

## Cost and logistics study:

### The true cost of assembly.... Proven cost-reduction through intelligent purchase

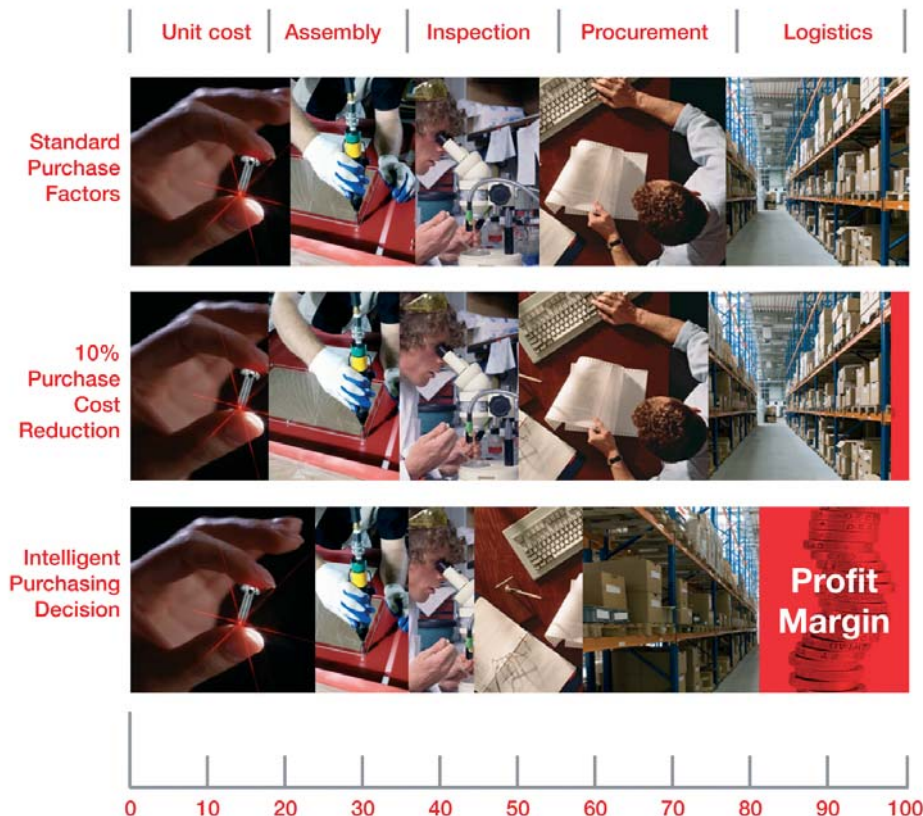
In the best of economic climates the aim for business is to make profit. However, for the foreseeable future the prerequisite for manufacturing as a collective is to survive.

Reducing the cost of your c-class parts is the obvious immediate step to reduce the cost of manufacturing. Your product is cheaper and your customer is happy. If only it were that easy!

Certainly, with rationalisation of parts and sourcing of product in low cost manufacturing countries, it is a logical consideration. However, at EJOT UK we are able to demonstrate very easily that there is a limit to how far this can be pursued without compromise to quality and in turn, time lost to inspection and interruption.

When considering the fixing of a joint, the realtime cost of managing a fastener has an immediate and direct input in five critical areas. These are; the fastener itself, assembly, quality of joint, procurement and logistics. Very quickly the argument to achieve cost savings by reducing the purchase cost of the fastener becomes weak. Although some moves have been made to improve the efficiencies of procurement and logistics, assembly technique and the need for quality and inspection are easy to overlook at the expense of genuine overall savings.

The chart below contrasts the effect of cost saving through fastener price, versus benefits to profit margin achieved through intelligent purchase.

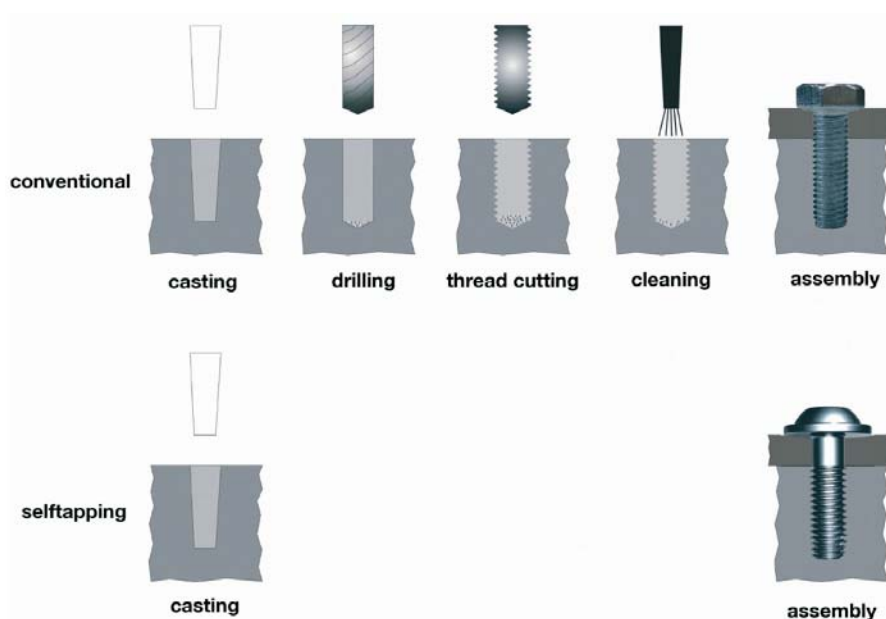


So how have EJOT achieved products capable of delivering such significant 'bottom line' savings? You could simply call it precision German engineering.

Historically, the design of many C-class parts is carried over from product generation to generation, but key to EJOT's success is the time we have invested in developing engineered products of the highest quality, for literally thousands of applications worldwide. Selecting a high quality fastener can easily justify a higher unit cost by either simplifying or even eliminating production processes involved, whilst contributing greatly to quality of end product. By reducing the inspection required and further reducing the number of unnecessary parts needed, procurement and inventory management become easier.

## Direct Fix = Direct Saving

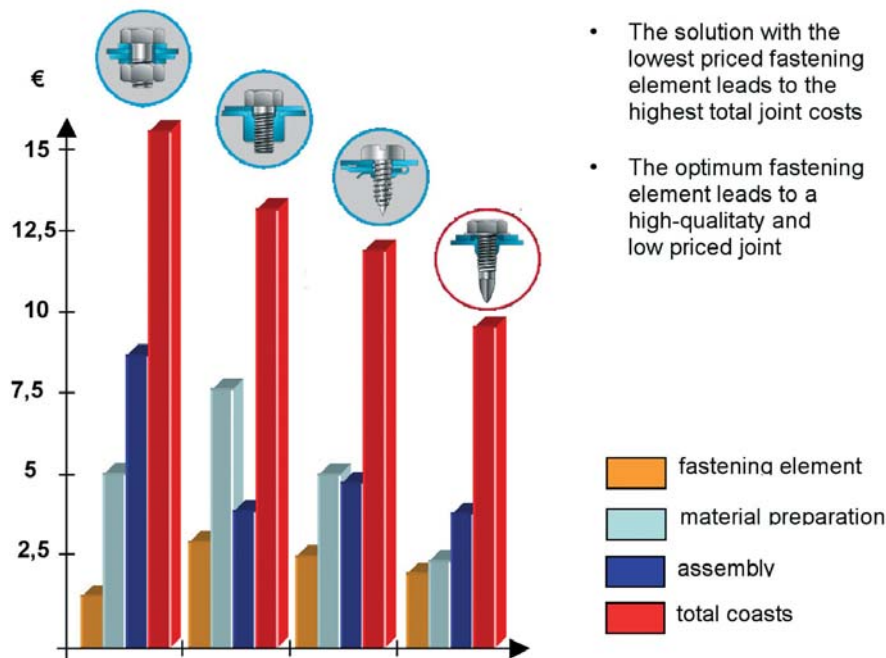
An example of this is where a direct screw fixing with the correct thread profile is engineered to replace the need for 'drill and tap' into light alloy applications, by thread forming directly into a cored hole. It's the kind of screw technology EJOT is renowned for around the world.



The result is that four operations, including inspection, have been eliminated. This means that production efficiencies improve substantially and many quality issues disappear. With regard to direct cost savings there is now no need for the consumables such as drills and taps and energy to power the machines. Further cost savings are realised by eliminating the need to dispose of scrap material and cutting fluids.

This leads to an improvement in overall cost saving on the assembly process of between 20% and 30%... which goes straight to the bottom line.

Similarly, the same direct fix saving theme can be applied to the elimination of female threaded components, from bushes and clips into sheet metal, inserts, plastic mouldings or drilling and tapping into alloy casings. All too often the female nut, inset or bush has again been carried over simply because it has 'always' been the method of fixing joints.



This diagram shows the cost of fasteners used into sheet metal and in particular the cost effect of the number of components needed and the assembly time required. The fastener circled is an FDS screw (flow drill screw) where no hole is needed in the lower sheet. The screw forms the displaced material into an extrusion and automatically creates a thread during the installation process, eliminating the need for a female thread that previously needed to be attached before assembly.

Clearly the effect of eliminating the female component is evident; not only is there a reduction in parts but also the cost of any assembly equipment and associated running costs of that equipment.

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