# Sapphire procurement

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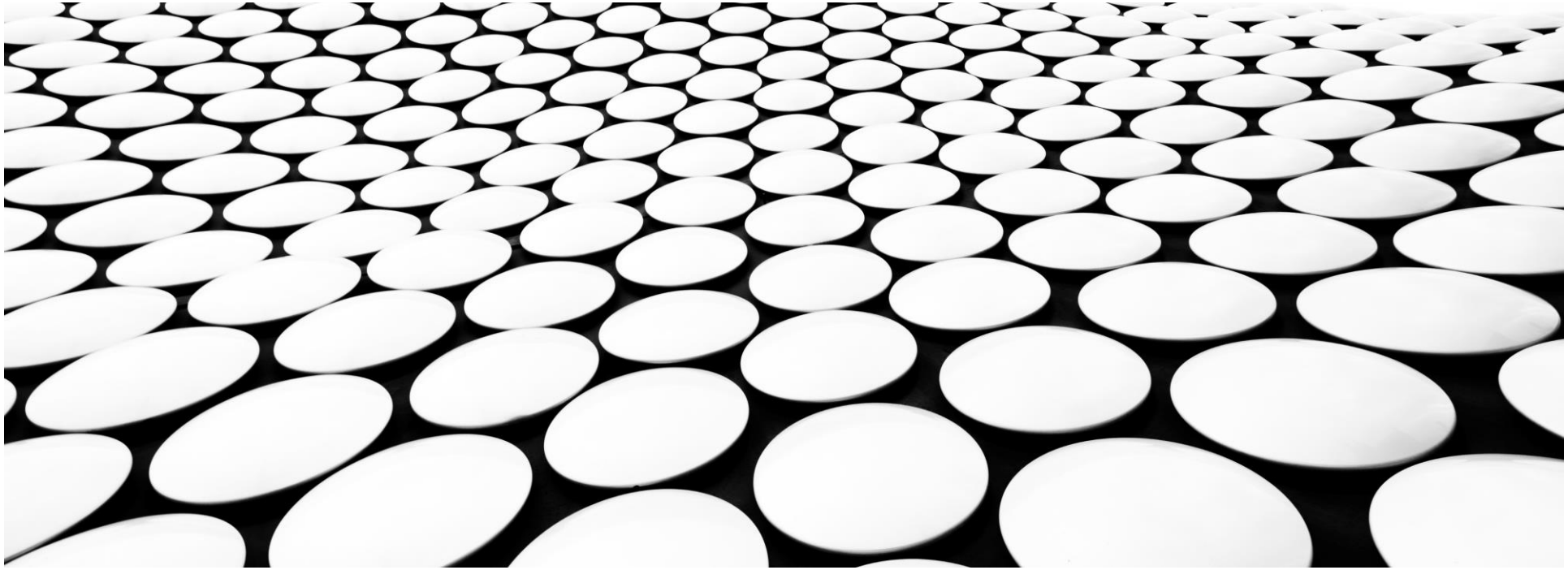
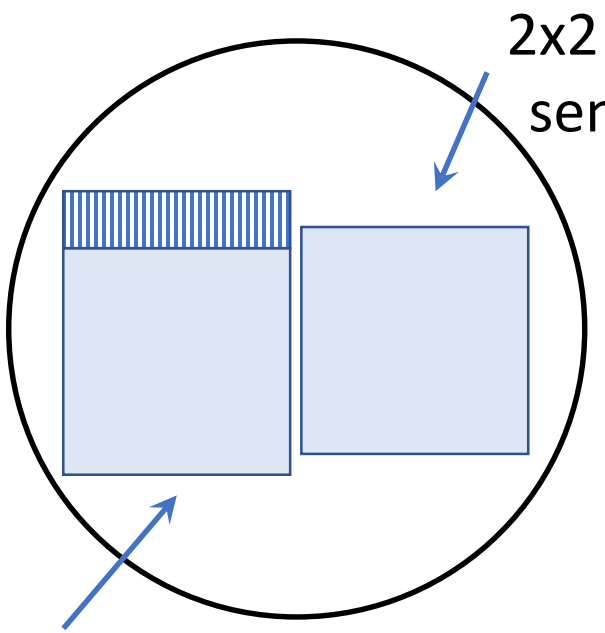
many thanks to Oliver Schäfer, DESY FTX



# What we need

- Single crystal sapphire
- Wafers 2” (ø5.08 cm), **2 sensors/wafer**
- Thickness 100 µm ( ≤150 µm)
- Both sides polished (DSP)



# Sapphire producers -1

http://www.crystal-gmbh.com Berlin, Germany
Max size 1x1 $cm^2$ for 100 µm thick plates, **79 €/pcs**
**Large 4" wafers, if thickness ≥300 µm (in hands) 194 €/pcs + 19%MWST**

http://www.monocrystal.com Stavropol, Russia
**150 µm thick plates, 60 x 48 $mm^2$, ~6 €/$cm^2$**

**4 sensors/plate? TSU will take care**

**1. http://www.sapphire-substrate.com China (Shanghai)**
25 pcs, 16 $/pcs, total 400 $ + delivery

**2. http:// www.situs-tec.de Germany (Wuppertal)**
20 pcs, 29 €/pcs, total 580 € + delivery + 19%MWST

**3. https://www.universitywafer.com USA ( South Boston, MA 0217 )**
25 pcs, 36 $/pcs, total 900 $ + delivery

**To DESY purchase department**

# Sapphire producers -2

https://www.siegertwafer.de/Saphir-Wafer.html **Germany, Aachen**

10 pcs, 46 €/pcs, total 461 €

20 pcs, 36 €/pcs, total 722 € + delivery 15€ + 19%MWST

http://www.pmoptics.com/sapphires_wafers.html **USA (Burlington, MA 01803)**

20 pcs, 112 $/pcs, total 2240 $ + delivery

https://www.ipgphotonics.com/de/applications/micromachining/micro-cutting **Germany**

Laser cutting of sapphires, there was an article in Physics magazine about them. But all it is about complicated contours, thickness range 0.1 - 3 mm means what wafers one should provide to them.

# Next steps

- Finalize sensor design (together with TSU)
- Develop sapphire wafers quality check in the lab (before metallization)
- Design movable support and cabling layout