All-silicon tracking system
Double-layered vertex detector:
- pixel 25 x 25 μm²
- 0.2% X₀ per single layer
- cooling via air flow

Single-layered tracker:
- microstrips 300 x 30 μm²
- 1% X₀ per layer
- 5 ns hit time resolution

Extensive simulation and technology R&D program.
- Ex: CLICTD prototype for tracker
- monolithic CMOS in 180 nm
- pixels 300 x 30 μm²
- next: lab tests and test beams
- Ex: simulation of charge carrier motion in monolithic CMOS

25 ns

Particle-flow calorimeters
Si-W ECal
- cell 5 x 5 mm²
- 40 layers
- 22 X₀, 1 λμ

Silicon-Steel HCal
- cell 30 x 30 mm²
- 60 layers
- 7.5 λμ

Prototype assembly and test beams with
Magnet and muon detector
- 4 T superconducting solenoid
- RPC muon chambers in Fe yoke

Forward calorimeters
GaAs-W BeamCal
- 40 layers
- 10<θ<46 mrad

Si-W LumiCal
- 40 layers
- 39<θ<134 mrad

Performance in full simulation
with YY→hadrons
main background

Conformal tracking algorithm
- excellent eff. for displaced muons
- background affects only pT<1 GeV

Pandora PFA
- jet energy resolution
- W/Z mass separation

LCFIPlus algorithm
- b- and c- tagging
- light quark contamination

References
- CLICdet: The post-CDR CLIC detector model [https://cds.cern.ch/record/2254048]
- Detector technologies for CLIC [https://arxiv.org/abs/1905.02520]
- The Compact Linear e+e− Collider (CLIC): Accelerator and Detector [https://arxiv.org/abs/1812.07987]