

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 'Adam Startup Village (Science Park)

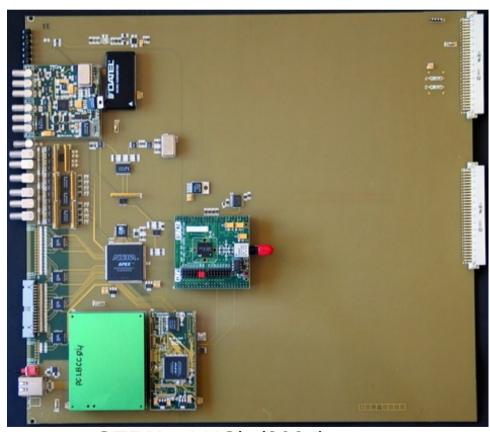


#### Oliscience team





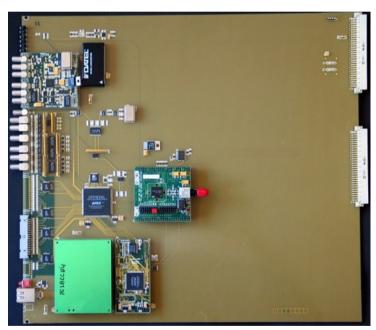
 In the engineering world most commonly known as a "Digital Designer" or... "the FPGA guy"



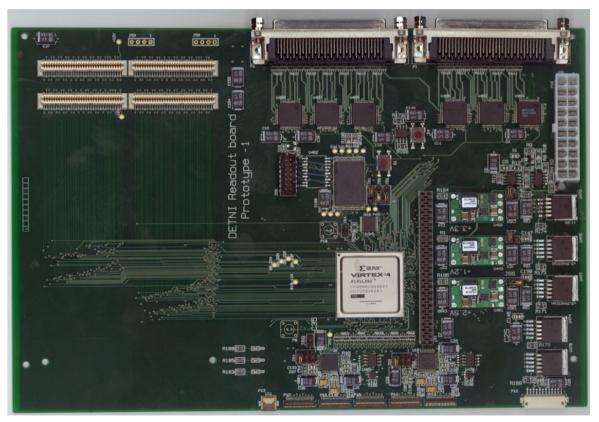
**CERN** – LHCb (2004)



 In the engineering world most commonly known as a "Digital Designer" or... "the FPGA guy"



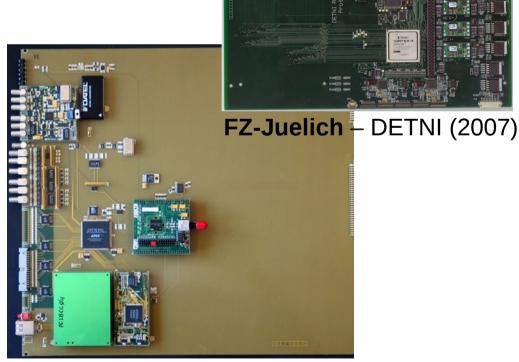
**CERN** – LHCb (2004)



FZ-Juelich – DETNI (2007)



 In the engineering world most commonly known as a "Digital Designer" or... "the FPGA guy"

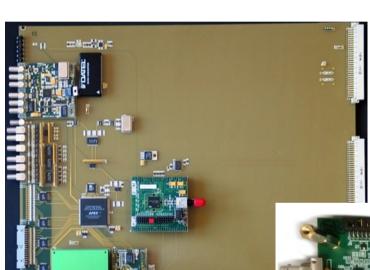


Elettra – FERMI@Elettra (2011)

**CERN** – LHCb (2004)



 In the engineering world most commonly known as a "Digital Designer" or... "the FPGA guy"





FZ-Juelich – DETNI (2007) Elettra – FERMI@Elettra (2011)



Nikhef – ATLAS (today)

**CERN** – LHCb (2004)



## The problems

- There is no solid definition of gateware and its boundary for FPGAs
- There is a lot of effort duplication especially in our scientific community
- There is no solid metrics to measure the strength of digital designers
- There are opportunities for companies operating in an open source field applied to gateware for FPGAs



## The problems

• There is no solid definition of **gateware** and its

boundary for FPGAs **FPGA** SOFTWARE **FIRMWARE ASIC GATEWARE PCB HARDWARF** bitfile vendor design project **HDL** handlers specific constraints primitives



## The problems

- There is a lot of effort duplication especially in our scientific community
- There is no solid metrics to measure the strength of digital designers
- There are opportunities for companies operating in an open source field applied to gateware for FPGAs
- ... where to start fixing those?



### **Empower experts**





## OpenCores.org

- Funded in 1999 by a Slovenian student
- A portal that since then collected >250.000 professionals in the field of gateware IPs
- Generates ~500.000 views per month
- Strong identity, established trademark, consistent community, very specialized, potentially business oriented
- Used to be maintained by a Swedish company
- Unkempt since 2012, was acquired by Oliscience in 2017

20-03-2018



#### A call to action

# we develop, drive and promote the large OpenCores community

- Research institutions
- Universities
- High-tech corporates

# engage designers on our portal and foster common practices



## Oliscience goals

- Activate the community
- Offer an "impact metrics" to asses performance and motivate designers to contribute (for labs)
- Offer a forum where professionals can meet mindests alike (appealing to industry)
- Provide consultancy services via the portal in the field of gateware design and support



## Why bother?

- For designers: engaging experience encourages to contribute and participate
- For labs: showcase their capabilities, find new partnerships, approach funding agencies
- For companies: potential market place popular among users in the filed
- For all: it's a neutral and healthy place to meet and work in synergy
- For all: let professionals take care of the infrastructure



## Planning for this year

- Add new features to the site
  - Harness site back-end
  - Offer premium features
  - Explore GIT support
- Looking for partners to support and join forces!
  - Talking to labs and universities
  - Exploring industry (specific sectors)
- Looking for challenges to test our capability to lead innovation
  - Exploring several call for proposals



## 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 impact high-end scientific research and the way we engineer related systems

#### Oliscience is prepared to drive the change



# Yes, Oliscience "valorizes"! 8)

### What is valorisation?

Valorisation is defined and applied in various ways.

Policymakers like the VSNU, Rathenau, Advisory Council for Science, Technology and Innovation (AWT), and NWO define 'valorisation' as follows:

'Valorisation is the process of creating value from knowledge, by making knowledge suitable and available for societal and/or economic application and by transforming it into products, services, processes and new business.'

http://www.ixa.nl/fileadmin/user\_upload/Documenten/ValorisatiegidsVU-UvA\_Web\_ENG.pdf