



# *Status* of Database & Software for Phase-2 Tile Cal Electronics Components



Georgian Technical University



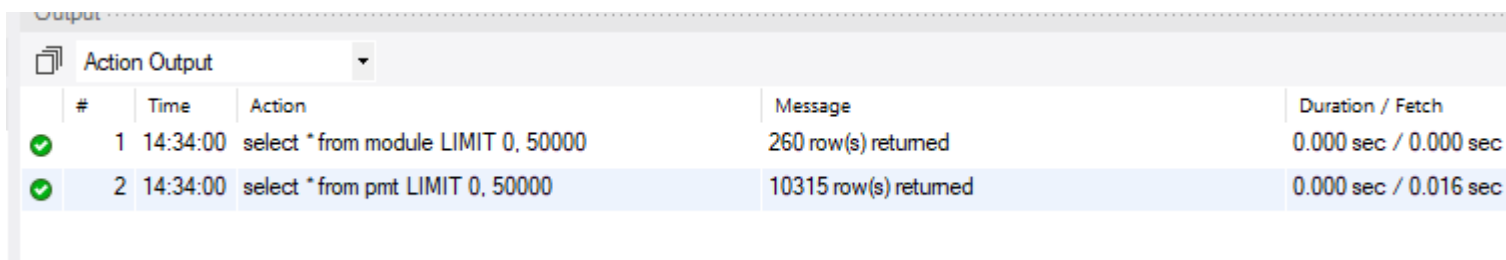
Nuclear Engineering Center

Nikoloz Udzilauri

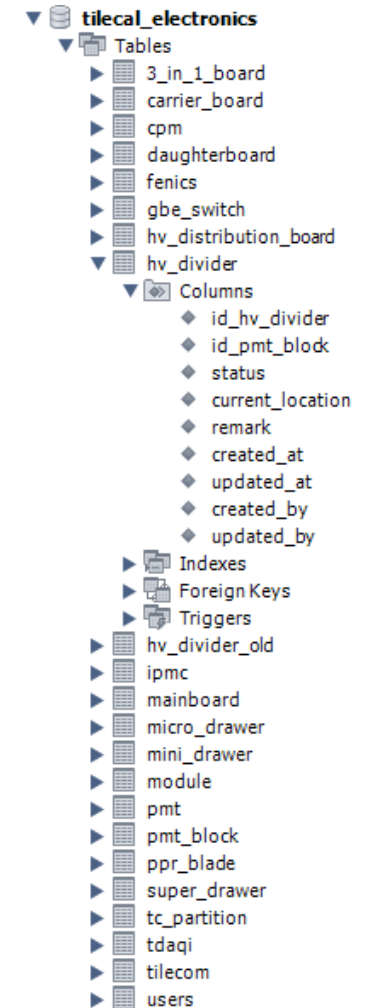
Responsible: Alexander Sharmazanashvili

# Status of DATABASE

- ✓ Partitions & Modules prefilled
- ✓ PMTs prefilled with old PMTs Spreadsheet (*provided by Henric*)
- ✓ Added two tables for old components “3\_in\_1\_board”, “hv\_divider\_old” (*Requested by Irakli*)
- ✓ Column data types updated to match real component property value data types.
- ✓ New columns(“created\_at”, “updated\_at”, “created\_by”, “updated\_by”) added for every component, to save all modification dates and modification authors.
- ✓ Database updated to match MySQL version 8.0 Standards.



#	Time	Action	Message	Duration / Fetch
✓ 1	14:34:00	select * from module LIMIT 0, 50000	260 row(s) returned	0.000 sec / 0.000 sec
✓ 2	14:34:00	select * from pmt LIMIT 0, 50000	10315 row(s) returned	0.000 sec / 0.016 sec



- tilecal\_electronics
  - Tables
    - 3\_in\_1\_board
    - carrier\_board
    - cpm
    - daughterboard
    - fenics
    - gbe\_switch
    - hv\_distribution\_board
    - hv\_divider
      - Columns
        - id\_hv\_divider
        - id\_pmt\_block
        - status
        - current\_location
        - remark
        - created\_at
        - updated\_at
        - created\_by
        - updated\_by
    - Indexes
    - Foreign Keys
    - Triggers
  - hv\_divider\_old
  - ipmc
  - mainboard
  - micro\_drawer
  - mini\_drawer
  - module
  - pmt
  - pmt\_block
  - ppr\_blade
  - super\_drawer
  - tc\_partition
  - tdaqi
  - tilecom
  - users

# Status of Web Application

- Updated User Interface
- New Functionality

TILECAL ELECTRONICS DATABASE
Sign out

Disassembly

Assembly

Reception of components at CERN

CREATE/UPDATE

Database

- Tile Calorimeter
  - Partition Filled
    - Module Filled
      - Super drawer
        - Micro drawer
          - PMT block
            - FENICS
            - HV divider
            - PMT Filled partly
          - Mini drawer
            - Mainboard
            - Daughterboard
            - HV distribution board
            - PMT block
              - FENICS
              - HV divider
              - HV divider Old
              - 3\_in\_1\_board Old
              - PMT Filled partly
  - PPr blade
    - Carrier board
      - IPMC
      - CPM
      - TileCoM

⚠ Welcome! please keep in mind that this is a demo and application functionality is not working. This only shows what the User Interface can look like and how different functionality can be operated trough user interface.

**PMT** [Add PMT](#)

PMT serial_number	PMT Block ID	Module	Pos in legacy tilecal	Pos in phase2 tilecal	Beta	HV nominal	Type	Status	Current location	Comment	Actions
PMT serial_number	PMT Block ID	Module	Pos in legacy tilecal	Pos in phase2 tilecal	Beta	HV nominal	Type	Status	Current location	Comment	Search
AA0006		LBC21	28		7.111	639					✎ ⌚ 🗑
AA0010		LBA53	35		6.864	674					✎ ⌚ 🗑
AA0029		EBC13	14		7.078	696					✎ ⌚ 🗑
AA0058		LBA12	13		6.795	681					✎ ⌚ 🗑
AA0063		EBC17	23		6.47	706					✎ ⌚ 🗑
AA0066		LBC42	16		7.093	629					✎ ⌚ 🗑
AA0070		EBC52	6		6.563	696					✎ ⌚ 🗑
AA0075		EBA34	8		6.436	725					✎ ⌚ 🗑
AA0078		LBC42	15		6.806	682					✎ ⌚ 🗑
AA0079		EBC38	37		6.685	728					✎ ⌚ 🗑
AA0087		EBC16	43		6.667	705					✎ ⌚ 🗑
AA0097		LBC11	8		6.658	686					✎ ⌚ 🗑
AA0126		LBA55	21		6.704	658					✎ ⌚ 🗑
AA0142		LBC42	39		6.687	666					✎ ⌚ 🗑
AA0144		LBA56	3		-1	-1					✎ ⌚ 🗑
AA0155		EBA51	2		-1	-1					✎ ⌚ 🗑
AA0159		LBC56	17		6.705	684					✎ ⌚ 🗑
AA0166					6.647	683					✎ ⌚ 🗑
AA0169		EBA53	2		-1	-1					✎ ⌚ 🗑

# Updated UI

Component title

Add Records

Multiple Filter (by any component parameter)

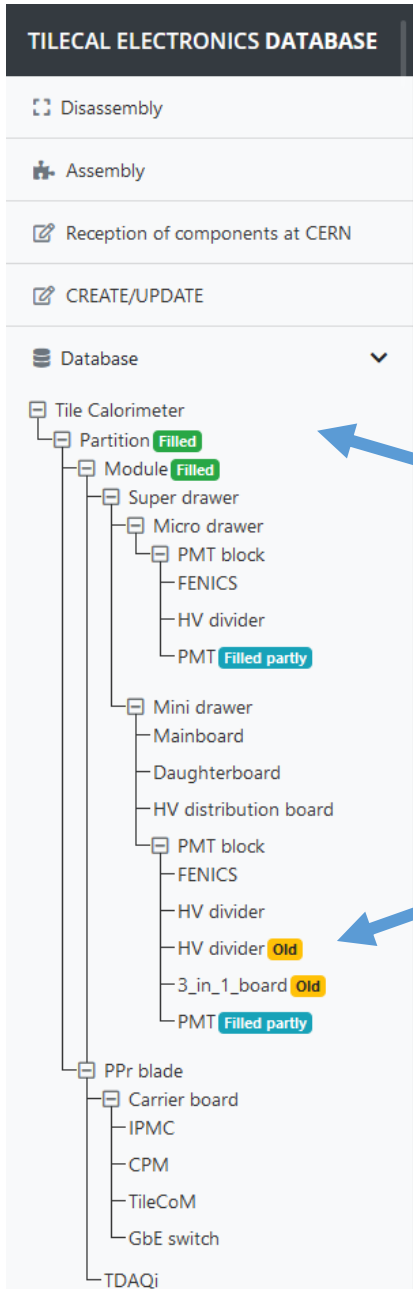
Pagination

1. Edit, 2. View Component Modification history, 3. Delete

PMT [Add PMT](#)

PMT serial_number	PMT Block ID	Module	Pos in legacy tilecal	Pos in phase2 tilecal	Beta	HV nominal	Type	Status	Current location	Comment	Actions
<input type="text" value="PMT serial_numbe"/>	<input type="text" value="PMT Block ID"/>	<input type="text" value="LBC42"/>	<input type="text" value="Pos in legacy tilecal"/>	<input type="text" value="Pos in phase2 tileca"/>	<input type="text" value="7.1"/>	<input type="text" value="HV nomina"/>	<input type="text" value="Type"/>	<input type="text" value="Statu"/>	<input type="text" value="Current locatio"/>	<input type="text" value="Commer"/>	<input type="button" value="Search"/>
AA7005		LBC42	4		7.142	652					
AB0859		LBC42	17		7.196	677					
AB0862		LBC42	29		7.183	668					
AB4712		LBC42	22		7.14	692					

# Updated UI



Navigation through WORK PHASES and Different Application Functionality

Full Database Component Tree with functionality to navigate through any database component and get corresponding table

Badges representing different Information

# Few Issues

1. Most recent PMT Spreadsheet is needed, to update prefilled PMT data in the Database (current one is from 2017).
2. Few errors in PMT spreadsheet (duplicate entries, missing values, modules are numbered 00-64 (Modules must be numbered 00-63, 01-64 or leave 00-64 ?)).
3. List of components that will be in “reception of components at CERN” list.

# Upcoming Steps

1. Finish prefilling PMTs - *Partly done*
2. Create CRUD(create, read, update, delete) functionality (form validation and success/error messages included) for all components. - *In progress*
3. CREATE functionality that will allow to see any component modification history. - *In progress*
4. Finish working on the functionality of work phases “Disassembly/Assembly/Reception of components at CERN” (all additional requirements of application/database included, e.g. barcode recognition, etc.). - *In progress*
5. Import database on CERN DBOD service.
6. Import application on CERN server.
7. Setup database backup
8. Create Gitlab repository
9. Start testing
10. Continue testing
11. Write technical documentation.
12. Create user manual providing troubleshooting, with the explanation of conflict cases and possible ways for the solution.

Before proceeding some of these steps we will wait for your feedback about current development



Thanks for attention, comments are welcome

