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**Sub-Station automation Engineer, working in DCS department as Technical project**

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This small description is to tell u about my work, First AREVA T&amp;D Middle East is handling big projects in all Middle East and North Africa, projects for transmission and distribution of the electrical Energy, the highest voltage level handled till now is 400KV. To build substations different contractors should interfere for Civil, Mechanical, and Electrical work [basic electrical materials are GIS [HV breaker], Line and Bus Isolators, Earth switches&hellip;]. And of course to build such stations u need automation inside and here come our turn.

AREVA T&amp;D automation is the HITECH office of AREVA T&amp;D that is responsible of all Protection, monitoring and control work of substations.

When the substation is Build and the SLD[Single line diagram] is in our hand we will start first by the protection work this is a separate department in my company called CCS, So in every feeder [Incomer , outgoing , bus section , bus coupler &hellip;] we need to put some number of numerical relays called protection relays that insure complete protection of the feeder , many kind of protection relays are used [Over voltage , over current under frequency , distance protection , differential protection&hellip;].

After protecting the substation the second phase is the DCS [Digital control system] or SCS [substation control system] , I&rsquo;m working in this department , DCS is Doing a big system architecture based on Ethernet network that connect many BCU [Bay control unit = DSP ] by fiber optic Dual ring , so for every feeder we put one BCU that take all information from protection relays[alarms , trip, status] by Modbus or 103 protocol and also those BCUs can control all Electrical part in substations[Breaker , isolator, earth swith&hellip;] and those BCUs also are responsible of the automation of the

