



FLASH INNOVATIVE SOCIAL ROBOT

Ideas on utilisation

FLASH (Flexible Lirec Autonomous Social Helper) is a social robot consisting of a two-wheeled balancing mobile platform, a body with two arms ended with four-fingered hands and an EMYS (EMotive headY System) expressive head. Such a robot design allows it to be classified into MDS (Mobile Dextrous Social) robots. FLASH is used as a platform integrating various technologies in the field of robotics, at the same time allowing their experimental verification during robot-human interaction.

Potential adopters of technology

The design of the robot takes into account the key, from the point of view of social robotics, issues: consistency between the robot's appearance and its behaviour, ability to express emotions, perception of the surroundings and possibility of interacting with humans. Experiments confirmed that the robot's appearance and its behaviour are positively perceived by people and its emotions are easily recognised. The above features give the structure a potential to establish relations with humans. An important aspect of the robot design is the modularity of both the mechanical construction and its control system, which allows for easy development and adaptation to new applications. Currently, it has a set of competences allowing, among others for interacting with people, multi-channel perception of the surroundings, acting as an assistant, as well as performing simple service activities.

The robot's features make it a flexible research platform that is widely used in research in the field of social robotics.

Advantages of technology

The FLASH robot is a mobile social robot with a wide range of applications. The main advantages of the robot:

- Ability for multi-channel perception of the surroundings, conducting interaction with people, expressing emotions, performing simple service activities, acting as an assistant;
- Extended set of robot competences - among others audio and video processing, indoor navigation, use of the Internet resources;
- Flexibility and openness of the software and mechanical design of the robot enabling easy adaptation of the robot to the specific requirements of potential recipients;
- The expressiveness of the robot is easy to interpret, positive reactions to its appearance and the confirmed lack of the "uncanny valley" effect;
- Competitive production costs.

Market and context of technology

The scope of selected potential applications:

- Research centres as a flexible laboratory platform for research in the field of social robotics;
- Innovative educational centres as teaching aid in learning;
- Modern medical, therapeutic centres - assistant, carer, companion for the elderly;
- Marketing companies - a robot as a futuristic hostess, presenter, interviewer.

Preconditions in adopting enterprises

Not expensive investment (for an established producer).