

# Photon-Science Detectors at DESY.

Heinz Graafsma

FS-DS; DESY-Hamburg  
&  
University of Mid-Sweden

# 4M AGIPD for SFX & (GaAs/CdTe) 1M for HiBEF

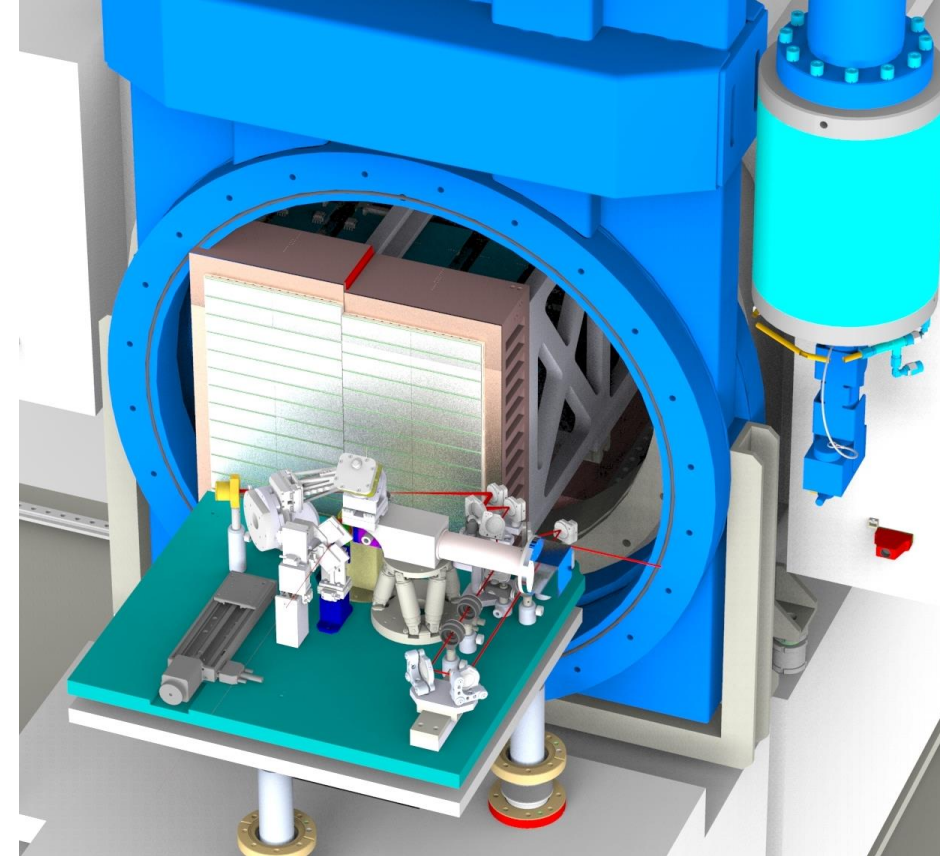


## 4M-pixel AGIPD for SFX

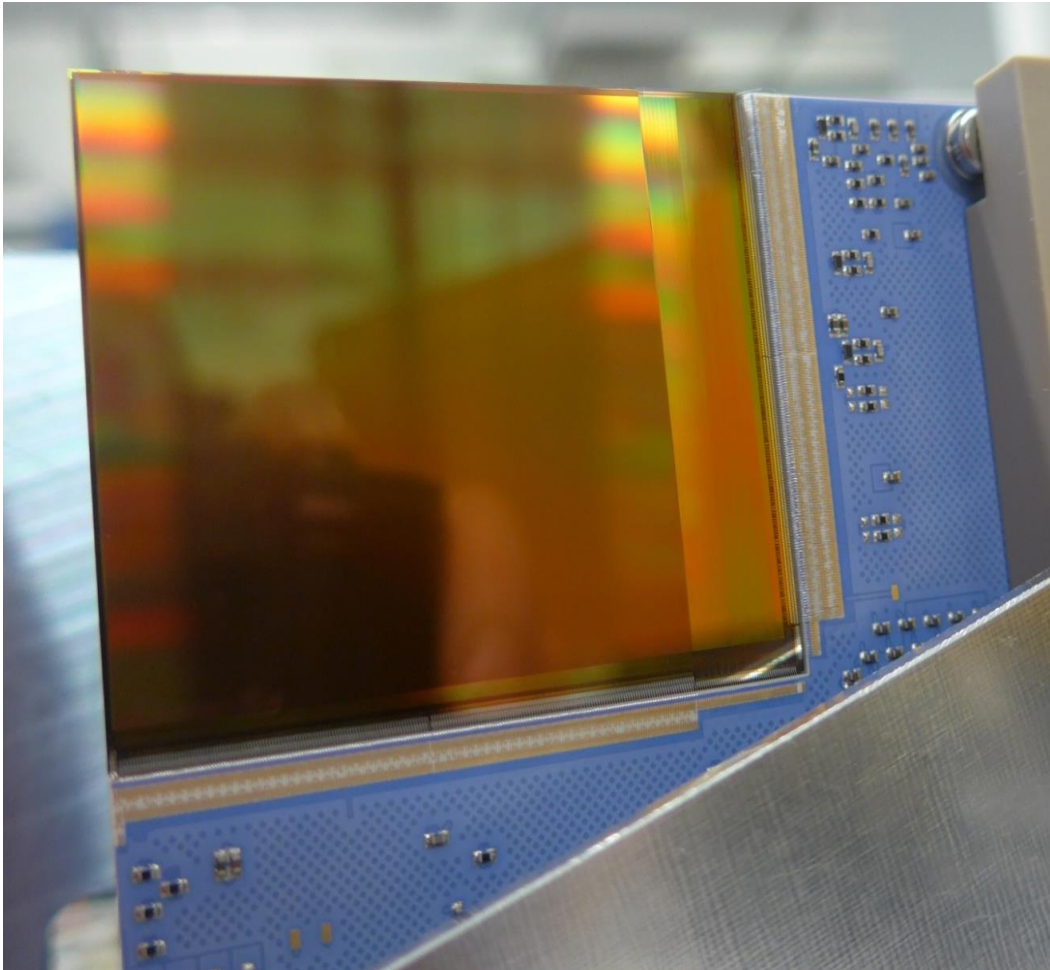
- 4 x 14 Front-End-Modules
- Two wings
  - 2 x 14 FEMs each
  - Individual in-vacuum x-motion
  - In-vacuum z-motion into the gate valve (inner diameter 800mm)
  - Travel range of 400 mm

## High-Z AGIPD for HiBEF

- 1M-pixels
- 2 halves (horizontal gap)
- Based on GaAs and/or CdTe
- Electron collecting ASIC



# First Percival P2M is working (Front-side illumination) !!!!

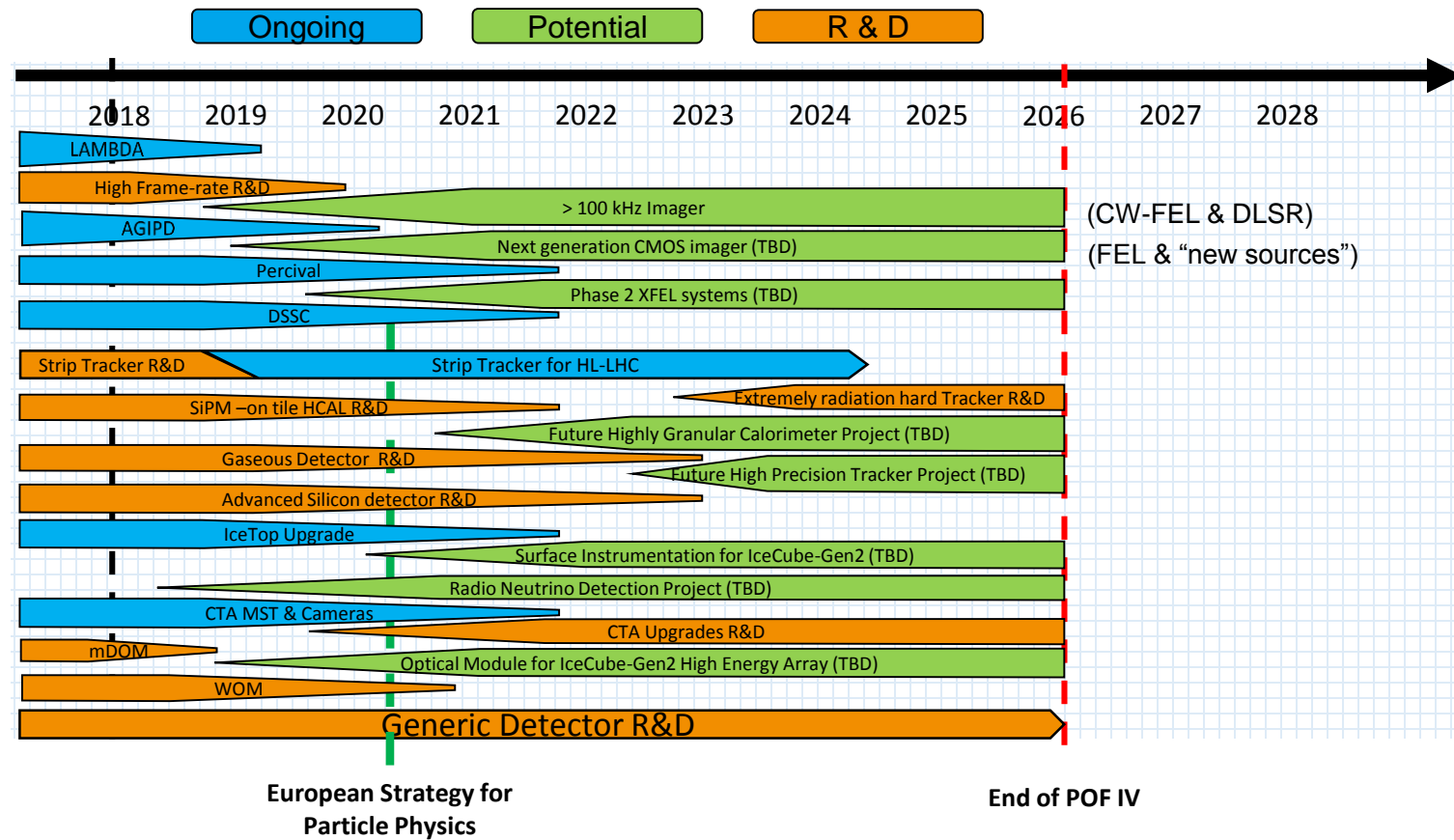


PERCIVAL

- 2-Million pixels per sensor
- 27 micron pixels
- 300 fps
- 12 e- noise
- Single photon sensitivity
- $10^4$  dynamic range
- 2-side buttable for clover leaf
  
- Currently being back-side processed.
- We need more routes to back-thinning!

# WHAT IS NEXT?

## Detector Roadmap



Detector Technologies and Systems | Heinz Graafsma | MT | DTS

