

CONCEPT PAPER

For

RFID based

PATROLLING SOLUTION



Security of Assets is an age old need of human beings. Housing Complexes, Manufacturing Plants, Research & Development Units, Residential Educational Institutions and many such places deploy security forces, especially during the nights, to keep a watch. In spite all the precautions still few incidences of theft, sabotage etc. take place. The key to improvement is alertness and systematic approach.

The principles of Patrolling are:

- The secured area is earmarked into segments or single segment depending on the size of the premises. These markings are such that the complete area is patrolled.
- Every segment has landmarks which indicate the coverage of patrolling done. Logically the security guard is expected to note the time of reaching each landmark.
- Each segment/area of patrolling has predefined Route of Patrolling and it is expected that the guard will follow the route.
- Each security guard is given the responsibility of a segment.
- The security guard has a set time table for patrolling, for example, it is expected that the guard shall patrol his segment/area three/four times during his night shift.
- The security guard marks a register which is the only proof of his compliance of patrolling.
- This system has few weaknesses like accuracy & authenticity of information, performance of patrolling and effectiveness.

The **Radio Frequency IDentification (RFID)** technology has been deployed to improve the process of patrolling. This technology does not need additional efforts on the part of security guard but generates more meaningful and accurate information.

i-TEK proposes to **issue a RFID Smart card to Security Guard & paste or screw the RFID Tags to every Security Location Indicator**. A security location indicator is a point which is explained under principles of Patrolling as landmarks in a segment/area. The proposed process is as under:

- A Security Guard, before proceeding for patrolling will be equipped with a RFID Hand Held Reader and this reader will read the Security Guard's RFID based ID Card. This marks the beginning of patrolling of guard. The data capture in this process is Guard ID and the Start Time & Date of patrolling.
- Once Guard is on the move, he is expected to follow the pre defined route of patrolling. On every route the guard is supposed to read the Security Location Indicator Tag with help of Hand Held reader. The data captured in this process is RFID Tag ID, Time & Date of reading.
- The Guard will complete the patrolling of segment / area as per the route and on return will again read his own ID card. The second read will mark the end of patrolling.

The benefits of this solution:

- a) As the Security Guard is reading every Security Location Indicator Tag set within the segment/area, it is assured/guaranteed that the Guard has been to the location.
- b) As the route of patrolling is pre-defined, it means the sequence of tags is known and distance between the tags is known. Because the distance between two tags is known then approximate time to cover the distance can be calculated and compared with the actual time taken by the guard. This improves the performance of patrolling.
- c) As the Hand Held Reader always captures the system time, no tampering or manipulation can be done.
- d) The data of patrolling is down loaded to main computer where further analysis as per the requirement can be done.

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