Comments from the Virgo Collaboration on the VirgoLab proposal - version 5

As shared with the collaboration on November 27th (and available in the Virgo TDS VIR-1025A-24, https://tds.virgo-gw.eu/ql/?c=21088)

In this document, indications are given to where these comments have been treated in the document
"Comments on VirgoLab organization proposal-5 structure":
https://docs.google.com/document/d/1Wlx6fSYjc2hREccGbHVkXgC-D972o4545WxwcBmAMsE/edit?tab=t.0

Comments on text from a Virgo evolution meeting (November 28th)

- Page 1: *VirgoLab is hosted by EGO and embedded into EGOs organizational structure* – needs clarification
- Page 4: *Like External Labs, EGO can participate in other projects (e.g. ET activities), besides VirgoLab, with contribution from the EGO departments.* – Redundant, does not belong here
- Page 5: *Each member of a VirgoLab TT will report to their Team Leader on their activities and for their technical development and skill training.* – "Reporting" needs clarification. In general, the respective roles of Team Leaders, Heads of Projects are not clear.
- Page 6: *Upgrades coordinator.* – Role needs clarification in case more concurrent upgrades are ongoing. Maybe change the name (Detector coordinator?). This role should be above the individual upgrade coordinators?
- Page 6: *The members of the EB are on site on a regular basis, typically a few days a week and more if the situation requires it.* – Local support and logistics must be ensured.

Commenté [1]: comment 1.2.a

Commenté [2]: comment 2.2.a

Commenté [3]: comment 2.2.c

Commenté [4]: comment 3.1.2.a

Commenté [5]: comments 3.1.2.b

Comment by Agata Trovato (AI translation)

I have read the document and have a few comments. The simplest ones are purely "typos": I noticed a typo (IWGN on p. 7) and the whole structure of the bulleted lists in the appendix needs to be checked because punctuation marks are missing.

Going more on the content, on the first page I read "the transition towards IGWN is laid out together with open questions summarized at the end of the document" but at the end of the document I could not find any details about the transition to IGWN and open questions, was this something that was intended to be included and then there was no time to do it? Or does Open questions mean the actual content of the appendix? I think this sentence needs to be clarified.

In general, it would be helpful for the transition from Virgo to VirgoLab+IGWN to be discussed from the beginning already in this document but if I understand correctly there are still too many uncertainties about IGWN so the IGWN part will come later... but in the meantime, how will the groups that are currently part of Virgo but would not be part of VirgoLab be configured? If there are already ideas about this it would not hurt to include them in this document or at least mention this possible limbo.

Commenté [6]: comment 6.b

Comment by G. Losurdo

The document VIR-1025A-24 outlines an organizational model that is internally coherent.
However, the feasibility of this model depends on the validity of its underlying assumptions. The primary assumption is the existence of a robust matrix-based project management approach. Such approaches typically rely on extensive control over resources, including personnel. This control is usually achieved either by the organization (e.g., VirgoLab) directly funding the salaries of dedicated personnel or by influencing their career progression. For VirgoLab, this level of control is unattainable without a substantial increase in EGO staffing and a corresponding budget expansion.

Commenté [7]: comment 1.2.c

The document proposes a Memorandum of Agreement (MoA) between EGO and external laboratories as a mechanism for resource control. However, past experience suggests this is unlikely to succeed. For instance, the MoA for AdV+ was never finalized, primarily because laboratory directors could not assume direct responsibility for hardware commitments that ultimately depend on autonomous research groups. These groups retain the freedom to determine their scientific priorities. As long as the main competences on the detector, the ability to pursue R&D and realization of hardware remain concentrated in the laboratories, implementing a robust matrix approach appears challenging.

Commenté [8]: comment 1.3.c

Furthermore, the organizational structure relies on an EGO Director with significant decision-making authority and accountability. Effectively fulfilling such a role necessitates adequate control over resources—a condition that, under the current circumstances, appears hard to attain.

Commenté [9]: comment 4.1.a

Comment by Michal Was

I have a comment about the VirgLob organization document section 2.1. It changes the scope of the "detector operations" and "detector commissioning" compared to what is the current definition.

The detector maintenance and on-call response has been moved from commissioning to operation. This can make sense, but it does make the scope of the "detector operation" larger and increases the load of unexciting issues. I think that can be a good change, but may make finding candidates to manage detector operation harder.

Detector commissioning always discovers flaws in design or implementation that require retro-fits or minor upgrades. It would be good to mention minor upgrades as part of the detector commissioning project.

Commenté [10]: comment 2.1.a

The document is missing a figure that shows a matrix to visualize the matrix structure that is being described in words.

Commenté [11]: comment 1.2.c

Also it is unclear what the different technical teams are. Is it the list that is shown, or is a different list that needs to be created. Without having a better idea of what the technical teams actually are it is hard to understand what is really the proposed organization.

Commenté [12]: comment 2.2.a

Comment by Eric Chassande-Mottin

I have a couple of comments/questions about the interface and relationships between the Technical teams and the Technical Committee with the projects and the various laboratories.

1. Relation between the Tech Team-management and the external labs
The team leader will have to manage a number of team members from different home institutions. It is not clear from the document what authority the team leader has on the team members.
The document says : the team leader "coordinates the functional expertise and resources of the team". How is this done in practice ? How do the home institutions interface in this coordination process (which may lead to changes of ressource allocation, redirection of the team member missions)?
I think this interface should appear in Fig 1.

Commenté [13]: comment 2.2.b

2. Relation between the Tech Team Committee and the VirgoLab Projects
In the document, the responsabilities of the tech comm is defined as :

> 1/ Technical Advice: Review and recommend on technical proposals, system performance, and upgrade plans.
>
> 2/ Risk Management: Assess and advise on technical risks and mitigation strategies.
>
> 3/ Subsystem Coordination: Ensure effective collaboration between technical teams and VirgoLab Projects.

The TC ensures that technical challenges are addressed collaboratively and that resources are deployed effectively to meet project goals.
Based on this description, the tech committee appears to be an advisory and supervisory role.

Commenté [14]: comment 3.2.1

(For 1/, this seems to duplicate the internal and external reviews external reviews that are led by the EB. This needs to be clarified.)

Commenté [15]: comment 3.2.1

However, 3.2.3 Decision making -- the TC is part of a decision process.

The TC also oversees the coordination among the VirgoLab TTs. In case no consensus can be reached, the TC Chair has the final authority.

It is not clear to me how this coordination is performed in practice.
Has the TC precedence on the VirgoLab project managers on the decision regarding the human ressource allocation?

I think this should be clarified, and ideally materialized on Fig 1.

Commenté [16]: comment 3.2.4.a

Comment by Paola Leaci

It is clear that the authors of the VirgoLab document are aware of the LIGO Laboratory charter, from which they likely drew inspiration, particularly in adopting the matrix organization structure. However, it is unfortunate that the VirgoLab document does not mention data analysis, an area that is explicitly covered in the LIGO Laboratory charter. Specifically, the LIGO Laboratory charter outlines among its core missions and responsibilities: "Process and analyze the science data and publish the results with the participation of the LIGO Scientific Collaboration.".

The absence of any reference to data analysis in the VirgoLab document is striking, especially considering its centrality to the success of a project like VirgoLab, which is focused on gravitational-wave detection and analysis. This oversight could create several challenges for data analysts. First, in the VirgoLab governance structure the decision-making process is highly centralized within the Executive Board, which could reduce the responsiveness and flexibility needed for data analysis activities. Additionally, there is no dedicated representation for data analysts within the governance structure, meaning their specific needs and concerns might not be adequately addressed.

Commenté [17]: comment 1.1.b

The resource allocation process, which is largely handled by the Executive Board, may also slow down or complicate access to essential tools and computational resources critical for data analysis. Furthermore, the publication policy does not appear to fully recognize the contributions of data analysts. Lastly, the overall structure and procedural rigidity could limit the flexibility and efficiency of the analysis teams, ultimately affecting the productivity of critical data analysis work.

Commenté [18]: comment 5.1.a

Furthermore, I find it rather peculiar to allocate only four days (including the weekend) for the Virgo Collaboration members to comment on such a critical document.

At this point, as a member of the Virgo data-analysis team, I place my trust in IGWN to address these concerns and ensure that the necessary adjustments are made to better support the data-analysis community within VirgoLab.

Comment by Cristiano Palomba

According to the current document VirgoLab will not deal with data analysis and basically turns Virgo detector in a "data producer machine" which will be analyzed by someone else, e.g. IGWIN. In particular, it looks striking that even online data analysis is not even mentioned.

Commenté [19]: comment 1.1.b

This poses two issues: attractiveness of VirgoLab toward experimentalists (they will be involved only in detector-related papers, GW science will be done by others, with implications also in the career of young people);
it looks like groups not working on the detector will not have a chance to join the VirgoLab, unless they can contribute e.g. to detector characterization/noise hunting activities (not clear in the document).

Commenté [20]: comment 1.2.b

Commenté [21]: comment 1.2.b

Comment by Pia Astone

The above comments by Leaci and Palomba are also shared by other colleagues, within the Rome Virgo group. I personally share the same concerns. I add here another comment received, and shared, on the same topic: (Marco Serra and other): For a group that can't contribute to the construction of a part of the detector but wants to contribute to the virgoLab operation of the detector with people it's not clear where they should be placed, such as to analyze data from the detector control channels or data obtained from any tests to improve the behavior of the detector. These people could also work remotely but could they still be included in the virgoLab?

Commenté [22]: comment 1.2.b

Comment by Frédérique Marion

In the presentation from the implementation committee given during the Virgo week, the purpose of the VirgoLab was described as producing “data […] with sensitivities and timelines comparable to the data of the LIGO gravitational wave observatories”. I commented that unless there was a massive investment of resources to make that goal even a remote possibility, this was setting the VirgoLab up to fail.

In VIR-1025A-24, this has been “changed” into “data […] with sensitivities and timelines comparable to the data of world leading gravitational wave observatories”.

Commenté [23]: comment 1.1.a

Besides the mockery of changing the language without changing anything of substance, I can only conclude that there is indeed a deliberate intent to set the VirgoLab up for failure. This is beyond alarming.

Comment by Fulvio Ricci

Dear Colleagues,

The creation of VirgoLab is an important step in securing a future for our VIRGO detector, and I fully appreciate its significance and importance.

The document presented outlines a significant paradigm shift compared to what has guided the development of the detector in the past.

The underlying idea is to give full responsibility and control to VirgoLab for the production of science. Since the inception of the VIRGO project, scientific responsibility has rested on the shoulders of the VIRGO collaboration, with EGO supporting its activities. This division of tasks, shared over the years by the various members of the EGO Council who succeeded one another, is evident when looking at the profiles on which the choice of the EGO director (made by the Council) and of the spokespersons (appointed by the collaboration) has always been based.

I clearly remember the first EGO director, Professor Menzinger: he was someone I knew even before his role as director of EGO, as a leading expert in condensed matter physics and neutron spectroscopy. He had no connection to the field of gravitational waves, nor did any of those who subsequently took on that role. Even Stavros, despite being an outstanding physicist, had no direct experience in the development of gravitational wave detectors.

Over time, the sense of full scientific responsibility within the collaboration has diluted. It would take too long to discuss all the causes; however, on a superficial analysis, I believe two main factors were driving this shift:

A greater formal interference from the Council in purely scientific decisions, such as the appointment of project coordinators (AdVirgo coordinators), even though these were made based on proposals from the collaboration. On one hand, this helped establish a more robust project structure, but it also contributed to diminishing the sense of responsibility that should have been carried by the groups through the VSC and its spokesperson. The expansion of the collaboration, which led to a significant shift in scientific focus, moving more towards the use of the detector network's outputs rather than the physics of the detector itself. This reform is therefore necessary. I believe it was conceived to solve this Gordian knot of responsibility: it assigns that responsibility to VirgoLab, which will take charge of the development of the VIRGO detector. The collaboration, along with its spokesperson, will definitively step out of the scene. However, this change must occur with clarity and should not create further processes of dilution: it must be clear that the figure of the old EGO director will no longer exist also. The "new" EGO director is the director of VirgoLab.

Therefore, I believe it is essential that this deep change in the organisation and management of Virgo is synchronised with the transition from the "old" to the "new" EGO director, meaning a clear redefinition of the profile required for this role, following the newly defined duties and responsibilities, as outlined in the proposal.

If the VirgoLab change process is initiated without fully clarifying this point, there is a risk of creating a project lacking its main component: the clear definition of who, ultimately, holds responsibility for the detector. To put it bluntly, it must be clear from the very beginning whose head will be glorified in case of success or cut off in case of failure.

Commenté [24]: comment 4.1.a

Comment by Francesco Pannarale

My reading of section 1.1 Purpose is that the VirgoLab has two deliverables: the detector (building and running it) and the strain data. Anything else is outside the scope of the VirgoLab. This leaves

the scientific purposes and motivations completely unspecified. Presumably these will live elsewhere (an extended version of the IGWN charter, or something similar), but this elsewhere will need to be referenced in detail here as well. On the other hand, the LIGO Laboratory Charter (2024 – 2028) talks about the LIGO Lab and the LSC in parallel, so it opens spelling out – in this order – scientific objectives, technical objectives, and broader societal impacts. Perhaps the scope of that document will need to be updated and reduced as well once there is a more elaborate IGWN charter, but right now the imbalance does expose the VirgoLab creation to risks.

This document, or others it points to, must somehow clarify where other activities live. It is not only a matter of the complete absence of the Observational Science Division activities. The involvement in the current Operations and Computing Divisions is also drastically limited here. Right now, the VirgoLab is disjoint from the production and diffusion of low-latency triggers and related data products, as well as from any processing and storage of the very data it produces. All this requires an analog of "The LIGO Scientific Collaboration (LSC) carries out the LIGO instrumental and analysis research and development program, data analysis, and the publication of scientific results [...]" somewhere.

Despite the lack of references/text on broader scientific purposes and activities, there is a section, 5.4, on "Publication policy and process." Taking the context at face value, I fail to see what else beyond detector related publications this can entail to, so the statement "Any author of VirgoLab should be automatically entitled to sign the publications related to the data produced by VirgoLab for the Virgo or LVK*" catches me by surprise. [Bonus track: "LVK" is not defined :-)]

I think a lot of what is said in this issue, not just in this comment, is solvable with a well organised container for the scientific purposes of all this effort. Do we know if the LIGO Lab Charter will be reduced, as a common, carefully written, IGWN Charter develops?

My feeling is that this is perhaps compressed and lost in the sentences "VirgoLab operates in coherence with the other observatories of the LIGO-Virgo-KAGRA* scientific collaboration" ["scientific" should be removed] and "Any author of VirgoLab should be automatically entitled to sign the publications related to the data produced by VirgoLab for the Virgo or LVK*". I can guess that the intention is probably for the VirgoLab to be one of the cornerstones of the LVK (then IGWN), but this needs to be said directly, clearly, and strongly. Operating with other observatories can imply, again, "only" providing strain data to the world, without an intent to support and be a core part of the LVK/IGWN. The LVK/IGWN scientific program needs to be a major part of the L/V/K Labs charters.

Commenté [25]: comment 1.1.b

Finally, I think that "to be provided [...] with sensitivities and timelines comparable to the data" does not make much sense: the data does not have timelines or sensitivities. Also, the usage of "world leading gravitational wave observatories" carries the connotation that Virgo is not one of them.

Commenté [26]: comment 1.1.a

Comments by Martina De Laurentis

GENERAL COMMENT ON THE DOCUMENT

The document is a proposal for the VIrgo Collaboration 'reorganization'. **The document does not provide references and a case study to support the proposal in case of Virgo, including the evaluation of risk in the assuming similar structure and, a feasibility study that includes a realistic timeline of implementation and the funding needed.** The only arguments to support it are reported in the Appendix in what seems the rough results - reported with 'own words' - of a Google search to compare advantages and disadvantages of the several types of Organization structure (try to verify!).

Commenté [27]: comment 6.a

Nevertheless, even just stopping at the same level presented in the document, as yet observed by Giovanni and Frederique, the organization proposed (Strong Matrix) relies on the main advantage to have a clear chain of command (decision chain) with full control on resources and personnel. In the Appendix on 'Strong Matrix': *'The project manager is ultimately responsible for the project's completion, has final say on major project decisions and controls most aspects of the project, including the assignment of functional personnel, what they do and when'*

As clearly pointed out by Giovanni, it seems based on a very weak assumption unless he has a huge investment to have permanent personnel dependent on him in the TTs, that is by transforming the VIrgoLAB in something similar to the LIGO lab.

How is it thought to implement this fundamental step? It is not a matter of details that can be settled in after! This a crucial point because an organization without workers cannot work, even with the best ideal structure. Without this, it seems destined to fail.

What are the comparable cases of organizations that can fit with these situations that have been studied and that can give credits to this proposal?

Commenté [28]: comment 1.2.c

Let imagine that you are a management professor that has to judge a student's product to pass an examination, which vote will you assign? Would you consider it sufficient? Are we joking ourselves?

If we will present the project for the stable cavities in a similar way, will the Council seriously consider our project or will it judge us as not serious and not credible?

Moreover, the impact on the finalization of the Stable Cavities project has been considered? (again, missed the timeline and the risk)

Commenté [29]: comment 6.a

Where is our scientific and professional dignity?

I understand that the committee did the best according with their mandate, and I thanks they for this and because their shared it with us, but I personally find not serious the Council approach.

Text from the appendix:`

Problems With Matrix Organizations

'Distrust in organizational forms which are not based on „unity of command“ Apprehensions of functional managers over the apparent superiority of the project goals over those of the functional entity Senior management shortcomings in terms of clearly delineating in writing the formal and reciprocal roles of all the key managers involved in the project Inadequate stakeholder management

The advantages of (strong) Matrix organization largely overcome the listed problems as long as senior management is well aware of them and they are properly dealt with.'

It seems an excellent synthesis of some of *what went wrong* **in AdV+ for O4.** And what about if the senior management is not well aware?

Moreover researching the major disadvantages of the matrix organization you can find also:

- Overlapping Teams = Lack of Clarity Around Roles and Responsibilities
- Slower decision making

Techincal TEams and Detectors Science

2.2 VirgoLab Technical Teams (Functional Structure) ..... Each VirgoLab TT is headed by a Team Leader who will coordinate the functional expertise and resources of the team. The Team Leaders ensure that the defined workmanship standards are applied in all projects. The Team Leaders will also be responsible, in collaboration with the home institution or EGO departments, for appropriate training and competence development

From the description in the previous and other parts, the TTs appear as technical expertise ‘collectors’. It seems that the experimentalists from External Labs will join the TTs in a way that according to the needs they can be addressed on the project task (not clear who addresses who, if Project M or TT leaders). Example: a person that has a scientific interest on Quantum Noise reduction will join the ITF Tech TT, but having expertise on optics, can be addressed on other optical task, according with the needed, (The flexibility in the personnel addressing is one of the advantage of the ‘Strong Matrix’ organization) A scientist from an University or Research institute should join the VIrgoLab to be considered available manpower? Is this a right way to incentivize experimentalist to join the work on detectors? An experimental physicist would like to do detector science not only be qualified manpower.is This is true even and more for young people and PhD students.

Where is Detector Science? It is leveled to the Infrastructure.

It seems - as the name suggests - that people inside will be more technician than scientists. Has the group in the MoA declare the expertise present inside and assure that it can be available according to needs?

Moreover in the case of an experimental scientist with expertise in a field that EGO personnel have not, how can the TTs assure the ‘standards’ and the appropriate training? This should be on the shoulder of the External Lab. In which way?

Commenté [30]: comment 2.2.b

Commenté [31]: comment 1.2.d

Commenté [32]: comment 1.3.c

2.1: VirgoLab Projects (Project structure)

Detector Upgrades: Responsible for planning and executing major upgrades to the interferometer's systems, with a focus on improving sensitivity and performance. Innovative long-term R&D is carried out in the scientific collaboration at large, and becomes part of the Detector Upgrades project depending on its readiness level (e.g. as soon as the baseline design is being established)

What means? 'At large?' Means that a group develops and R&D and then this will be evaluated to be included or not in the project once it will be mature and the baseline will be defined? In mean time people that works on the R&D can be considered included or not in the project? And if not, and the group has to develop R&D without support of the VIrgoLab, once reached the maturity (readiness means scientific evidence that implies even publication, that can be published without the collaboration approval, having the group developed in autonomy the R&D), which will be the interest and the real advantage to be included in the VirgolAb after and to work on detector?

Commenté [33]: comment 2.1.b

Comment by Diego Bersanetti

Here I report several comments about the document VIR-1025A-24:

An overall comment regarding **the process about the document**: it has been circulated Wednesday 27/11 late afternoon; the last open meeting where to discuss it was just 13 hours later, with very little time available to read the document. The deadline for comments is Sunday 01/12, two working days and a weekend after from the circulation. This is far too little time for such an important matter: the impression it gives, together with the very little changes applied after the comments at the Virgo Week (from what we can gather without having the first document at all), is that the participation of the Collaboration is considered as purely aesthetic.

About the content of the document:

1. Section 1.2: VirgoLab is defined as a "distributed laboratory" and, a few sentences later, it is said that it is "hosted by EGO". This is a contradiction. Also, the sentence "embedded into EGO organisational structure" is foggy: does it mean that the EGO organisation manages the VirgoLab one? Do they merge? How do they interact? This should be an important point and it is only sketched.

Commenté [34]: comment 1.2.a

2. Section 1.2: "The structure of the Technical Teams will be proposed in detail by the Executive Board." What does it mean? That at every change of the EB this will be re-defined? Will this be defined only once and for all, having the first VirgoLab Director shaping it for years to come? Also, the interaction of the Technical Teams with the Subsystems is not clear at all, as no definition of Subsystem is ever given in the document. Additionally, this is the first of many issues about the EB deciding on "low-level" scientific matters, which gives the idea that **everything below the EB are just workers**, with little consideration to the status of scientists of many of the people supposedly working in (for?) VirgoLab. This is particularly bad for EGO personnel, as the Director will also have

Commenté [35]: comment 2.2.a

Commenté [36]: comment 2.2.a

contractual power over them, which is a disparity with others and will cause even more friction and de-motivation.

3. Section 1.3: "Maintenance", "operation" and "performance monitoring" of hardware equipment look too technical to be managed directly by the EB; they should be directly managed by PMs or TTs, or Local Experts being a link between VirgoLab and the laboratories.

4. Section 2 (preamble): Written in this way, it leaves the ambiguity of the Deputy constantly onsite with no decision power, and the Coordinator always offsite with full participation in management (EB for starters). There is some sort of clarification later when it is stated that the EB members should be present onsite a few days per week, but the presence of the deputy gives still freedom to delegate or report on behalf.

5. Section 2.1 (first paragraph): there is some superposition between Operations and Commissioning: it is not clear what Operations is, if only Science Runs or more, as it *includes* the "production of calibrated, high-quality strain data [.]", but not exclusively.

6. Section 2.1 (third paragraph): The role of the PMs is quite large: the fact that a PM can steer directly people in or out of tasks is extremely dangerous, as this bypasses Groups, SSs and TTs: it can lead to a complete expulsion of someone from a Project because "reasons", leading such person possibly out of the VirgoLab itself or rescoping completely their career. The MoAs (which we have no detail about at all) cannot prevent this if they are not extremely granular, which hardly looks the case. **This is one of many places where protections and safeguards have not __been thought**. Additionally, the fact the people report directly to the PMs bypassing SSs and TTs is not healthy from a scientific and working points of view, as it breaks the chain of responsibility, accountability and trust: something like that was already attempted in a previous project, but apparently *we did not learn any lesson*. Scientists are not workers under a boss. We tried that, it leads to underperformance, loss of motivation, personal struggles and project failures.

7. Section 2.1 (fifth paragraph): This is one of too many things where the Director has total and complete arbitrary power. Having the PCs synced with the Director will lead to a **"spoil system"**, which naturally leads to a system where personal trust and loyalty overcome qualification and expertise. Every new Director will shape the PCs (and the EB, see later om) to their own idea, possibility making every transition very difficult, long and cumbersome, with significant downtime and frictions during the change.

8. Section 2.2 (second paragraph): Again, no clear definition of TTs; no definition at all of Subsystems, and no clear explanation how the two will interact with the EGO organisation.

9. Section 2.2 (seventh paragraph): This is (luckily) in partial conflict with the statement commented in point 6. However it still looks like that the TLs will only manage, up to some extent, whatever the PC decides to assign them. Additionally: the TLs are appointed by

Commenté [37]: comment 2.2.d

Commenté [38]: comment 3.1.1.a

Commenté [39]: comment 2.a

Commenté [40]: comment 2.1.a

Commenté [41]: comment 2.1.c

Commenté [42]: comment 2.1.c

Commenté [43]: comment 1.2.d

Commenté [44]: comment 2.1.d

Commenté [45]: comment 2.2.a

the EB (as everything and everyone), but the mandate is not clear, nor it is its duration. Do they cycle in sync with the Director (and half the EB), increasing even more this spoil system approach?

Commenté [46]: comment 2.2.c

10. Section 3 (mislabeled in the document, preamble): VirgoLab has ONE high-level governance body: the EB. The other two are merely consultants or scouts for people and money. No governance in the TC and the BPIs is present. In particular: it is not said down to which level the EB can make technical decisions; the demeanor of the document is "to all levels", making PCs or TTs at a time too powerful downstream and irrelevant upstream. This looks similar to what was already tried in the past, just much more, and it was something we had to fix, not increase. *It is part of what went wrong*.

Commenté [47]: comment 3.1.1.a

11. Section 3.1.1: First bullet point: "all decisions": down to what level? It is not clear, so arbitrariness is open. It is also not clear if the majority of the EB can overcome the opinion of one Coordinator on *their* matters of expertise, making them (as other figures) very bossy downstream but very weak upstream, as the Director decides it all. This is one of many places where no safety measures have been thought or put in place. Fourth bullet point: again, too specific oversight from the EB down to the single piece of hardware. There should be PC, TTs, SSMs and others to supervise. What is their role at this point?

Commenté [48]: comment 3.1.1.a

12. Section 3.1.2: **The EB is composed by the Director, three people proposed by the Director, and one appointed by the EB itself. This is widely self-referential and a possible emanation of the Director, especially if there is some level of spoil system as the Coordinators' mandates are in sync with the Director's.** From what I commented above, it is clear that there is a high risk of a spoil system, which defies continuity, proficiency and expertise replacing them with loyalty, compliance and opportunity. The Chair of the Board of PIs is largely irrelevant not having any decision power, and so looks the Spokesperson as well (no definition of them is present in the document). The Groups are relegated to talent scouts and money-seekers, all of which shall be donated to the EB to be used as deemed appropriate, with no oversight. Again, no safety measures.

Commenté [49]: comment 3.1.2.a

13. Section 3.1.3: Meeting once a week to discuss day-to-day operations is a contradiction in terms. I assume also that also other people besides the Director can propose point to the agenda, but at this point I am not sure anymore.

Commenté [50]: comment 3.1.3.a

14. Section 3.1.4: There is no safeguard against the Director considering the EB as a sort of consultant body, with no effective power. Consensus could mean "the whole EB", with the opposition of the Director. Who then dismisses the opinion of 7/8 of the EB. The first three lines are written as "flavor text", not as a policy.

Commenté [51]: comment 3.1.4.a

15. Section 3.1.5: "The members of the EB report the relevant decisions to the entities they are responsible for". This sentence is not clear at all; does it mean that the PCs report the

decisions downstream? Or to the Group/Institution they belong to?

16. Section 3.2.1: The TC "reviews", "recommends", "assesses", "advises", "ensures"; no technical decision rests in the Technical Committee, which is counterintuitive; it looks like a consultant with very little utility. It is cited "Subsystem coordination", but the definition of SS is still missing in the document.

17. Sections 3.2.2 to 3.2.5: The TC chair is again appointed by the EB (3.2.2) and they have no real authority even on technical matters. The TC meet too rarely (3.2.3) to be effective, four times less than the EB. Currently, the SSMs meet once a week. The TC presents all possibilities to the EBs (3.2.4), watering down any priority, preference or consensus they made so that the EB (i.e. the Director) can have a different final word. In 3.2.5 are cited "decisions made by the TC" but actually there are none whatsoever.

18. Section 3.3.1 (Resource Review Process): The Board of PIs is largely irrelevant in the Projects. This can lead to a (*additional*) detachment between groups and Projects, as Groups are only a provider of human and financial resources to be used by the Director.

19. Section 3.3.1 (last paragraph): It is said that the Board of PIs should not "*interfere*" with the operational chain of command". The use of the word "interfere" makes explicit the fact that the Groups are considered an external body who should just give away resources to VirgoLab; the impression is that we are borderline to utter contempt towards the Groups.

20. Sections 3.3.2 to 3.3.5 (wrong ordering in the document): there is no real decision-making from the BPIs, but the voting system for it is already drafted, while many other important aspects of decision-making are much more foggy in previous parts of the document. The BPIs meets 3-4 times a year, which marks even more the irrelevance of the Groups. In case, another full point (3.3.5) states this again. Then people talk all the time about "increasing attractiveness". Sure.

21. Section 4.1.1: [first paragraph] **This is full unconstrained power over the whole VirgoLab; this is the main case of lack of safety measures or power balancing. The fact that the Director would take full responsibility in case of failure is just a silver lining if Virgo fails.** More elaboration of what this means are already in previous points. [second paragraph] It is cited a "Scientific Collaboration", but there is no definition of it (authors? VirgoLab participants?).

22. Section 5.2: If the search committee is composed by only three members (e.g. Council representative and STAC chair, plus someone else), it means that the *majority* can be found all in people outside the Collaboration, outside EGO and outside VirgoLab. Under-representation of Groups and VirgoLab itself is a risk; from the proposed list of members, a minimum of 5 looks a more cautious number, to increase inclusiveness in the process of the search of the EGO Director.

Commenté [52]: comment 3.1.5.a

Commenté [53]: comment 3.2.1.a

Commenté [54]: comment 3.2.1.a

Commenté [55]: comment 3.2.3.a

Commenté [56]: comment 3.2.4.a

Commenté [57]: comment 3.3.1.a

Commenté [58]: comment 3.3.1.a

Commenté [59]: comment 3.3.4.a

Commenté [60]: comment 4.1.1.a

Commenté [61]: comment 5.2.a

23. Section 5.4: The publication policy for short-authorlist papers looks quite stringent, with little possibility for it (they are called "exceptions" to begin with); "detector performance" is too vague (does it mean just h(t)?). This is a clear worsening over a situation that took a long time to the Virgo Editorial Board to update.

Commenté [62]: comment 5.4.a

Finally, I will not write about the "strong matrix organization" as valid points have been raised already by other colleagues, whose concerns I share completely.

Final remarks: my impression is that some this future VirgoLab is shaped as a monolithic, quasi-militaristic entity where one person has complete shaping power over it, with no safety measures in place. The scientists and technicians working in (for?) it will be relegated as "resources" to be used as deemed appropriate, failing to a great extent the freedom of research that scientists have. The Groups (whose functionality in the Collaboration *needs* some tuning, I get that) are downsized to providers of money and people, to be transferred over to the Executive Board to be used as they deem appropriate.

The attractiveness of VirgoLab will not last much, with this approach.

Commenté [63]: comment 1.2.b

Comment by Francesco Piergiovanni

First, I must express the concerns and disappointment of the entire Firenze/Urbino group regarding the haste with which this process is being carried out, leaving no time to thoroughly analyze such important documents and reflect on them to provide comments and suggestions. Personally, I find the document vague in several aspects, and I would like to highlight the first one that came to mind:

Upgrades & R&D:

"Innovative long-term R&D is carried out in the scientific collaboration at large and becomes part of the Detector Upgrades project depending on its readiness level (e.g., as soon as the baseline design is being established)." Will there be coordination of experimental activities external to VirgoLab, and who will be responsible for it? Groups and individuals involved in R&D would find themselves at the boundary of VirgoLab, entering or exiting depending on the readiness of their work. This situation risks diverting significant workforce towards ET, relegating Virgo to the role of a detector crystallized around the urgency of the present, with little hope of playing a significant role in the coming decades as we await the third generation.

Commenté [64]: comment 2.1.b

Comments by Loïc Rolland (on behalf of the Virgo France community)

The French Virgo groups, some French Virgo coordinators and some more invited persons met on Friday 29 November afternoon. First, we thank the implementation committee for having shared the proposal for the future Virgo-lab organisation with us to get feedback. However, we would like to express our disappointment about the very short deadline of 2 two days for sending comments on this very important topic for the future of Virgo.

Here are summarized our main comments to the proposal. They concern the proposed organisation structure, the main point being that the need/functionality of the Technical Teams are not understood ; the criticality of the profile of the future Virgo-lab Project Leader and the importance of hiring the first Project Leader before putting the Virgo-Lab organisation in operation ; and the fact that more personpower is needed for a new organisation to be effective.

Commenté [65]: comment 2.2.a

Commenté [66]: comment 4.1.a

Commenté [67]: comment 1.1.a

Virgol-lab organisation structure

- Among the projects, we think that one more project is needed, for long term operation and maintenance of the detector. While the current projects seem to be only about upgrade, commissioning and operation during observation periods.

Commenté [68]: comment 2.1.a

- The proposed strong matrix organisation does not appear functional. The organisation by projects is very fine, with the project team being multi-laboratories with distributed laboratories. However, once the projects are in place, the personpower is provided by the laboratories (ExternalLabs and EGO). Hence technical teams are not functional since the Virgo-Lab direction does not have any hierarchical impact on the teams. They look at best as ways of animating some transversal discussions over the different projects and reporting general needs and issues. This is an important activity, but does not deserve a strong part in the organigram, with almost the same importance as the projects.

We understood that these technical teams were set in particular in order to improve the communication between the people in the different laboratories and in the different subsystems, and to ease the integration of new groups in the detector-related activities.

To achieve this goal, we propose that the Technical Teams match clear subsystems.

In the past of Virgo, we have been lacking a structure working for long-term and working for upgrade, commissioning, maintenance and operation. Clarifying the subsystems at the Virgo-lab organisation structure would solve this issue. Starting from this organisation, the laboratories can commit to take responsibilities for building, commissioning, upgrading, maintaining, operating the different subsystems. It will help to identify long term commitments of groups in laboratories, and help to identify where (new) groups and new partners can contribute.

Commenté [69]: comment 1.2.c

Another mandatory need to improve the communication between the people/teams is to provide support to the Project Offices (long-term positions for planning preparation, integration, risks, quality…) and to provide support to the teams so that it is not exactly the same people who are the main contributors in all the projects. A commitment of the EGO Council about such evolution from their side is required for the new organisation to be possible.

Commenté [70]: comment 1.1.a

- In the document, the responsibility of the laboratories (External Labs and EGO) is not clearly stated. Instead, it is stated, for example, that « VirgoLab consists of personnel from EGO and the participating Virgo laboratories [...] », or that « The MoAs between EGO and the External Labs will specify the relation between EGO and the people from the External

Labs contributing to VirgoLab ». Instead, the contributions in the MoAs must rely on the External Laboratories, and not on personnel. Then, the External Laboratories are committed to find the human resources, and if needed the financial resources, to make the contribution they committed to. In the case of personnel stopping its activity in the External Laboratory (changing scientific topics, changing lab, retirement, …), it is a charge of the External Laboratory to look for resources to fulfill their commitment, or if not possible, to warn as soon as possible the VirgoLab about their issues with their commitment to discuss solutions at a higher level. But this implies that the commitments are made with the External Labs, instead of individual commitments as stated in the document. Also, the yearly review of all groups should allow the VirgoLab to realise if some specific areas need reinforcement.

Commenté [71]: comment 1.3.c

- We want to stress that recent changes in the Virgo Collaboration organisation are going in the direction of the proposal, the creation of the Virgo-Lab being one step more to even better enforce some of them. Among the recent evolutions:
- creation of the Virgo Executive Committee (VEC) for decisions
- set up of yearly group reports and of bi-yearly review/renewal of group MoAs
- setup and evolution of the Virgo Members Database to monitor the individual and group yearly activity, and (new for 2025) to estimate the needs of the different activities and the pledge of the personnel. The creation of the Virgo-lab will further help this process by reducing its focus only on the activities and the laboratories of the Virgo-lab, which will be less than the number of activities and laboratories in the Virgo Collaboration. Having less topics/people/labs to review, it could be useful to have yearly reviews, for a tighter monitoring, at the Virgo-lab level, of the laboratories MoA commitments, and tackle possible issues sooner.

This will also permit, at the Virgo-lab level, to clarify every year the needs, for example personnel needs in the sub-systems and in the laboratories, and then to set priorities for providing fellowships in the sub-systems and groups. This assumes that VirgoLab will be provided by the funding agencies with enough resources so that it can indeed be operational and functional to impact the Projects. This requirement of financial support from the funding agencies, for secondment and fellowships in particular, but also for prototyping, should be mentioned in the proposal document.

Commenté [72]: comment 5.1.a

- To be operational, the new organisation will need more personpower working in the Virgo detector related activities, so that it is not exactly the same people working in all the different parts of the structure, and enough resources for prototyping. This is a must for the future of Virgo and for possibly increasing the attractivity of the VirgoLab activities.

Commenté [73]: comment 1.1.a

Virgo-lab project leader and EGO director

We think that the Virgo-lab project leader and the EGO director should be two different persons, so we use the two names in the following paragraphs.

The profile of the Virgo-lab project leader is VERY CRITICAL for the success of the Virgo-Lab. They need very high skills and competences, with knowledge in the GW domain. This will be mandatory for getting the necessary confidence from the members of the Virgo-lab, and for wisely selecting the coordinators of the Executive Board. The success of Virgo must be the main priority of the EGO Council when selecting the Virgo-lab project leader, leaving aside political matters that have existed in the past of EGO.

We are also convinced that a single person, the EGO director as stated in the proposal, cannot manage both the Virgo-Lab AND the Virgo site. First, this represents an extremely high workload which looks too high for a single person. In addition, there are clear conflicts of interest between providing/prioritizing the resources to the External Labs and locally to EGO. Other examples of conflicts are between the Virgo-lab activities and other activities of EGO (long term R&D and E.T. for example). Having two different persons in these roles would help in raising and discussing such issues ; having a single person doing both roles will on the contrary hide them and be less transparent, both for the EGO Council and the VirgoLab.

The document states that “the EGO director is particularly engaged in VirgoLab, which is the Director’s principal activity ; other responsibilities might be delegated to deputies (e.g. site management, non VirgoLab projects, …)”. If the EGO director is to be the VirgoLab project leader, we think that the document should clearly say that the other responsibilities, in particular the management of the site and of the local matter with the Italian administrations MUST be delegated to deputies.

Commenté [74]: comment 4.1.b

Other comments

In the definition of Virgo-Lab, it is stated “to provide to the Virgo Collaboration with sensitivities and timelines comparable to the data of world leading GW observatories”. Considering the current funding and personpower affected to the project, it seems unlikely that Virgo could reach a comparable sensitivity. We suggest replacing “comparable ...” by “for having scientific output effective contributions in the network of GW detectors”.

Commenté [75]: comment 1.1.a

The role of national representatives has been clarified in the new Virgo bylaws. This role is important and must be addressed in the new VirgoLab organisation. We think it should be an invited member to the board of PIs, and a member of a financial and resources committee of the VirgoLab, where they can bring to the committee the information about the personpower and financial resources in the laboratories of their country, and inform back to the laboratories about the needs and issues from the VirgoLab.

Commenté [76]: comment 3.3.2

**Some comments for rephrasing **

Fig 1 The external labs do not appear explicitly while they are essential blocks of the VirgoLab => Under the “Board of PIs” box should appear a box with the “External labs”

Commenté [77]: comment 1.2.b

2.2 VirgoLab structure

- It seems quite evident that the actual subsystems will be part of the TTs. They cannot all be under “interferometer technology”, as it will make a much too heavy TT. So it should be written clearly. → add after the bullet points: “The actual subsystems should be part of the TTs” In many cases there will be one dominant lab leading one TT. It seems therefore normal that the TT leaders are proposed by the labs. We propose to change to : “The VirgoLab team leaders are proposed by the board of PIs to the EB.”

Commenté [78]: comment 2.2.a

3.3 Board of PIs: Shouldn’t the board of PIs also be responsible to define and follow up the group responsibilities?

Commenté [79]: comment 3.3.1.a

Responsibility of the EGO director: It seems too much for a single person to be responsible for the VirgoLab and for the whole of EGO activities. It is suggested that “other activities might be delegated to deputies”. We would make this statement stronger: “The EGO director will nominate one or several deputies who will be responsible for all the strictly EGO-related activities, like: site management, non VirgoLab activities, EGO group management “

Commenté [80]: comment 4.1.b

Comment by Edoardo Milotti

The document on the VirgoLab Organization Proposal is complex and a complete understanding of its implication would require more time than just a few days (especially in the middle of a teaching period). However, here I try to elaborate on one doubt that I have after having read the document.

My impression is that the text draws too much from the experience of HEP experiments, where the basic technology is fairly well-established and technological advancements are limited to minor changes in preamp electronics or similar details. There, the need of a strong matrix organization is dictated by the scale of the projects and by their complexity, which stems from size and number of components. On the contrary, a GW IFO is an analog machine, where the complexity arises not just as a consequence of the number of parts but also from their strong non-linear interactions. This means that quite often the advancements in detector performance require new science, not just advanced or new engineering. Take for instance the developments in the science of mirror coatings: they depend on hard work but also on the serendipitous inspiration that often accompanies scientific discoveries. Another example of this is the 1/f^{2/3} mystery noise, where nobody can "order" a solution of the enigma to be found.

Commenté [81]: comment 1.2.c

The intermingling of scientific and engineering issues means that the "strong matrix organization", which seems to be borrowed from industry, is not likely to work smoothly. When scientific problems appear, the leadership is justified if the leader is an expert of the field, and his authority

is accepted if he/she is authoritative, and is refused if he/she is authoritarian. I think that we should not ignore this human side of science.

Commenté [82]: comment 1.2.c

I would like to see more about this in the document.

Comments added after December 1st

Comment by Ettore Majorana

There are indeed some good points in promoting an organizational structure pivoting on the detector, in my opinion. However, to me it is not clear at all what is the motivation of its urgent implementation. There are evident reasons that would constrain the whole LVK to a cascade of organizational issues, both scientific and administrative, as most of the collaborators are not at all employed by the Lab.
What is the motivation ? I have the impression that even in the LIGO community there is not a sufficiently wide consensus. Even though in that case the impact may be to some extent smaller. And probably there isn't an actual pressure to share it. But I may mistake on the last sentence.
The Virgo Council has the power and a sufficient weight to slow down the process or re-tune it on a more shared basis, if there are concrete reasons. The weight is related to the existence of Virgo Detector. I think we should not loose bargaining power. This might be the last occasion. There is no urgent reason in my opinion. Unless we are confident that such a revolution may help in providing value to Virgo detector. But I do not see any tiny evidence to infer that, through an urgent implementation of a new and never-tested-before organization (with several implications on most of the contribution by the Virgo collaborators through their institutions), the Virgo sensitivity understanding and improving would speed-up. And that seems indeed something urgent. On the contrary, a detriment impact on the motivation of Virgo Contributors through their institutions may be expected.
This is why, I would simply postopone the decision, waiting for a more mature and wise reasoning. Noting and exploiting the good points of the Lab reorganization proposal, of course.

Commenté [83]: comment 6.b

Comment by the EGO scientific group

Comments from EGO group.
Several elements of the document, along with the short time-frame for the provision of comments, have left us discouraged.
A large fraction of these have been touched upon in the comments above, the spirit of which we share. Our vantage point and perspective is, however, slightly different, and, as such, we have decided to focus exclusively on the issues upon which our unique position in the Collaboration can provide additional food for thought.

To begin with, we strongly believe that the EGO Director and the VirgoLab Director are two distinct, profoundly different roles and that they should therefore be attributed to two different people.

If this division of roles is not implemented, we feel it is of the utmost importance that the document states unequivocally that the part the EGO scientific Group plays is not limited to its role in Virgo, but has a wider scope in the GW research framework.

We see a subsequent potential issue with the amount of power the EGO Director has; there appears to be a complete lack of checks and balances. Rules should foster and have provisions for promotion of the pursuit of shared technical solutions, not unrestrained power. In our view even a simple majority could possibly be insufficient and a qualified one in the EB would better suit our working environment.

A further clear asymmetry lies in the different level of authority the EGO Director would have in terms of power exerted over EGO personnel and members of the Virgo Collaboration Group.

A particularly sore point is represented by the transfer of property (ownership) of equipment to EGO. The management of said equipment after integration, as described in the document, is fuzzy and it is unclear how the responsibility “of the groups who have contributed to the equipment” can be maintained to a degree that their investment in ensuring unwavering commitment over a period of many years is guaranteed.

It is our heartfelt conviction that the strong matrix approach proposed for adoption, although not wrong of itself, has extremely limited application in an environment such as Virgo, to the point where it becomes more a hindrance than a real advantage. It is very difficult to imagine External Labs willingly lending their human resources to Technical Teams over which they have no control. The Technical Teams themselves then seem to be artificial and alien to the work process and flow, both in themselves and, even more so, when considered in relation to the EGO internal structure. Moreover the decision chain is not clear, considering a matrix where both the Project Managers and the Technical Teams coexist.

Inconsistency also seems to characterize the role of the Upgrade Coordinator. If, as stated, the mandate for the position ends at the same time as that of the EGO Director, it appears as though the role is not linked to the completion of the Project. Is this really what the proposal wants to accomplish?

Finally, a note about language; nowhere in the document is it possible to find any reference, even a passing one, to the scientific value of the detector, its scientific scope, or the role played by scientists and researchers. It is a barrage of “technical” adjectives, associated with skills and terms and teams. We find this derogatory towards the people involved and their dedication. We struggle to see how this represents a selling point in terms of encouraging people to come and work as part of Virgo or for those research institutions that form part of this endeavor.

Commenté [84]: comment 4.1.b

Commenté [85]: comment 4.1.1.a

Commenté [86]: comment 1.3.a

Commenté [87]: comment 1.2.c

Commenté [88]: comment 2.1.d

Commenté [89]: comment 1.1.b

Comments from the Roma Tor Vergata group.

The time allotted for providing feedback has been far too short for such a critical and crucial process. We hope this will not be the last opportunity for meaningful exchanges between the collaboration and the implementation committee.

We do not repeat general comments already expressed in the following links, which we endorse:

- Giovanni Losurdo's comment above
- Fulvio Ricci's comment above

Additionally, we highlight that a clear statement from the agencies regarding the funding plan for VirgoLab over the coming years remains a crucial and missing component of the broader Virgo reorganization picture. More specific comments follow:

- **Section 1.2 Organisation:**
- The sentence "VirgoLab is hosted by EGO and embedded...structure" is unclear and requires further clarification.
- ''The MoAs between EGO and the External Labs will specify the relation between EGO and the people from the External Labs contributing to VirgoLab.'' To better understand what the groups will commit to, and in connection with comment on Section 2.2 VirgoLab Technical Teams (first bullet), it would be extremely informative to have an example of the MoA between EGO and the External Labs.
- **Section 1.3 Resources:** ''The property of instrumental equipment … contributed to the equipment.'': External laboratories may face challenges due to vague responsibility allocation for equipment maintenance, repairs, and malfunction handling. A key question arises: who is responsible for addressing issues with installed equipment—the external labs that developed it, or EGO as the legal owner?
- **Section 2. Organisational structure of VirgoLab:** "Project Coordinators and technical Team Leaders…": What if PCs or TTLs do not want or need a deputy? Why should they be required to be on-site when the majority of VirgoLab members are off-site? The duties of PCs vary significantly, as do the needs of different projects, both relative to one another and across the various phases of the project itself (see also the comment on section 3.1.2 Executive board Composition, page 6).
- **Section 2.1 VirgoLab Projects (Project structure):** "Innovative long-term R&D…": While we agree with the idea that long-term R&D should be managed by the collaboration, it seems necessary to introduce another permanent project focused on the preparatory phase for upgrades beyond the current one. For example, the Upgrade Coordinator manages the O5 Project, while a Next Upgrade Coordinator would oversee the preparatory phase for O6 (see also the comment on section 3.1.2 EB Composition).
- **Section 2.2 VirgoLab Technical Teams (Functional Structure)** There are doubts and questions around these technical teams and their role. One of the open points concerns the possibility that VirgoLab members may be assigned by the TT leaders to tasks outside their research interests or responsibilities. The comments we heard concern ethical issues (the freedom of the researcher, who could be deprived from the autonomy of their choices), and the impact that this project-needs-fixing approach might have on their CVs and careers, which are typically and hopefully built following a fil rouge of internal consistency. Given these premises, it would be very healthy for the Collaboration if a clarification of the modus operandi of these TTs could be given.
- Are all VirgoLab members expected to be part of the TTs? If not, defining the TTs—specifically, setting clear boundaries—can be very challenging. If all VirgoLab members

Commenté [90]: comment 1.2.a

Commenté [91]: comment 1.3.c

Commenté [92]: comment 1.3.a

Commenté [93]: comment 2.a

Commenté [94]: comment 2.a

Commenté [95]: comment 2.2.b

are included, we recommend using a different name for these teams to avoid suggesting that VirgoLab members contribute only technical expertise rather than wider scientific input.

- page 4 The statement that "(TTs) organize... all technical activities related to the Virgo interferometer" is too vague. What are their specific prerogatives and limits of action? How do they coordinate with the "technical" activities already embedded in the Projects?
- page 5 “Each member of a VirgoLab TT will report to their Team Leader on their activities”: If a member of the TT is also part of a Subsystem within the project(s), they should report to the SS manager as well. Who is responsible for certifying the actual work completed—the Team Leader or the SS manager? Moreover, how should possible disagreements be resolved?
- **Section 3.1.2 Executive board Composition**
- IF the preparatory phase for the post-O5 upgrade is considered a project relevant to the mid-term future of Virgo, requiring a structured organization that spans across VirgoLab groups and is supported by centralized funds, it seems strange that the person responsible for ensuring the proper execution of this project is not part of the EB.
- page 6 “The members of the EB are on site…”: Except for the Commissioning Coordinator, it is difficult to understand why the other Coordinators should be required to be on-site on a regular basis for a significant fraction of their time, especially considering that this is not the case at LIGO or KAGRA, and VirgoLab is an even more distributed organization with most of its members based off-site. While some presence at EGO is undoubtedly beneficial, mandating a minimum presence of typically a few days a week does not appear to have a well-founded justification.
- **Section 3.1.4 Executive board Decision-Making** "In the event that the EB cannot … the final authority." Does this mean that if the EGO Director disagrees with a decision reached by the EB through discussion or a vote, he/she cannot overrule it? Or does the EGO Director retain the authority to impose a decision even if the rest of the EB or its majority disagrees?
- **Section 3.2.1. Technical Committee Key Responsibilities**. Subsystem Coordination: the term Subsystem is already defined in the context of the AdV+ project. What is a Subsystem in the context of TTs and how does it relate to the SS in the AdV+ project?
- **Section 3.2.4 Technical Committee Decision-Making:** same comment as for section 3.1.4, in this case referred to the TC chair
- **Section 3.3.1. Board of PIs Key responsibilities.** ”Resource Review Process: … It reviews the resource requested for the upcoming year and liaises…”. Can the Board of PIs change or propose changes to the request of resources?
- **Section 3.3.5 Board of PIs Reporting:** “While advisory in nature, the Board’s feedback is communicated to the EB through the Chair of PIs to ensure that the perspective of the External Labs is considered in strategic decisions. The board of VirgoLab PIs does not have decision-making authority over the operational activities of the VirgoLab.” While the first part of the sentence seems coherent with the overall new organization, the second part has made us think: does having the power to provide resources not influence the operational activities of VirgoLab and, consequently, exert some form of authority?

Commenté [96]: comment 2.2.a

Commenté [97]: comment 2.2.a

Commenté [98]: comment 2.2.c

Commenté [99]: comment 3.1.2.a

Commenté [100]: comment 3.1.2.b

Commenté [101]: comment 3.1.4.a

Commenté [102]: comment 3.2.1.a

Commenté [103]: comment 3.2.4.a

Commenté [104]: comment 3.3.1.a

Commenté [105]: comment 3.3.5.a

- **Section 4.1 EGO Director** "In view of the organisation of VirgoLab…": does it mean that the EGO Director is also responsible for the success of the VirgoLab Projects? So the Coordinators are only executors with no responsibility? A definition of the boundaries between the responsibilities of the EGO director and of the Coordinators is missing and needed.

Commenté [106]: comment 4.1.1.a

Comments from the IGWN committee

Comments from Albert Lazzarini

I read the document with interest. If it can be implemented smoothly it promises big positive changes in how Virgo operates. I have a number of questions that occurred to me while reading the document:

- Fig 1, organizational chart:
- The "Virgo Spokesperson" placekeeper box -- will this person be a regional (deputy) IGWN spokesperson, or the IGWN spokesperson?

Commenté [107]: comment 3.1.2.a

- Board of PIs -- What subset of the current Virgo Collaboration PIs is expected to comprise the Board of PIs?
- Will all Board PIs be required to apply and be appointed from the beginning, or will there be a foundational group of PIs who automatically become the first Board of PIs?

Commenté [108]: comment 3.3.2.a

- Re: 1.3 Resources:
    - Who controls and manages the resources going to the External Labs? Can these funds be moved from one Lab to another by the EB if there is a shortfall in one area that has higher priority? The text states "The contributions of External Labs to VirgoLab are initially defined by a Memorandum of Agreement (MoA) between EGO and their home institution or funding agencies." But it does not mention who manages and allocates these funds to what is required to run Virgo.
    - What is the expected fraction of the VirgoLab operational budget that does not go directly to EGO?
    - Perhaps include also Human Resources?

Commenté [109]: comment 1.3.b

- Re: 3.1.1, EB responsibilities include Resource Loading. Relevant to my previous questions: it reads here as though the EB also controls resources from External Labs if they are necessary to reach the best performance?

Commenté [110]: comment 3.1.1.b

- Re: 3.3.1, Board of PIs responsibilities includes the following: While the Board of Virgo Lab PIs plays an important advisory role, it does not interfere with the operational chain of command. Does this answer my previous question as to what happens if elements of the operations budget have to be realigned and moved around?

Commenté [111]: comment 3.3.1.a

- Re: 4.2, EGO-Virgo Program Officer -- is this someone from one of the funding agencies?

Main points from discussion with IGWN committee (December 3rd)

- Challenge of making the matrix organisation effective with a distributed lab.

- Experience from LIGO on the resistance of groups PIs to be represented by one LIGO lab director
- Need to define boundaries (what is in the labs what is outside)
- Discussion on representation, “double citizenship” – action item to think of it more
- Discussion on whether the EGO facilities and site aspects should be accounted for in the VirgoLab.

Commenté [112]: comment 6.b