We have reviewed the possibility of using GUFI as a backup solution for the CGEM DAQ. Below are some needs, constraints, and considerations:

·      **Software Maintenance:**

GUFI was developed by a person who is not working on BESIII. Any further implementations or modifications may take time.

·      **Hardware Requirements:**  
To ensure reliability, we cannot run GUFI on our current ten-year-old PC. A dedicated machine is required; the machine should be provided and maintained by the BESIII online computing group.

·      **Data Storage and Transfer:**  
At full luminosity, we could produce up to **a couple of TB/day** of data. These data must be stored on a disk with proper RAID protection and then transferred to a DAQ location for merging with other BESIII data. The required disk size depends on the transfer speed.

·      **Event Builder Development:**  
A dedicated event builder must be developed to merge CGEM and BESIII data. A person should be identified for this task.

·      **Event number synchronization:**  
The synchronization is carried out by the GEMROCs using the check signal. If not synchronized a bit is raised in the header word. There’s currently no online control of this bit. If we lose synch offline resynch would be possible based on event time stamp but it would be probably painful. We can modify GUFI to readout that bit online but then we need some sort of interface with the BESIII DAQ in order to make it effective.

·      **Shifter Usability & Integration:**  
To prevent shifters from having to configure and control GUFI manually, we should develop an interface between the BESIII DAQ and GUFI. GUFI has a backend that can receive external inputs, which could facilitate this integration, though some modifications are needed.

·      **Online Data Quality Monitoring:**  
CGEM online data quality must be ensured. While we have a set of scripts for generating data quality plots, they currently run offline. Online data quality monitoring should run on a machine separate from the one performing GUFI data acquisition.

·      **Spare Parts:**  
Spare components should be considered for system reliability.