Finalizing the course.

Work with two or three ESRs on the subject (hence, find colleagues). Aim at a report of 5 pages. Choose 1 out of the following 2 options. In both cases you may produce some models and simulation results but that is not mandatory. You will receive feedback on questions but there is no grading, just passing.

1. Choose a project from one of the ESRs for which communication is relevant. Some of the following points are expected to come back into your report.
    a. Describe the impact of communication in that project, and which communication technology is expected. What are requirements to this technology in terms of the metrics discussed in the course or conversely, how do you use the properties of a given technology in your work?
    b. Describe how modeling is used, and describe potential analysis, experiments or simulations. Explain which optimizations are relevant, which metrics to use.
    c. For what do you need tooling and how would this tooling support an (alternative, innovative) design flow?
    d. If relevant, describe the simulator you would use (e.g. NS2, NS3, Opnet, Omnet, Cooja, Matlab, ….) and why. In addition, how you would validate such simulation?

2. Examine the wireless technologies: IEEE 802.15.4, IEEE 802.11p, IEEE 802.11e and IEEE 802.11ah, and discuss the following aspects.
    a. Where are these technologies aimed at, which aspects (metrics) do they address in particular?
    b. How is energy management dealt with?
    c. Does energy management impact delay? If yes, how?
    d. Suppose you want to examine a certain behavior of IEEE 802.15.4 nodes in terms of energy. This can be an application behavior, but also a protocol feature that you want to investigate. Propose a simulation setup, a choice of simulator and a validation strategy.