

# Digital Photon Counter (DPC) scalable technology for high sensitivity, high timing resolution single photon detection

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## Abstract

Philips Digital Photon Counting (PDPC) is designing, developing and manufacturing innovative digital detector solutions with the potential to revolutionize photon detection in a broad range of applications such as medical imaging, high energy physics and analytical instrumentation.

A strong focus of the development is on the scalability of the technology including mechatronics, cooling, intermediate data processing and data export. The front end digitization and integration of the digital Silicon Photomultiplier (dSiPM) at sensor level is the key to an all digital subsequent data chain and large scale application possibilities while maintaining intrinsic performance parameters.

## References

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## Figures

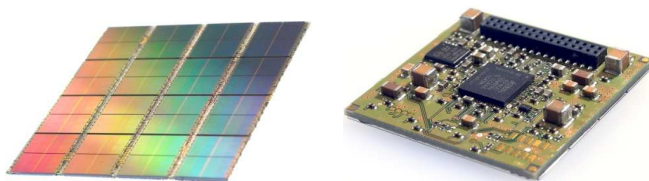


Fig.1: Digital Photon Counter (DPC) sensor array with 8x8 pixels from front (left) and back (right) side.

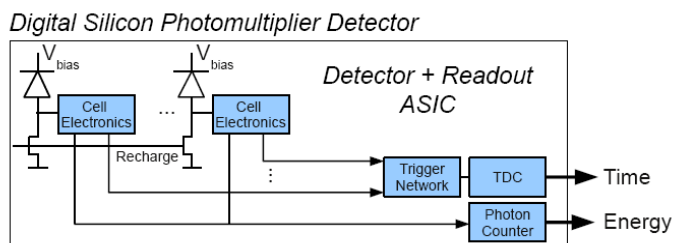


Fig. 2: Schematic of the Digital Photon Counter (DPC) detector electronics as integrated on the chip.