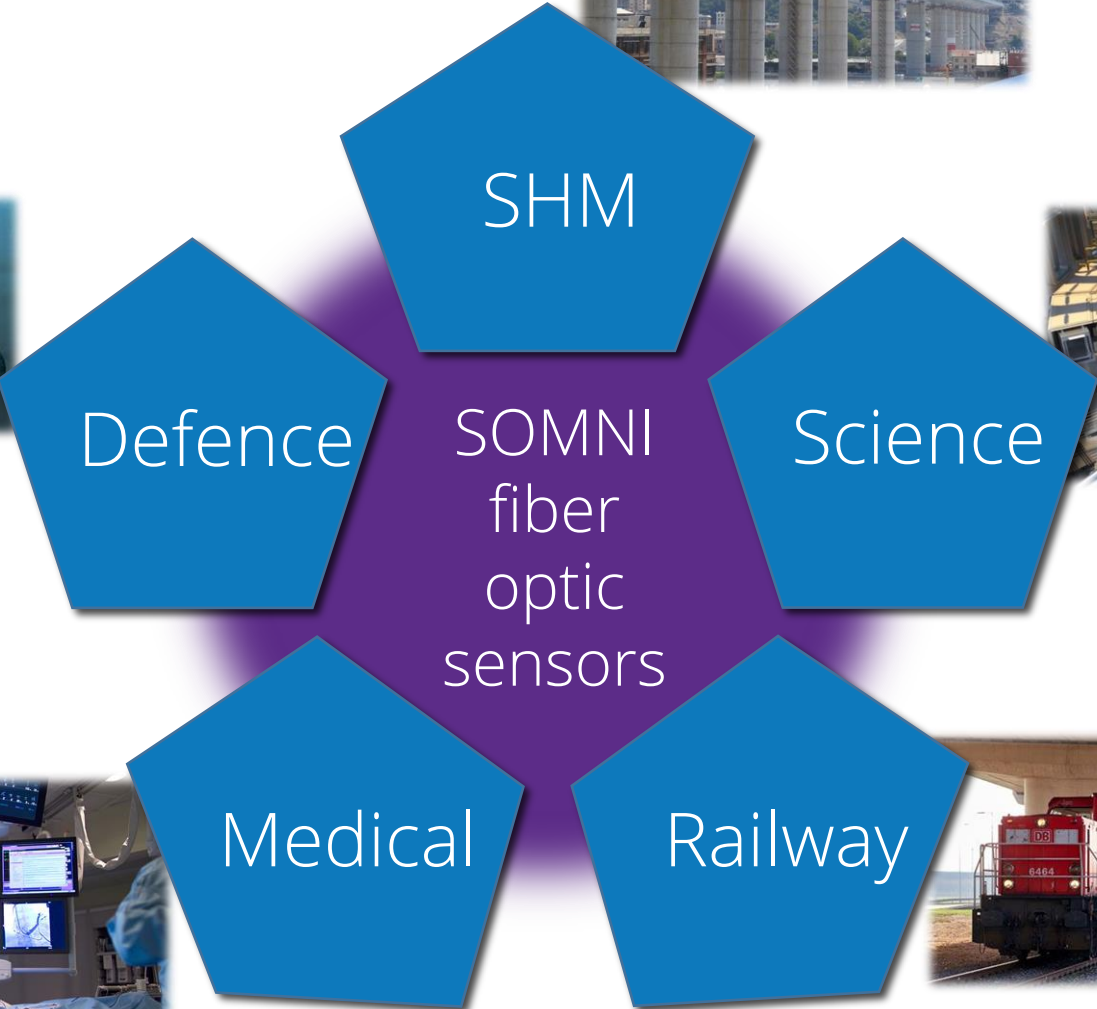
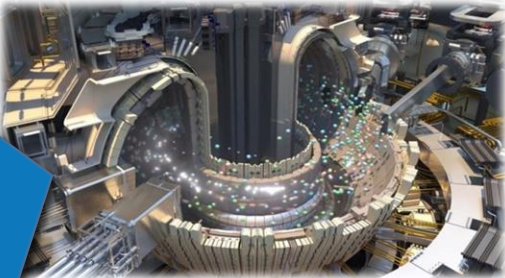
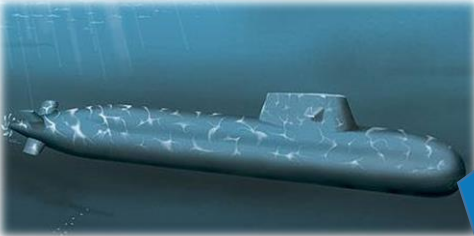




S o m n i

fiber optic sensor systems

SOMNI – FIBER OPTIC SENSORS



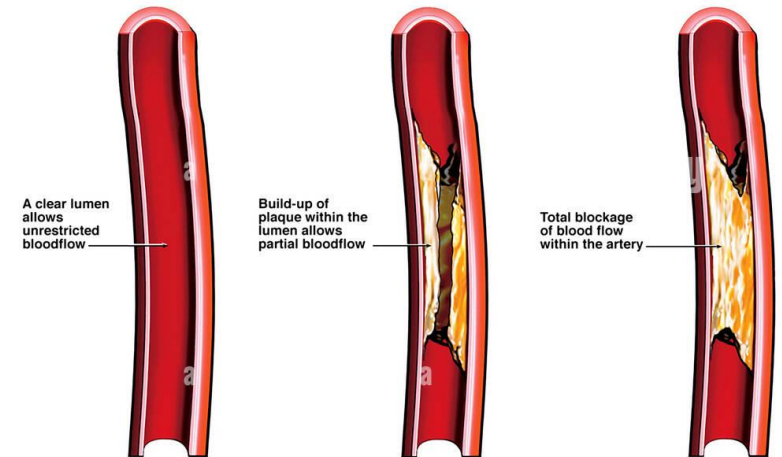
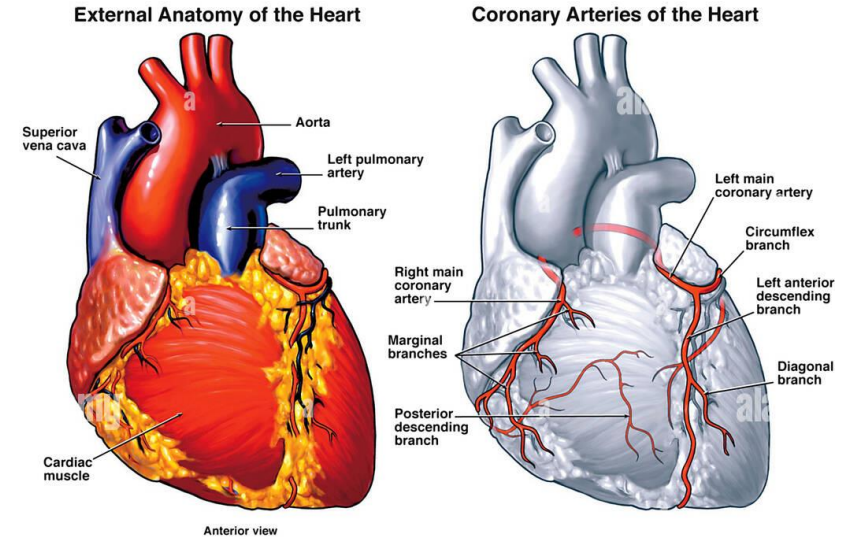
Pressure sensors for cardio-vascular applications



Millar SPR-671 pressure sensor

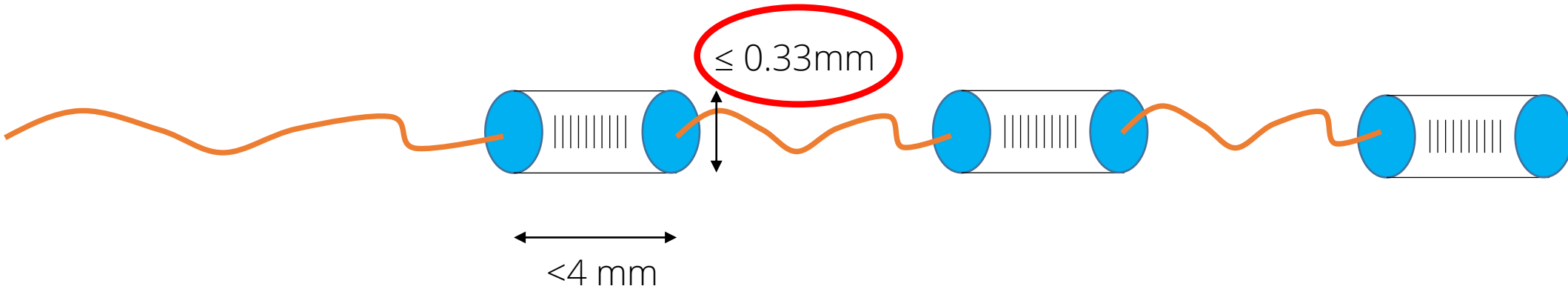


0.45 mm diameter



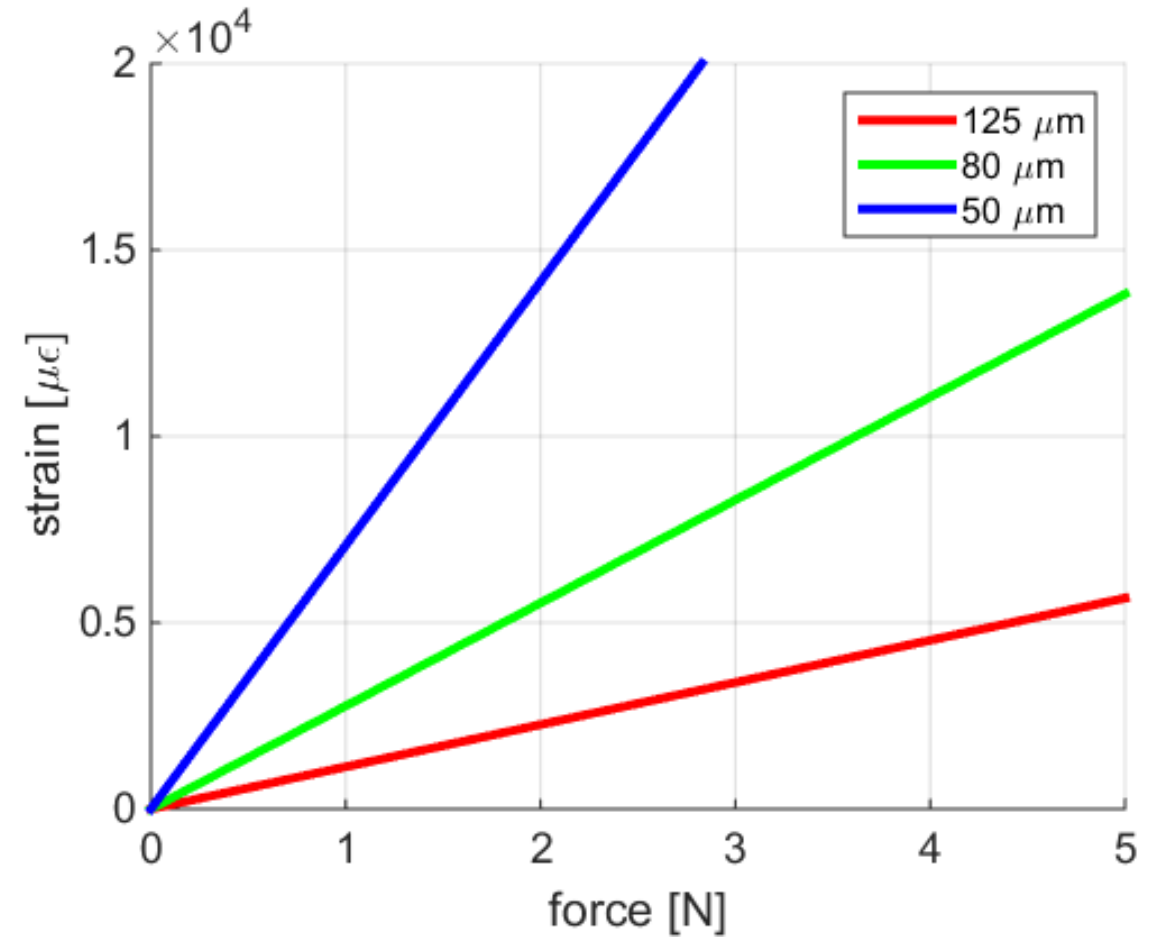
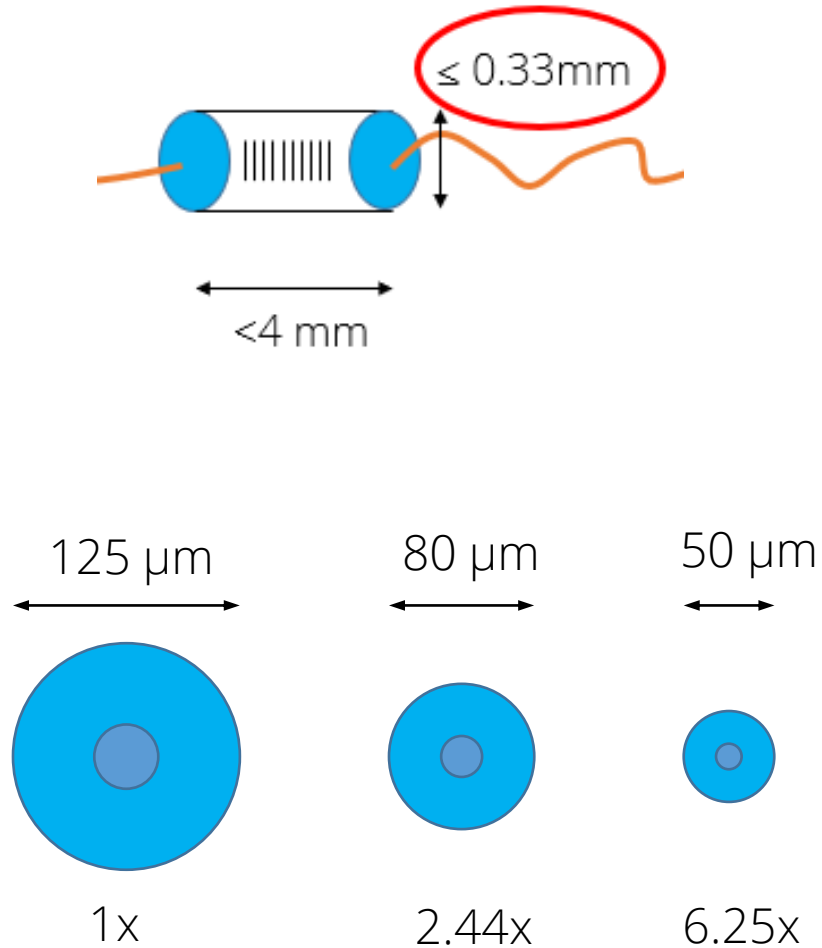
NEED FOR MULTIPLE PRESSURE POINTS ON A SINGLE WIRE!

The challenge: It needs to be very small!
(and we need more than 1!)



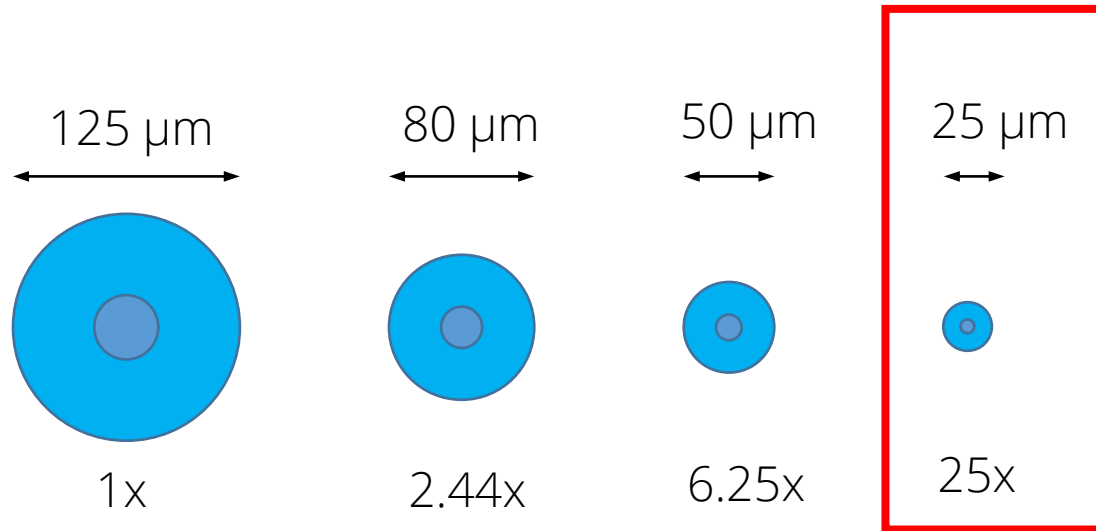
Use Fiber Bragg Grating (FBG) based pressure sensors

Small size sensor → small diameter fiber

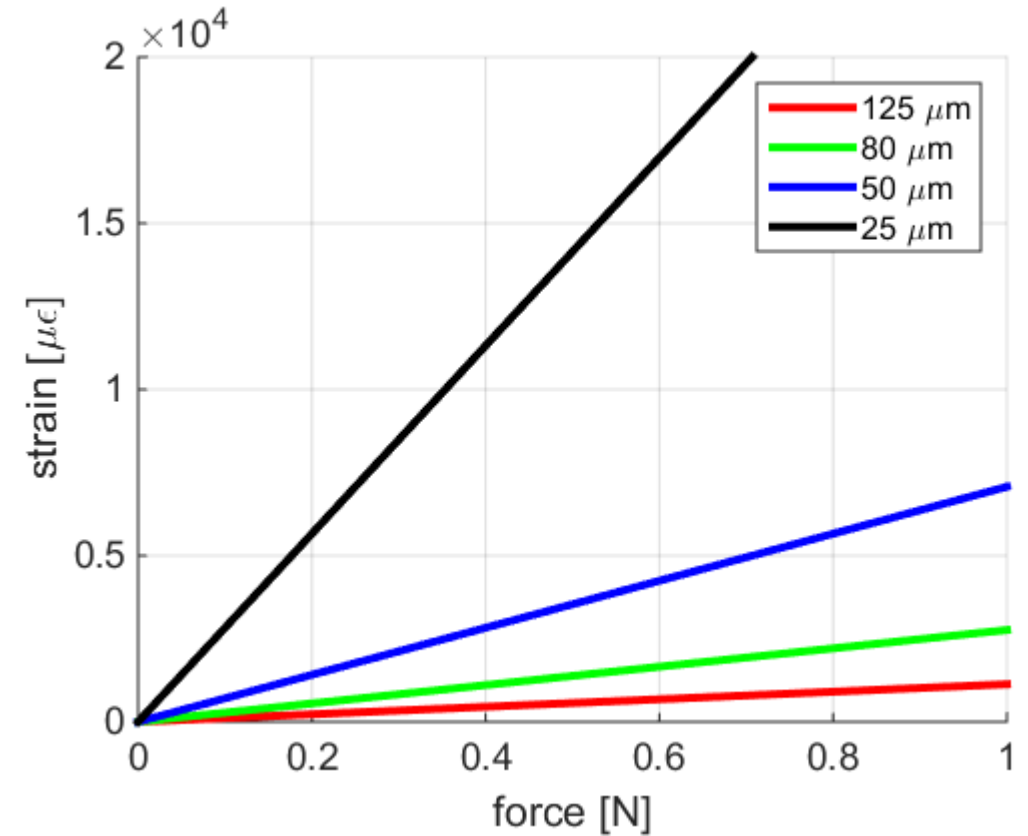


More signal (strain) with equal amount of Force!

Can we do even smaller?



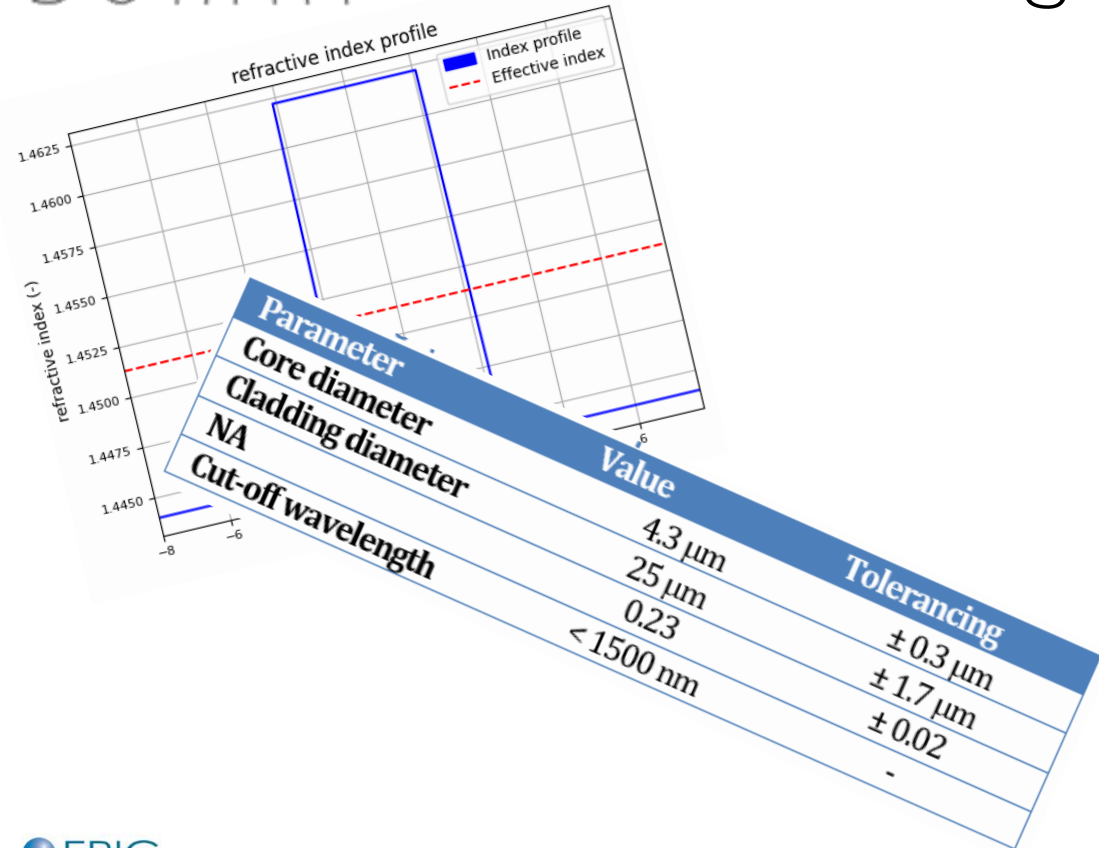
25 μm diameter fiber
= 25 times more signal!



25 μm single mode fiber design and fabrication



Somni fiber design



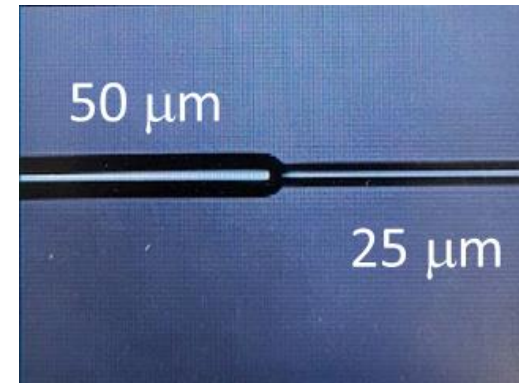
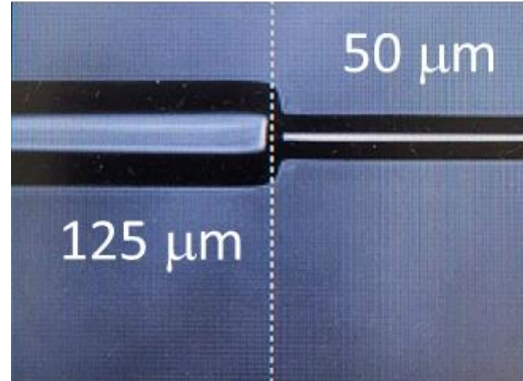
RISE: ACREO fiber manufacturing

RISE



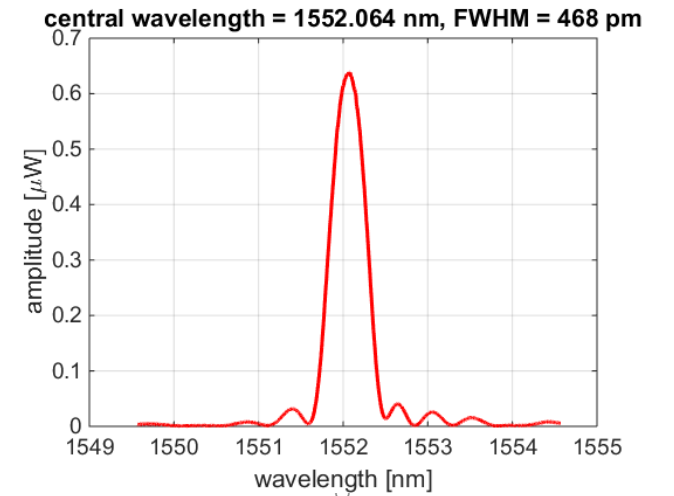
The nightmare begins ... fiber handling

- Stripping
- Cleaving
- Splicing
- Window stripping



- FBG manufacturing

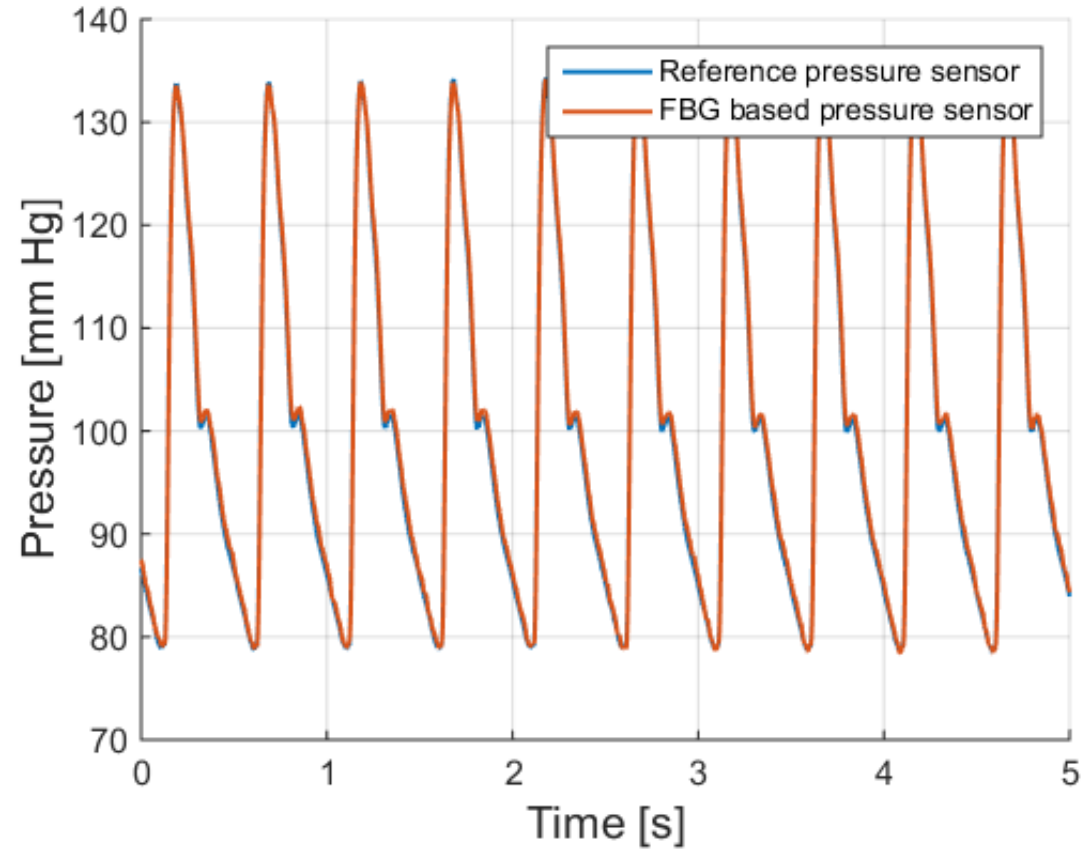
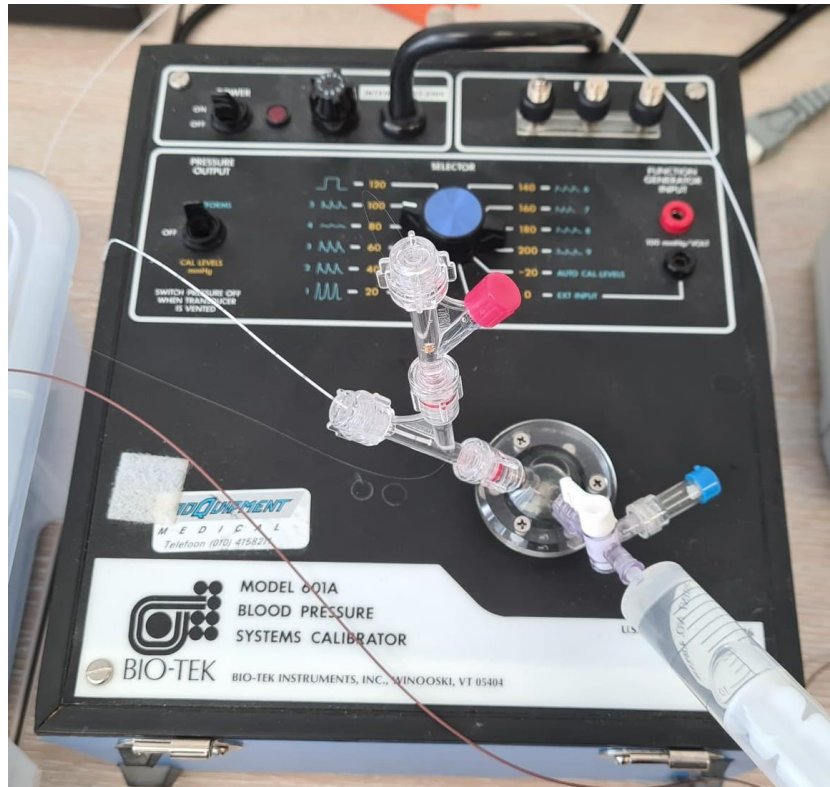
Support from:



Miniature pressure transducer design, manufacturing and test



Miniature pressure transducer design, manufacturing and test



Next steps ...

- Catheter integration (ongoing)
- Surgery planned after the summer (Pig)



THANK YOU!

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