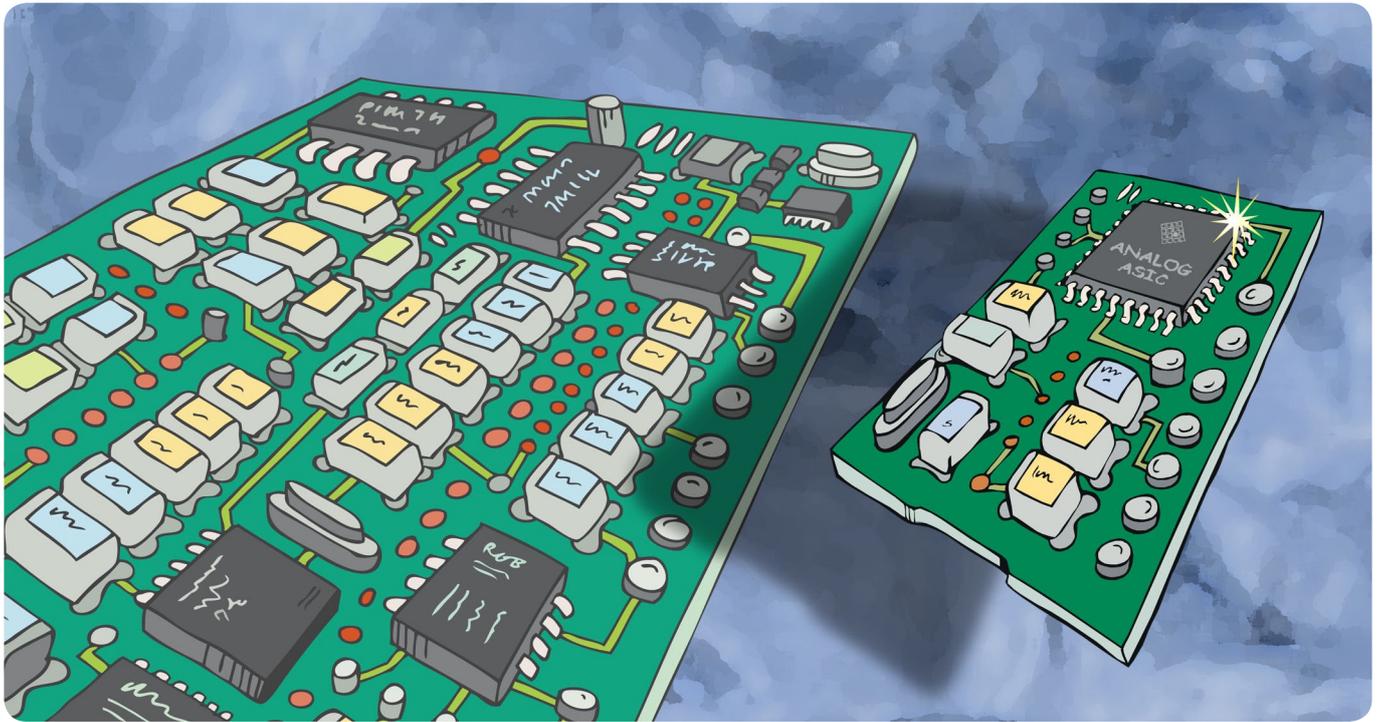




Analog ASIC *Cuts Cost*



Cost reduction is a natural goal when introducing an Analog ASIC in an existing application.

An Analog ASIC replaces a lot of standard components. The total component cost will be reduced but the main source for cost reduction may well be that PCB assembly costs go down as the number of components is reduced.

The introduction of an Analog ASIC in an existing system is generally motivated by the fact that it replaces a lot of standard components.

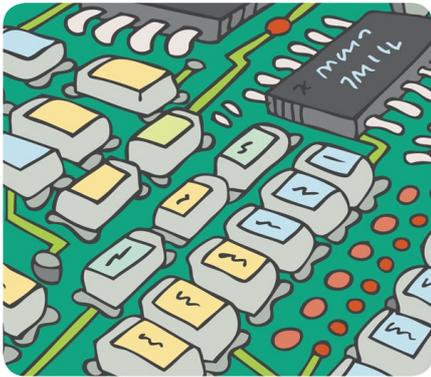
The cost for discrete components like transistors, resistors and capacitors may be small but the cost for assembly of all these on a Printed Circuit Board is proportional to the total number of components.

A very significant cost reduction can be achieved when updating a system with an Analog ASIC.

The Principle

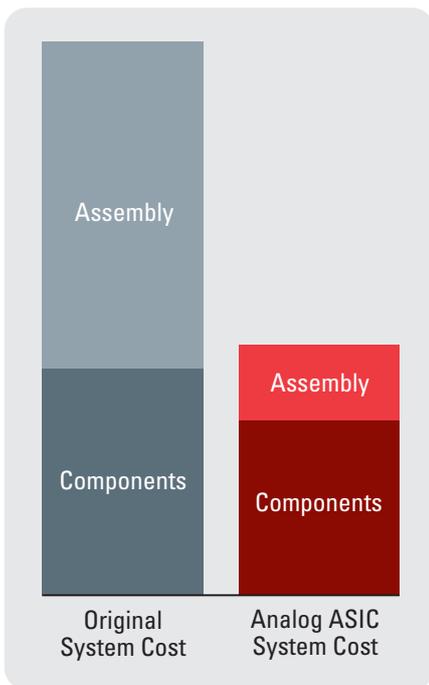
An Analog ASIC that is introduced in an existing application will replace a lot of standard components. This includes integrated circuits like for example operational amplifiers and voltage controllers but also simple discretes like transistors, diodes and passive components.

A standard resistor for surface mount is indeed a very low cost component. The cost for mounting components on a board is however proportional to the number of components and not to the value of the



component. The cost for mounting of one component is also significantly higher than the value of a standard resistor.

The introduction of an Analog ASIC will reduce the component cost. The most important improvement may however well come from the drastically reduced cost for assembly on PCB. The Analog ASIC will replace a large number of standard components and will in this way cut production costs.



There is also a potential for cost reduction concerning size and complexity of the PCB itself. Total footprint for all components will naturally shrink as the number of components go down. It is also in many cases possible to reduce the number of layers in the PCB as wiring complexity goes down together with the number of components. This effect may well be significant but is generally harder to estimate.

The Example

The cost reduction illustrated here is achieved for an application where totally about 100 components are replaced with one Analog ASIC. All components are low cost ranging from resistors at € 0.003 each to operational amplifiers at € 0.10 each.

The component cost is slightly lower for the ASIC alternative but the total cost for components mounted on the PCB is cut in half assuming a cost for surface mount in the range of € 0.025 per component.

The cost reduction originating from reduction of PCB size and complexity has not been included in this example.

Payback

There is, as it is for any update of a system, an initial effort associated with the development of an Analog ASIC. The payback time for this investment is naturally dependant on the production volume. This example will give a payback period in the range of one year assuming 50 000 units built per year.

Let SGA estimate what your payback time will be