Claims

1. A mobilized diagnostic system comprising

a land transportation unit having a driving cabin;

a caravan defining a longitudinal chamber being connected to and transportable by the transportation unit;

an assembly of computerized tomography (CT) scanner resided within the chamber, the assembly comprising a base movably placed on a floor of the chamber through a first locking mechanism, a gantry defining a central bore being vertically erected on top of the base for receiving a body part of a subject thereto, and a horizontally extending couch on which the subject rested on being detachably fasterned on the floor through a second locking mechanism succeeding to the gantry;

a control module resided within the driving cabin or the chamber communicatively connecting to the assembly for controlling operation of the assembly; and

a primary power source for providing energy to a movement of the transportation unit and an operation of the assembly of CT scanner,

wherein the first locking mechanism realizes movement of the gantry towards or away from the couch along a horizontal axis and the second locking mechanism prohibits movement of the couch fastened on the floor, the second locking mechanism comprises an elongate stage raised from the floor expanding along the length and a midpoint of the chamber with a pair of side edges each defining a groove for forming a sliding rail therein, a rack extendable from the frame to be slidably engaged to the sliding rails upon pushing the couch towards the gantry such that the couch is free of sideways movement, an arrangement on the frame for adjustment of a position of the bed along a vertical axis in relation to a level of the floor, and a gripper extending upward from the stage to releasably anchor onto the frame to secure the position of the couch on the floor,

wherein the couch is configurable to adjust a distance of the subject in relation to the floor along a vertical axis.

2. The system of claim 1, wherein the chamber is concealed from the driving cabin by a front wall of the caravan that a front door is fabricated on the front wall for accessing the chamber from the driving cabin.

3. The system of claim 1, wherein the chamber is accessible from an external environment through a rear door fabricated on a rear wall of the caravan.
4. The system of claim 1, wherein the caravan has an internal surface covered with an aluminium composite-based coating and an external surface covered with a lead-based coating.
5. The system of claim 4, wherein the aluminium composite-based coating has a thickness of 3.0-5.0 mm and the lead-based coating has a thickness of 0.5-2.0 mm.

6. The system of claim 4, wherein the caravan is substantially wrapped in stainless steel.
7. The system of claim 1 further comprising a secondary power source for providing energy for an operation of the assembly of CT scanning upon failing of the primary power source in providing the energy to the assembly of the CT scan.
8. The system of claim 7, wherein the secondary power source is a rechargeable battery which is recharged by the primary power source when the secondary power source is idle.
9. The system of claim 1 further comprising a communication module enabling wireless communication of an on-site operator with an external party.
10. The system of claim 1, wherein the couch comprises an upholstered bed, a frame extending downward from an underneath surface of the bed, and at least a pair of wheels provided to the frame enabling sliding movement of the couch on a relatively flatted surface.
11. The system of claim 1 further comprising one or more continuous tracks assembled at a bottom of the base to enable forward or backward movement of the gantry in relation to the couch.
12. The system of claim 1, wherein the first locking mechanism comprises a pair of floor brackets each being spaced to mount on the floor in parallel defining a passageway therebetween for placement and movement of the base in relation to the couch and a longitudinally running trough being defined within each floor bracket, a pair of base brackets each being spaced apart to affix onto the base such that each base bracket comprises a downwardly extending hand insertable into the corresponding trough of the floor bracket permitting sliding movement of the base and the gantry thereby in relation to the couch, an actuator activatable for effectuating a forward movement of the gantry towards the couch or a backward movement of the gantry away from the

couch, an electromagnetic component capable of generating a magnetic field upon receiving an electric current, and a locking element residing within the trough engaged to the hand of the base bracket in a default locking mode prohibiting sliding of the base bracket via the trough and the locking element being switchable to an unlocking mode to disengage from the hand of the base upon generation of the magnetic field by the electromagnetic component and activation of the actuator.

13. The system of claim 1 further comprising N number of weight sensors installed and spaced apart on the floor corresponding to the relative orientation of the wheels of the couch at a horizontal plane that the weight sensors are configured to measure a weight of the subject upon aligning the wheels with the sensors, wherein N equals to the number of wheels of the couch.

14. The system of claim 13, wherein the weight sensor measuring the weight of the subject is free from being interfered by an engagement of the rack and the sliding rails.