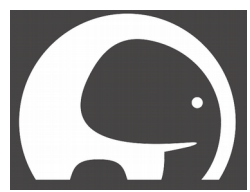




oliscience

open logic interconnects science

Andrea Borga (Digital Design Engineer / co-founder)



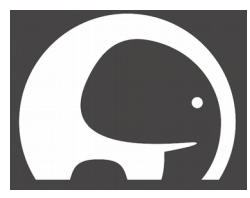
Oliscience

- Young and passionate startup of committed professionals
- Originating from the CERN@Nikhef BIC (Business Incubator Centre)



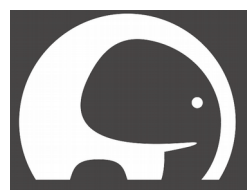
- Coached by the Amsterdam Centre for Entrepreneurship
- Based at the Startup Village (Science Park)





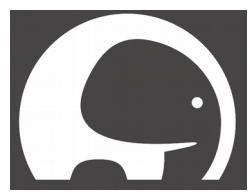
Oliscience team





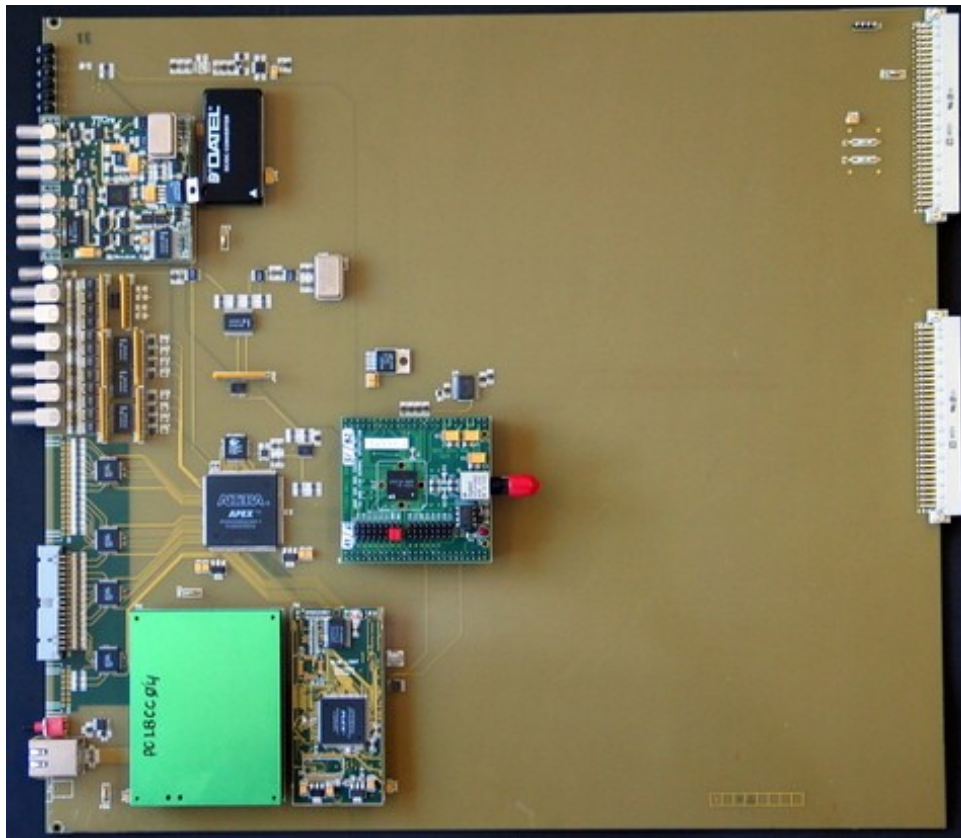
Who am I

- In the engineering world most commonly known as a “Digital Designer” or... “the FPGA guy”

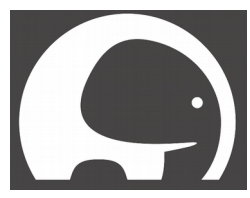


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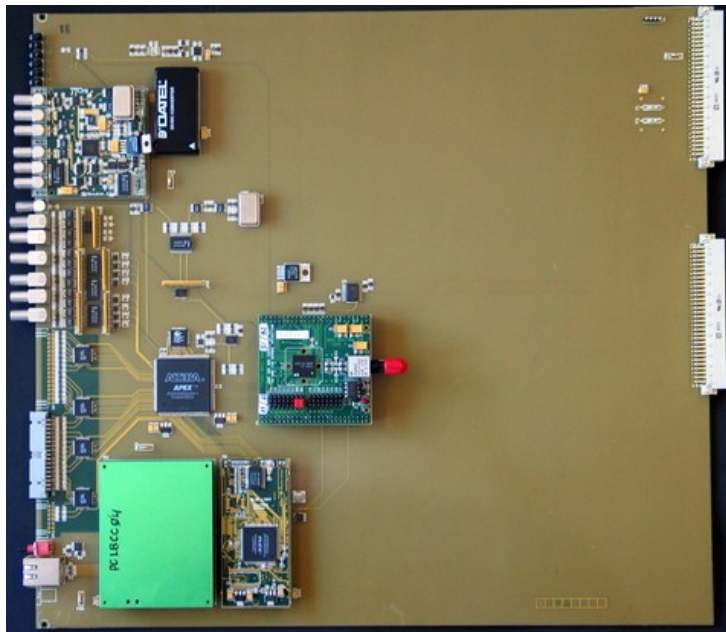


CERN – LHCb (2004)

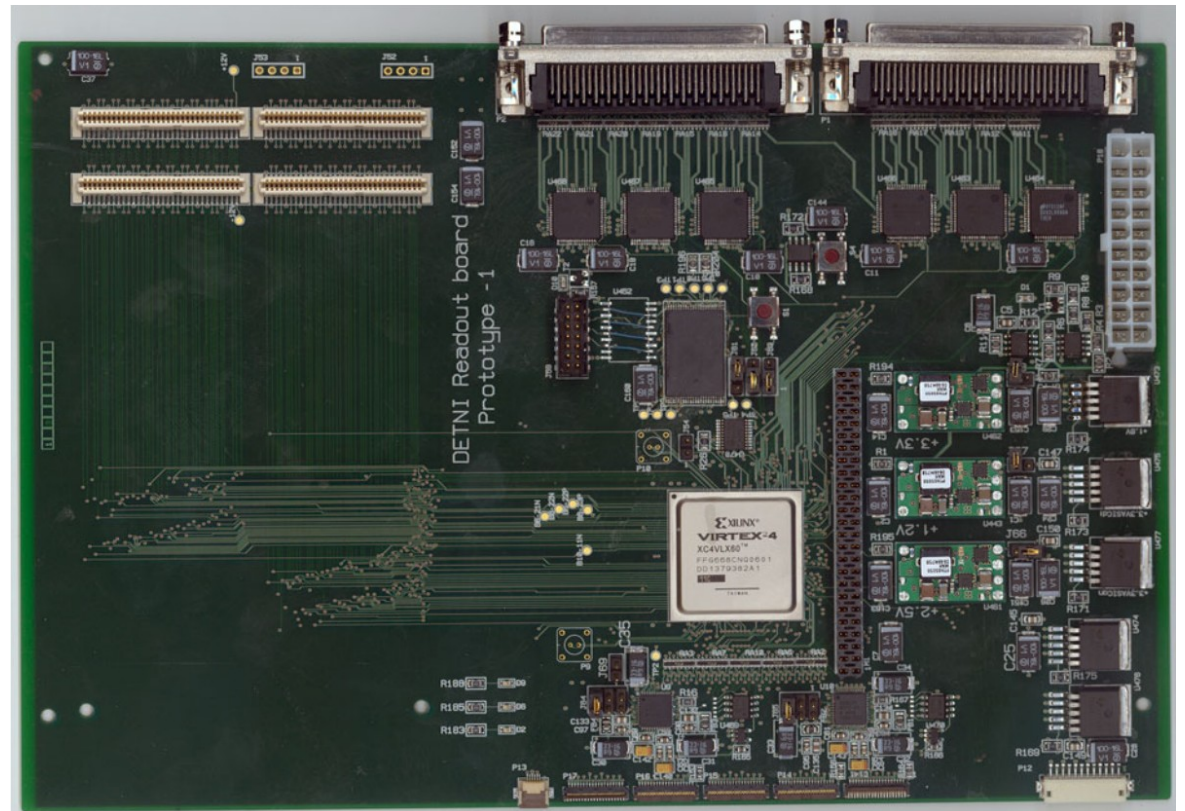


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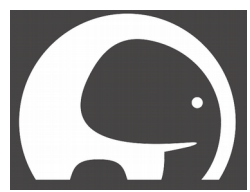
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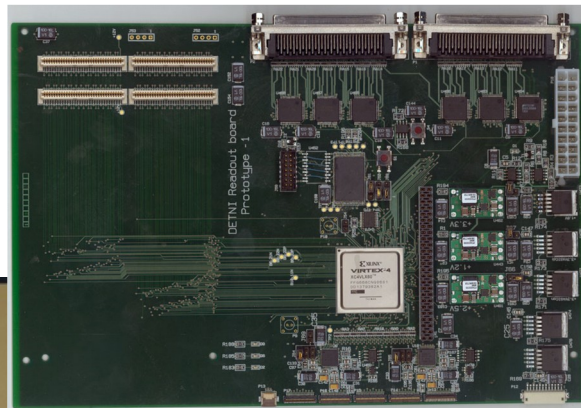


FZ-Juelich – DETNI (2007)

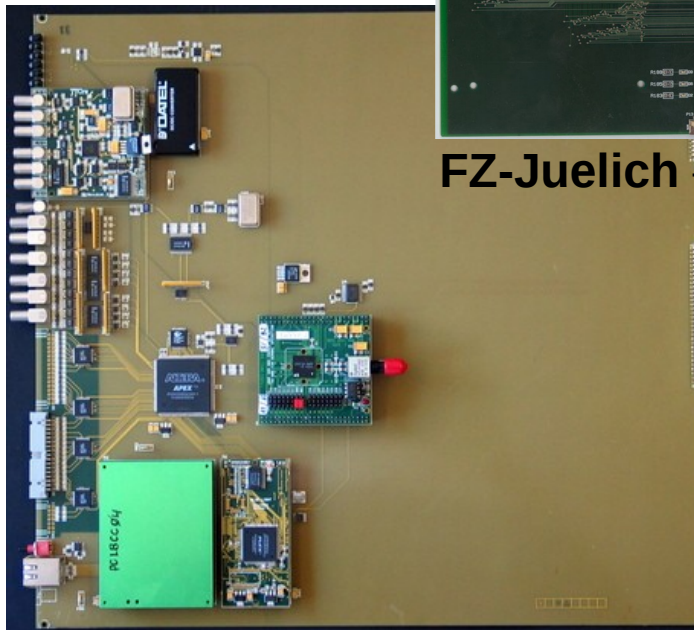


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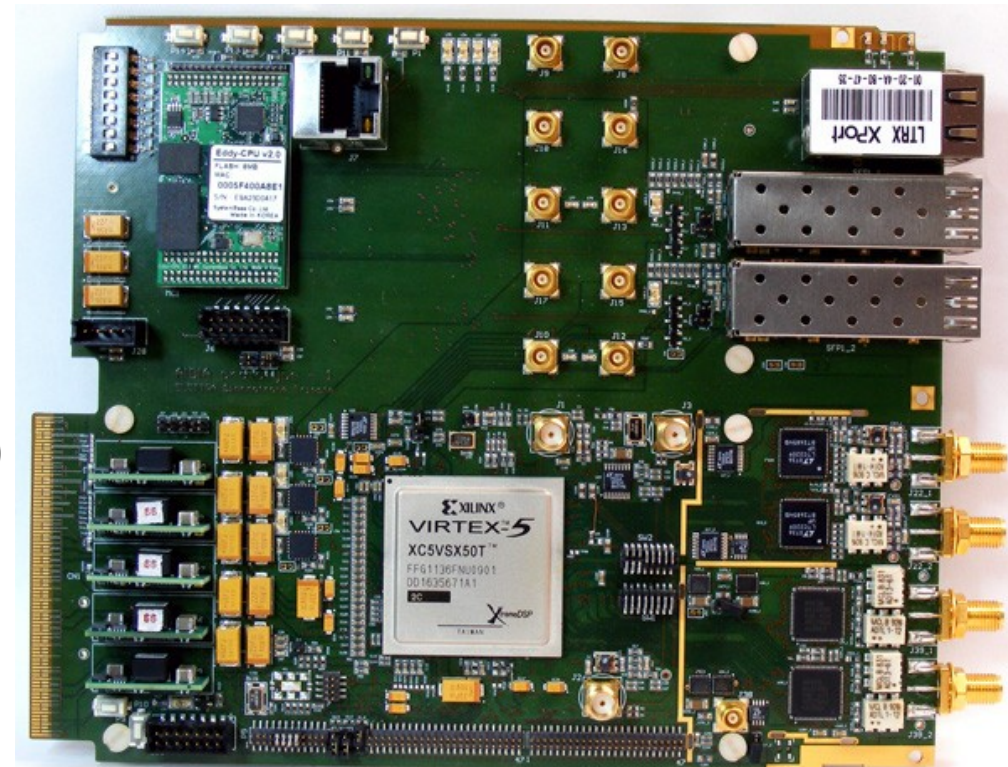
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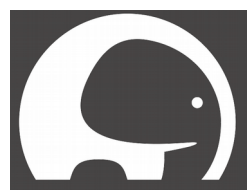
FZ-Juelich – DETNI (2007)



CERN – LHCb (2004)

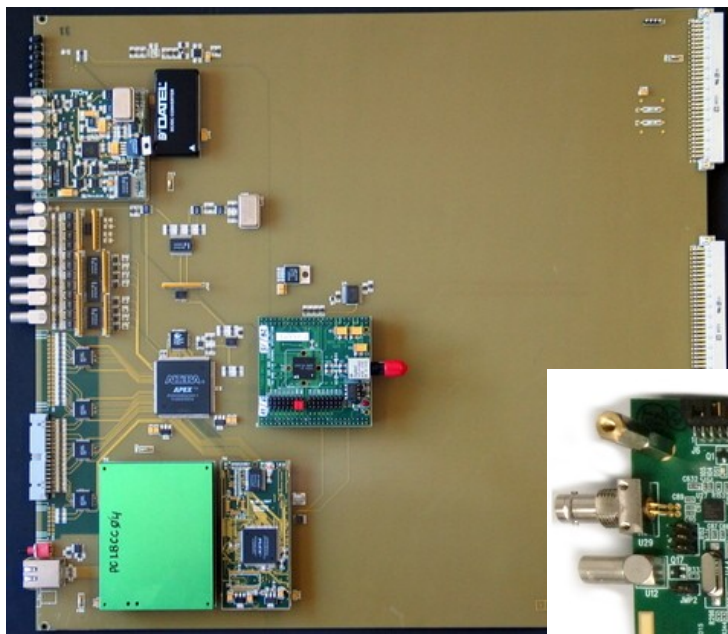


Elettra – FERMI@Elettra (2011)

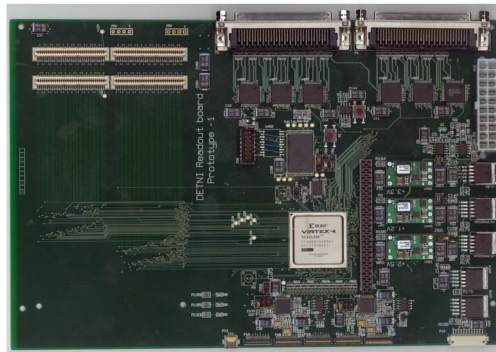


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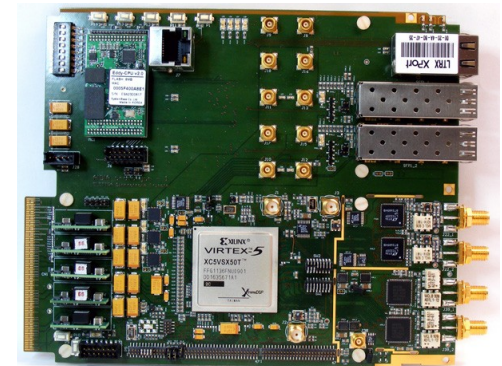
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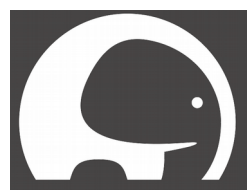
CERN – LHCb (2004)



FZ-Juelich – DETNI (2007)

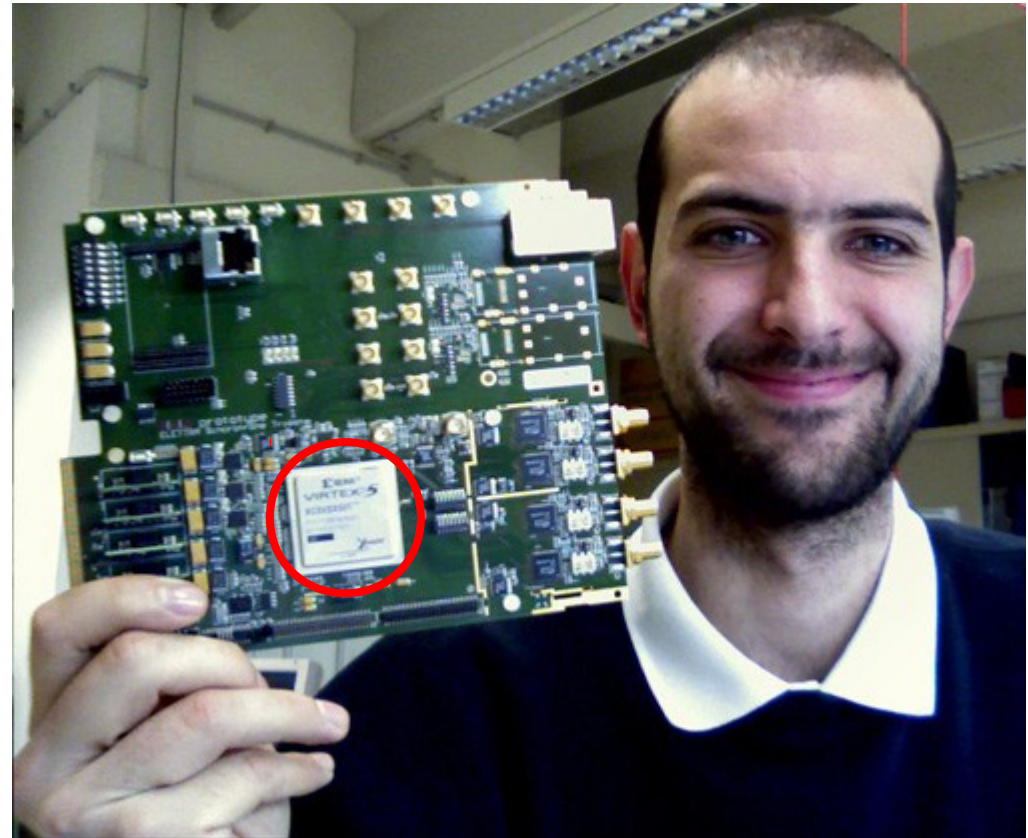
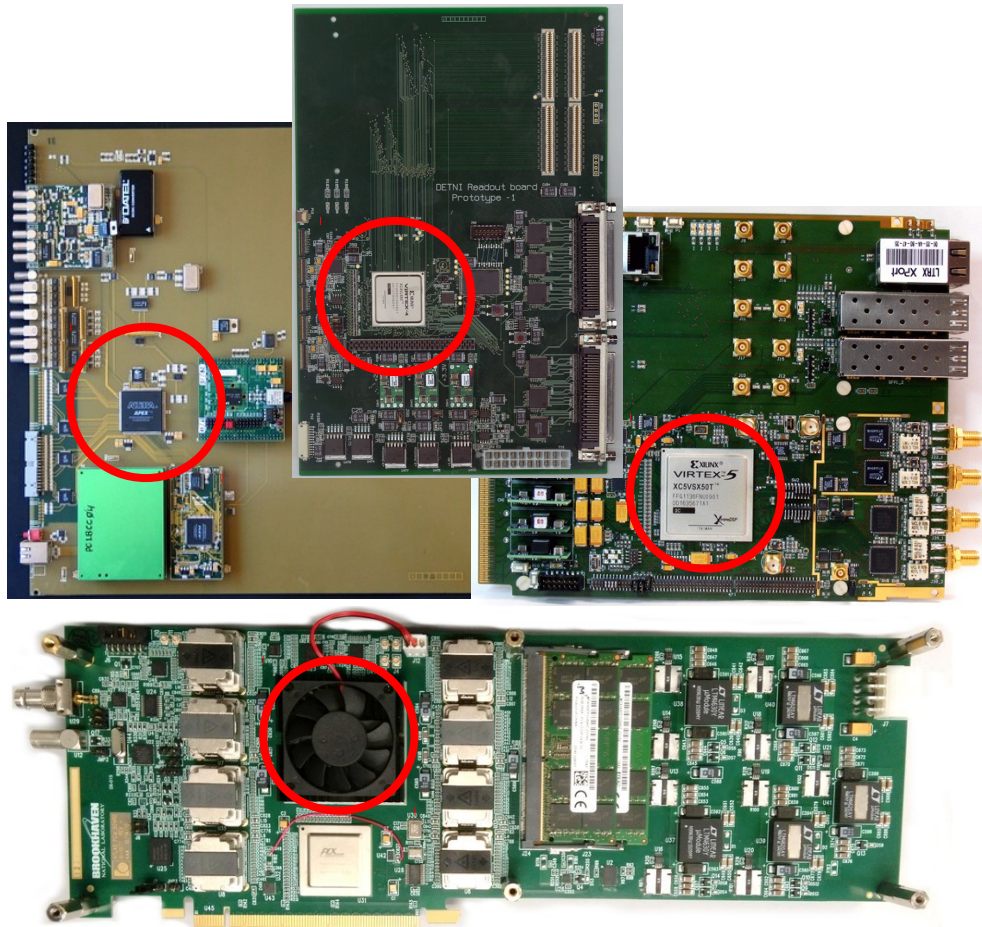


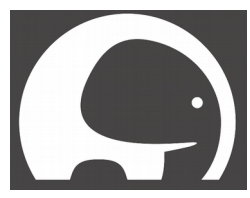
Nikhef – ATLAS (today)



FPGAs

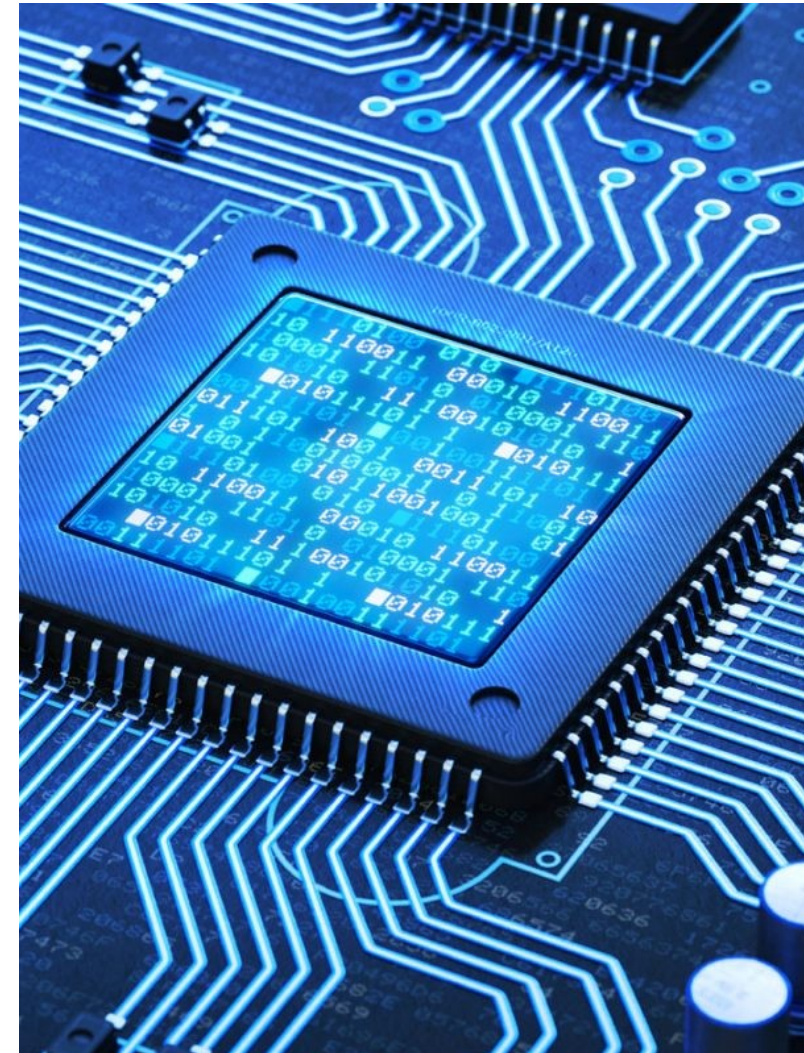
Field **P**rogrammable **G**ate **A**rrays
key components widely used in
high-end technology markets





Gateway

“Intelligence” inside the FPGA





Empower experts

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What is OpenCores?

 **The reference community for Free and Open Source gateway IP cores**

Since 1999, OpenCores is the most prominent online community for the development of gateway IP (Intellectual Properties) Cores. It is the place where such cores are shared and promoted in the spirit of Free and Open Source collaboration.

The OpenCores portal hosts the source code for different digital gateway projects and supports the users' community providing a platform for listing, presenting, and managing such projects; together with version control systems for sources management.

OpenCores is also the place where digital designers meet to showcase, promote, and talk about their passion and work. They do this through forums, news collectors, and much more!

Please join us!

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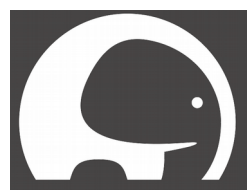
Professional support

 **We are the developers and maintainers of this website and community, but not only!**

If you plan to use IP Cores from OpenCores in your next design and need support, or if you require professional advise on your next challenging IP Core development, don't hesitate to contact us.

We are experts in gateway design and engineering based on the OpenCores technology, and have extensive experience in all parts of FPGA development.

Please visit [Oliscience](#) for further information and enquiries.

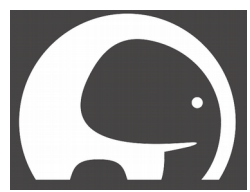


Join forces

**we develop, drive and promote
a the large OpenCores community**

- Research institutions
- Universities
- High-tech corporates

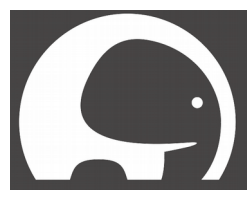
**engage them on our portal
and foster common practices**



Provide expert services

**we want to help the next big innovators in the
detector / imaging sector to make the right
technological decisions**

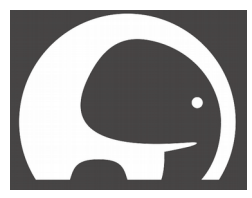
- Avail from a pool of professionals
- Access to the reference forum
- Strong partnership with Nikhef



Examples of FPGA territories

- Science (accelerators / detectors)

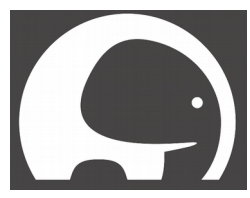




Examples of FPGA territories

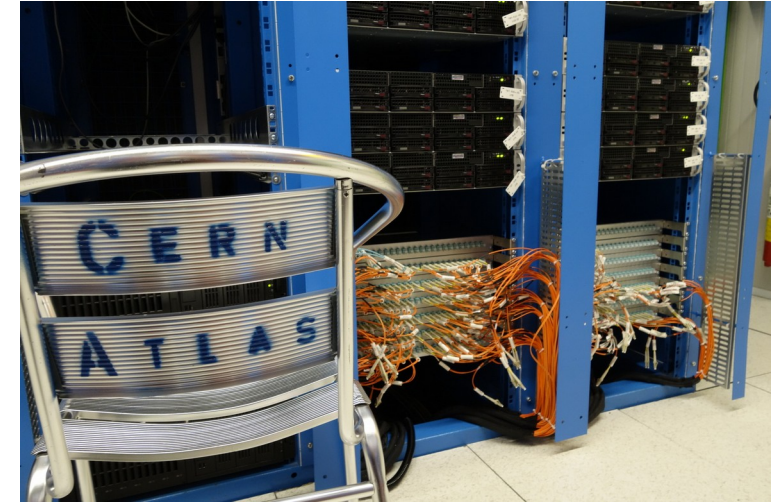
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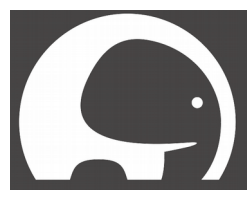




Examples of FPGA territories

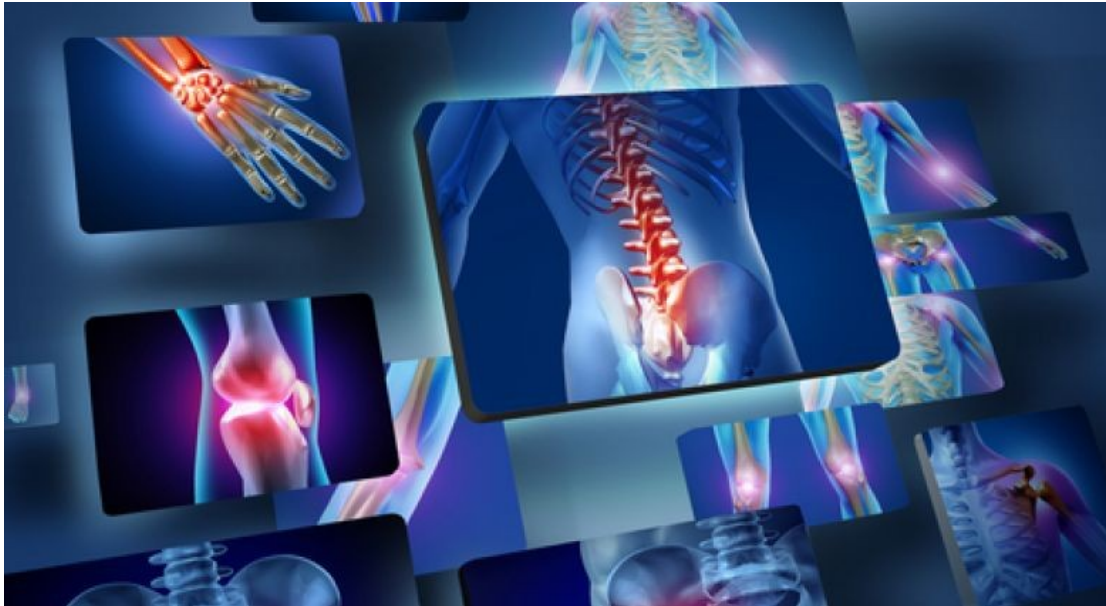
- Science (accelerators / detectors)
- Big data (co-processing)

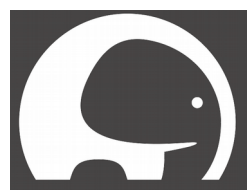




Examples of FPGA territories

- Science (detectors / accelerators)
- Big data (co-processing)
- Medical imaging (real time processing / DAQ)

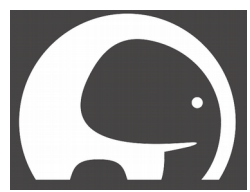




The big ambition

- 2018 will be an exciting year for FPGA fanatics
- FPGAs are getting everywhere (more than ever)
 - Intel bought Altera [end 2015]
 - Xilinx is in the cloud (AWS) with IBM [2017]
- Market is clearly rocketing
- There is a evident wave approaching us
 - that will also hit the frontiers of detector and imaging technologies

Oliscience is ready to catch it first



The big vision

- Already exploring partnerships
 - CERN [in the DAQ area]
 - UMC Utrecht [in the co-processing area]
 - Politecnico di Torino [for the methodology and tools]
- **with a horizon of 5+ years, focus on:**
 - explore the tools, techniques, methods to merge and cross-contaminate sectors using FPGAs
 - lead the effort to define architectures and methodologies applicable to high-end markets

early introduction of best practices for our partners may shape the way of doing FPGA development in the future.