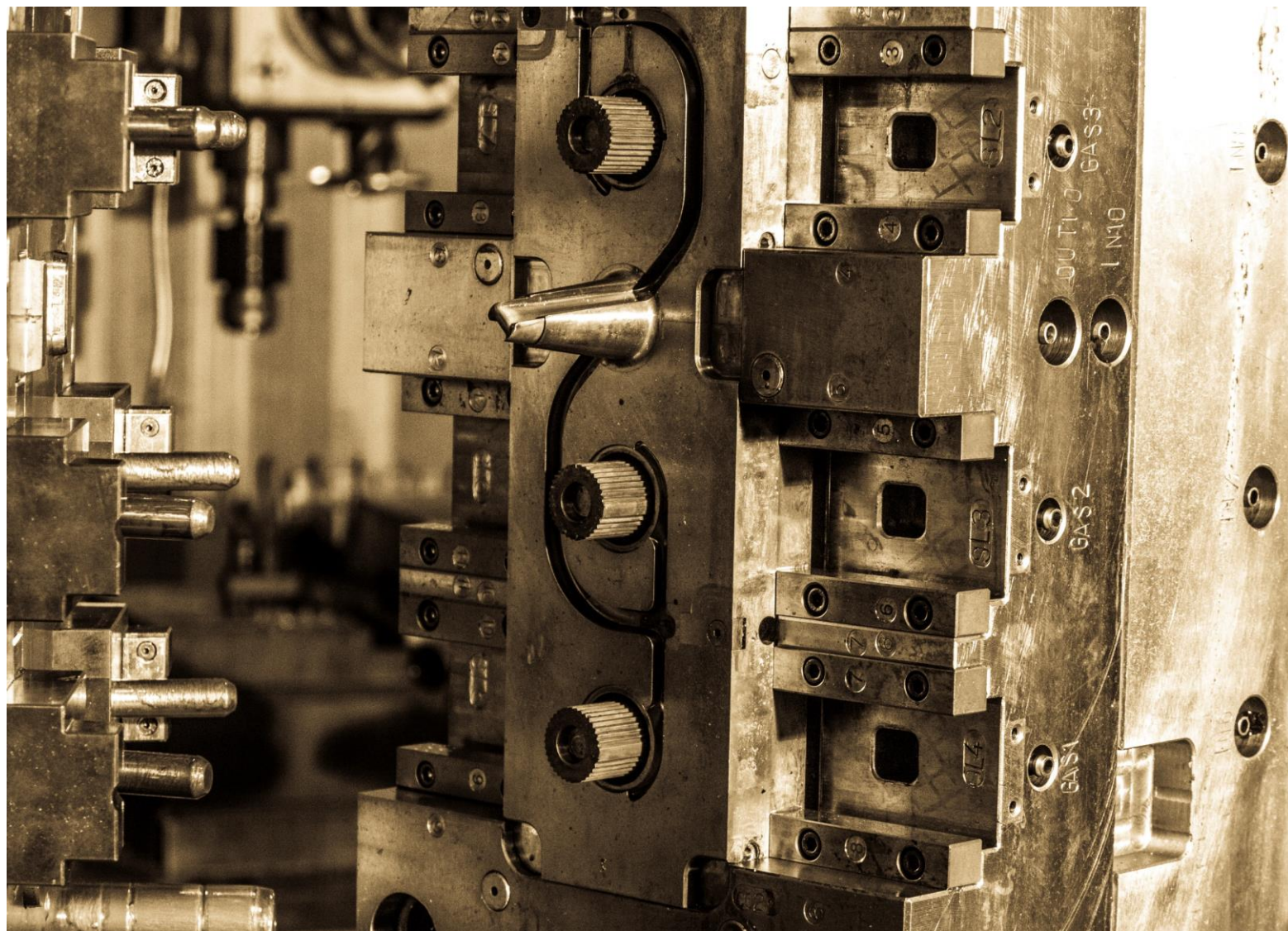
Bruschi helped its client to develop products that lead to an important saving in terms of secondary operations.

### No machining after die-casting

As said before, more than change of technology the client carried out, in collaboration with Bruschi, a change of material. Turning to zinc alloys, more precision was reached during die casting process, without any secondary mechanic operations. This change led to benefits in economic and time terms.

## MAIN SAVING

- Less construction costs for the product in terms of mass production
- Economic saving in terms of secondary operations





## 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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