Global Tender:
Date of floating – Oct 19, 2023
Request for Quote and Specifications of gallium oxide (Ga$_2$O$_3$) epi-wafer
GTE application number: IISc-GTE-2023-288

- Bids are sought from qualified International vendors under global tender for gallium oxide (Ga$_2$O$_3$) epi-wafers on Ga$_2$O$_3$ substrate with the specifications mentioned in the table below.

- Companies need to submit two bids, a technical bid and a commercial bid, in two separate sealed envelopes. The bids should be submitted no later than 5 pm, Nov 10, 2023 (Friday) which is 21 days from the date of posting of this tender.

- Deviations from the technical specifications requested are allowed. Such deviations must be highlighted and justified. Their acceptance or rejection will be left to the discretion of the technical committee.

- The wafers sought will be used toward academic research at the Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science (IISc). IISc is India’s No. 1 academic institution on higher learning and the Center for Nano Science and Engineering is home to one of the best academic fabs in the world.

- The technical response, corresponding to the wafers being offered, should be in the form of a compliance table with at least 5 columns. Serial number in column 1. Each of the numbered technical items below should be addressed in a separate row of the table in column 2. Compliance to this requirement, in Yes/No, deviation from it and justification should be provided in the neighboring columns 3-5. Post the opening of a hard copy of the technical bid the committee will request for a soft copy of the files for further processing. Companies should NOT mail soft copies of the files unless specifically requested for.

- Detailed technical specifications of the wafer being offered should be included.

Bids should be sent to Prof. Digbijoy N Nath, CeNSE, IISc, Bangalore, 560012. Direct all questions concerning this acquisition at digbijoy@iisc.ac.in
1. **Primary description**: Epitaxial $\beta$-$\text{Ga}_2\text{O}_3$ wafer on $\beta$-$\text{Ga}_2\text{O}_3$ substrate

2. **Number of wafers required**: 1 (One)

**Specs of the $\beta$-$\text{Ga}_2\text{O}_3$ substrate on which the epi-stack is realized**

3. **Size**: 4 inch (~100 mm) in diameter

4. **Phase/polymorph**: $\beta$

5. **Doping**: Must be $> 10^{18}$ cm$^{-3}$

6. **Dopant**: n-type, either Sn or Si dopant, Activated

7. **Orientation**: (001)

8. **XRD FWHM**: < 400 arcsec

9. **Thickness**: > 500 µm

10. **Offset angle**: $\pm 1^\circ$

**Specs of the epi-layers of $\beta$-$\text{Ga}_2\text{O}_3$**

11. **Thickness**: ~ 10 µm

12. **Dopant type**: n-type, Silicon

13. **Doping concentration**: ~ 1-3x10$^{16}$ cm$^{-3}$, activated

**Common Terms and Conditions**

14. **The wafer must be pre-diced into 1 cm x 1 cm sizes**

15. **Shipping**: The cost of shipping up to IISc should be included.