

CMOS Imaging - cost effective disposable endoscopes - where do we see the market going

To quote Henry Ford, “If I asked people what they wanted, they would have said faster horses”. The same mindset is very evident in the most successful entrepreneurs of our time. The true innovators are thinking about what new value they can bring to fill a genuine market need and their work can be very well rewarded with the right idea, the right approach and the right team.

Applying the above mindset to the very well established and somewhat commoditised Endoscopic market might not seem such an obvious thing to do, but some decent opportunities are opening up.

With endoscopic catheters, the essential features such as excellent visualization and control have been met reasonably well to date with more rudimentary eyepiece/optic fibre technology. Reusables have also served their purpose reasonably well; however, they will eventually lose market share, with the FDA recommending a move away from reusable endoscopes.

A new era in minimally invasive medical devices is well underway, one that allows for more elegant solutions and greater opportunities – that is of course digitalization of medical devices. That means the more basic approaches in endoscopy will soon be outdated.

Single use CMOS based Endoscopes are very much part of this new digital era and will fast become the industry standard for Endoscopes; now is an excellent time to win market share with some innovation in this area.

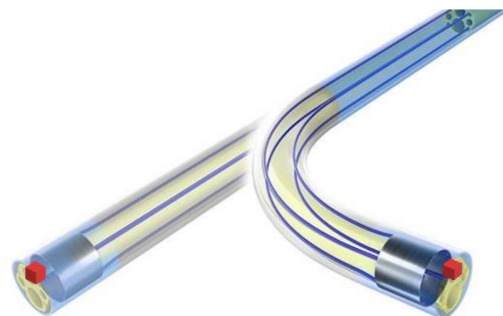


Figure 1 Steerable with CMOS

CMOS endoscopes use a CMOS image sensor chip at the tip of the catheter. This chip records the diagnostic image and sends the image digitally through the catheter shaft, out to the base unit for viewing. As the image is transmitted digitally, exceptional high definition image quality is achievable.

CMOS imaging hardware is getting smaller and more cost effective, breaking the prohibitive barriers that existed until recently, hence the single use endoscopic market is reaching a tipping point into the use of CMOS.

The opportunities that CMOS based endoscopy provides is by no means limited to just better image quality. Everything from wireless connectivity to APP based and IOT diagnostic tools are now much more achievable, with significant potential to reduce procedure times, training and increase the accuracy of a diagnostic procedure. Also, the catheter shaft itself can be revisited as it no longer needs to maintain a straight lumen for optic fibre technology – for sure there are some opportunities to innovate in this respect also.



*Figure 2 Freudenberg Medical
– Commercialization ready handle for EP*

At Freudenberg Medical, we are focused on being at the cutting edge of innovation, working together with our customers to realize their innovations, through adding expertise in technology advancements, manufacturing know-how and services. Some offerings include a huge level of experience in development and manufacture of complex composite shafts, including braid, coils, electronics, fibres, steerability and various other integrations. We also have some commercialization ready technologies that can be utilized or adapted by our product design team for your application. Get in touch to speak with some of our team to see if we can work together.

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