Few updates on the FPGA flagship

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Save the date: Next FPGA course

- ☐ Course on VHDL by Andrea Triossi

    - ☐ Dates: 4th to 6th of March

    - ☐ Zoom only

- ☐ Still thinking whether to set up FPGA accesso or not

    - ☐ For this kind of course the use of U50 would not really add much to the course

    - ☐ May be Better to have smaller FPGA with switches, buttons and displays…

- ☐ It will be based on the use of Vivado, to speed it up it is better to have it installed locally
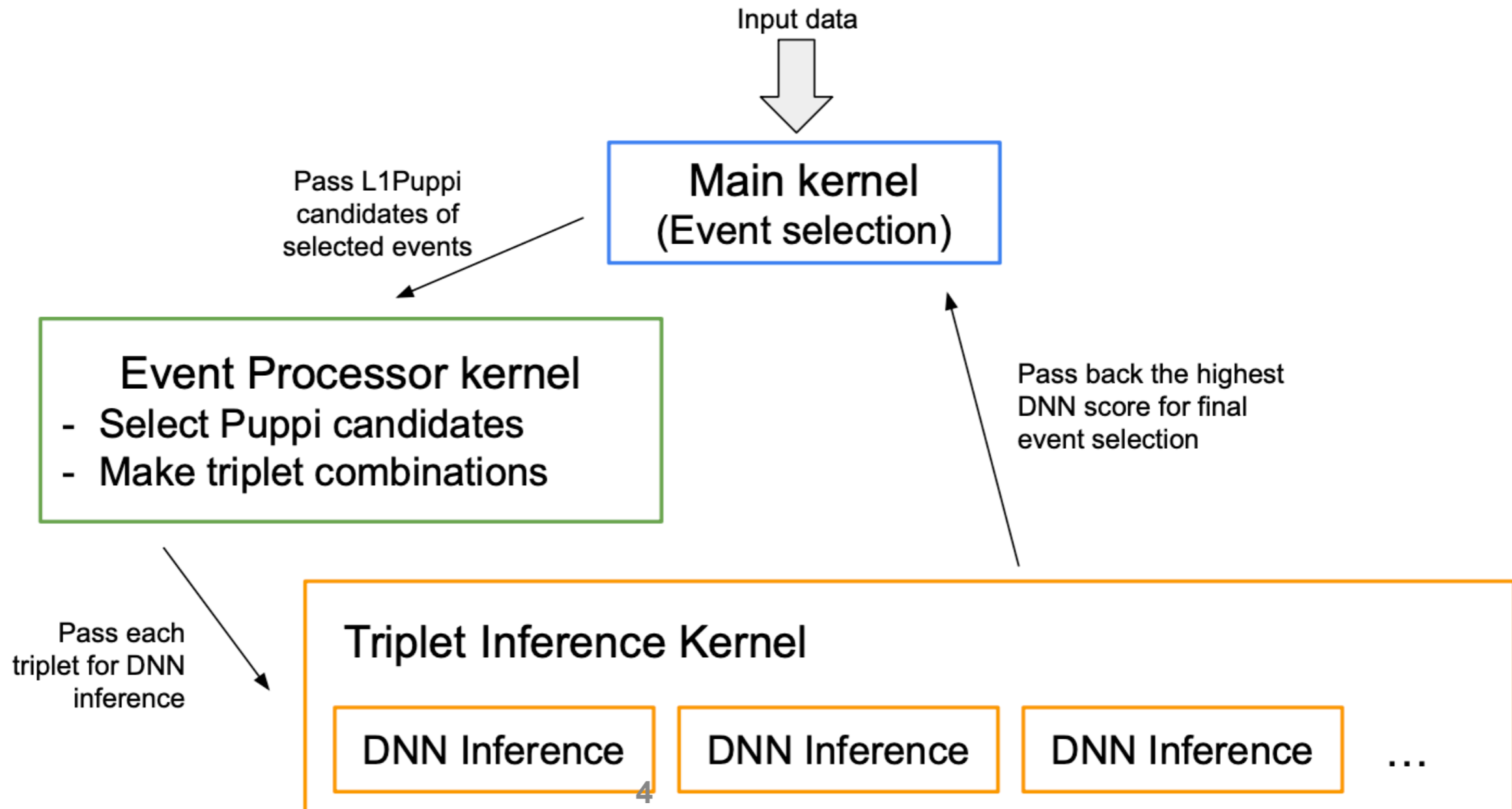
- ☐ Agenda in preparation

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FPGAs from Terabit project

☐ Most likely they will not be available before Autumn 2024 …

　　☐ What shall we do in the meanwhile?

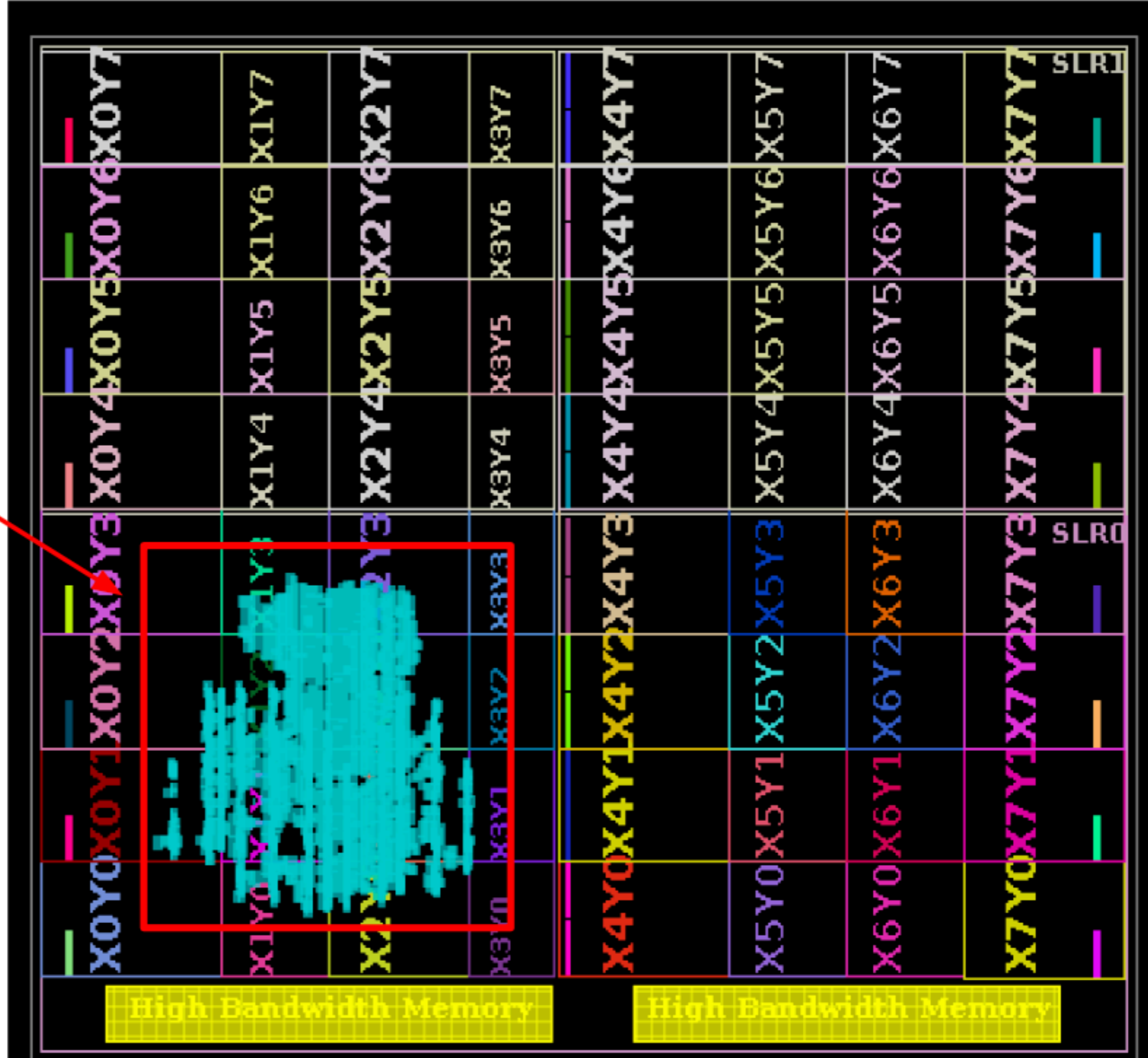☐ There are few FPGAs available at CNAF (U50) not clear if they could be useful for some of the projects

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□ Francesco Brivio started to work on the scouting analysis W->3pions

   □ General idea: build different kernels for different tasks

Input data

Main kernel
(Event selection)

Pass L1Puppi candidates of selected events

Event Processor kernel
- Select Puppi candidates
- Make triplet combinations

Pass back the highest DNN score for final event selection

Pass each triplet for DNN inference

Triplet Inference Kernel

DNN Inference   DNN Inference   DNN Inference   …

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For the moment: DNN synthesis

Status KPIs

[Link to the flagship document](#)

KPI ID	Description	Acceptance threshold	Status up to today
KPI2.2.3.1	Development of triggering algorithms, on-line analyses, data acquisition on FPGA	Submission of 1 paper to a peer-reviewed journal	1 paper already accepted
KPI2.2.3.2	Online scouting	Submission of 1 paper to a peer-reviewed journal	Abstract being submitted to ichep 2024 about scouting
KPI2.2.3.3	Development of tools to integrate several FPGAs together	Submission of 1 paper to a peer-reviewed journal	
KPI2.2.3.4	Organizing courses about FPGA programming on low and high level	At least two courses organized	1 course done at the end of 2023 (1/2 of the KPI done) VHDL course programmed by march 4th

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