

5GIF Academic Research Project with Faculty members of LNMIIT (Jaipur), Amrita University (Bengaluru)

Statement of Work

Academic Partners:

Faculty

Prof. Divyang Rawal, LNMIIT, Jaipur (India)

Prof. Navin Kumar, Amrita University, Bengaluru (India)

Date: April 13th, 2022

1. Background

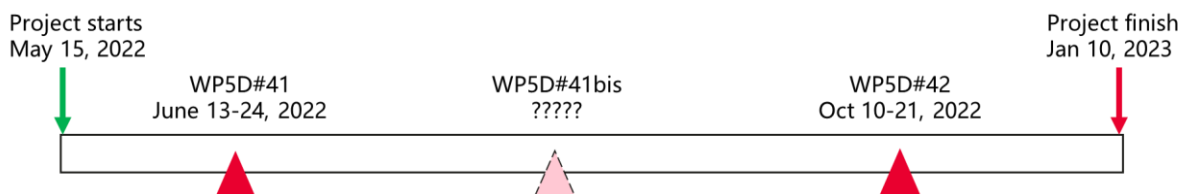
5GIF is involved in the development and standardization of mobile communication technologies. 5GIF is represented by major global technology companies who are actively involved in development and standardization of 3GPP mobile technologies. 5GIF has remained actively engaged in the current generation of mobile wireless technology, IMT-2020 as specified by ITU-R over the entire technology development cycle. 5GIF has been a registered Independent Evaluation Group (IEG) and conducted the independent evaluation of DECT-2020 and EUHT candidate technologies in IMT-2020 Evaluation cycle.

Joint engagement with academia is an important part of this undertaking. The current proposal for a research project is about technical evaluation of EUHT candidate technology under extended cycle of IMT-2020 process, which would include technical analysis, simulations, report generation and representation in ITU-R meetings as per the areas of responsibilities assigned in Section 3) of the document. However additional topics may be added to this cooperation project after completion of evaluation task till the completion of this cooperation project i.e. 8 months.

2. Term/Schedule

IMT-2020 Evaluation Meetings for 5GIF representation:

The IMT-2020 Evaluation schedule is defined by ITU-R to start with IMT-2020 workshop to be held along with WP5D#41 meeting in June 2022 and scheduled to run until WP5D#42 meeting in Oct 2022. However, the final completion of the evaluation might get extended beyond this deadline. To keep the safety margin, this academic research project is scheduled to start from May 15, 2022 till Jan 10, 2023.



For period from the actual completion of ITM-2020 evaluation till the expiry of this project, additional tasks will be assigned with mutual discussion. Moreover, if the evaluation work gets extended beyond Jan 10, 2023, necessary extension would be provided at the same terms.

There can also be some interim meetings scheduled in between these main meetings. End to end Representation of 5GIF in ITU-R meetings will be one of the prime responsibility of the academic faculty partners as per the responsibility matrix.

3. Description of work

Responsibility Matrix

Task	Constituents	Accountable	Remarks
1	<ul style="list-style-type: none"> a) Detailed study of candidate submission by EUHT proponents (parameters and technologies employed) b) Theoretical analysis of the EUHT system model of end-to-end network c) Unified Modelling 	Academic faculty partners	In case of ambiguities in specifications or self-evaluation report or any other gaps, it would be identified and pointed out to 5GIF. Academic faculty partners shall seek due clarifications from proponents through direct interaction. 5GIF shall support in setting up meeting with proponents if needed.
2	<ul style="list-style-type: none"> a) URLLC Scenarios for Simulations: Urban Macro. b) eMBB Scenarios for Simulations: Indoor, Dense Urban Environment c) Analysis for process of EUHT, such as CA etc. 	<p>5GIF will conduct the simulations work for simulation based KPIs and share with academic faculty partners</p> <p>Analytical aspects of the evaluation to be conducted by academic faculty partners, along with preparing for presentation of the report in ITU meetings</p>	<p>Results of simulation shall be shared by 5GIF, along with clarifications as needed</p> <p>In case of ambiguities in specifications or self-evaluation report or any other gaps, it would be identified and pointed out to 5GIF. Academic faculty partners shall seek due clarifications from proponents through direct interaction. 5GIF shall support in setting up meeting with proponents if needed.</p>
3	<ul style="list-style-type: none"> a) Participation in ITU-R meetings representing 5GIF for presentation of report b) Handling discussion during ITU-R meeting (with ITU-R and with NuFront) c) Handling Observations from meeting and from NuFront verbally during meeting and with formal documented responses during or after meeting as per requirement 	<p>End to end participation by academic faculty partners</p> <p>One of the faculty partners shall attend the meetings as per their mutual agreement Travel and stay expenses would be borne by 5GIF.</p>	Academic faculty partners shall be responsible for end to end representation on behalf of 5GIF handling the ITU-R meeting contribution presentation, discussions and responses (verbal & formal) on the meeting floor and after meeting. ITU-R meetings will be held in June and Oct during the year. 5GIF will try its best to support
4	<ul style="list-style-type: none"> d) Technical interaction with the Proponents of EUHT: 	Academic faculty partners will be accountable for interaction with proponents for any clarifications or discussion of results etc. as the work	In response to the counter-arguments to 5GIF report from EUHT. It would involve meetings or mail correspondence with the Proponents before or after ITU-R meetings, as work demands, and also interactive sessions, if needed

		demands through direct interaction	
5	e) Report Writing and contribution drafting and submission to ITU-R	5GIF will manage report generation and contributions writing for ITU-R meetings with the help from Academic faculty partners.	Academic faculty partners shall prepare to present the report in the ITU-R meetings and prepare effective arguments to defend the report.

4. Project Monitoring and Nodal Interface in 5GIF for Delivery

5GIF WG – IEG shall review the outcome after reach ITU-R meeting and provide feedback for next actions. Continuation of the project would be subject to continuous review by 5GIF after each meeting. If the outcomes are not meeting intended objectives, 5GIF can halt or terminate the project.

5. Proposed Budget

Note: Full money shall be given to faculty (This is the overall final financial aid from 5GIF to faculty to deliver the task. Securing support from students / research scholars is purely faculty's outlook and will be beyond the scope of 5GIF)

Monthly Charges	Start	End	Months	Total Charges	Svce. Tax @12%	Total with Tax	No. of faculty	Total project Cost
₹37,500	15-May-22	10-Jan-23	8	₹300,000	₹36,000	₹336,000	2	₹672,000

Travel & stay for ITU meetings on actuals with prior estimate approval by 5GIF

Travel for ITU-R meetings by one person

Tenure of agreement may be extended as per need on same terms with mutual discussions.

6. Payment mode

5GIF will make the payment post each ITU-R meeting.