## TWO CASE STUDIES OF INDUSTRIAL SYSTEMS IN FTU

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FTU (Frascati Tokamak Upgrade) started operations in 1989. The experimental session on FTU is a pulsed activity where 1 shot every 30 minutes should be done. So the control system is asked to manage for all the plants a startup phase, a hardware controlled plasma shot, a shutdown phase. The development of the control system has followed two phases: in the first one a commercial company has been involved into the development of an ad hoc control system, in the second phase a commercial package from Digital has been customised to be used on FTU machine. Both solutions have shown limitations. A full account of the two experiences will be given and further modifications will be described.