

Title (en)
MOBILE APPARATUS AND METHOD FOR DETECTING AN OBJECT SPACE

Title (de)
MOBILE VORRICHTUNG UND VERFAHREN ZUM ERFASSEN EINES OBJEKTRAUMS

Title (fr)
DISPOSITIF MOBILE ET PROCÉDÉ DE DÉTECTION D'UN ESPACE OBJET

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Application
EP 19720395 A 20190408

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Abstract (en)
[origin: WO2019193207A1] The present invention relates to a mobile apparatus (1) for detecting an object space, and to a corresponding method. The apparatus (1) has a frame and at least one single-sampling scanner (13) mounted on the frame (single-plane laser scanner) and a multi-sampling scanner (16) mounted on the frame above the single-sampling scanner (13). Said multi-sampling scanner comprises a plurality of emission units integrated into one component, a receiver for detecting reflection radiation, and a scanning device for modifying the emission directions of the signal beams from the emission units. The apparatus (1) further has an evaluation device, which is designed to generate and to output, at least from the reflection radiation detected by the receiver and in real time, a graphical representation of those areas of the object space through which the apparatus (1) can be moved and/or was moved. The apparatus (1) finally has a data interface, which is designed to output data to a memory device for post-processing. The first plane (40) defined by the signal beams of the single-sampling scanner (13) is tilted forward from the vertical by an angle of preferably 15° with respect to the forward movement direction A. A first camera (17) pointing forwards is optionally provided. The signal beams from the multi-sampling scanner (16) generate an emission fan (42). Said emission fan (42) is symmetrical with respect to a centre axis (43), which is perpendicular to the rotation axis (44) of the multi-sampling scanner (16) and is inclined downward with respect to a horizontal plane D. The mobile apparatus (1) can detect and output in real time the position of the apparatus (1) in the object space during the detection process, including in buildings, using the multi-sampling scanner (16) and the accompanying evaluation device. The object space can be detected very precisely using a high-accuracy single-sampling scanner (13), generation of a three-dimensional model of the detected object space not being possible until post-processing. A second or a third single-sampling scanner can be arranged on the top of the frame.

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