CLAIMS

1. A method (M1; M2) for determining damage of an endless track (E) of a tracked vehicle (V), said tracked vehicle comprising at least one track assembly (T1, T2) comprising said endless track (E) disposed in its longitudinal extension around a set of wheels, said endless track having opposite sides (E1, E2) configured to face in a direction essentially parallel to the axial direction of said set of wheels, wherein said endless track (E) comprises a wire configuration (W) arranged within said endless track (E) and configured to run in the longitudinal extension of said endless track (E) around said endless track (E), said wire configuration (W) comprising one or more individual wires arranged to run in said longitudinal extension within said endless track (E) and configured to be distributed along the width of said endless track (E) so that a set of wire portions are running in said longitudinal extension, wherein a set of measuring connectors (10) are connected, via conducting cables (20), to wire portions of said set of wire portions so as to facilitate measuring electrical properties of the thus connected wire portions, said set of measuring connectors (10) being permanently connected and externally accessible by means of one or more sensor devices (30) in connection to at least one side (E1, E2) of said sides (E1, E2) of said endless track (E), the method comprising the steps of:

– receiving (S1), from at least one sensor device (30), via measuring connectors (10), measurement information associated with electrical properties of wire portions of said wire configuration (W);

– based on the information received from said at least one sensor device (30), determining (S2) electrical properties of said wire portions; and,

– based on the determined electrical properties, determining (S3) whether or not there is a damage to the endless track (E).

2. The method according to claim 1, wherein the step of determining whether or not there is a damage to the endless track (E) comprises the steps of:

– comparing the determined electrical properties of said wire portions with predetermined electrical properties of wire portions of said wire configuration (W); and,

– determining a damage to the endless track (E) if the difference between said determined electrical properties of one or more wire portions and said predetermined electrical properties of wire portions of said wire configuration (W) exceeds a predetermined threshold.

3. The method according to claim 1 or 2, wherein the step of determining whether or not there is a damage to the endless track (E) comprises determining whether one or more wire portions are torn apart based on said determined electrical properties.

4. The method according to claim 2, further comprising determining, if it is determined that there is damage to the endless track (E), the degree of damage based on number of wire portions having electrical properties exceeding said predetermined threshold.

5. The method according to any of claims 1-4, wherein the step of receiving, from at least one sensor device (30), measurement information associated with electrical properties of wire portions of said wire configuration (W), comprises receiving measurement information from measurement between a first connection point (P1) and a second connection point (P2) of a wire portion.

6. The method according to any of claims 1-5, wherein the step of receiving, from at least one sensor device (30), measurement information associated with electrical properties of wire portions of said wire configuration (W), comprises receiving measurement information associated with one or more of: electrical current; electrical resistance, electrical voltage, magnetic properties.

7. The method according to any of claims 1-6, wherein said measuring connectors (10) are configured to be an integrated part of said endless track (E), said measuring connecters (10) being assembled in connection to at least one of the sides (E1, E2) of said endless track (E).

8. An arrangement for determining damage of an endless track (E) of a tracked vehicle (V), said tracked vehicle comprising at least one track assembly (T1, T2) comprising said endless track (E) disposed in its longitudinal extension around a set of wheels, said endless track having opposite sides (E1, E2) configured to face in a direction essentially parallel to the axial direction of said set of wheels, wherein said endless track (E) comprises a wire configuration (W) arranged within said endless track (E) and configured to run in the longitudinal extension of said endless track (E) around said endless track (E), said wire configuration (W) comprising one or more individual wires arranged to run in said longitudinal extension within said endless track (E) and configured to be distributed along the width of said endless track (E) so that a set of wire portions are running in said longitudinal extension, wherein said arrangement comprises a set of measuring connectors (10) connected, via conducting cables (20), to wire portions of said set of wire portions so as to facilitate measuring electrical properties of the thus connected wire portions, said set of measuring connectors (10) being permanently connected and externally accessible by means of one or more sensor devices (30) in connection to at least one side of said sides (E1, E2) of said endless track (E), so as to facilitate determining damage to said endless track (E) based on determined electrical properties of wire portions.

9. The arrangement according to claim 8, wherein said arrangement comprises at least one sensor device (30) of said one or more sensor devices (30), and a control unit (100), wherein said control unit (100) is configured to:

– receive, from said at least one sensor device (30), via measuring connectors (10), measurement information associated with electrical properties of wire portions of said wire configuration (W);

– based on the information received from said at least one sensor device (30), determine electrical properties of said wire portions; and,

– based on the determined electrical properties, determine whether or not there is a potential damage to the endless track (E).

10. The arrangement according to claim 9, wherein said control unit (100), when determining whether or not there is a damage to the endless track (E), is configured to:

– compare the determined electrical properties of said wire portions with predetermined electrical properties of wire portions of said wire configuration (W); and,

– determine a potential damage to the endless track (E) if the difference between said determined electrical properties of one or more wire portions and said predetermined electrical properties of wire portions of said wire configuration exceeds a predetermined threshold.

11. The arrangement according to claim 9 or 10, when determining whether or not there is a potential damage to the endless track (E), further being configured to determine whether one or more wire portions are torn apart based on said determined electrical properties.

12. The arrangement according to claim 10, the control unit (100) further being configured to determine, if it is determined that there is potential damage to the endless track (E), the degree of potential damage based on number of wire portions having electrical properties exceeding said predetermined threshold.

13. The arrangement according to any of claims 8-12, wherein said arrangement comprises at least one sensor device (30) of said one or more sensor devices (30), wherein a sensor device of said at least one sensor device (30), is configured to be connected to a first measuring connector (10) connected to a first connection point (P1) of a wire portion (W1) and a second measuring connector (10) connected to a second connection point (P2) of a wire portion (W2), so as to receive measurement information associated with electrical properties from measurement between said first connection point (P1) and second connection point (P2) of said wire portion (W1, W2).

14. The arrangement according to any of claims 8-13, wherein said determined electrical properties of wire portions of said wire configuration (W) via

measuring connectors, comprises one or more of: electrical current; electrical resistance, electrical voltage, magnetic properties.

15. The arrangement according to any of claims 8-14, wherein said measuring connectors (10) are configured to be an integrated part of said endless track (E), said measuring connecters (10) being assembled in connection to at least one of the sides (E1, E2) of said endless track (E).

16. A tracked vehicle (V) comprising an arrangement according to any of claims 8-15.

17. A computer program comprising computer-readable instructions which, when executed by at least one processor (110) of a control unit (100) according to anyone of claims 8-15 for determining damage of an endless track (E) of a tracked vehicle (V), causes the at least one processor (110) to perform the steps according to anyone of claims 1-7.

18. A computer program product comprising at least one computer-readable medium, such as a non-volatile memory, storing the computer program according to claim 17.