



Welcome back to the OpenAirInterface workshop !

For this new fall edition we have thought about giving a new shape for our biannual event. In fact, this workshop is the **first** where we at OAI, besides giving the status and roadmap update, are **showcasing our technology through demos and hands-on classroom sessions**.

Throughout this event, you will learn how to **build, deploy** and **run** the **OAI code – all hands-on**. We shall address all three project groups: 5G RAN, 5G CN & MOSAIC 5G.



Programming Tasks :

- Platform: Linux system
- Deployment target: “basic” deployment as described in the Lab1 of the workshop

Goal: The contestants should develop:

1. A back-end interface on the “UDR” container: This part’s implementation shall be in C++
2. A Graphical Front-End interface with a form in order to add a subscriber: This part’s implementation is fully open.

Note: The organizer of the event will rank the submitted works of the participating teams based on the function completion and code execution efficiency. The top three teams will be awarded.

Copyright Notice: The copyright of all codes submitted by the contestants belongs to OpenAirInterface Software Alliance.

Operating environment:

During the development phase, developers need to build their own development environment, which must be compatible with the competition environment. A tutorial on how to have a developer environment is available [here](#)

Requirements for submission of works:

1. The work should contain source code only for the UDR part. For the Graphical Front-End part, source code and instructions to build are needed. No need to provide executables or container images.
2. The submitted source code must be a non-obfuscated or encrypted version, with a clear and readable structure.
3. In the final executable file submitted, if a third-party library (dynamic library or static library) is included, the source must be indicated (version, download link, compilation parameters, for auditing)
4. The works are submitted in accordance with the directory structure already used in the [UDR repository](#)
5. **The winning solution will then go through the OAI CN5G Continuous Integration process in order to be fully integrated to the current source base.** This is a **FULL** requirement in order to receive the award compensation.

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Programming Challenge (CN5G): Dynamic Addition of Subscribers

OAI Workshop Fall 2021 American and European Edition

Why participate?

1. Directly contribute to the world largest open source 5G project
2. Get big bonus and gifts
3. Get open-source contributor certification, your contribution will be recorded!



Validation of the solution: We will use the OAI 5G RF Simulator to validate the solution.

- Before addition of the subscriber, an OAI gNB will be launched and an OAI NR UE with an IMSI not currently in the data-base.
 - The attachment SHALL fail
- We will tear down both gNB and NR-UE containers and keep the 5G Core containers alive
- Then you will execute your solution.
- And we re-launch both gNB and NR-UE containers → this time it shall completely attach and we should be able to do traffic testing with ping operations.




Evaluation:

We will evaluate your work based on the following criteria (not necessarily in the described order)

- Submit your code before the deadline.
- We will build your solution and test it as described above.
- We will evaluate your work by time consumption and correctness of your output.
- You will have another chance (only one) to re-submit your code before the deadline.
- After the deadline, we will work on the examination of your code. The final ranking will be based on the better result of your submission.

Awards

Awards are per team basis

- 1st prize: 1000 euros 
- 2nd prize: 700 euros 
- 3rd prize: 500 euros 

Team limit: 5 members per team

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Important dates:



1) Deadline for Code Submission



2) Award notification
(might be delayed regarding the number of participants)

Submission process: by email

Contact: workshop@openairinterface.org