AN ACQUISITION DEVICE, A METHOD ~~FOR THE PRODUCTION THEREOF~~OF FABRICATING IT, AND ~~FORCE MEASUREMENT~~ A METHOD OF MEASURING FORCE

A first aspect of the invention relates to a transducer for detecting and/or measuring force when it is integrated in a force sensor; in which transducer the applied force is not measured directly, but is measured by measuring deformation: under the effect of a force, the transducer suffers deformation; this deformation leads to a variation in a measurable magnitude of the transducer; a measurement portion of the sensor detects and/or quantifies the variation, and delivers an output signal representative of the deformation and consequently of the applied force.

Naturally, such a transducer can also be used for detecting or measuring deformation.

A first application of such transducers and sensors lies in weighing vehicles on a roadway, when stationary, or preferably while moving.

When a vehicle is on a roadway, whether stationary or moving, the roadway deforms locally under its tires. This deformation, which is a function amongst other things of the weight of the vehicle, can be detected and/or measured by a sensor or an array of sensors. This deformation information can then be interpreted in order to detect the presence of vehicle wheels and to determine the number of vehicle wheels present or traveling on the roadway, their speed, and/or their travel direction, or indeed their weight.

A second application lies in tracking the state of the roadway, e.g. tracking irreversible deformation of the roadway and/or detecting cracks and/or anticipating cracks, e.g. by analyzing any drift in the measurement(s) from the sensor(s), whether obtained in the absence of a vehicle or aggregated after the passage of a plurality of vehicles.