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DYNAMIC ASSESSMENT OF THE LONGEST SINGLE-SPAN TIMBER-FOOTBRIDGE IN SPAIN.

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This paper shows the methodology used for the dynamic identification and serviceability assessment applied to a timber pedestrian walkway located in *Anillo Verde* trail, upon the N-102 road, between Zabalgana y Armentia, Vitoria, Spain. The footbridge is a 61 meters long and 3 meters wide structure consisting on curved glulam structural beams, wood deck and steel cross brazings, designed by Media Madera Ingenieros Consultores. With applied research aims, an experimental campaign was carried out in December 2019, just after its erection process. Useful data was collected to estimate its modal properties and to calibrate the corresponding computational model. Also serviceability dynamic tests were carried out to quantify the vibrations induced by pedestrian crossing. Although there may be some other works with similar objectives and methodology, the peculiarity of this structure is the building material, its large size and the challenging one-step erection process, resulting in a fully functional structural typology with attractive advantages from construction and environmental points of view.



Fig. 1. One-step erection process for the timber footbridge.