Earthquake prediction experiment site has been one of the most tricky and controversial projects in earthquake science since the 1960s. Beyond the scientific debate on earthquake prediction schemes, reflection about the functioning of earthquake prediction experiment sites from the perspective of systems engineering may provide another look at the study of earthquake predictability. In such a consideration, the international CTBT monitoring system, having been functioning as a device of ‘big science’ since its establishment, provides a heuristic reference. In this presentation we compare the international CTBT monitoring system and earthquake prediction experiment site/s, discussing the concept ‘monitoring and modeling for prediction’ in the effective and sustainable system design.