



CERN
openlab

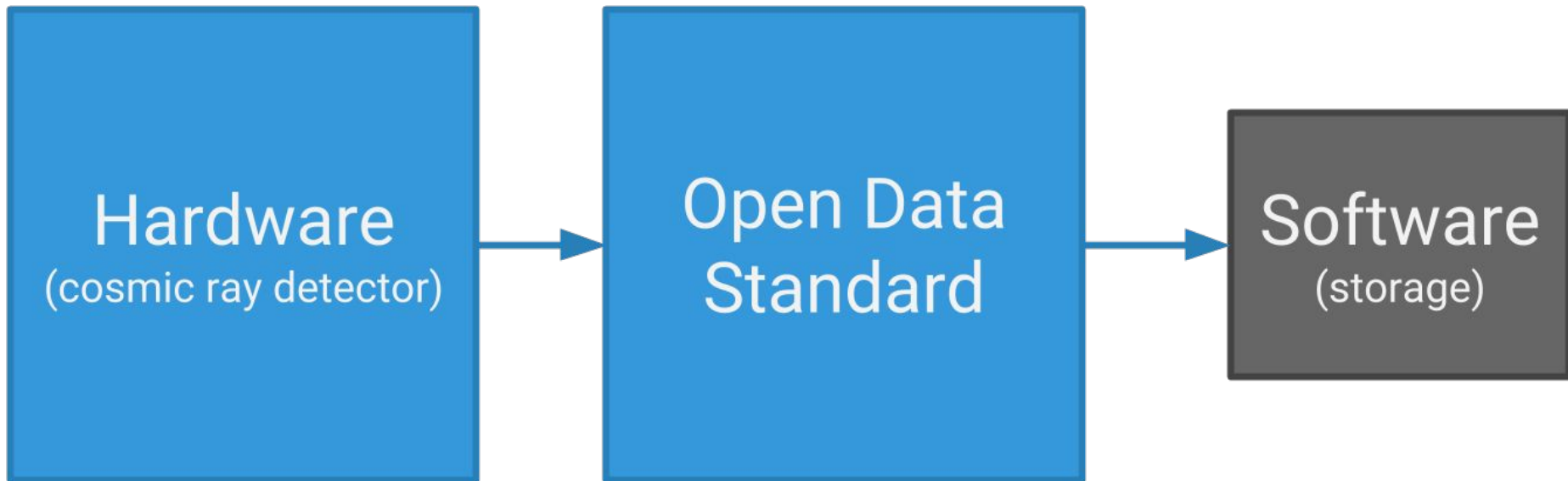
Open Cosmic Ray Data Standards

How to collect, transfer, verify, store and present data about cosmic rays

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BIG PICTURE



WHAT IS A COSMIC RAY?

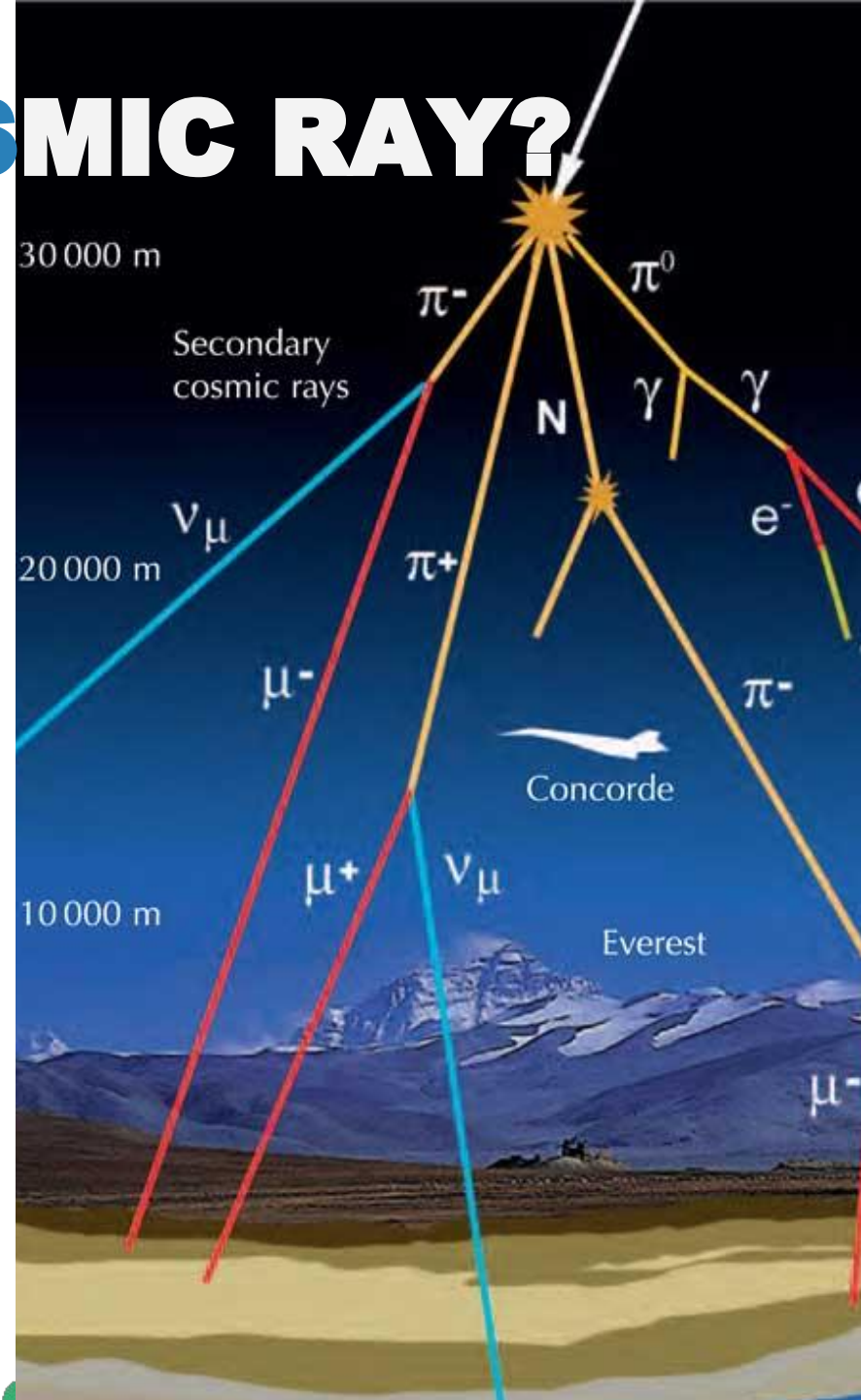
Particles from space that reaching the Earth.

PAST

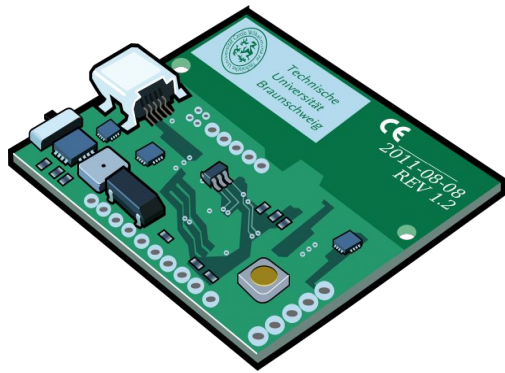
Particle's mass & energy
Existence of antimatter

FUTURE

Correlation between cosmic rays & climatic changes?



OPEN DATA STANDARD



dreamstime.com

“An open standard is publicly available, and developed, approved and maintained via a collaborative driven process.”

COSMIC RAY DATA STANDARD

Required Dynamic fields

Longitude, Latitude, Altitude, Location precision, Time, Time precision & Standard Operating Procedure

Required Static fields

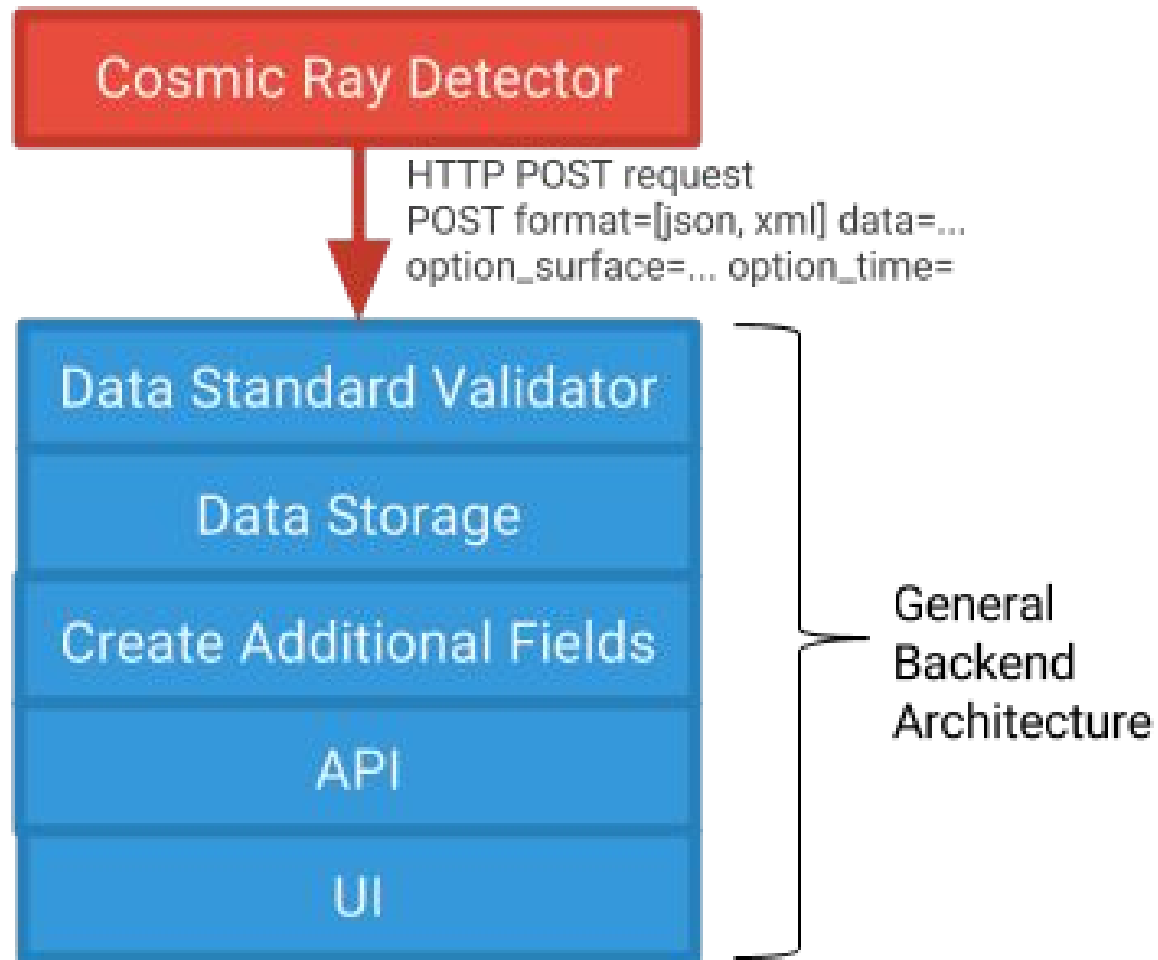
Detector Surface, Error Rate

Optional fields

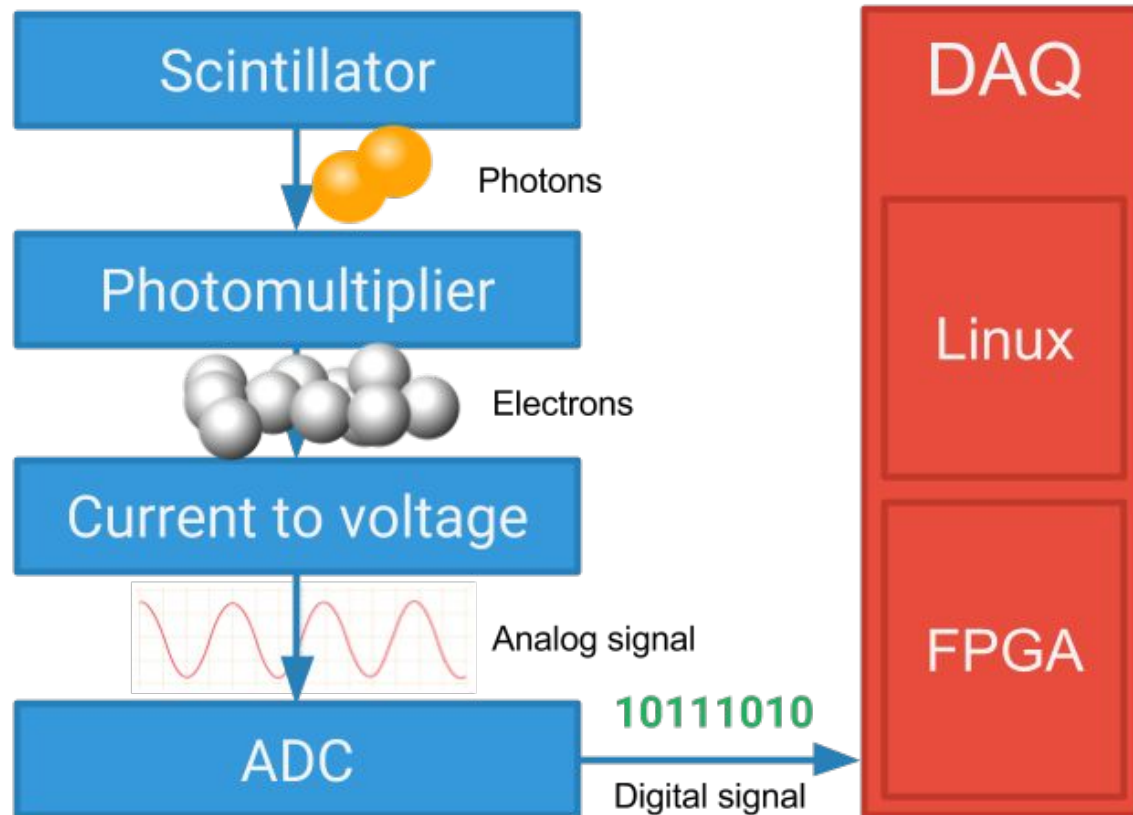
Temperature, Pressure, Magnetism, Acceleration

Custom fields

GENERIC BACKEND ARCHITECTURE

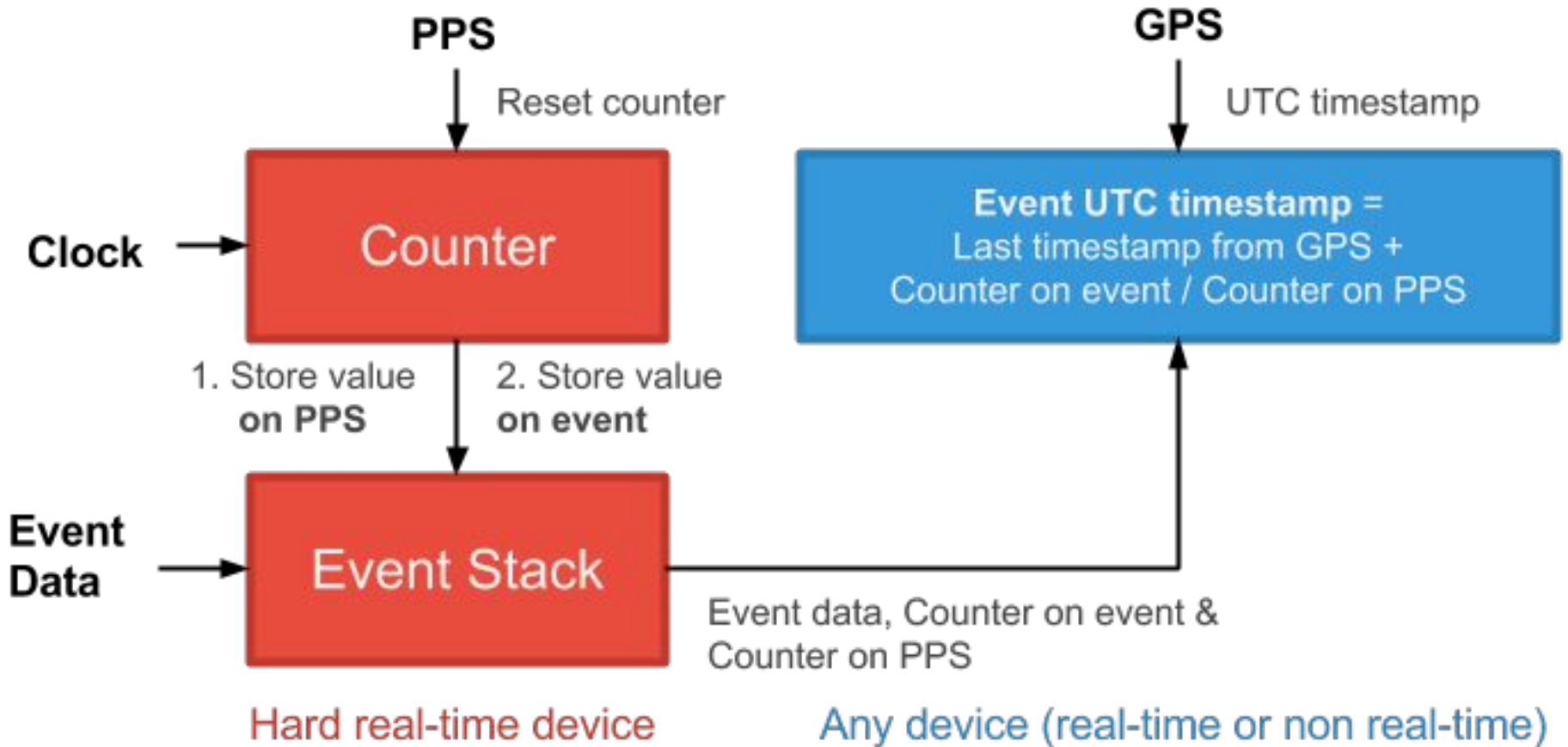


EXAMPLE OF DEVICE

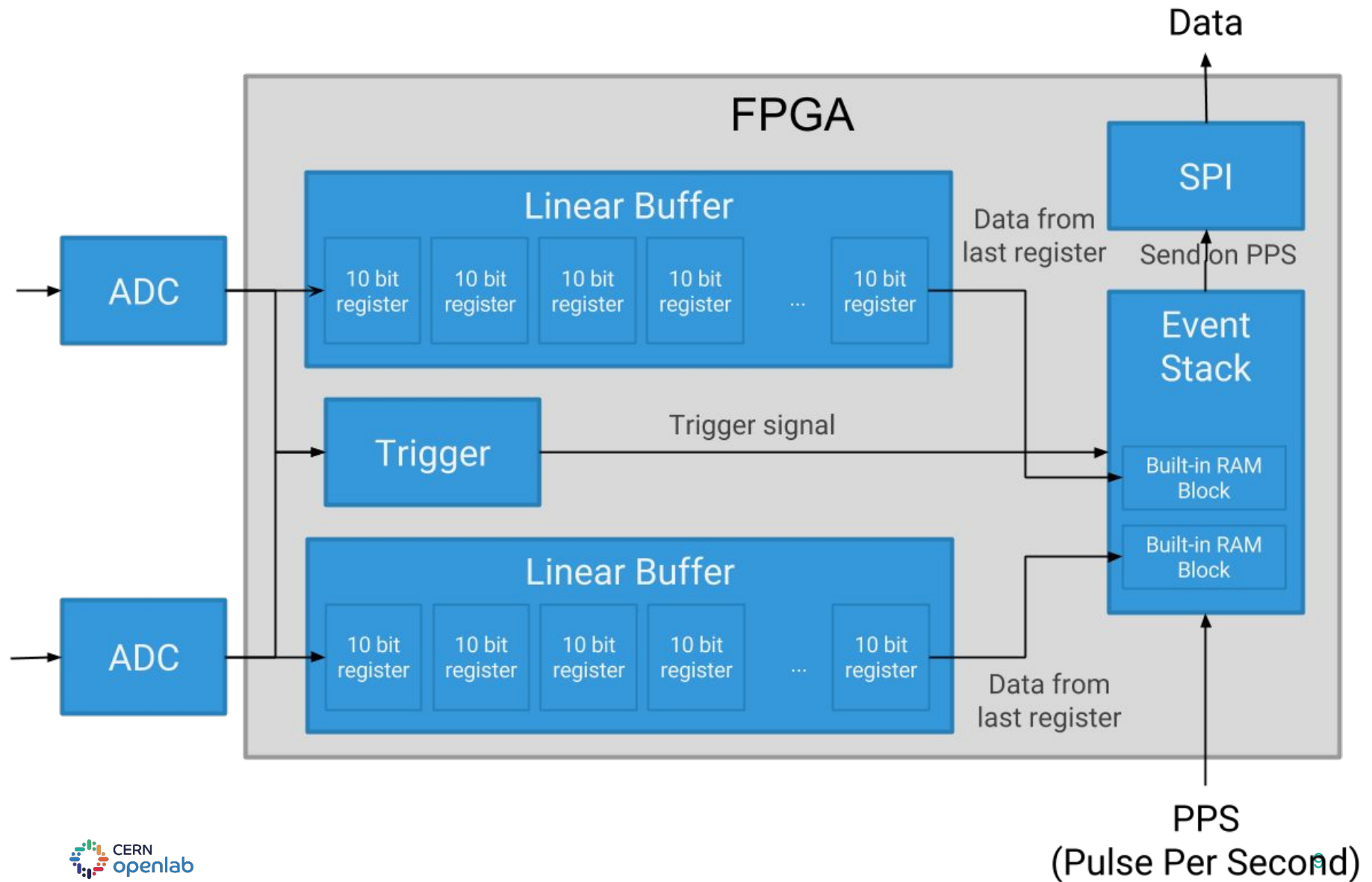


“The Cosmic Pi project aims to build the world's largest open source distributed cosmic ray telescope.”

PRECISE TIME MEASUREMENT



DATA PIPELINE





QUESTIONS?

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Do you want to try?

SSID:	CosmicPi
Password:	cosmicpi
URL:	192.168.12.1:8080