

ETO Task force for ET detector layout - first weekly meeting

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Preliminary brainstorming

- We have a baseline detector layout for each geometry (triangle & 2L)
- Updating the layout will be our main task, with the following rationale:
 - Review baseline design and current options on triangle and L optical layout
 - Classify baseline design and current options for VAC, SUSP, CRYO
 - Identify constraints on optical layout from VAC, SUSP, CRYO (and viceversa)
 - **Identify most critical parameters for CE costing to drive choice of design options**
 - Define a two sets of optical configurations using baseline and options for VAC, SUSP, CRYO
 - Generate corresponding baseline and optional detector layouts
 - Run a simplified risk analysis by options classification
 - Generate parameterized detector layout based on classified options, according to risk analysis
- A preliminary brainstorming will help in the coarse identification of main paths to look for reduced financial risk by preserving performance

Preliminary brainstorming

- Collect ideas on possible solutions to mitigate major offenders on infrastructure costing
- Can address much different aspects:
 - Optical layout, e.g.
 - position of filter cavities and mode cleaner cavities (in main tunnel, in same tunnel, etc.); to reduce the amount of tunnel excavation
 - Number of core/auxiliary optical elements to reduce the amount of cavern excavation
 - Structure of caverns, e.g. stacked caverns to reduce amount of cavern excavation
 - Size of vacuum tanks, e.g. reduced height for LF TM towers and/or HF core optics towers to reduce amount of cavern excavation
- Gitlab [issue](#) to let task force members propose solutions
- Use part of next two weekly meetings to discuss proposed options
- We'll later organize the collection of ideas to prepare viable layout configurations to be studied during in-person meetings
- Feedback is welcome on
 - how collecting/organising proposals
 - first iteration of brainstorming

Sparse topics

- Commitment of task force members
 - Task force team members [list](#)
 - About 50% in core team (full availability in column C), expected to join all meetings and be in charge for main tasks
 - People providing partial availability, not joining all meetings, but expected to provide support on specific tasks
- Next steps
 - we'll call separate meetings with groups in charge of major tasks to discuss
 - work plan organisation
 - system decomposition for requirements management
 - Tentative schedule for next weekly meeting:
 - Work breakdown structure
 - configuration brainstorming continued
 - Organisation of in-person meetings
 - Preliminary discussion on flexibility evaluation
 - Filter cavities position (TBC)