MicroTCA Technology Lab at DESY

Status Update and Outlook

Dr. Thomas Walter
6th MicroTCA Workshop, 07.12.2017
TRANSFER MTCA. 
(to research and industry)

Marketing.
Services & Support.
Tech-Shop.

- Custom developments
- High-end test & measurement services
- System configuration & integration
- LLRF design
Status

Infrastructure, Equipment, Team, Projects, Events
Infrastructure, Equipment

- Entrance
- Showroom I
- Conference Room
- Showroom II
FIVE ADDITIONS
Still hiring!

- Interface MSK / ITT
- Lab Manager
- Scientific Assistance
- Hardware Developer
- Firmware Developer (wanted!)
- Software Developer (onboarding)
- LLRF specialists (wanted!)

- Doctoral Student
- Interns
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Projects – small PCB designs

“Noise eater”
Raspberry Pi-based access control system

Low-noise power supply test boards...

Source: https://confluence.slac.stanford.edu/display/PCDS/NOISE+MINUS+Coherent+Vitara+Piezo+kHz+Noise+Eater

... assembled & in use
Projects – DCF clock
Projects – Rapid Prototyping

3D Printing capabilities

Wire bond protection

FMC model …

… and mechanical fit test on a DAMC-FMC25

Source: https://www.3dmensionals.de/media/image/24/be/73/Form-2-printer-three-quarters-Hart_600x600.png
Projects – Portfolio maintenance

DAMC-2
DAMC-TCK7
DAMC-FMC20
DRTM-DWC10
DAMC-X2timer

DAMC-FMC25
DRTM-PZT4
DRTM-VM2LF
DRTM-AD84

DRTM-DWC8VM1
DRTM-LOG1300
DFMC-MD22
RF Backplane
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Projects – PZT4 “market ready”

Revision D
Complete Board with housing

Revision D front side

Precision-milled housing

separate talks: Thursday, 7 December 2017, Session 5 (09:00-09.20) Keynote Dr. Jänker
Thursday, 7 December 2017, Session 7 (15:00-15.15) Talk M. Fenner
Projects – TARLA

Turkish Accelerator and Radiation Laboratory Ankara

System integration test at DESY & preparation for final rack assembly

separate talk: Thursday, 7 December 2017, Session 8 (15.45-16.00)
„Design and Status of the MicroTCA-based LLRF System for TARLA“ (C. Gümus)
§ 1 Subject of the Agreement

(1) The Subject of this Agreement is the cooperation between the Parties within the “Helmholtz Innovation Labs” with the title “MicroTCA Technology Lab - A Helmholtz Innovation Lab” (HIL-02) funded by the Helmholtz Association.

(2) The Parties shall cooperate in one or more of the following areas of activities:

- Advance research and development for next generation MicroTCA systems, including the investigation of new materials, design concepts, interfaces and communication protocols.
- Joint marketing activities to promote MicroTCA as a standard and foster its widespread adoption in research and industry through collaboration in market research, appearances in showroom, industry exhibitions on conferences and trade fairs.
- Implementation of a cutting edge lab for analog and digital developments.
- MicroTCA component design.
- Tutorials, trainings and workshops with a focus on MicroTCA, electronics design, test and measurement.
- Resolution of interoperability issues between MicroTCA components of different manufacturers through joint tests and design reviews.
- Pooling hardware to enable potential users a short term evaluation of MicroTCA systems on a loan basis.
Collaboration in practice

- MicroTCA Training Basic/Advanced (N.A.T.)
- MicroTCA systems loaner pool (Powerbridge)
- Joint industry booth at LLRF Workshop (Rohde & Schwarz)
- Board test stands & procedures (Struck)
Website Relaunch

https://techlab.desy.de/