

Title (en)  
SYSTEM OF BRIDGE BEARINGS

Title (de)  
SYSTEM VON BRÜCKENLAGERN

Title (fr)  
SYSTÈME DE PALIERS DE PONT

Publication  
**EP 4263947 A1 20231025 (EN)**

Application  
**EP 21831355 A 20211206**

Priority  
• IT 202000030800 A 20201215  
• IB 2021061367 W 20211206

Abstract (en)  
[origin: WO2022130114A1] The scope of this invention concerns the modernization of bridges and viaducts: the focus is on the growing presence of new technologies aimed at computerizing such infrastructures. These technologies, which are increasingly being introduced, make it possible to obtain useful information in many areas, ranging from the maintenance of the structures themselves to their better operational management. In particular, the so-called "bearings", which constitute particular structural elements, which support the structures, are exploited in an innovative way. More specifically, the invention exploits the use of special "bearings", appropriately sensorized, so that they can provide information that can be used in various areas both to highlight the status of the viaducts themselves, and to monitor their operation. A system is taught, to be implemented on a bridge or viaduct, comprising a plurality of sensorized "bearings", suitable for carrying out a series of measurements, over time, about the vertical load exerted on each of said sensorized "bearings". The overall system also makes use of a video coverage subsystem suitable for identifying, over time, the number of vehicles and their position in the stretch of road corresponding to said bridge or viaduct. Furthermore, said system makes use of adequate calculation means suitable for processing the information produced by said sensorized "bearings" and by said video coverage subsystem, in order to estimate the weight of said vehicles passing on said stretch of road. In fact, making use of the knowledge of the mathematical structural model of the bridge or viaduct, a large number of equations can be written in which the variables are the weights of the vehicles in the stretch of road corresponding to said bridge or viaduct, and solving the system of equations thus generated, we can trace back to the calculation of the weight of the vehicles.

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