



A Robotic Courier

For On-Demand Transport of Goods in Hospitals
and Health Care Centers



Description and Objectives

NESTOR has 3 complementary objectives

- Assisting caretakers : the use of automation may help while the number of working people decreases and the number of caretakers remains at least the same. NESTOR aims at reducing low added-value tasks done by caretakers in developing an on-demand automated transport assisting device to move materials, equipments, meal, trays, instruments, pharmaceuticals, medical records, samples, mail, packages, video cameras ...
- Studying non-technical issues related to the introduction of robots in hospitals, mainly their acceptance by caretakers, patients and visitors
- Developing a fully European system

Description of the work

2 prototypes for real sites trials will be built, merging 3 European validated technologies :

- a modular autonomous platform including a container,
- a trackless navigation system and its fleet management software,
- an internet-based man-machine interface, to give this new equipment a universal accessibility and increase its acceptance.

NESTOR will improve the current fast-growing US competitor by reducing overall costs and enhancing performances, by using latest European technologies. But the major improvement will be a new functionality, its capability to automatically load/unload a specific container. This feature will be protected by a patent, to secure future sales.

After a short conceptual design of a few months, the 2 systems will be built at T0+12 and be fully operational on sites at T0+13, leaving almost 12 full months for the 2 site trials, one in Denmark and the other in Germany. The purpose of the trials is to "show that it works", but first of all to investigate non-technical issues, such as the working re-organization needed to efficiently use such a device, and the level of acceptance of a robot by caretakers. A end-users panel will be set up for promotion in hospitals and other areas, such as office buildings.

The dissemination will start very soon, right after the conceptual design, in 3 directions :

- towards other hospitals, through an end-users panel,
- towards leasing companies, which are privileged channels to sell this type of equipments,
- towards other potential applications, such as small on-demand transport in offices and factories. NESTOR trials aim at showing that robots will help human workers and not replace them.

Milestones and expected results

The very first result we expect is the definition of a new innovative system combining existing technologies. The second result we are looking for is to get a positive feedback and a global acceptance from hospital people, caretakers, managers, patients and visitors. The third result would be to convince another hospital (through the end-users panel) to lease such an equipment for evaluation. Important milestones are : end of conceptual design, site installation and results of trials.