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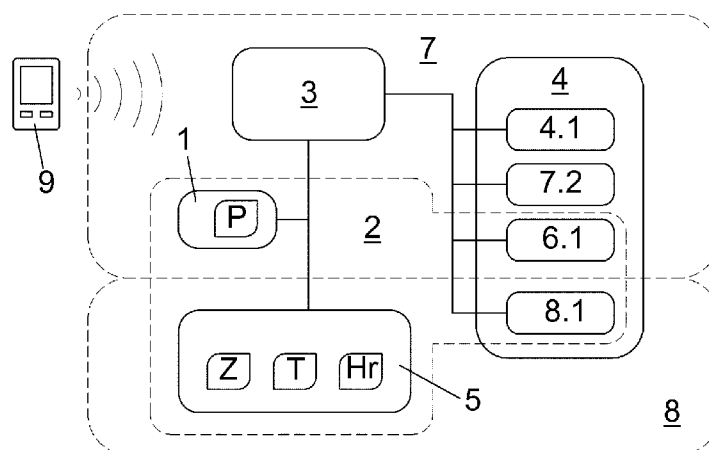


Fig.1

(57) Abstract: A system for controlling the risks of appearance of pressure ulcers in a user, comprising a number of pressure sensors distributed across a bearing surface of the user, which measure pressure values, a controller, which receives the pressure values, and means which act on the user, which are driven by the controller, wherein tissue-state sensing means measure bioimpedance, temperature and moisture values in an area at risk of the user's body which is in contact with the bearing surface, the controller measuring said values and assessing a level of risk of appearance of pressure ulcers on the basis of the measured pressure, bioimpedance, temperature and moisture values. Another object of the present application is to provide a process for controlling risks of appearance of pressure ulcers.

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**SYSTEM AND PROCESS FOR CONTROLLING THE RISKS OF
APPEARANCE OF PRESSURE ULCERS**

TECHNICAL FIELD

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The object of the present invention is to provide a system for controlling the risks of appearance of pressure ulcers which comprises, in addition to pressure sensors distributed across the user's bearing surface, respective sensing means that measure

10 bioimpedance, temperature and moisture values in an area at risk of the user's body which is in contact with the bearing surface.

15

Another object of the present application is to provide a process for controlling the risks of appearance of pressure ulcers, which uses the system which is the object of the present application, which assesses, with pressure, bioimpedance, temperature and

20 moisture values, measured in the area at risk of the user's body, the level of risk of appearance of pressure ulcers. Thus, said risks are effectively assessed, personalized for each user, by taking into account the current state of his tissues in the area at risk, his

25 preferences, and the context of use, i.e. according to the scenario - if it is an active, rest or relax scenario.

BACKGROUND OF THE INVENTION

30

The risks of appearance of pressure ulcers are typical in people who, for health reasons, remain immobile for long periods of time on top of a bearing surface formed e.g. on a wheelchair, a bed, etc. Hence,

35 the pressures exerted from the inside of the person, by

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his bones, and from the outside, by the surface on top of which he is laying, cause the blood flow to decrease through the area of his body which is resting on the bearing surface, affecting the state of the skin tissues
5 in said area and fomenting the formation of pressure ulcers, also known as bedsores or sores.

With a view to preventing the risks of pressure ulcer formation, multiple solutions have been designed
10 which, from the moment they detect that an increase in pressure in the area at risk may exceed a healthy threshold, which has been set as the limit that foments the appearance of pressure ulcers, issue alarms and/or undertake actions on the body of the person using, e.g.
15 a wheelchair, aimed at restoring blood flow through the area at risk.

For example, patent document WO 2007106040, published on September 20, 2007, discloses a monitoring
20 device for reducing the risk of pressure ulcers, which comprises a series of pressure sensors distributed across the user's seating surface, wherein the seating pressure, as well as its duration, are continuously monitored for each measurement point. If the pressure in
25 any of the measurement points is sufficiently high to cause a decrease in the user's blood flow, an alarm will be triggered before said lack of flow starts causing lesions to the user. Once the alarm is triggered, the user must change his seating position, relieving the
30 overloaded area for enough time to allow the blood to flow again through the veins in said area, said relief time also being monitored by the device. Likewise, the alarm indicates where and when the pressure overload is about to take place and stops temporarily once the
35 pressure is relieved. Not only is the user warned, but it is also possible to warn his caregivers e.g. if the

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user has not changed his position.

Likewise, a control system for pressure ulcer prevention is known from patent document US 2011245732, published on June 6, 2011. The system includes a number of force sensors positioned at different locations in relation to the contact surface, and a controller which receives the pressure values measured by each force sensor. The controller is configured to compare one or more first values associated with a first subset of force sensors with one or more second values associated with a second subset of force sensors, and to determine, from the comparison, whether a threshold between said one or more first values and said one or more second values have been exceeded, and to control, on the basis of the determination, an indicator to provide the user with an indication.

Another example is patent document US 2011288444, published on November 24, 2011, which refers to a device for preventing the formation of bedsores on a bearing area, i.e. the area where a person in a seated or laid-down position rests. The device comprises pressure sensors which are arranged under the aforementioned bearing area; means for comparing each measurement provided by any of the sensors with at least one threshold value; storage means for storing all measurements provided by all sensors during a first time period from the moment the threshold value is exceeded by at least one measurement; means for processing the stored measurements which are used, once the first time period has elapsed, to determine motion instructions for the person in the seated or laid-down position, thus preventing the formation of bedsores; an electrostimulating lingual device for conveying the aforementioned motion instructions to the person; and

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actuators, which can be driven by the person in the seated or laid-down position, which regulate the motion of said person.

5 However, the previously discussed solutions have a drawback in that they only take into account the increase in pressure in the area at risk as an indicator for determining the presence of the risk of appearance of pressure ulcers, on the basis of the comparison of
10 said experienced pressure increase with a threshold which is supposedly valid for all users. In other words, the actual state of the tissue of the area at risk of the user's body is not taken into consideration, which may mean that, for a given user, there might be risks of
15 appearance of pressure ulcers before the preset threshold has been exceeded.

 This is why there is a need for designing a system and process for controlling the risks of
20 appearance of pressure ulcers enabling the previously discussed drawbacks to be overcome. That is, that they take into account the actual state of the tissue of the area at risk of the user's body in order to thus carry out different strategies based on his particular
25 characteristics.

DESCRIPTION OF THE INVENTION

 The present invention is established and
30 characterized in the independent claims, whereas the dependent claims describe other characteristics thereof.

 The present invention relates to a system for controlling the risks of appearance of pressure ulcers
35 in a user.

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The system comprises a number of pressure sensors which measure pressure values across a bearing surface of the user formed e.g. on top of a cushion.

5

The term "cushion" should be understood in its widest sense, and includes cushions, pillows, etc., e.g. those used as a seat in wheelchairs, bed mattresses, etc.

10

Likewise, the system comprises a controller, which receives the pressure values measured by the pressure sensors, and means which act on the user, which can be driven by the controller.

15

Additionally, the system comprises means for sensing the state of the skin tissue in a area at risk of the user's body which is in contact with the bearing surface, said area at risk depending on the user's posture and being in general any part of the user which has a bone protrusion exerting pressure on the skin, e.g. if he is seated it would be the ischium or the coccyx, if he is laying down it would be the heels, the head, etc. Said means measure respective values of bioimpedance, temperature and moisture, which are useful indicators for diagnosing the current state of the skin tissue in said area at risk.

20

25

Bioimpedance means impedance spectroscopy, the set of impedance measurements (resistance, reactance and phase) inside a frequency range, usually the beta band ranging from 1 kHz to 1 MHz, preferably from 10 kHz to 50 kHz.

30

35

Thus, the controller receives said values and

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assesses a level of risk of appearance of pressure ulcers on the basis of the measured pressure, bioimpedance, temperature and moisture values.

5 Likewise, the invention relates to a process for controlling the risks of appearance of pressure ulcers in a user comprising the following steps:

- 10 a) setting initial pressure, bioimpedance, temperature and moisture values measured in a area at risk on the user's body which is in contact with a bearing surface,
- 15 b) calculating the variation experienced, in a certain time, by the pressure, bioimpedance, temperature and moisture values measured in the area at risk in relation to the initial pressure, bioimpedance, temperature and moisture values set in step a),
- 20 c) comparing the variations calculated in step b) with previously defined, healthy pressure, bioimpedance, temperature and moisture thresholds,
- 25 d) assessing the level of risk of appearance of ulcers in the area at risk according to the results of the comparison made in step c), and
- 30 e) recommending driving means which act on the user according to the risk level assessed in step d), the user's preferences and the scenario.

As can be seen, the proposed invention allows the level of risk actually existing in the user's skin of appearance of pressure ulcers to be assessed since, 35 in order to do so, in addition to the increase in

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pressure, the particular state of the user's skin tissues in said area is taken into account through the variation of the bioimpedance, or bioelectrical impedance, which reveals the state of said tissues according to the resistance they offer to the passage of current, as well as the variations of the temperature and moisture conditions which make it easy for pressure ulcers to appear in said area at risk.

Thus, it is possible to assess different levels of risks of the appearance of pressure ulcers, which permits deciding which is the best combination of strategies for reducing said risks, according to particular characteristics of the user's condition, his preferences and the context of use or scenario, it being possible to choose when said strategies should be applied instead of their being automatically executed.

BRIEF DESCRIPTION OF THE DRAWINGS

The present specification is complemented with a set of figures, which illustrate the preferred example of the invention and never limit the latter.

Figure 1 depicts an interaction diagram of the system for controlling risks of appearance of pressure ulcers.

Figure 2 depicts an example of a preferred embodiment of the system shown in Figure 1, as part of a wheelchair and a garment in the shape of short pants.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

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The present invention is a system for controlling risks of appearance of pressure ulcers in a user, e.g. a person who, for health reasons, stays still for long periods of time.

5

As shown in Figure 1, the system comprises a number of pressure sensors (1) distributed across a bearing surface (2) of the user (not shown in the figures), which measure the pressure values (P).

10 Preferably, the pressure sensors (1) are arranged forming a matrix covering the entire bearing surface (2).

Preferably, the bearing surface (2) is formed on a dynamic cushion (6) having independent inflation/deflation control areas (6.1). Figure 2 shows that the dynamic cushion (6) is a seat (7.1) of a wheelchair (7); however, it could be the mattress (not shown in the figures) of an articulated hospital bed (not shown in the figures).

Likewise, the system comprises a controller (3), which receives the pressure values measured by the pressure sensors (1), and means (4) which act on the user, which can be driven by the controller (3).

25

Preferably, the controller (3) can be configured from an interface, which comprises a user application, or "app", on a mobile device (9) belonging to any of the known types: mobile phone, smartphone, tablet, etc.

30

On the other hand, the means (4) which act on the user could be:

35 - sirens and/or a screen (4.1) emitting sound and/or visual signals.

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- the control areas (6.1) of the dynamic cushion (6),
- reclining means (7.2) of the wheelchair (7) or, if appropriate, the bed, and/or
- 5 - functional electrical stimulation means (8.1) arranged on a garment (8) which is attached to the user.

On the other hand, the system comprises tissue-
10 state sensing means (5), which measure bioimpedance, temperature and moisture values (Z), (T) and (Hr) in an area at risk (PU) of the user's body which is in contact with the bearing surface (2).

15 As in the case of the pressure values (P), these values (Z), (T) and (Hr) are received by the controller (3), which assesses a level of risk of appearance of pressure ulcers on the basis of said pressure, bioimpedance, temperature and moisture values (P), (Z),
20 (T) and (Hr).

Preferably, the tissue-state sensing means (5) are arranged on the garment (8) that is attached to the user's body. For example, said garment (8) is shown in
25 the shape of short pants in Figure 2.

Likewise, both the tissue-state sensing means (5) and the functional electrical stimulation means (8.1) present in the garment (8) preferably communicate
30 with the controller (3) via cable or wirelessly.

The process for controlling risks of appearance of ulcers starts any time the user uses the previously described system, setting initial pressure,
35 bioimpedance, temperature and moisture values (Pb),

- 10 -

(Zb), (Tb) and (Hrb), measured in the area at risk (PU) on the user's body which is in contact with the bearing surface (2).

5 Thus, the pressure sensors (1) and the tissue-state sensing means (5) start performing a continuous sampling with a frequency of e.g. at least 0.1 Hz.

10 Next, the variation experienced, in a certain time (t), from the moment the sampling starts, by the pressure, bioimpedance, temperature and moisture values (P), (Z), (T) and (Hr) measured in the area at risk (PU) in relation to the initial pressure, bioimpedance, temperature and moisture values (Pb), (Zb), (Tb) and
15 (Hrb) which were set.

 Then, the previously calculated variations are compared with previously defined, healthy pressure, bioimpedance, temperature and moisture thresholds (P),
20 (Z), (T) and (Hr).

 Preferably, the pressure thresholds considered to be healthy are calculated by adding a "safety" margin to the critical pressure values leading to the
25 appearance of pressure ulcers. Said thresholds are:

- the pressure (P) does not increase between 187 mmHg (Pr1) and 225 mmHg (Pr2) for more than two minutes, it being possible for it to stay the same for a time (t) of one hour,
- 30 - the pressure (P) does not increase between 37.5 mmHg (Pr1) and 75 mmHg (Pr2) for a time (t) greater than 2 hours, and
- the pressure (P) stays, for a time (t) between 1 and 2 hours, below the values
35 calculated by means of the following

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equations:

$$Pr1(\text{mmHg}) \leq 225 - \frac{150}{60} * (t(\text{min}) - 60)$$

$$Pr2(\text{mmHg}) \leq 187 - \frac{150}{60} * (t(\text{min}) - 60).$$

5

As far as the bioimpedance (Z) is concerned, the healthy threshold preferably does not increase by 5 to 30% in relation to the set initial value (Zb). It is considered that there might be risks of appearance of pressure ulcers in this range. In particular, damage to the tissue, or cellular death, starts from 30%.

10

And as for the temperature (T) and the moisture (Hr), a first good comfort area (Z1), a second neutral comfort area (Z2) and a third discomfort area (Z3) are considered. Hence, the healthy thresholds are preferably the following:

15

20

- the temperature (T) is between 27 and 36°C,
- and
- the moisture (Hr) is below 80%.

Next, the level of risk of appearance of ulcers in the area at risk (PU) is assessed according to the results of the comparison made before. Preferably, four risk levels are identified: "no risk", "low risk", "average risk" and "high risk".

25

Thus, the risk level can be assessed as being zero if all the following conditions are fulfilled:

30

35

- the bioimpedance (Z) increases by less than 5%,
- the pressure (P) stays below Pr1 in the time (t),
- the temperature (T) stays between 29 and

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34°C, and

- the moisture (Hr) stays below 80%.

5 The risk level can be assessed as being low if
at least one of the following conditions is fulfilled:

- the bioimpedance (Z) increases by 5 to 10%,
- the pressure (P) stays between Pr1 and Pr2 in the time (t),
- the temperature (T) stays between 27 and 29°C
- 10 and the moisture (Hr) stays below 90%,
- the temperature (T) stays between 29 and 34°C and the moisture (Hr) stays between 80 and 90%, or
- the temperature (T) stays between 34 and 36°C
- 15 and the moisture (Hr) stays below 90%.

The risk level can be assessed as being average if at least one of the following conditions is fulfilled:

- 20 - the pressure (P) stays between Pr1 and Pr2 in the time (t) and the bioimpedance (Z) increases by 5 to 10%,
- the pressure (P) stays between Pr1 and Pr2 in the time (t) and the temperature (T) stays
- 25 below 27°C or above 36°C, or
- the pressure (P) stays between Pr1 and Pr2 in the time (t), the temperature (T) stays between 27°C and 36°C and the moisture (Hr) stays above 90%.

30

The risk level can be assessed as being high if at least one of the following conditions is fulfilled:

- the pressure (P) stays above Pr2 in the time (t), or
- 35 - the bioimpedance (Z) increases by 10 to 20%.

- 13 -

Then, depending on the assessed risk level, it is advisable to drive the means (4) which act on the user according to a strategy for driving them. The user
5 may follow the recommendation or ignore it, usually via the application of the interface of the mobile device (9).

Preferably, a series of strategies for driving
10 the actuating means (4) are programmed according to the types of risks, the scenarios, i.e. the positions adopted by the user as a result of the action of the reclining means (7.2), e.g. a seated position, considered to be an active scenario, an intermediate,
15 more reclined position, or rest scenario, and an almost laid-down position, or relax scenario, and the user's preferences.

Then, the actuating means will follow the drive
20 strategy until the risk level changes. To this end, the variation experienced by the pressure, bioimpedance, temperature and moisture values (P), (Z), (T) and (Hr) is continuously calculated until the user exits the system; said variation is continuously compared with the
25 healthy thresholds; and the real risk level existing in the area at risk (PU) is continuously assessed. Once the risk level changes, the actuating means (4) will move on to carry out another strategy according to the new risk level that has been reached.

30

For example, regarding the control areas (6.1) of the dynamic cushion (6), those touching the user's right or left ischium can be programmed to simultaneously deflate; or only one of them, the one
35 corresponding to the ischium at risk of suffering the

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appearance of pressure ulcers; they can be programmed to alternately inflate and deflate; the one corresponding to the front of the seat can be programmed to inflate to cause the user to move backwards; combinations of the
5 alternatives mentioned above or others that could be devised could be programmed.

With regard to the reclining means (7.2) of e.g. the wheelchair (7), the maximum reclining positions,
10 with or without the presence of risks, and those harmful to or uncomfortable for the user, i.e. those which can affect the user's daily activities, are identified according to the type of scenario.

15 Likewise, the functional electrical stimulation means (8.1) can be programmed for different frequency levels, pulse durations, application times and rest intervals, as well as the current to be applied. The latter can also be adjusted by the professional in
20 charge of each user.

The emission of sound and/or visual signals can also be programmed to take place at different moments of the process, e.g. when a high risk level has been
25 reached and it has not been resolved in less than 15 minutes. These signals can be aimed at attracting the attention of either the user or the professional in charge of him.

30 Thus, different strategies to be used depending on the different risk levels that are reached and the scenarios in which the user is positioned are programmed.

35 Preferably, in order to avoid reaching risk

- 15 -

levels of any kind, i.e., low, average or high, an automatic mode can be programmed, which will be triggered if the user wants it, and randomly alternated with strategies or actions carried out by the dynamic
5 cushion (6) and the functional electrical stimulation means (8.1), which could be applied e.g. every 10 minutes during situations in which the risk level is assessed as being zero.

10 Preferably, the specific order of the strategies for each risk level and scenario combination may be modified during their application according to the user's preferences. Likewise, the professional in charge may command the strategies so as to adapt them to the
15 characteristics of each user. For example, the user in question may not tolerate the functional electrical stimulation due to his suffering spasm episodes, and the professional may adjust the pressure of the dynamic cushion (6) and the angles of the reclining means (7.2)
20 of the wheelchair (7) based on his experience.

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CLAIMS

1. A system for controlling the risks of appearance of pressure ulcers in a user, comprising:

- 5 - a number of pressure sensors (1) distributed across a bearing surface (2) of the user, which measure pressure values (P),
- a controller (3) which receives the pressure values measured by the pressure sensors (1),
- 10 and
- means (4) which act on the user and can be driven by the controller (3),

characterized in that tissue-state sensing means (5) can measure bioimpedance, temperature and moisture values (Z), (T) and (Hr) in an area at risk (PU) of the user's body which is in contact with the bearing surface (2), the controller (3) being capable of receiving the values (Z), (T) and (Hr) and assessing a level of risk of appearance of pressure ulcers on the basis of the measured pressure, bioimpedance, temperature and moisture values (P), (Z), (T) and (Hr).

15

20

2. A system according to claim 1, wherein the bearing surface (2) is formed on a dynamic cushion (6) having independent inflation/deflation control areas (6.1).

25

3. A system according to claim 2, wherein the dynamic cushion (6) is a seat (7.1) of a wheelchair (7).

30

4. A system according to claim 1, wherein the tissue-state sensing means (5) are arranged on a garment (8) attached to the user's body.

35 5. A system according to claim 4, wherein the

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garment (8) comprises functional electrical stimulation means (8.1).

5 6. A system according to claim 5, wherein the tissue-state sensing means (5) and the functional electrical stimulation means (8.1) can communicate with the controller (3) via cable or wirelessly.

10 7. A system according to claims 2, 3 and 5, wherein the means (4) which act on the user are:

- emitted sound and/or visual signals,
- the control areas (6.1) of the dynamic cushion (6),
- reclining means (7.2) of the wheelchair (7),
- 15 and/or
- the functional electrical stimulation means (8.1) of the garment (8).

20 8. A system according to claim 1, wherein the controller (3) can be configured from a user interface on a mobile device (9).

25 9. A process for controlling the risks of appearance of pressure ulcers in a user, **characterized by** the following steps:

- a) setting initial pressure, bioimpedance, temperature and moisture values (Pb), (Zb), (Tb) and (Hrb) measured in a area at risk (PU) on the user's body which is in contact with a bearing surface (2),
 - 30 b) calculating the variation experienced, in a certain time (t), by the pressure, bioimpedance, temperature and moisture values (P), (Z), (T) and (Hr) measured in the area at risk (PU) in relation to the initial
- 35

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pressure, bioimpedance, temperature and moisture values (Pb), (Zb), (Tb) and (Hrb) set in step a),

- 5 c) comparing the variations calculated in step b) with previously defined, healthy pressure, bioimpedance, temperature and moisture thresholds (P), (Z), (T) and (Hr),
- 10 d) assessing the level of risk of appearance of ulcers in the area at risk (PU) according to the results of the comparison made in step c), and
- 15 e) recommending driving means which act on the user according to the risk level assessed in step d), the user's preferences and the scenario.

10. A process according to claim 9, wherein in step c), the thresholds considered to be healthy are:

- 20 - the pressure (P) does not increase between 187 mmHg (Pr1) and 225 mmHg (Pr2) for more than two minutes, it being possible for it to stay the same for a time (t) of one hour,
- 25 - the pressure (P) does not increase between 37.5 mmHg (Pr1) and 75 mmHg (Pr2) for a time (t) greater than 2 hours, and
- the pressure (P) stays, for a time (t) between 1 and 2 hours, below the values calculated by means of the following equations:

30
$$Pr1(\text{mmHg}) \leq 225 - \frac{150}{60} * (t(\text{min}) - 60)$$

$$Pr2(\text{mmHg}) \leq 187 - \frac{150}{60} * (t(\text{min}) - 60),$$

- 35 - the bioimpedance (Z) does not increases by 5

- 19 -

to 30%,

- the temperature (T) is between 27 and 36°C,
and
- the moisture (Hr) is below 80%.

5

11. A process according to claims 9 and 10, wherein
in step d), the risk level is assessed as being zero if:

- the bioimpedance (Z) increases by less than
5%,
- 10 - the pressure (P) stays below Pr1 in the time
 (t),
- the temperature (T) stays between 29 and
34°C, and
- the moisture (Hr) stays below 80%.

15

12. A process according to claims 9 and 10, wherein
in step d), the risk level is assessed as being low if:

- the bioimpedance (Z) increases by 5 to 10%,
- the pressure (P) stays between Pr1 and Pr2 in
20 the time (t),
- the temperature (T) stays between 27 and 29°C
and the moisture (Hr) stays below 90%,
- the temperature (T) stays between 29 and 34°C
and the moisture (Hr) stays between 80 and
25 90%, or
- the temperature (T) stays between 34 and 36°C
and the moisture (Hr) stays below 90%.

13. A process according to claims 9 and 10, wherein
30 in step d), the risk level is assessed as being average
if:

- the pressure (P) stays between Pr1 and Pr2 in
the time (t) and the bioimpedance (Z)
increases by 5 to 10%,
- 35 - the pressure (P) stays between Pr1 and Pr2 in

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the time (t) and the temperature (T) stays below 27°C or above 36°C, or

- the pressure (P) stays between Pr1 and Pr2 in the time (t), the temperature (T) stays
5 between 27°C and 36°C and the moisture (Hr) stays above 90%.

14. A process according to claims 9 and 10, wherein in step d), the risk level is assessed as being high if:

- 10 - the pressure (P) stays above Pr2 in the time (t), or
- the bioimpedance (Z) increases by 10 to 20%.

15 15. A process according to claims 9, wherein steps b) to e) are repeated on a continuous basis.

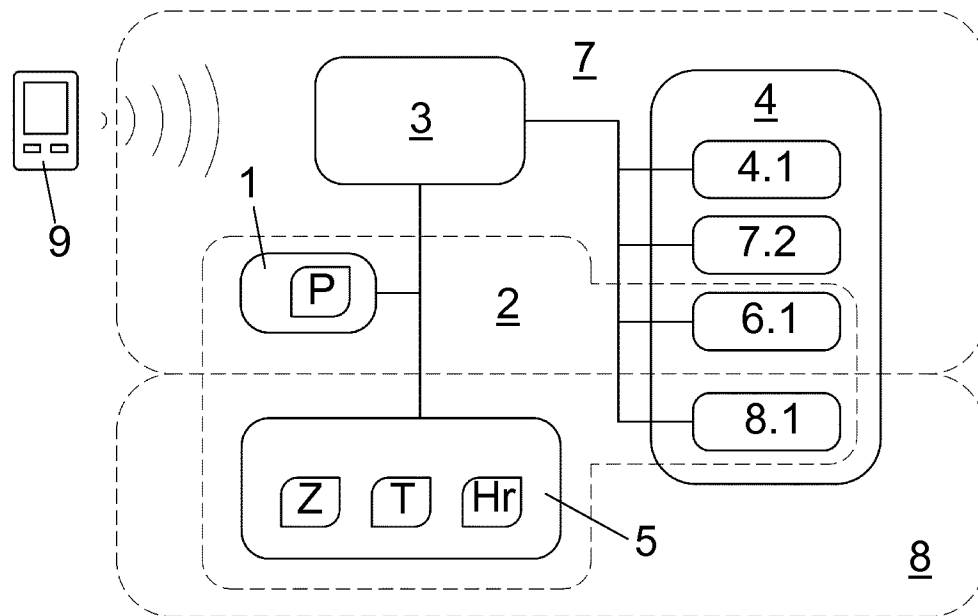


Fig.1

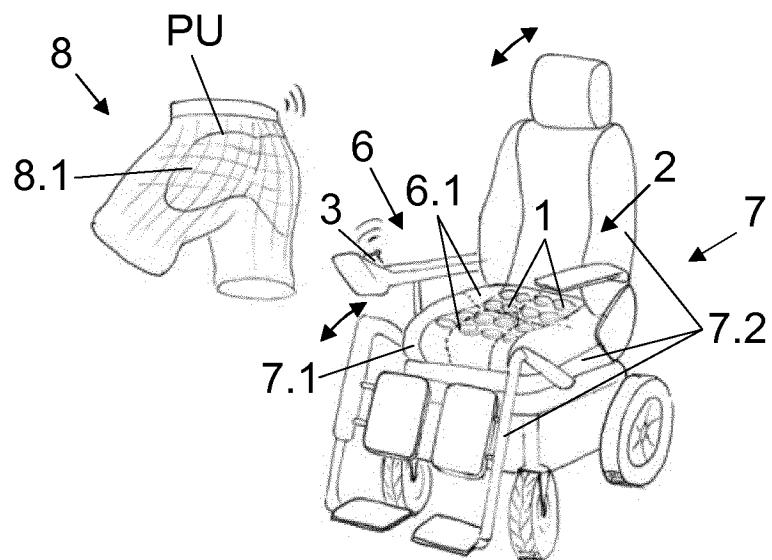


Fig.2

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2015/069245

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61G5/10 A61G7/057 A61B5/00
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61G A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2012/190989 A1 (KAISER WILLIAM J [US] ET AL) 26 July 2012 (2012-07-26) paragraphs [0017], [0018], [0046], [0051], [0052], [0065], [0069], [0073] -----	1,4-8
X	US 2010/274364 A1 (PACANOWSKY ALEX [US] ET AL) 28 October 2010 (2010-10-28) paragraphs [0074], [0106] - [0112] -----	1,4-7, 9-15
X	WO 2015/002546 A1 (DYNAMIC CONTROLS [NZ]) 8 January 2015 (2015-01-08) page 1, lines 11-16 page 2, lines 9-16 page 3, lines 10-13 page 6, lines 23-29 ----- -/-	1-3,7-14



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

26 April 2016

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2015/069245

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Information on patent family members

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