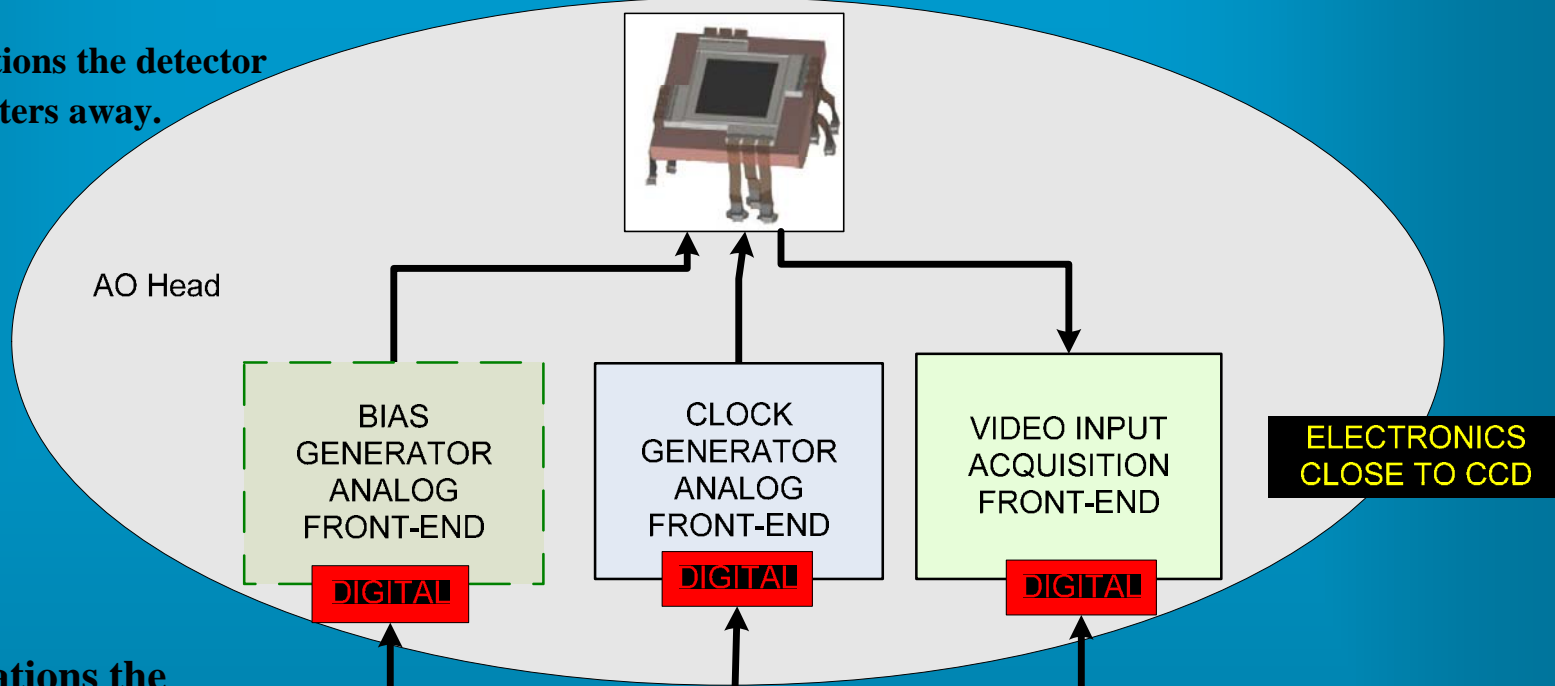




CCD head for AO

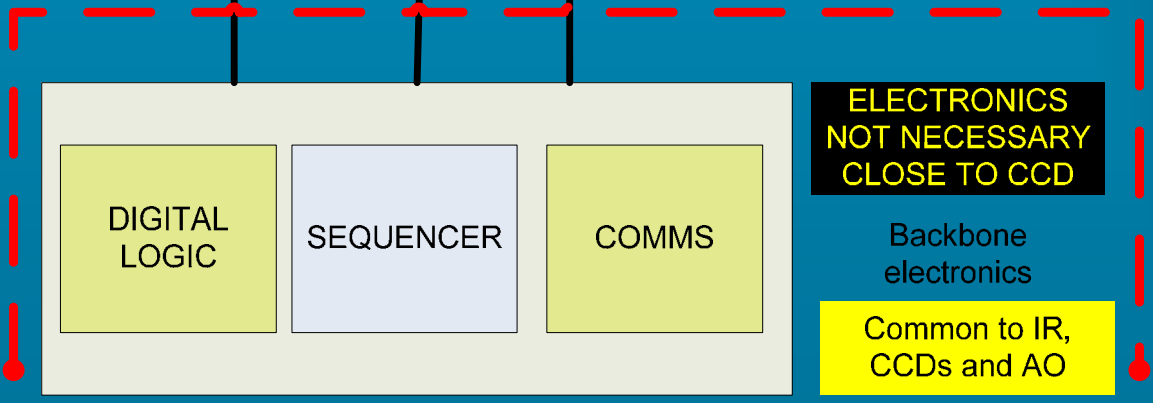
• In scientific applications the detector head can be 1 to 3 meters away.



• In sensing applications the analog front-end must be close to the CCD.

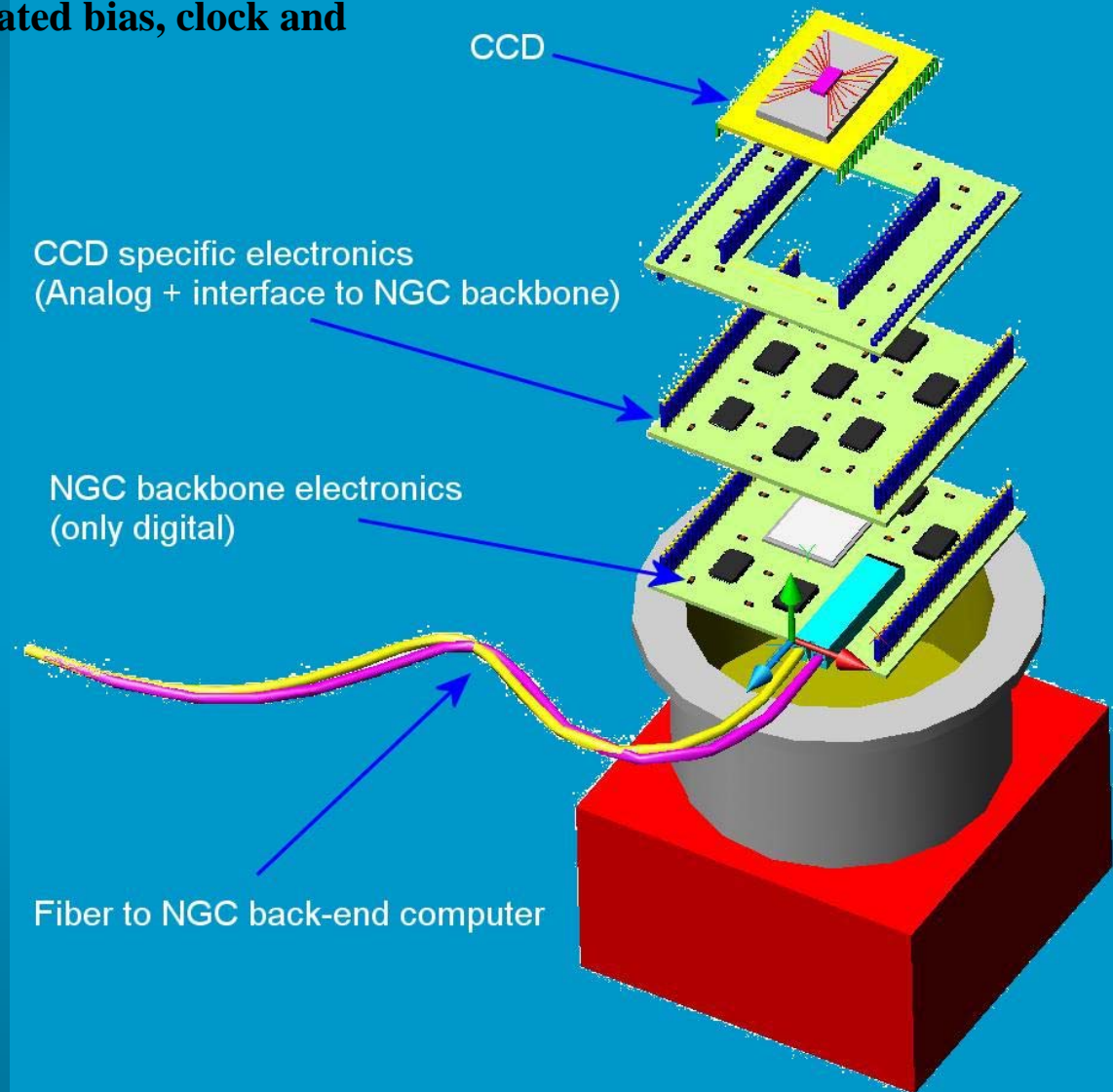
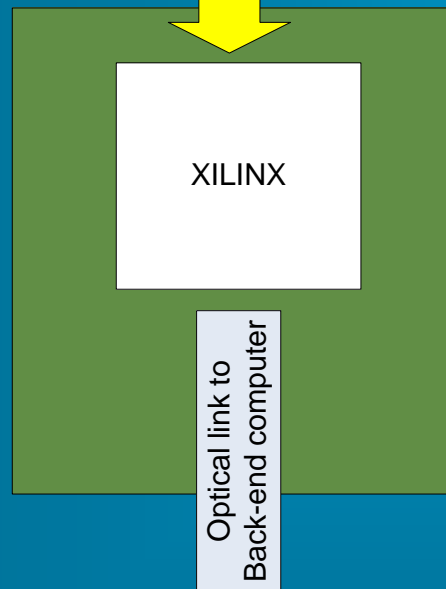
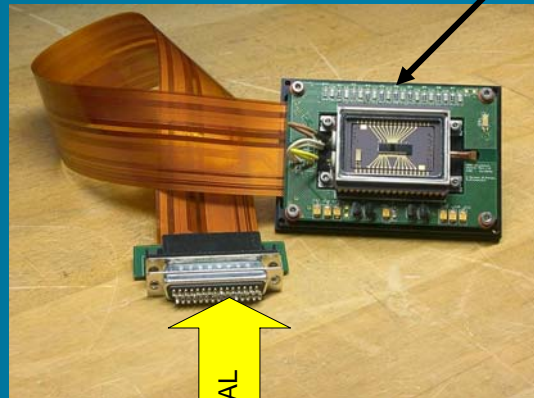
• Hard requirements for clock drivers, high-speed PCB routing...

• Analog and digital electronics can be perfectly decoupled → **Analog and digital electronics can be developed separately.**

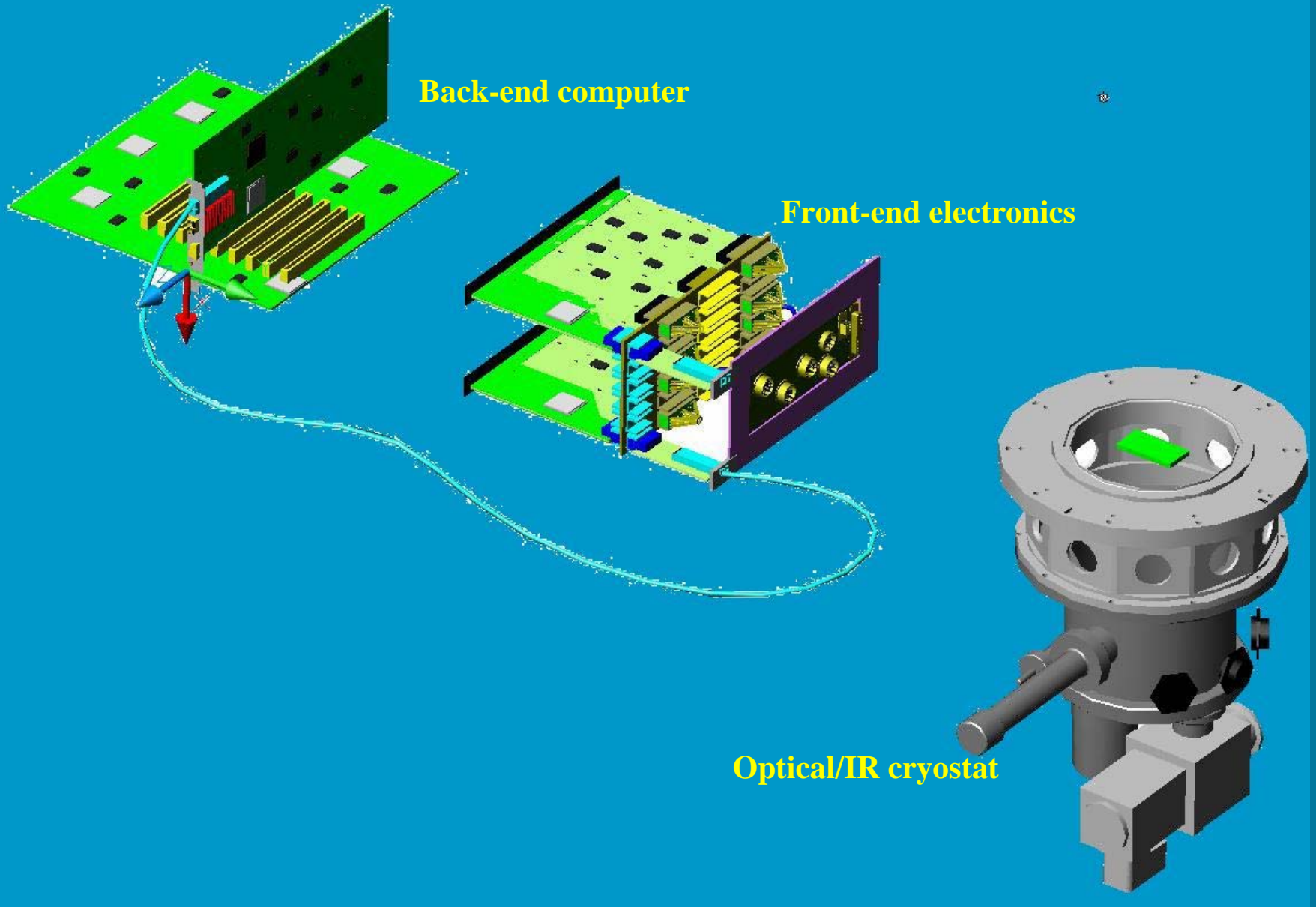


A possible implementation

Upcoming AO heads will have front-end electronics with integrated bias, clock and ADCs



NGC for scientific applications

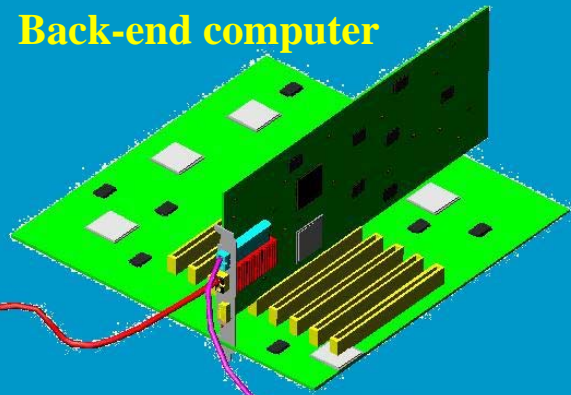
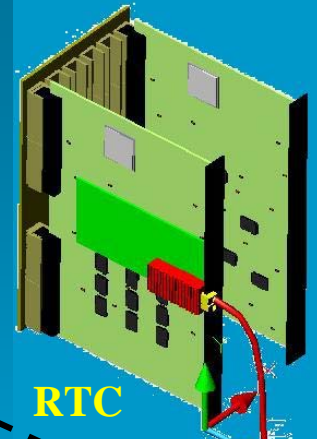




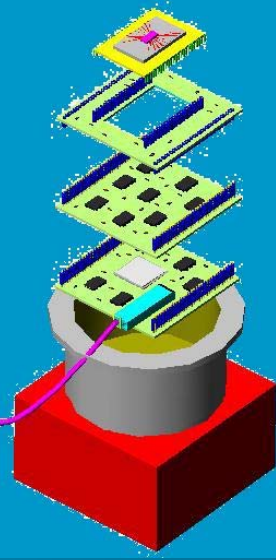
NGC for sensing applications

Backbone controller (90%)
remains the same between
scientific and sensing
applications
(even software)

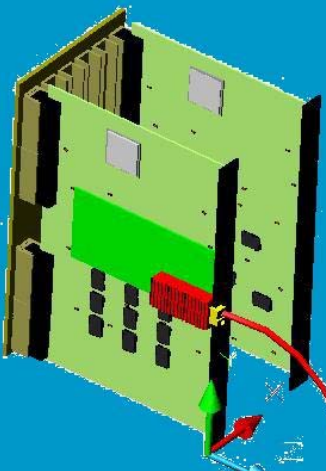
Pixels sent through PCI back-end



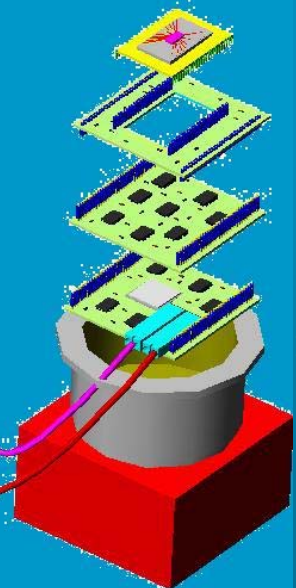
AO head



Pixels sent directly to RTC



AO head

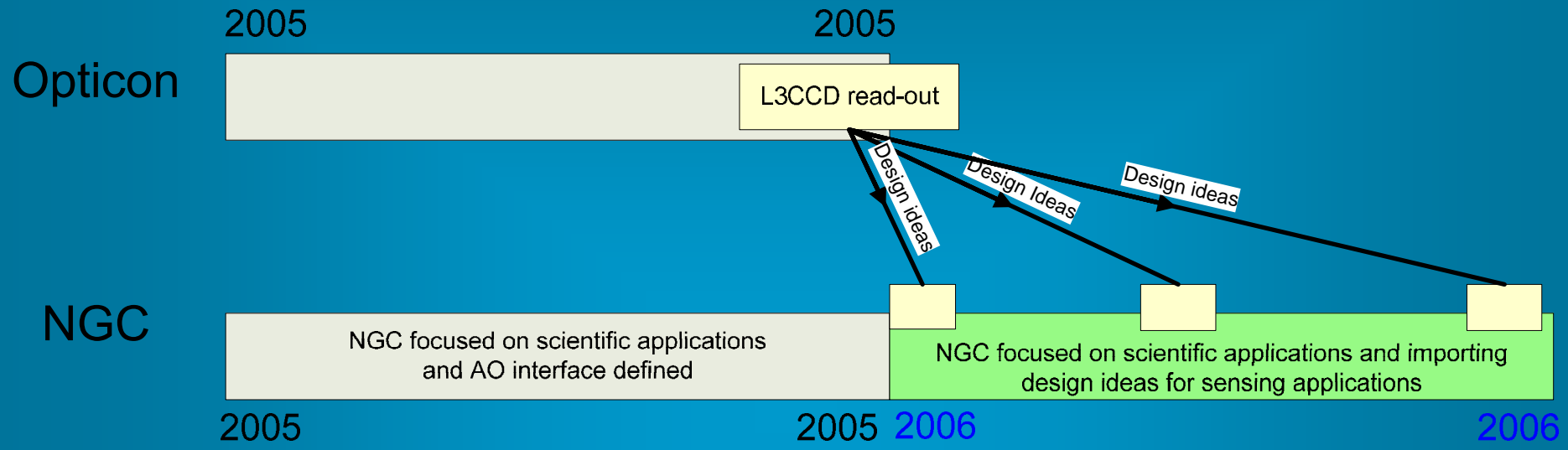


Back-end computer

"mini"-NGC
front-end for AO



Some thoughts



Definition of an interface could be the key to incorporate design ideas and experience into NGC.

The “mini”-NGC backbone can also address the read-out of ASICs.