

pocket-ONSEN @ KEK and Status of ONSEN

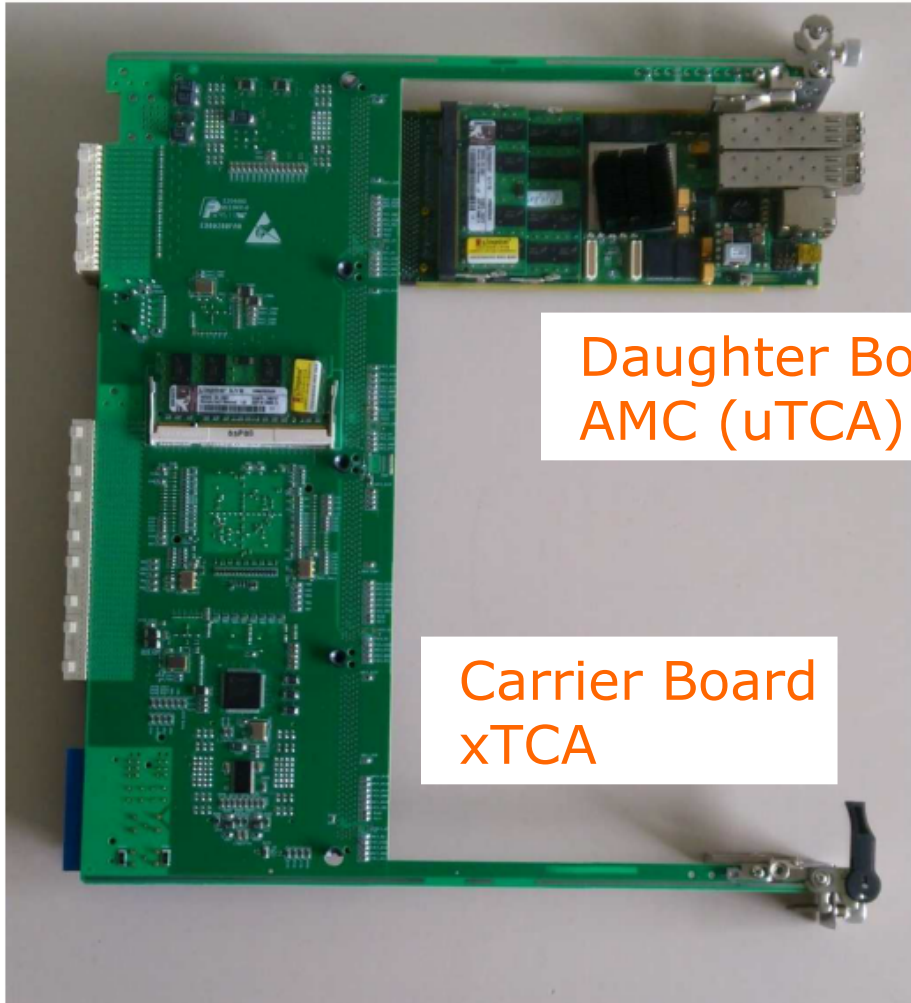
Dennis Getzkow, Thomas Geßler, Wolfgang Kühn,
Sören Lange, Leonard Koch, Klemens Lautenbach,
Zhen-An Liu, David Münchow, Björn Spruck, Jingzhou Zhao



Bundesministerium
für Bildung
und Forschung

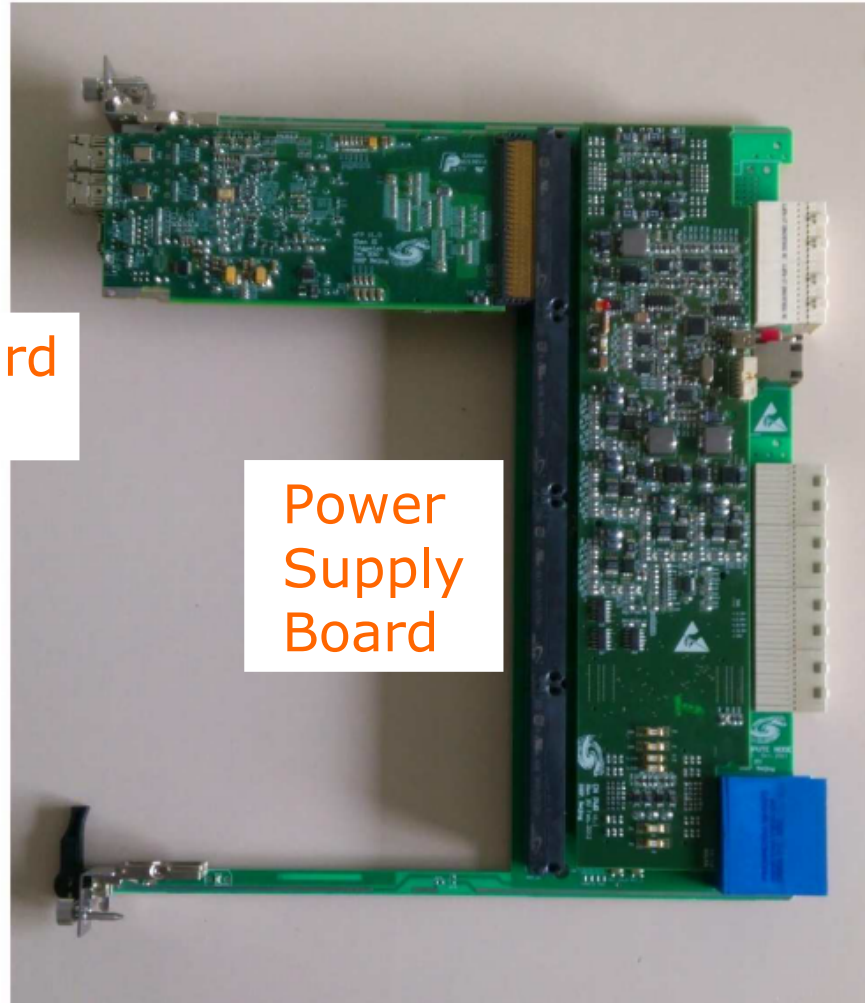
IHEP Beijing, Giessen
7th Belle II VXD Workshop
18th International Workshop on DEPFET Detectors and Applications
Prague, 21.–23.01.2015

Reminder: Compute Node → xTCA carrier board and AMC board
AMC is uTCA formfactor (but partially different pin assignment)
Reminder: only AMC used at DESY tests



Daughter Board
AMC (uTCA)

Carrier Board
xTCA



Power
Supply
Board

HARDWARE STATUS

Jingzhou Zhao arrived at Giessen on Monday, 19.01.
with 3 new boards

1 new xTCA carrier board

→ many issues fixed (LVDS links, clock distribution)

1 new AMC card for ONSSEN („large“ FPGA, FX70T)

→ 1 V stability & ADC voltage divider fixed,

2 x SFP+ instead of 4 x SFP transceivers

1 new AMC card for DATCON („small“ FPGA, LX50T)

Boards passed 1st tests at IHEP.

Further testing @ Giessen ongoing (Jingzhou, Björn),

results to be reported soon (B2GM or DAQ Workshop @ Osaka)

Board Production Schedule, Addendum to DEPFET MOU), signed 24.09.2014

28.02.2015

15(+3 spare) AMC for DATCON
no carrier board needed

31.03.2015

3 carrier boards + 12 AMC cards for ONSEN

01.09.2015

5 carrier boards + 20 AMC cards for ONSEN
(= complete system)

reminder: DATCON

- needs 1 more powerful tracking node (DHH under investigation)
- needs custom uTCA backplane

ONSEN Giessen Team, NEWS

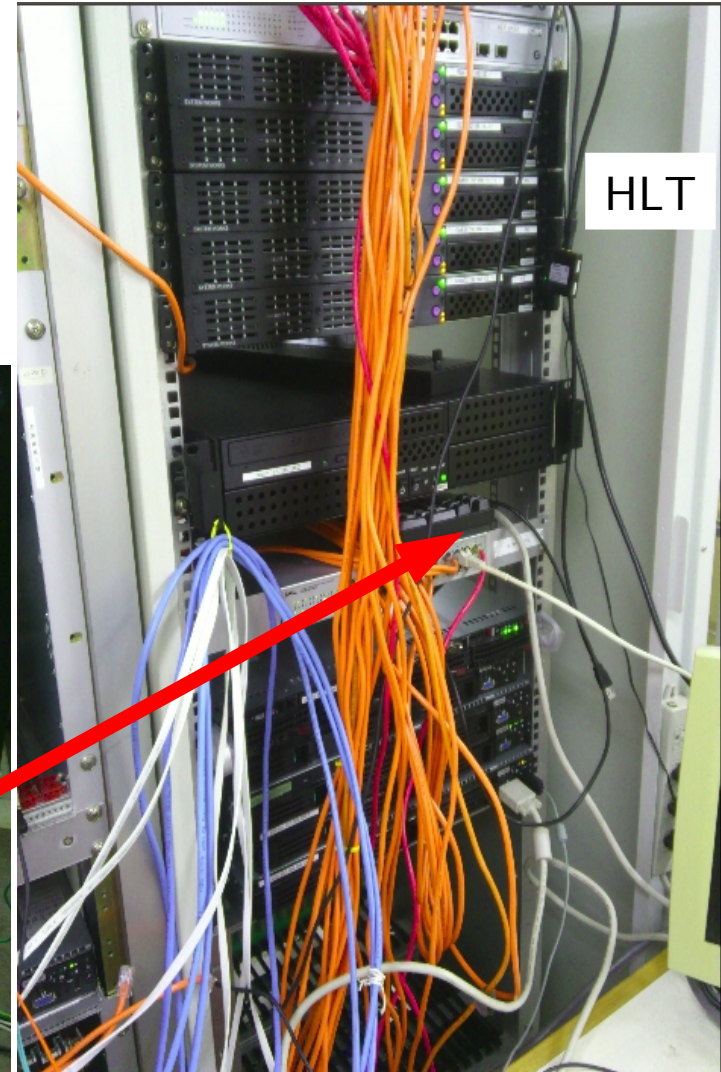
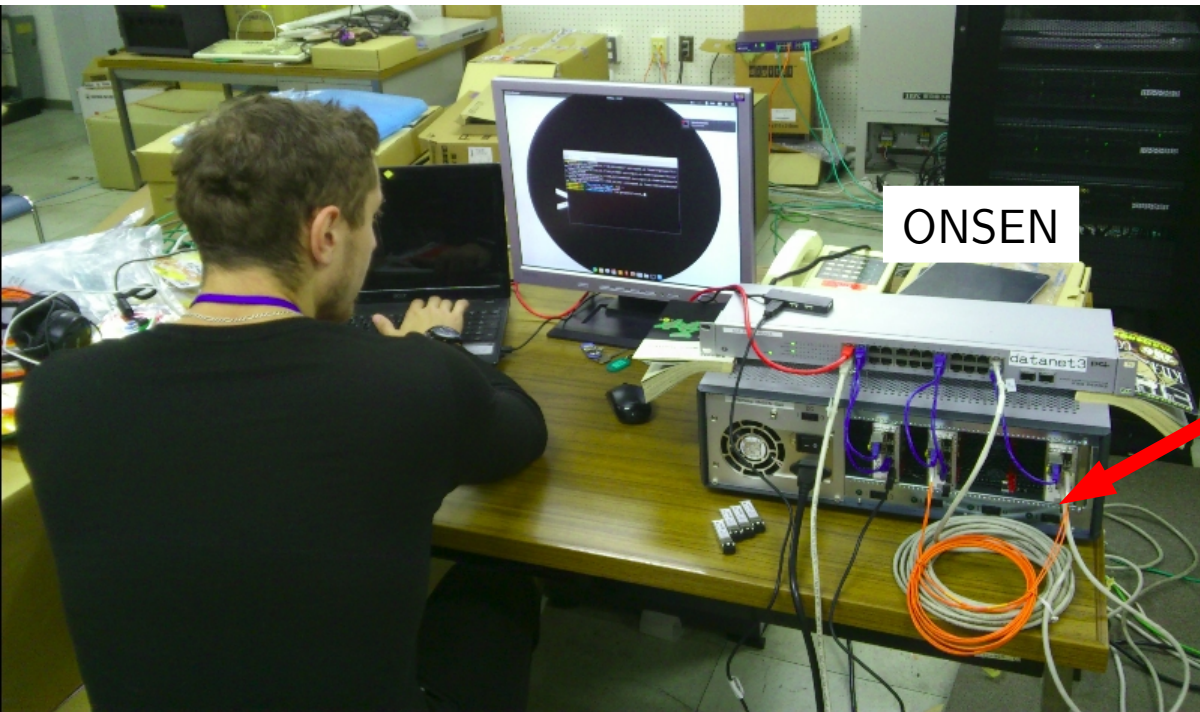
- Thomas Geßler and David Münchow, to finish Ph.D. near-term (Thomas applied for JSPS/Humboldt Fellowship)
- Björn Spruck unfortunately leaving 30.04.
- new students:
 - Dennis Getzkow
 - master thesis, ROI distribution system, submitted 15.01.
 - applied for JSPS summer school (2 months at KEK, invitation by Itoh-san)
 - Klemens Lautenbach
 - has spent winter @ KEK (DAAD Fellowship) installing „pocket-ONSEN“ at KEK
 - see next slide
 - Leonard Koch, 6-layer tracking, new master thesis (to be delivered in summer)
Talk at Prague FTF Tracking Meeting, 20.01. → [pdf]
first ideas on combinatorics reduction (e.g. reference point for conformal transformation → 3rd layer)

Pocket-ONSEN at KEK

Short report by Klemens Lautenbach-san



pocket-ONSEN testbench
@ Tsukuba hall B3
(server room)



pocket-ONSEN Testbench at Tsukuba Hall B3

- „pocket-ONSEN“
= uTCA shelf + 3 AMC cards (merger, selector, outsender)
- connected to HLT and event builder
(2 different PCs)
- first successful test on [27.12.2014](#)
 - PXD data sent via RJ45,
new data format (run number included)
 - HLT ROIs sent via RJ45,
ROIs generated with basf2 module
random triggers
 - reduced PXD data sent out to EVB, written to root file
 - 25.000 events sent and received,
consistency check with basf2 unpacker/decoder o.k.
 - monitoring by embedded PPC
(EPICS cross-compile o.k. now, but not used)
- more detailed report @ B2GM (DAQ session)

THANK YOU.