

# Assignment 2: Emergency Networks

Interaction and Concurrency - 2017-18

**To do:** Write a report using LaTeX including the answers to the exercises below.

**To submit:** The report in PDF by email to [lsb@di.uminho.pt](mailto:lsb@di.uminho.pt).

**Deadline:** 28 May 2018 @ 23h59 (Friday)

An emergency network is composed of a Control central a a number of different sorts of operational resources (e.g. fire brigades; ambulances; helicopters, etc.) whose operation the central is supposed to coordinate.

The system reacts to two types of events:

1. the different sorts of communications established among its components, and
2. external events (e.g. a communication of a fire; a help request; etc).

This exercise asks for formulating a number of operational requirements for such a network and modelling in mCRL2 a system implementing them. You are completely free to design such a system in a non trivial way. In any case, you should

- model the central and each of its resources as independent, concurrent processes;
- make use of at least a user-defined data type in mCRL2;
- test your system against a number of properties formulated in Hennessy-Milner logic and verified with MCRL2.