

Agile project management in the KM3NeT Electronics Group (+10 years experience developing electronics products for KM3NeT)

- **Heterogeneous group** (very different formation, skills and tools: A **top-down, standardized approach (vertical organization)** does not work (**standardization impossible, lack of flexibility**) while an **Horizontal network** works (**autonomy, self-organization, and adaptability**)
- **Individuals over processes and tools**: Value team collaboration and teamwork between different institutions over working and doing things "by the book."
- **Group collaboration over strict rules**: Designers collaboration is more important than the finer details of extensive documentations
- **Working software/firmware/hardware over comprehensive documentation**: The software/firmware/hardware developed should work. Additional work, like documentation, is not as important as developing good-enough software/firmware/hardware. The proper documentation:
 - a. **Hardware**: BOM, gerbers/ODB++(for the PCB&PCB-A manufacturing) and testbench SW&instructions (For the PCB-A qualification)
 - b. **Gateway**: working images (**tagged, validated, and officially released**) in the detector
- **Responding to change**: One of the major characteristics of the team **is flexibility**. This framework allows for team to quickly shift strategy without derailing the entire project. (**Firefighter/Troubleshooter mode**)
- **Prioritize**: The ideal perfect standardized world is the enemy of the good-enough world. **Good enough has been/is/will be our objective**

A must for KM3NeT due to structure (heterogeneous), planning (tight) and human resources (very scarce) constrains

- Need of another Software engineer!**
- Order 20-25 more CLBv2 for DU-1?**
- Funding for the DfX analysis**

2014 request -> We never got the extra software engineer!
2021 Ad Van den Berg retired and IFIC took temporary over Octopus. Still in IFIC hands

KM3NeT will always have a **tight schedule and very scarce human resources**



However, CLBv2, PBv2, Octopusv4 & PMT Base is a success story!!

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The international journal of science / 13 February 2025

nature

INSIDE!

COSMIC CATCHER

Deep-sea telescope detects neutrino with highest energy ever recorded

Particulate matters

What effects are microplastics having on human health?

Focal points

Why Japan needs to rethink its science funding priorities

Safety catch

How immune gene adaptations help bats to tolerate viruses

PHOTO: J. H. H. / SHUTTERSTOCK

However, CLBv2, PBv2, Octopusv4 & PMT Base is a success story!!

<p>Paralysis by perfection – Seeking the perfect solution can delay progress indefinitely</p>	<p>The CLBv2 testbench was not perfect—WR track phase, Octopus, and FMC connectors were not tested. While this was not ideal, it provided a good-enough solution to move forward</p>
<p>Over-standardization kills adaptability – The ideal system may not fit the realities of diverse teams</p>	<p>Each lab used/uses the design tool at hand (Allegro, Altium, Mentor Graphics, PADS). The produced output (BOM and gerbers or ODB++ is prepared according the technical expertise of each lab. Impossible to standardize, remember, we are not an Industrial Project</p>
<p>Iterative progress beats stagnation – A functional, "good-enough" system can evolve over time</p>	<p>ESS testing was implemented at first. HALT&HASS testing has been introduced along the way. See also the hardware workflow below: it is completely iterative</p>
<p>Encouraging modular solutions rather than enforcing a rigid framework/template</p>	<p>No other possibility: CLB hardware was produced and deployed in the sea before the acquisition firmware was completed. A modular development was the unique possibility</p>
<p>Allowing flexibility in execution rather than demanding uniformity and excess of documentation</p>	<p>From the dawn of the Electronics group, there has been given freedom in the execution, to get the most out of the skills and expertise of the members' group and the tools available</p>
<p>Adapting as we go instead of waiting for the "perfect" approach.</p>	<p>Had we waited for the ideal solution, KM3NeT would not have survived (will survive). A good enough approach, delivered on time, allows for continuing production, continuous improvement and ensures progress</p>

Workflow:

1. Define Core Objectives & Constraints

- **Identify essential functionalities** rather than aiming for an exhaustive feature set
- Establish **realistic timelines** to prevent delays caused by excessive refinement.
- **Prioritize critical path (bottlenecks are our priorities)** components while deferring secondary features
- **Avoid over-standardization** - adaptable approaches instead of rigid frameworks (for the tools this is a must, as each lab has its own set of tools and, very important, the expertise)

2. Rapid Prototyping & Iterative Testing

- Focus on **progressive refinements** instead of striving for a perfect first version
- **Accept good enough solutions to fulfill planning** (or at least not to be too much delayed)

3. Deploy, Evaluate, and Improve

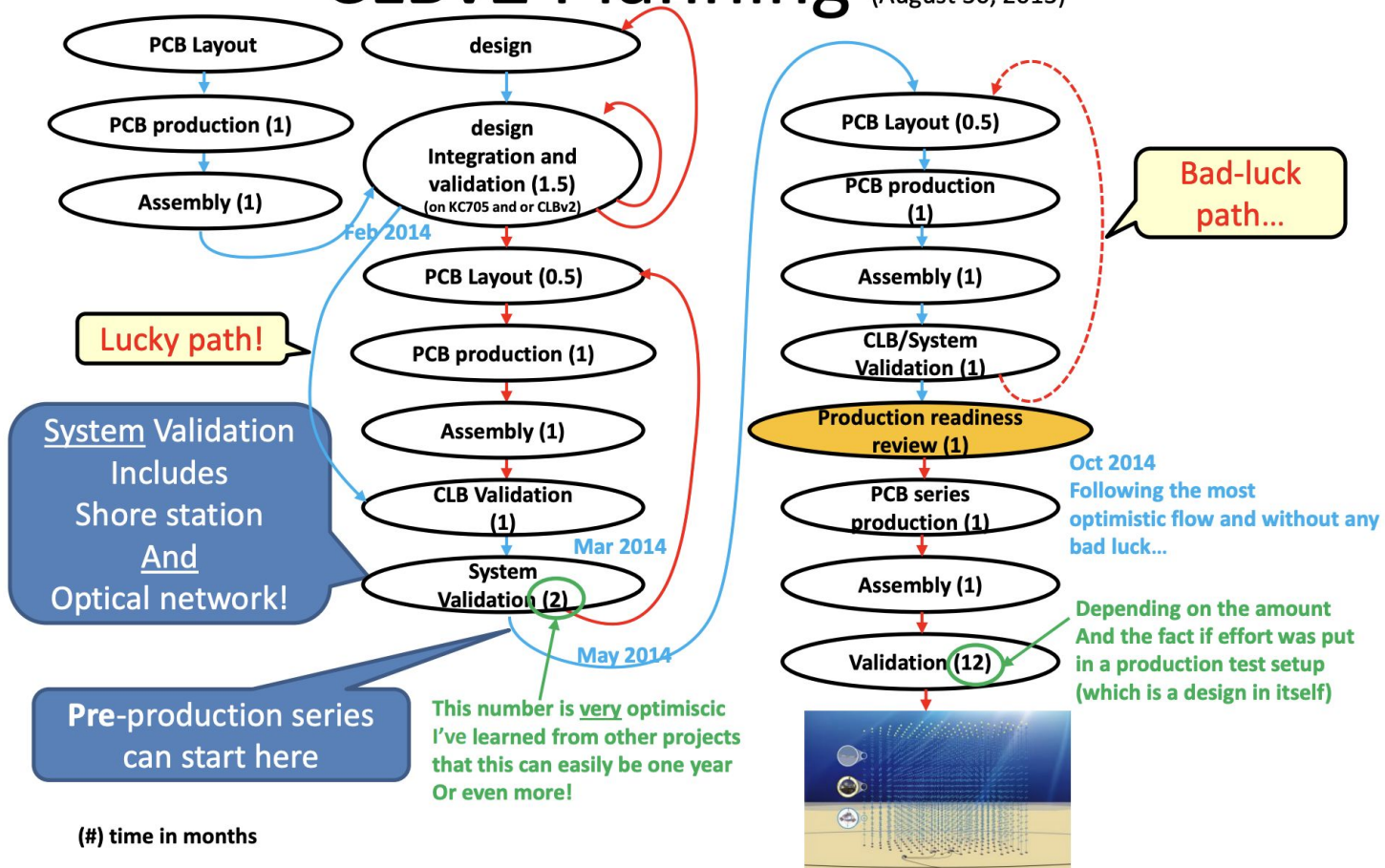
- **Gather feedback** from current operations and implement the modifications in the next window of opportunity (**Only when a new version of the board is mandatory**) **If a version is working good enough, we do not redesign!!**
- Differentiate from minor improvements from critical and mandatory improvements
- Implement continuous improvements based on **actual performance**, not idealized expectations

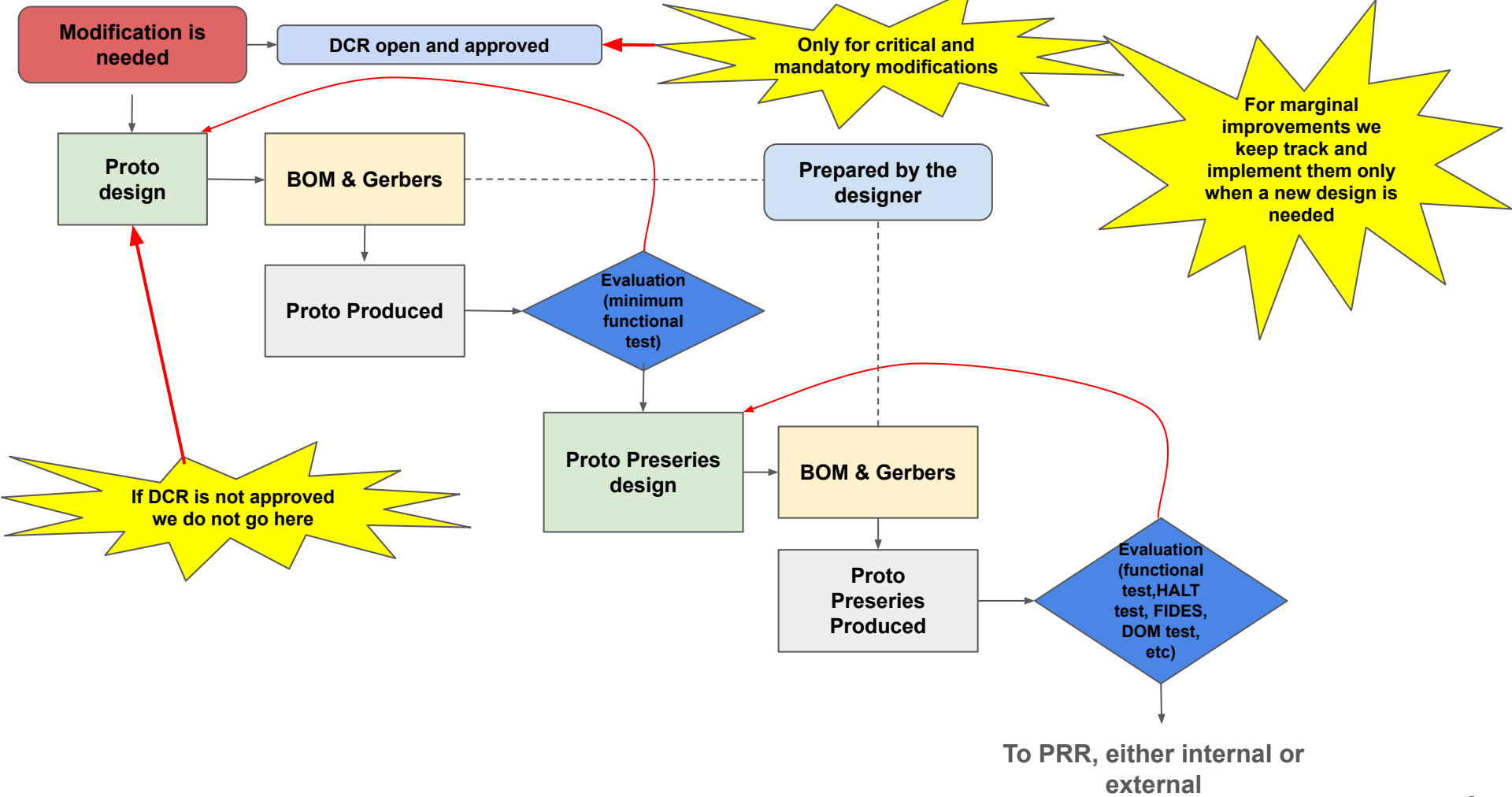
4. Maintain **Flexibility** & Reduce Bureaucracy

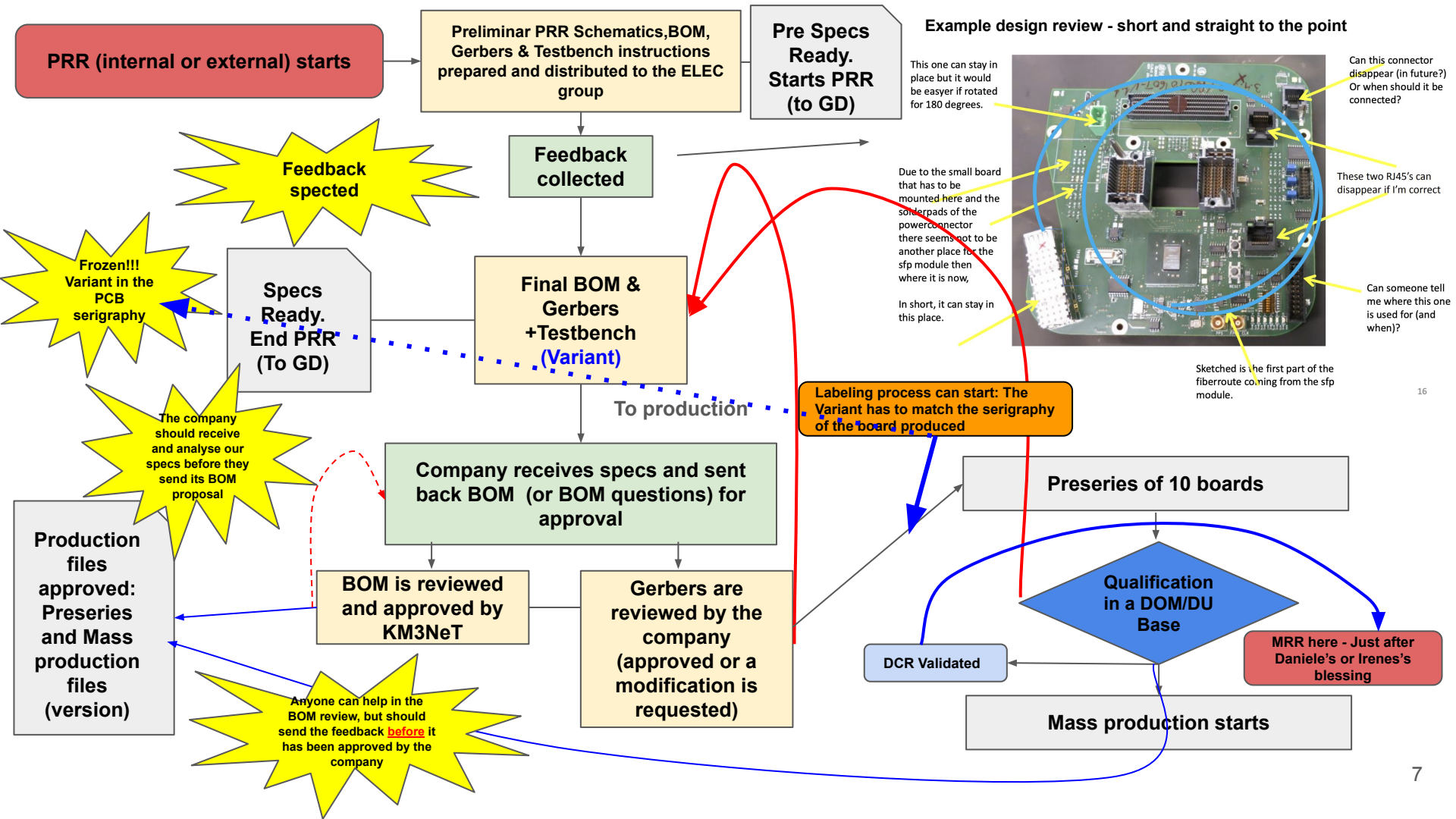
- Avoid excessive documentation that slows execution—**focus on essential design output (Schematics, BOM, gerbers, testbench) - registering and labelling of protos is not critical**
- Encourage **practical decision-making** over rigid adherence to predefined workflows

Workflow for HW

CLBv2 Planning (August 30, 2013)







Documentation (the hell with Google)

Manual tracking
and versioning is
not reliable!

The Electronics group has been **pioneer** in using a proper traceability and versioning system in KM3NeT (**SVN Repository at IFIC -svn.ific.uv.es-**, migrated to **KM3NeT GitLab** once it was available in the Collaboration):

- **HW**
- **FW**
- **SW**
- **DOC -> Used instead GD by the Collaboration**

Name	Last commit
📁 .vscode	included i2c master reset
📁 cmake	Squashed again
📁 doc	added changelog "old" ctb implementat...
📁 hdl	change pwd for pdm for ramping the pl...
📁 hw	include hw files for CLB5 and CLB6
📁 sw	Add scripts for merging software (.elf) f...

Most **ISO and IEEE standards** require:

Version control with audit logs -> Google Drive has basic versioning, but it lacks detailed logs like Git

Approval workflows -> Drive has comments and suggestions, but no formal approval process

Access control & security -> Google Drive permissions are flexible but can be hard to track at scale

Traceability & configuration management -> ISO standards often require change control systems beyond simple file history

Documentation (the hell with Google)

Manual tracking
and versioning is
not reliable!

Feature	Google Drive	GitLab (Self-Hosted)
Data Ownership	Stored in Google's cloud (Google controls it).	KM3NeT self-host GitLab (full control)
Versioning	Limited to file versions (Google decides retention policy).	Full version history is in Git commits (never lost unless deleted).
Backup Options	No native full-drive backup (must use third-party tools).	Can back up repositories using Git, rsync, or snapshots.
Risk if Service Ends	Google can discontinue services at any time (e.g., Google+ shutdown). (Big criticality)	As KM3NeT uses self-hosted GitLab, <u>nothing changes</u> .
Data Portability	Files must be downloaded manually (no structured version export).	Repos are portable to GitHub, Bitbucket, or another GitLab instance.

Documentation

(the hell with Google)

Manual tracking and versioning is not reliable!

Feature

Google Drive

GitLab (Self-Hosted)

Data Ownership

Storage on Google Cloud (Google)

KM3NeT self-host GitLab (full control)

Versioning

We are a scientific project, but we should work with quality!! ->

Full version history is in Git commits (never lost unless deleted).

Backup Options

Indeed our Scientific and Engineer colleagues use GitLab

Can back up repositories using Git, rsync, or snapshots.

Risk Service Ends

Files must be downloaded manually (no structured version export).

As KM3NeT uses self-hosted GitLab, nothing changes.

Data Portability

Files must be downloaded manually (no structured version export).

Repos are portable to GitHub, Bitbucket, or another GitLab instance.

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- HW
- FW
- SW
- DOC

FW&SW Already
tagged and released

Probably the best
solution is to include
HW&DOC too

Name	Last commit
📁 .vscode	included I2c master reset
📁 cmake	Squashed again
📁 doc	added changelog "old" clb implementat...
📁 hdl	change pwd for pdm for ramping the pl...
📁 hw	include hw files for CLB5 and CLB6
📁 sw	Add scripts for merging software (.elf) f...

Quality issues detected:

- **Production not restricted only to the company** (testbenches in KM3NeT Labs instead of companies):
 - Loss track of boards
 - CoC cannot be provided by company
 - Difuminated responsibility for board defects - **NCRs to products under production??**
 - Board travelling up and down (risk of problems during the shipping)

-> Proposed Corrective Action: **Prioritize development of testbenches** /transmit clear instruction to the design/production teams to avoid this in the future
- Some productions have **jumps in the workflow** because of the planning
 - Risky approach

-> Proposed Corrective Action: Advance production **to have a important backlog of boards** to sustain DOM and DU production. Evaluate planning and constraints, and **accept the risk if necessary**
- **Not clear communication** channels with production companies (too many interfaces):
 - Unnecessary delays
 - Contradictory information transferred to the company

-> Proposed Corrective Action: Define a single contact point: **Production Manager**
- Performing audits/analysis not agreed beforehand with the company **in the middle of a critical and already-very-late** productions:
 - Possible backward reaction by the company

-> Proposed Corrective Action: Perform audits/ additional analysis during the **preparation** of critical productions **or at the end** of it as a RoEx. Or alternatively, **to include it in the tender what and when** is going to be done/analysed.
- Feedback/Technical Questions asked **after** the end of the PRR:
 - Unnecessary Delays & additional workload to already loaded teams

-> Proposed Corrective Action: Clarify the workflow: Feedback is expected **before** the end of the PRR

Quality issues detected:

- Feedback on BOM review received/asked **after** the BOM has been closed with the company
 - If it is critical information, it arrives too late
 - Additional workload to already loaded teams

-> Proposed Corrective Action: Clarify the workflow: Feedback can be sent **before** the BOM has been agreed with the company
- Receiving Company Technical documentation **before** KM3NeT Technical specs have been sent to the company
 - Misunderstanding and additional workload in already loaded teams to clarify the situation

-> Proposed Corrective Action: **Modify the workflow** to avoid this happening again (See next slides about BOM management)
- Some LQs seem to **not have formal formation** on Quality
 - Misunderstandings and confusion

-> Proposed Corrective Action: **Quality formation by an external company for LQs** (As soon as I joined the ANTARES quality group, I was given a training by an external company on Quality - [ISO 13485 seems a solid option for KM3NeT](#))
- Duplicated and contradictory technical documentation: (i.e -> KM3NeT_ELEC_WD_2021_010-Electronics_Packaging, TC approved versus KM3NeT_QA_2023_Transport_Quality_Plan - QAM approved-, Note: The latter seems a copy of the first, with some contradictory modifications)
 - Not clear packaging instructions

-> Proposed Corrective Action: **Merge**. To define a clear list of documents to apply and track and version using gitlab, at least for **technical documentation**.
- Critical documentation (BOM, schematics, etc) **not handled with a proper tracking with a professional versioning tool**
 - Manual versioning and tracking is not reliable / Error prone

-> Proposed Corrective Action: Use **Gitlab for a proper tracking and versioning**
- Lately DCRs are opened on minor problems / NCRs opened to designs, which are non compliant by definition as the specs are not closed - maybe PDR: Proto Deviation Report, but this is not formally foreseen in KM3NeT. Also this has **never used in +10 years**
 - Critical DCRs loss priority as they are mixed with non critical DCR and design?? NCRs
 - Additional workload to already loaded teams

-> Proposed Corrective Action: Use **Git issues** to track proto issues and **assign a dedicated LQS to the Electronics group**:

 - A.- Formal knowledge in Quality (ISO 13485) - can be trained
 - B.- Quality tools for versioning and tracking: Gitlab as it is the one used in the collaboration
 - C.- Good programming skills (Python, C, scripts)
 - D.- Knowledge of the experiment and the scientific case -> **our client**
 - E.- Knowledge of the idiosyncrasy of electronics group

Improvements in the workflow:

1.- Use **Gitlab issues** to track feedback from prototypes and proto series (Note: SVN did not allowed this facility)

CLBv6. Power regulator for clocks

#6 · created 4 days ago by David Calvo

3.4.3.2/V6-2/ PROC_2024_36_CLBv6_IFIC Proto PreProduction PRR Rompal

CLBv6. Move capacitors C349 and C350

#5 · created 4 days ago by David Calvo

3.4.3.2/V6-1 PRR

CLBv6 cover vias for IPC class 3

#4 · created 4 days ago by David Calvo

3.4.3.2/V6-2/ PRR

SBPv1 Bending Qualification

#3 · created 4 days ago by Diego Real

3.2.2.3.13 PRR

HALT TESTS SBPv1

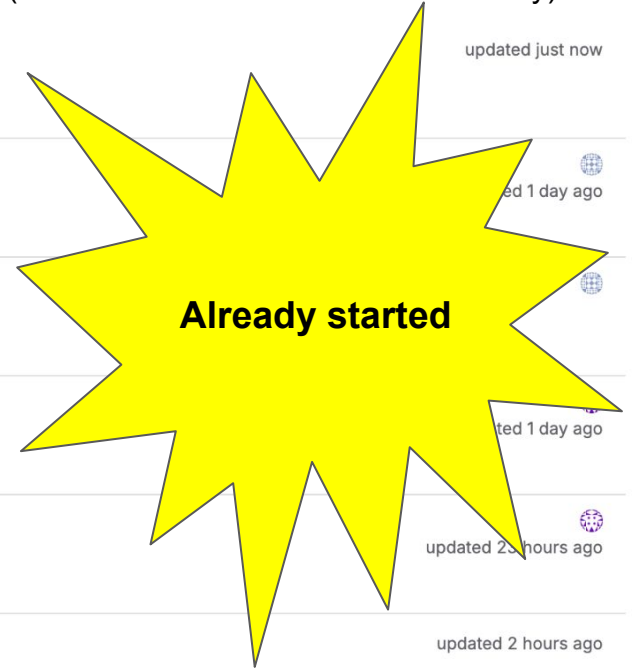
#2 · created 4 days ago by Diego Real

3.2.2.3.13 HALT PRR

SCB (3.2.2.3.12/V02-R1): Ethernet problem

#1 · created 1 week ago by Diego Real

3.2.2.3.12/V02-R1 KM3NeT_PROC_2022_073-UGR_WRSCB Mass Production Rompal

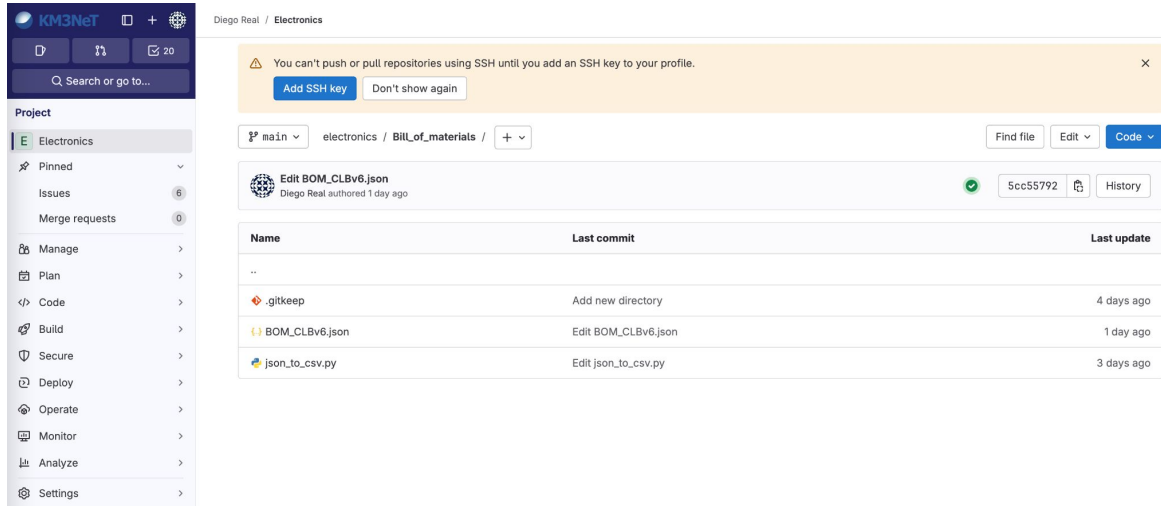


The **git issues** will be evaluated and closed during the **PRR** process. It will include also the reports for qualifying the boards, which will be part of the PRR documentation. **(The attached LQS could help with this)**

Improvements in the workflow:

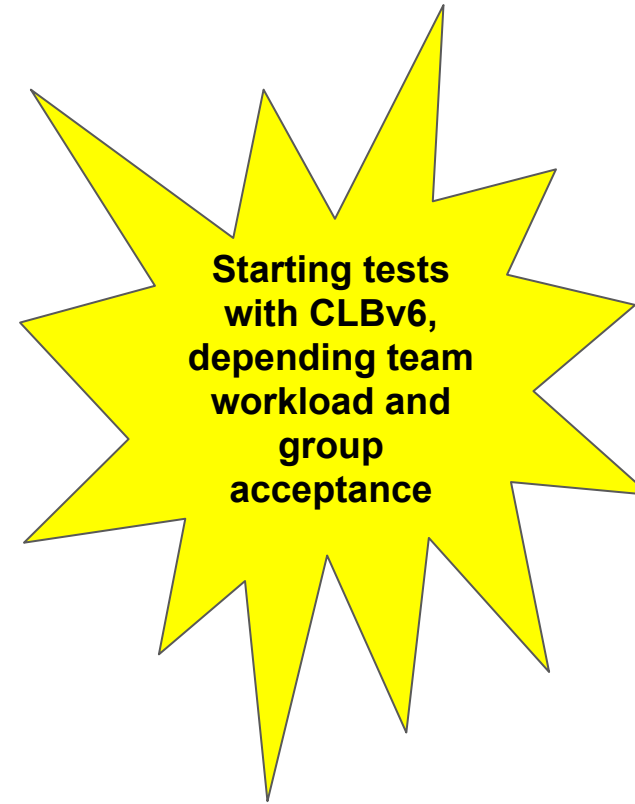
2.- Use **Gitlab** to track the production documentation: **Bill of Materials**

- Stored as a JSON File in gitlab
- Integrated in Gitlab CI pipeline a python program that automatically generates an excel file (artifact output)



The screenshot shows the GitLab web interface for a repository named 'Diego Real / Electronics'. A notification banner at the top states: 'You can't push or pull repositories using SSH until you add an SSH key to your profile.' Below this, the breadcrumb path is 'main / electronics / Bill_of_materials'. The main content area shows a commit titled 'Edit BOM_CLBv6.json' by 'Diego Real' from 1 day ago. Below the commit is a table of commit history:

Name	Last commit	Last update
..		
.gitkeep	Add new directory	4 days ago
BOM_CLBv6.json	Edit BOM_CLBv6.json	1 day ago
json_to_csv.py	Edit json_to_csv.py	3 days ago



(The attached LQS could help with this)

Improvements in the workflow:

2.- Use **Gitlab** to track the production documentation: **Bill of Materials**

```
{
  "Metadata": {
    "Name": "Bill of Materials",
    "Board": "CLBv6",
    "Date": "2025-02-15",
    "Author": "Diego Real",
    "Instructions": "Fill the Company Fields and
send back for approval - Please mark in a
different color those lines whose company
partnumber is different from KM3NeT proposal"
  }
}
```



The metadata are expanded in the excel file **automatically** with the **tag and the release (tracked and versioned)**. It includes also the **commit SHA** of the json file. The metadata include the instructions: the company must fill the fields required and send them back for approval. Only this will be reviewed. **(The attached LQS could help with this)**

Improvements in the workflow:

2.- Use **Gitlab** to track the production documentation: **Bill of Materials**

(The attached LQS could help with this)

```
"BOM": [
{
  "ItemNo": 1,
  "Qty": 21,
  "RefDes": "C11;C12;C13;C14;C16;C17;C18;C19;C20;C21;C23;C24;C25;C26;C27;C28;C29;C30;C31;C42;C52",
  "Manufacturer": "",
  "MfrPartNo": "C1095XSROJ475M",
  "Description": "Capacitor, 4.7µF",
  "Package": "0402",
  "Component": "Capacitor",
  "Value": 4.7,
  "Units": "µF",
  "Tolerance": 20,
  "Operation Value": 3,
  "Voltage": 35,
  "Rating": "",
  "Current": "",
  "Power": "",
  "TempRange": "",
  "RoHS": "",
  "Lifecycle": "",
  "Supplier": "",
  "SupplierPartNo": "",
  "UnitPrice": "",
  "TotalPrice": "",
  "Datasheet": "",
  "Comments": "",
  "CompanyManufacturer": "",
  "CompanyMfrPartNo": "",
  "CompanyDescription": "",
  "CompanyPackage": "",
  "CompanyComponent": "Capacitor",
  "CompanyValue": "",
  "CompanyUnits": "",
  "CompanyTolerance": "",
  "CompanyVoltage": "",
  "CompanyRating": "",
  "CompanyCurrent": "",
  "CompanyPower": "",
  "CompanyTempRange": "",
  "CompanyRoHS": "",
  "CompanyLifecycle": "",
  "CompanySupplier": "",
  "CompanySupplierPartNo": "",
  "CompanyUnitPrice": "",
  "CompanyTotalPrice": "",
  "CompanyDatasheet": "",
  "CompanyComments": "",
  "Provider": "Company"
},
{

```



The JSON files includes an extensive list of fields. The final list need still to be defined (the excel file can be trimmed at convenience with the python program)

There is an exact copy of most of the fields with the prefix “Company”. Those field will be filled by the company. They can be use to provide feedback.

The rest of fields will be write-protected in the excel file, including those of the metadata

Improvements in the workflow:

2.- Use **Gitlab** to track the production documentation: **Bill of Materials**

(The attached LQS could help with this)



Generation Timestamp	Git Commit Hash	Git Commit Date	Git Tagged Version	Git Release	Name	Board	Date	Author	Instructions
2025-02-19T18:54:44.711881	5cc5579	2025-02-19 18:54:24 +0000	No Tag	No Release	Bill of Materials	CLBv6	2025-02-15	Diego Real	Fill the Company Fields and send back for approval - Please mark in a different color those lines whose company partnumber is different from KM3NeT proposal

JSON SOURCE FILE
Tracked in Gitlab

Tag of the repository

In this case is not given, still the file is referenced by the commit hash

Only the release create an excel file, which is uniquely identified - **An official release**

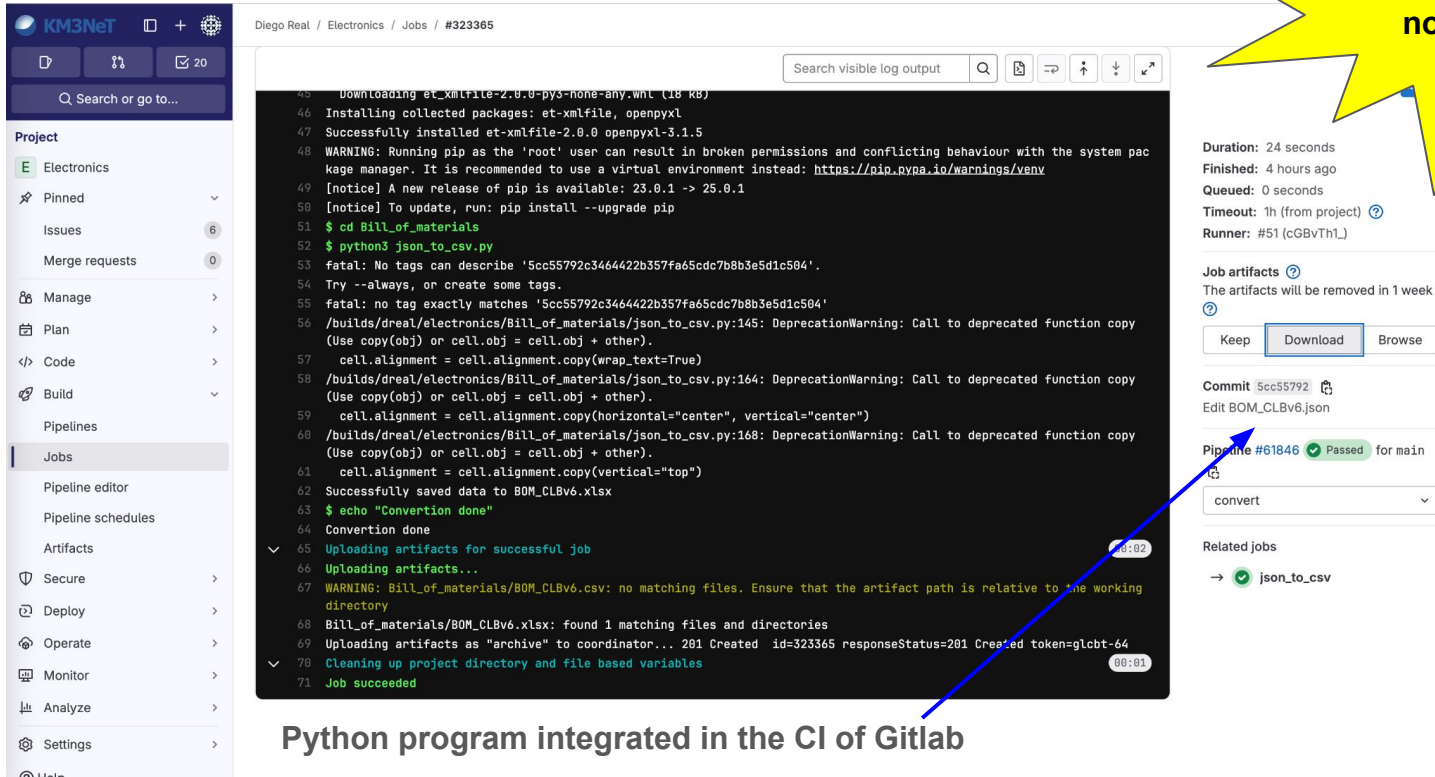
The fields are automatically generated and protected. This info cannot be modified. Human errors are avoided.

Clear instructions. Facilitate review. Format guaranties that specs are read before sending the BOM back for review.

To be used also during internal reviews

Improvements in the workflow:

2.- Use Gitlab to track the production documentation: Bill of Materials



The screenshot shows a GitLab CI/CD pipeline log for a job named 'Jobs'. The log output is as follows:

```
45 Downloading et_xmlfile-2.0.0-pys-none-any.whl (18 KB)
46 Installing collected packages: et-xmlfile, openpyxl
47 Successfully installed et-xmlfile-2.0.0 openpyxl-3.1.5
48 WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
49 [notice] A new release of pip is available: 23.0.1 -> 25.0.1
50 [notice] To update, run: pip install --upgrade pip
51 $ cd Bill_of_materials
52 $ python3 json_to_csv.py
53 fatal: No tags can describe '5cc55792c3464422b357fa65cdc7b8b3e5d1c504'.
54 Try --always, or create some tags.
55 fatal: no tag exactly matches '5cc55792c3464422b357fa65cdc7b8b3e5d1c504'
56 /builds/dreal/electronics/Bill_of_materials/json_to_csv.py:145: DeprecationWarning: Call to deprecated function copy (Use copy(obj) or cell.obj = cell.obj + other).
57     cell.alignment = cell.alignment.copy(wrap_text=True)
58 /builds/dreal/electronics/Bill_of_materials/json_to_csv.py:164: DeprecationWarning: Call to deprecated function copy (Use copy(obj) or cell.obj = cell.obj + other).
59     cell.alignment = cell.alignment.copy(horizontal="center", vertical="center")
60 /builds/dreal/electronics/Bill_of_materials/json_to_csv.py:168: DeprecationWarning: Call to deprecated function copy (Use copy(obj) or cell.obj = cell.obj + other).
61     cell.alignment = cell.alignment.copy(vertical="top")
62 Successfully saved data to BOM_CLBv6.xlsx
63 $ echo "Conversion done"
64 Conversion done
65 Uploading artifacts for successful job
66 Uploading artifacts...
67 WARNING: Bill_of_materials/BOM_CLBv6.csv: no matching files. Ensure that the artifact path is relative to the working directory
68 Bill_of_materials/BOM_CLBv6.xlsx: found 1 matching files and directories
69 Uploading artifacts as "archive" to coordinator... 201 Created id=323365 responseStatus=201 Created token=g1c1t-64
70 Cleaning up project directory and file based variables
71 Job succeeded
```

The right sidebar of the screenshot shows job details: Duration: 24 seconds, Finished: 4 hours ago, Queued: 0 seconds, Timeout: 1h (from project), Runner: #51 (cGBvTh1_). Below this, there are 'Job artifacts' with 'Download' and 'Browse' buttons. The 'Commit' is 5cc55792 and the artifact is BOM_CLBv6.json. The pipeline #61846 is shown as 'Passed' for the main branch, with a dropdown menu set to 'convert'. A blue arrow points from the 'Passed' status to the 'convert' dropdown.

Python program integrated in the CI of Gitlab

(The attached LQS could help with this)

Improvements in the workflow: (The attached LQS can help with this)

3.- Use **Gitlab** to track the production documentation: **Testbenches**

Already in use in CLV5 testbench: <https://git.km3net.de/vkulikovskiy/clbtest>

Vladimir Kulikovskiy / clbtest

You can't push or pull repositories using SSH until you add an SSH key to your profile.

[Add SSH key](#) [Don't show again](#)

clbtest

main clbtest / +

Find file Edit Code

curl POST fix
Francesco Filippini authored 2 weeks ago

ebe9b9bb History

Name	Last commit	Last update
README.md	added small procedure	2 weeks ago
automatic_dhcp.sh	fixing dhcp server	2 months ago
clbtest.sh	fixed json, adjusted values range	2 weeks ago
clbtestDIA.sh	Integrated automatic upload of json rep...	1 month ago
createuser.sh	curl POST fix	2 weeks ago
install.sh	secondary osc test, more variables add...	2 months ago
xilinxprogram.tcl	xilinx batch fixed, wait wr fixed	1 month ago

README.md

clbtest

Based on mon test in https://git.km3net.de/amanfreda/docker_for_arca_bm_testing.

Project information

- 55 Commits
- 1 Branch
- 0 Tags
- README
- Created on December 04, 2024

Manual tracking and versioning is not reliable!

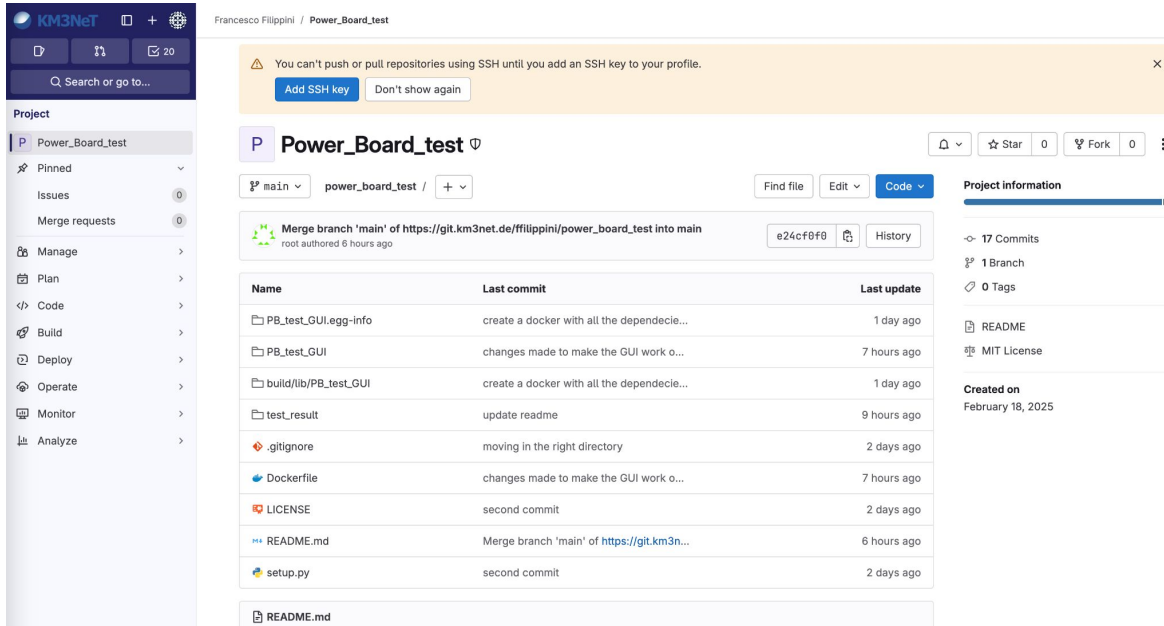
Already started

The gitlab project will be used to deploy the testbench in the companies and in KM3NeT Labs. It is also part of the documentation of the CLV5. **Proper tracking and versioning.** Instructions still to be added.

Improvements in the workflow: (The attached LQS can help with this)

4.- Use **Gitlab** to track the production documentation: **Testbenches**

Already in use in PB testbench: https://git.km3net.de/ffilippini/power_board_test



The screenshot shows the GitLab interface for the repository 'Power_Board_test' by Francesco Filippini. The interface includes a navigation sidebar on the left with options like 'Project', 'Pinned', 'Issues', 'Merge requests', 'Manage', 'Plan', 'Code', 'Build', 'Deploy', 'Operate', 'Monitor', and 'Analyze'. The main content area displays a message about adding an SSH key, a merge button for the 'main' branch, and a commit history table. The table lists files and their last commit details.

Name	Last commit	Last update
PB_test_GUI.egg-info	create a docker with all the dependecie...	1 day ago
PB_test_GUI	changes made to make the GUI work o...	7 hours ago
build/lib/PB_test_GUI	create a docker with all the dependecie...	1 day ago
test_result	update readme	9 hours ago
.gitignore	moving in the right directory	2 days ago
Dockerfile	changes made to make the GUI work o...	7 hours ago
LICENSE	second commit	2 days ago
README.md	Merge branch 'main' of https://git.km3n...	6 hours ago
setup.py	second commit	2 days ago
README.md		



The gitlab project will be used to deploy the testbench in the companies and in KM3NeT Labs. It is also part of the documentation of the PB. **Proper tracking and versioning.** Instructions still to be added.

Improvements in the workflow:

4.- Use **Gitlab** to track the production documentation: **Gerbers / ODB++**

(The attached LQS can help with this)



Use gitlab projects to maintain and deploy manufacturing files with **proper tracking and versioning**

DCRs:

DCR ref.	Status	Board-related Variants	Comments
2022_561-DCR_Replacement_Molex_connector_by_Samtec_connector_in_the_CLB	To be closed as soon as the DOM tests are positive and the board is ready for work production (the DCR will be updated as soon as the EC has access to the DCR, work in progress)	CLB V4 and V5	v5 is the board used for WWRS, with Glenair, with new connectors for the octopuses
2023_626-DCR_Replacement_Molex_connector_by_Samtec_connector_in_the_Octopus	To be closed as soon as the DOM tests are positive and the board is ready for mass production (the DCR will be updated as soon as the EC has access to the DCR, work in progress)	Octopus from V4 to V5	v5 is the board with new Samtec connectors
2023_627-DCR_Replacement_Glenair_transceiver_by_a_SFP_in_CLBv5	To be closed as soon as the DOM tests are positive and the board is ready for mass production (the DCR will be updated as soon as the EC has access to the DCR, work in progress)	CLB from V5 to V6	v6 is the board with SFP and with new connectors for the octopuses - this can be used in WWRS as well as in broadcast. Gitlab issues already in work to track feedback
2024_018-DCR_Octopus_Large_and_Small_V5_-_Gerbers_changes_required_by_TECNINT	Not applicable, close DCR		
2024_530-DCR_FB50_footprint_on_PBV4_v4	Not applicable, close DCR		
2024_773-DCR_New_Leiden_cable_version	Assign it to Dorothea (it is either calibration or DOM production)	Octopus V5	
2025_095-DCR_Layout_Changes_Between_CLB_V4_and_CLBv5_v3	Not applicable. Close DCR		
Missing DCR ?	I think it is already open. It is a parallel DCR to 2023_627-DCR_Replacement_Glenair_transceiver_by_a_SFP_in_CLBv5 , if not, it should be opened	GBP to SBP	

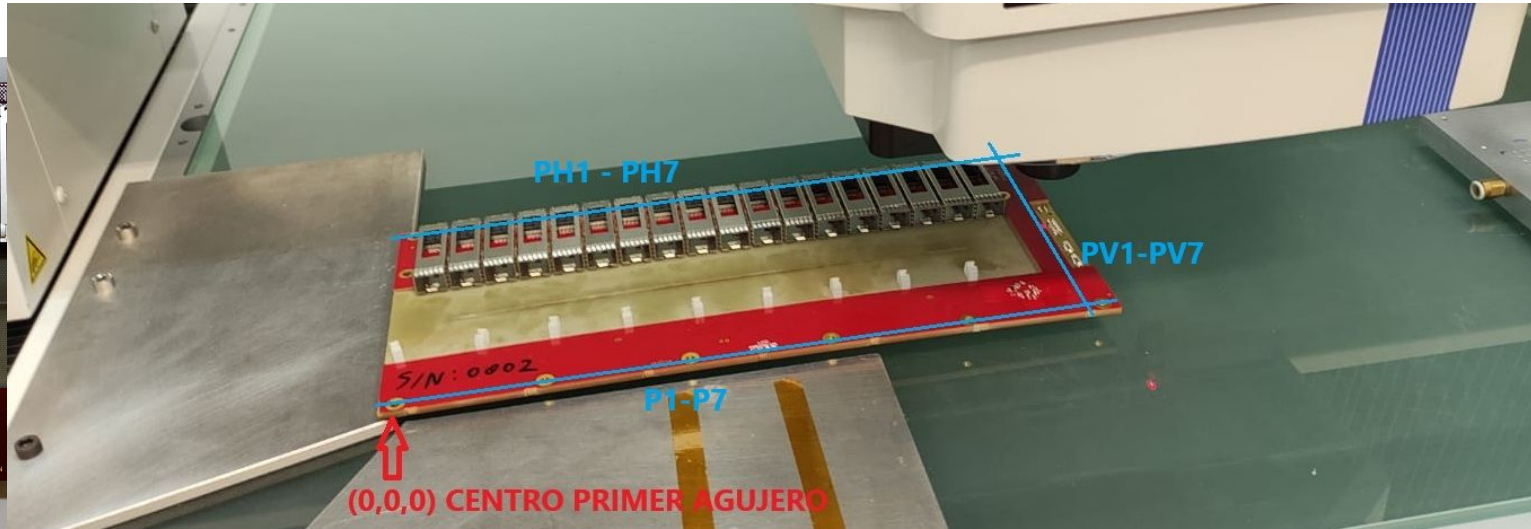
Info for the DCR update of (included in the PRR documentation):

<https://docs.google.com/document/d/1rLZ-5HhqsMkUn4ryRBLxEFkrqLbp33YGz2D3z7zqu04/edit?usp=sharing>

Request to waive the registering and labelling of some prototypes productions

This is not a general request for all the prototypes, just for some particular cases at very early stages of design

Two 3.2.2.3.13/ (SBPv1) arrive at IFIC without labelling: out of ten protos produced and **properly marked** with indelible pen



Request to waive the registering and labelling of some prototypes productions

When asked, the design responsible kindly requested for waiving the DB registering and labelling:

“I am still not sure if this level of prototype board needs **all the hassle to get it into the database** to be honest, **we never did it.**”

The electronics coordinator agrees: there are several reasons for waiving this proto production from the hassle of going to the database:

- 1.- They are properly marked and are completely distinguishable from previous versions
- 2.- Not labelling them prevents mistakes and introducing them in the production chain
- 3.- We decrease workload in already loaded teams
- 4.- The protos are in a very early stage, and the designer and rest of the electronics team involved controls them. **See git issues below:**

SBPv1 Bending Qualification

#3 · created 3 days ago by Diego Real

3.2.2.3.13 PRR



updated 1 day ago

HALT TESTS SBPv1

#2 · created 3 days ago by Diego Real

3.2.2.3.13 HALT PRR



updated 1 day ago

THANKS!