



2024 Student Tech Challenge

від Huawei Ukraine

Radio Network Planning

• Key Skills Developed

1. Technical Analysis:

- Analyzing population, geography, and network needs for effective coverage.

Applicable to network design and optimization roles.

2. RF Planning & Optimization:

- Determining base station locations and optimizing signal quality. Essential for RF engineers and mobile network planners.

3. Cost & Energy Efficiency:

- Balancing network performance with minimizing costs and energy use. Key in network operations and infrastructure management.

4. Capacity Optimization:

- Ensuring high-speed data and stable service, especially during peak times.

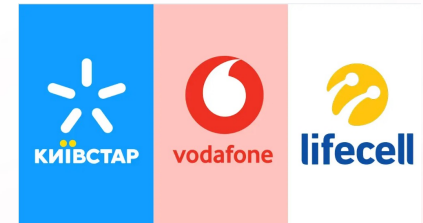
Useful for roles in network performance and optimization.

5. Collaboration & Project Management:

- Teamwork and decision-making skills applicable to technical leadership and project management in telecom.

Practical Career Applications

After completing this task, students will have gained experience relevant for careers at mobile network operators like Vodafone, Kyivstar, and lifecell, where they can work as network engineers, RF planners, or network optimization specialists. They will also be well-prepared to contribute to equipment development and network solutions at companies like Huawei, Ericsson, Nokia and else, focusing on hardware design, performance improvement, and new technology implementation.



Task Overview for Students

1. Task Sequence:

- Step 1: Analyze the city of Bakhmut (population, geography, key locations).
- Step 2: Plan the number and placement of base stations for three operators (Kyivstar, Lifecell, Vodafone).
- Step 3: Optimize network coverage, speed, and capacity, while minimizing costs.
- Step 4: Finalize and present the solution with a detailed technical and financial plan.

2. Key Features:

- Students must consider both urban and suburban areas for optimal coverage.
- Solutions should account for 4G technology and energy efficiency.
- Cost-effective solutions are critical—balancing performance and budget.

3. Materials and Software:

- Computers with U-NET software will be provided, allowing for detailed network modeling and simulation.
- Additional materials on Bakhmut's demographics and topography will be made available.

4. Criteria for Successful Solution:

- Criteria for evaluating the technical and economic feasibility of solutions will be discussed later during the competition briefing.

5. Evaluation Criteria:

- Final solutions will be judged on network performance (coverage, speed), cost-efficiency, energy usage, and the practicality of the proposed design.

Communication Guidelines

1. Availability: I am available on weekdays from 9:00 to 18:00 for any questions or guidance.
2. Experts: Each team has access to two experts for consultation:
 - Maksym Chernousov
 - Viktor Samovar
3. Communication Channel: We will use the Telegram messenger for all communications.

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Перший етап (онлайн):

напрацювання командами своїх рішень онлайн разом з тренерами.

Другий етап (в офісі):

робота з менторами над проєктом, підготовка та пітчінг ідеї.

Третій етап:

церемонія нагородження переможців за результатами оцінювання журі.