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Where do we stand today - Status quo on the progress of non-medical application fields of NiTi based shape memory alloys. Driving forces and obstacles in the framework of the implementation of SMA actuators for different industries.

In retrospect, it is clear that there has always been great interest in advanced SMA-based actuators in recent decades. However, for a long time it was not possible to get beyond the status of simple functional demonstrators. In some cases, the materials with their functional and structural properties were not yet good enough, but in some cases, it was also the framework conditions of the interested fields of application. Over the years, the various gaps have been gradually closed by many protagonists – both on the manufacturer and user side. And so today we find SMA successfully used in a variety of different applications. In some cases, exotic applications are accompanied by only small volumes. In other cases, however, it is a matter of upscaled industrial applications that are produced on fully automated production lines in large millions of units every year. In the current presentation, we therefore shed light on applications in the market and those that still want to make it there. We take a closer look at the leading industries such as energy, automotive, consumer electronics and aerospace, as well as at rather inconspicuous markets, such as cosmetics, microfluidic technology, retail or intralogistics, without which our daily lives might not function at all. But putting the spotlight back to the successful medical device industry it seems that the boundaries between “non-medical and medical” slowly begin to vanish