

The present invention refers to a gantry for use in the construction process of bridges, viaducts and other structures, said gantry being equipped with a system that automatically adjusts the prestressing of the said gantry's structure in accordance to 1 the external actions being applied on it when loadings occur. The adjustment of the prestressing is achieved through the use of at least one sensor (2) that monitors the structure, said sensors conveying those measurements to a controller (6), said controller (6) i being then capable of activating at least one actuator which alters the tension of the structure's prestressing cable or cables. Amongst the many advantages of the present invention, one is the possibility of applying a large amount of prestressing without this implying undesirable deformations in the main structure (1) when exterior loads are not applied.