Double Batch Injection into LEP P. BAUDRENGHIEN and P. COLLIER, CERN - LEP is now routinely filled from two elementary injector cycles, one positron and one electron. During each of these cycles, 8 bunches are accelerated in the CPS, then the SPS and then injected into 4 bunches in LEP. Two SPS bunches being injected into the same LEP bucket. This mode of operation has become possible as a result of the move in LEP to the use of synchrotron injection. The time between successive injections into the same LEP bucket is presently 6 LEP turns. This value is optimum for the present synchrotron tune used at injection in LEP. The LEP injectors normally run with a 14.4 second cycle repetition, of which four 1.2 second elementary cycles were traditionally dedicated to LEP However, with the new scheme only two elementary cycles (each lasting 1.2 seconds) are needed for LEP. The time saved, amounting to one sixth of the total injector cycle time has become available for other users. During the last year these have included extra Physics cycles in the CPS and heavy ion and LHC MD cycles in the SPS. No loss in performance has been observed with the accumulation rates in LEP. The scheme as put into place will be described in detail.