

# ONSEN System

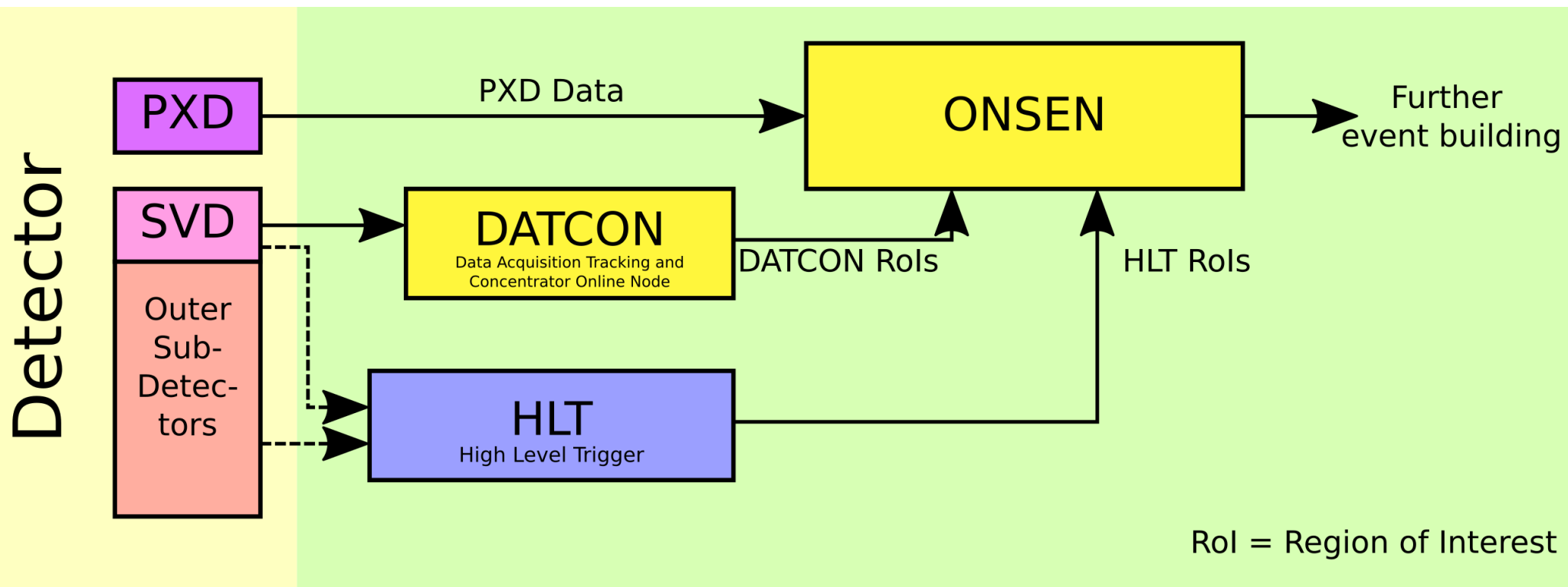
Matthäus Krein      Jens Sören Lange  
Simon Reiter

II. Physikalisches Institut

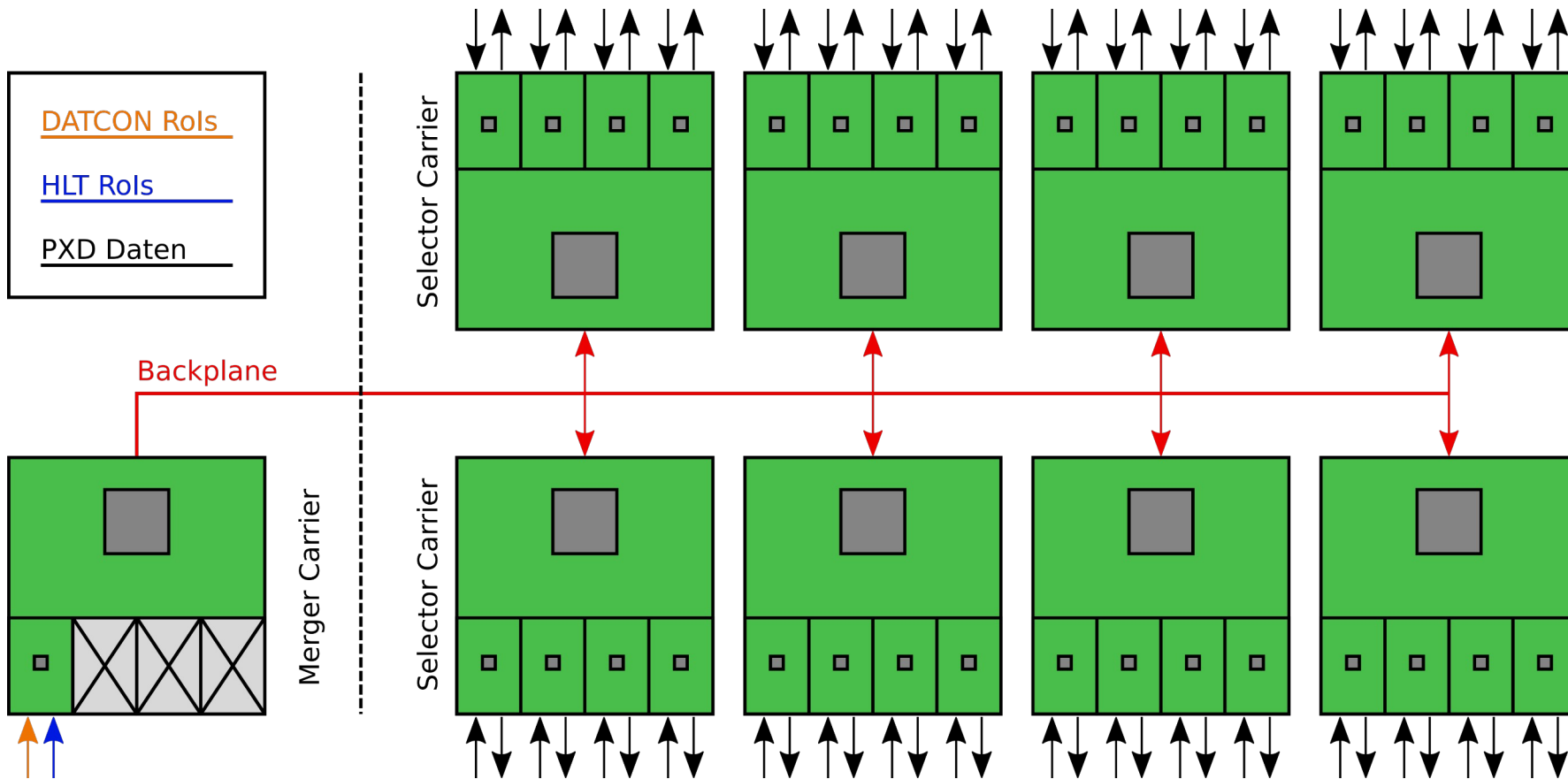
PXD Workshop

May 16, 2022

# Basics

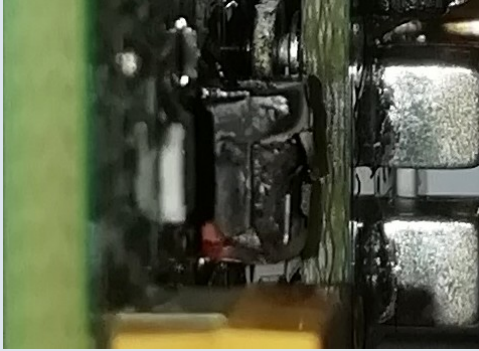


# Basics



# Defective Hardware

- ▶ 4 broken AMCs

Name	xFP-V4-2-10	xFP-V4-2-34	Unnamed Board	Unnamed Board
Problem	Shuts down after power up	Broken connection to memory	Broken Transistor	Unknown defect
Remark	Voltage too high	Functional with an alternative bitstream		Still in Japan

# ONSEN Group Status

- ▶ Onsen Group is planning support of PXD2 test at KEK in March, April and May 2023
- ▶ 3 new PXD shifters at Gießen (Johannes Bilk, Dmytro Meleshko and Matthäus Krein)

# Merger Carrier Spare Development

- ▶ Compute Node Carrier Board (CNCB) v4.0
  - Newer FPGA (Kintex UltraScale) with about 10 times the resources
- ▶ Firmware adjustments
  - Implemented custom IP cores
  - Port PowerPC connection to MicroBlaze
  - Link layer protocol changed from Aurora to AXI Stream by implementing wrappers
- ▶ Firmware is functional
- ▶ Adding additional interrupts of the Belle II Format Handler core

CNCB v4.0

