The view from main.cpp: Each MPI node/client (here Direktor, FO1 and FO2) lives its on active life. All of them progresses their simulation cycles independently, except that they have to pause on the 7 dedicated checkpoints (not to mess up the whole simulation). These checkpoints are denoted as waitHere() methods -- this method only blocks its caller until all MPI clients reach their waitHere() methods too, the methods unblock and finish immediately once everyone is "executing" this method (that is, once everybody reaches this method). In theory, all MPI clients should be crunching only the same block of code; here the "same" means the block between the same pair of barriers.