



# KAR head-over-hang moving assistance robot

Solution to the stress and capacity problems of medical and nursing staff.

## Problem description:

Nursing care, especially nursing care of bedridden patients, is currently one of the greatest challenges of our society.

Because of the demographic development and other social problems (especially in the epidemic and pandemic periods), the medical and nursing staff is and will be under current conditions (too many, constantly growing, tedious and repetitive tasks, e.g. The medical and nursing staff is and will be burdened in the future with many constantly growing, laborious and repetitive tasks, e.g. transferring patients from supine to prone position (in normal and COVID times), transporting medications, transporting bedridden patients, various small needs of patients (monitoring, etc. and thereby with the sporadic or every few hours repeating activities) and the today, practically not available suitable nursing and auxiliary means clearly to the strength limit and to the capacity stop.

## The new solution «Assistance robot KAR»:

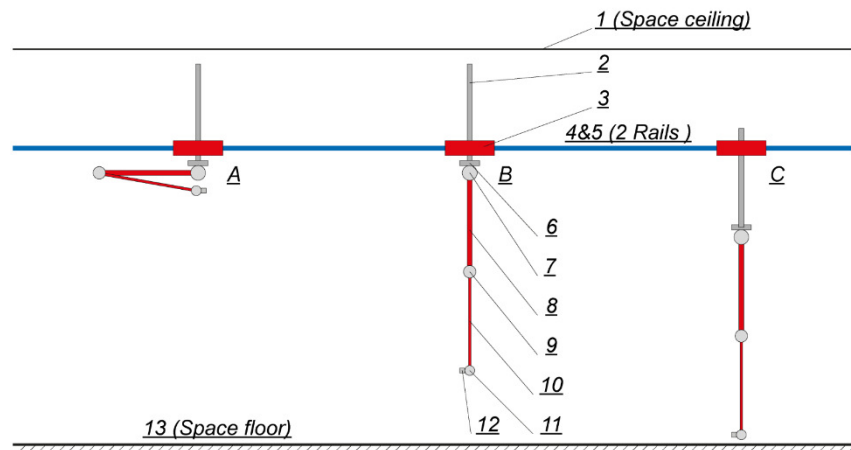
The solution of the above described current, respectively future problems of the medical staff is the integration of the head-over-hanging-moving-assistance-robots KAR in the handling of their, for this purpose suitable activities respectively tasks.

With the "JUST IN TIME" developed two KAR variants (1Arm-KAR and/or 2Arm-KAR) all relevant recognized and future problems of the personnel in medicine and care can be solved.

With the in both variants executable "head-over-hanging-moving assistance robots" (the one-armed 1Arm-KAR and the two-armed 2Arm-KAR assistance robot) the relief of the medical personnel in their work should and can be affected by the use of appropriately suitable and intelligent grippers and with suitably programmed local and superordinate system controls.

The figure below shows the version 1A-KAR hanging in the room (1), movable on two rails (4, 5), consisting of a lifting rod (2) and a kinematic articulated arm (so-called serial kinematics) installed on it and carried by the robot -Transport base (3, with hidden wheels).

The 1A-KAR kinematic articulated arm consists of a shoulder joint (7), upper arm (8), elbow joint (9), lower arm (10), gripper joint (11), gripper holder (12) and a gripper designed according to the tasks to be performed, e.g. the intelligent gripper.

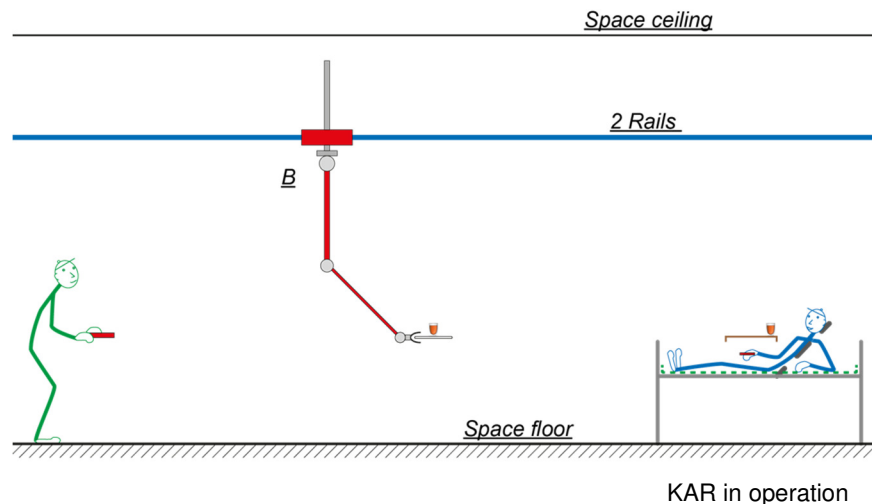


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InvenComm GmbH  
Im Grod 1  
CH-6315 Oberägeri

Phone: 0041 (0) 43 4435472  
Email: [inven@invencomm.com](mailto:inven@invencomm.com)  
Web: [www.invencomm.com](http://www.invencomm.com)



#### Advantages of the assistance robots KAR:

- all known nursing and elderly care problems (especially / the TURNING on the BELLY can be solved with the assistance robots (KAR) with the consequence of the enormous relief and the staff (doctors and nurses).
- due to the fact that assistant robots are 1Arm-KAR or 2Arm-KAR "head-over-hanging-moving", ONLY they can do their tasks optimally in every respect.
- all tasks of the assistance robots 1Arm-KAR or 2Arm-KAR in transport mode can be performed with only one caregiver. In this case, the caregivers only have to start the transport of the objects and specify the destination.
- the transit mode can either be ordered by only 1 caregiver or it can be done automatically by the command of the superior system control.
- self-transit of patients runs even without supervision of the nurses
- the medical monitoring of the patient can be fully automated (without nursing staff).
- cleaning activities can be fully automated (with advantage) outside peak hours (at night)
- ONLY by fixing the KAR and its runners to the ceiling (or other constructions) the normal freedom of movement or traffic on the floor is not affected.

- ⇒ **The problems of physicians and nurses are finally solved forever with assistance robots (KAR/ 2 variants).**
- ⇒ **Innovative product with unique selling points, protected by patent**
- ⇒ **Huge market potential!**

**Please contact us for more detailed information!**

Further information on [www.invencomm.com](http://www.invencomm.com)



InvenComm GmbH  
Im Grod 1  
CH-6315 Oberägeri

Phone: 0041 (0) 43 4435472  
Email: [inven@invencomm.com](mailto:inven@invencomm.com)  
Web: [www.invencomm.com](http://www.invencomm.com)

#### Your contact:

Dipl.-Ing. Thomas Dibke  
CEO and Owner InvenComm GmbH  
Phone: 0041 43 443 5472  
[thomas.dibke@invencomm.com](mailto:thomas.dibke@invencomm.com)

