

TOF-J meeting

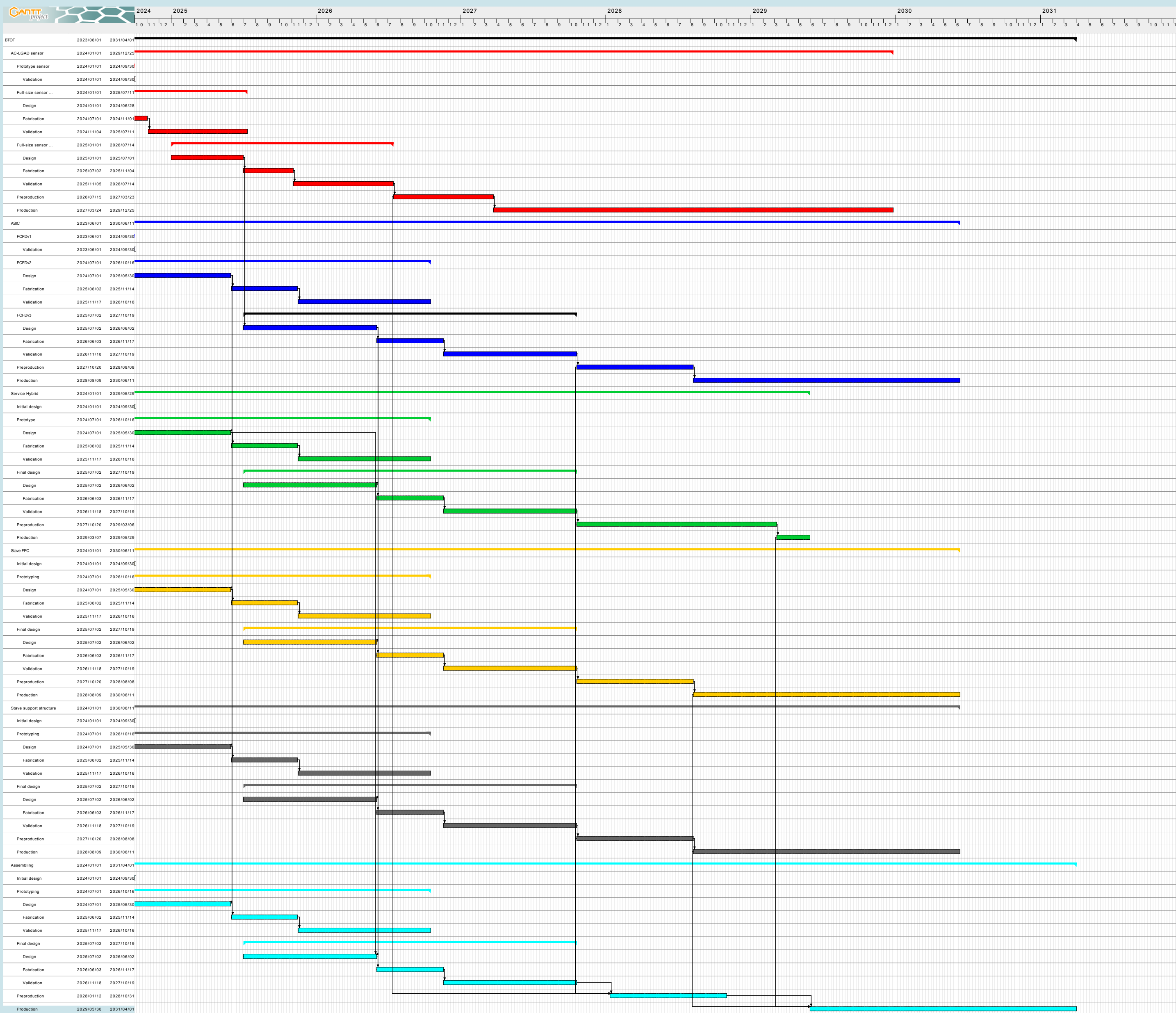
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2024/10/09

General information to share

- The schedule has been added to the pre-TDR
 - SY has made the Gantt chart
- It is assumed that two prototype sensors and ASICs will be produced
 - The current situation is considered (sensor and ASIC R&D situation)
 - The other component R&Ds are connected to these sensors and ASICs
 - Assembling/construction will follow the other preproduction and production (2-month delay)
- Pre-production will start in July 2026, and the production phase will be complete in March 2031?



Schedule Although there are still many uncertain elements at this stage, the latest schedule is shown in this section. The overall progress of development depends heavily on the advancement of the sensor. For instance, since the ASIC blueprint is based on the sensor's features, the ASIC design cannot be completed before the sensor development is finalized. This was the first principle we used to set up the schedule.

At least three sensor prototypes will be produced. The first prototype, the full-size sensor prototype, has already been manufactured by HPK. Based on the characteristics of this sensor, the FCFDv2 and EICROC2 ASICs will be developed. Based on our experience, we can also expect that the time required to fabricate the sensor and the ASIC will be 4 months from the submission of the design. Additionally, prototypes of the the Service Hybrid (SH), electronics (FPC for BTOF and module board for FTOF), and support structure will be created based on this sensor and ASIC.

Next, the design for the second full-size sensor prototype will incorporate improvements identified from the first prototype. The design will start 2 months later of starting the first sensor validation. The design of the next ASICs (FCFDv3 and EICROC3) will begin as soon as the sensor design is finalized. The SH, FPC, and stave support structure will also be developed in conjunction with this sensor and ASIC. Some characteristics of the sensor can be estimated based on accumulated knowledge, which might allow certain designs to be completed simultaneously.

The second full-size sensor prototype will be the last sensor prototype, but we will make another prototype as a backup and make final adjustments for mass production. Depending on the budget, additional sensor and ASIC prototypes may be ordered.

In the preproduction phase, 10% of the required number of prototypes are made in six months, during which time the final confirmation for mass production is made. Then, during the Production phase, the remaining 90% will be done in two years.

During the development phase, assembly was carried out as soon as the other components became available. However, in the preproduction and production phases, there will be a time lag between the arrival of components and the start of assembly. This is because additional time is required for quality assurance (QA) and quality control (QC) procedures before the components can be shipped to the dedicated assembly sites. As a result, the preproduction and production phases will begin two months later than other phases.