Automated Design of a Correction Dipole magnet for LHC, M. KARPPINEN, S. RUSSENSCHUCK, CERN - A correction dipole magnet, composed of a horizontal dipole nested inside a vertical dipole has been designed and optimised linking together different electromagnetic software and CAD/CAM systems. The necessary interfaces have recently been established in the program ROXIE which has been developed at CERN for the automatic generation and optimisation of superconducting coil geometries. The program provides in addition to a mathematical optimisation chest, interfaces to commercial electromagnetic and structural software packages, CAD/CAM and databases. The approach to integrated automated design has been: 2-D coil design, mathematical coil optimisation, 3-D coil design, mathematical coil optimisation, transfer of model file to Opera 3-D for calculations including the iron saturation, transfer of file to AUTOCAD for the mechanical drawings, transfer of file to the NC-machine for machining of the end spacers. The results from the electro-magnetic calculations with different programs have been compared. Modelling considerations to reduce the computation time are also given.