R&S Engineering Competition 2019 - Final Challenge | Part 1

**You have two time slots:**

**Part 1: 10:45 a.m. – 1:30 p.m.: Create a Poster of your Solution**

**Part 2: 1:30 p.m. – 5.00 p.m.: complete tasks 2 – 5 and keep the timing in mind☺**

**Collect Part 2 at the info point at 1.30 p.m.**

**Please read carefully through all tasks before you start to work!**

# Create a poster on your solution

**10:45 a.m. – 1:30 p.m.**

Please find a form for your poster on the USB flash drive provided in your booth.

Prepare a poster which shows your solution. The poster hast to be presented to a jury on Friday. You have 10 minutes for the presentation.

Besides standard presentation evaluation, we please you to include:

* + Which kind of algorithm are you using
	+ Why have you choosen this algorithm
	+ Explain the used algorithm in detail
	+ Explain the theoretical background
	+ Summarize your knowledge about 5G Broadcast, especially include at minimum three possible 5G Broadcast use cases for the future

More information is possible. Let your creativity run free!

**Hand in your poster via mailing it to** **engineeringcompetition@rohde-schwarz.com** **until 1:30 p.m.**

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# Measurement of your algorithm

Measure the performance of your algorithm (of the online challenge) regarding to

* CPU time
* Maximum memory usage

In case you didn’t work with an algorithm please use the “standard” algorithm on the usb flash drive.

# Optimization of your Algorithm

Optimize your Algorithm regarding CPU time and memory.

In case you didn’t work with an algorithm please use “standard” algorithm on the usb flash drive.

# Summarize your results

**Hand in an Excel File via E-Mail to** **engineeringcomeptition@rohde-schwarz.com** **until 5.00 PM.**

The file should include your measurements from the solution of the online competition and the performance of your optimized application. Every optimization step should be described in detail and also the time and memory measurement should be mentioned (in text).

Please include a graphic elaboration of the results of the measurements and optimization steps. It should look similar to these two graphs:

# Radio Direction Finding

With your whole team, go to the info point, get a direction finder and find the transmitter of a rogue signal. It also transports a message, what is it?

You have been assigned a timeslot as we only have a limited amount of devices.

**Report the location and/or the message** **via E-Mail to** **engineeringcomeptition@rohde-schwarz.com** **until 5.00 PM.**

# Visit of the lab and explore the global first 5G Broadcast test setup

**We will bring you to the lab. A surprise challenge is awaiting you!**