CLAIMS

1. A method for condition monitoring of a rope of an elevator comprising an elevator car and a rope wheel arrangement, which rope is connected to the elevator car and passes around at least one rope wheel comprised in the rope wheel arrangement, the method comprising obtaining travel data of the elevator car, **characterized** in that the method further comprises

   determining based on the travel data a total number of car visits at a predetermined landing in the path of the elevator car, which total number is the sum of the number of starts of the elevator car moving away from said predetermined landing so as to travel to any other landing irrespective of the traveling direction, and the number of times the elevator car has bypassed said predetermined landing without stopping irrespective of the traveling direction; and

   comparing the total number or a multifold of the total number with a first predetermined limit value, wherein said multifold equals to the total number multiplied with factor n wherein n equals the number of said at least one rope wheel; and

   performing one or more predetermined action if said total number or the multifold of the total number meets the first predetermined limit value, said one or more action including one or more of indicating a weakened rope condition, indicating a need for maintenance or replacement of elevator rope(s), calculating an estimated moment of maintenance or replacement of elevator rope(s), sending a specific or general warning signal, sending a fault signal, sending a signal to a service center the signal indicating weakened rope condition or a need for maintenance or a need for replacement of elevator rope(s).

2. A method according to claim 1, **characterized** in that the total number of car visits at a predetermined landing in the path of the elevator car consists of the sum of the number of starts of the elevator car moving

away from said predetermined landing so as to travel to any other landing irrespective of the traveling direction, and the number of times the elevator car has bypassed said predetermined landing without stopping irrespective of the traveling direction.

3. A method according to any of the preceding claims, **characterized** in that the predetermined landing is a lobby landing of the building.

4. A method according to any of the preceding claims, **characterized** in that the predetermined landing is a lobby landing of the building on which a destination call device is installed.

5. A method according to any of the preceding claims, **characterized** in that the predetermined landing is an intermediate landing positioned between the lowermost and uppermost landings of the elevator.

6. A method according to any of the preceding claims, **characterized** in that said predetermined landing is the entrance lobby landing of the building.

7. A method according to any of the preceding claims, **characterized** in that said travel data includes information describing occurrence(s) of car start(s) and/or bypass(es).

8. A method according to any of the preceding claims, **characterized** in that the travel data is obtained at least partly from car position data.

9. A method according to any of the preceding claims, **characterized** in that the method comprises monitoring car position so as to obtain car position data.

10. A method according to any of the preceding claims, **characterized** in that the car position is monitored by means of a car position sensing arrangement.

11. A method according to any of the preceding claims, **characterized** in that if said total number meets a second predetermined limit value, which is higher than the first predetermined limit value, the elevator is removed from passenger use.

12. A method according to any of the preceding claims, **characterized** in that said obtaining, determining and comparing are each performed repeatedly during use of the elevator.

13. A method according to any of the preceding claims, **characterized** in that a cycle of said obtaining, determining and comparing is performed repeatedly, repeating of this cycle preferably being triggered every time either the car start from said predetermined landing or a bypassing of said predetermined landing is realized.

14. A method according to any of the preceding claims, **characterized** in that said total number is determined by counting the starts of the elevator car moving away from said predetermined landing so as to travel to any other landing irrespective of the traveling direction, and the number of times the elevator car has bypassed irrespective of the traveling direction said predetermined landing without stopping, in particular by increasing the total number by one each time said start or bypass occurs.

15. An arrangement for condition monitoring of a rope of an elevator, which rope is connected to an elevator car and passes around at least one rope wheel of a rope wheel arrangement, the arrangement comprising a processing unit, **characterized** in that the processing unit is arranged

to obtain travel data of the elevator car, and to determine based on the travel data a total number of car visits at a predetermined landing in the path of the elevator car, which total number is the sum of the number of starts of the elevator car moving away from said predetermined landing so as to travel to any other landing irrespective of the traveling direction, and the number of times the elevator car has bypassed said predetermined landing without stopping irrespective of the traveling direction; and

to compare the total number of car visits obtained by said determining or a multifold of the total number obtained by said determining with a first predetermined limit value, wherein said multifold equals to the total number multiplied with factor n wherein n equals the number of said at least one rope wheel; and

to perform one or more predetermined action if said total number or the multifold of the total number meets the first predetermined limit value, said one or more action including one or more of indicating a weakened rope condition, indicating a need for maintenance or replacement of elevator rope(s), calculating an estimated moment of maintenance or replacement of elevator rope(s), sending a specific or general warning signal, sending a fault signal, sending a signal to a service center the signal indicating weakened rope condition or a need for maintenance or a need for replacement of elevator rope(s).