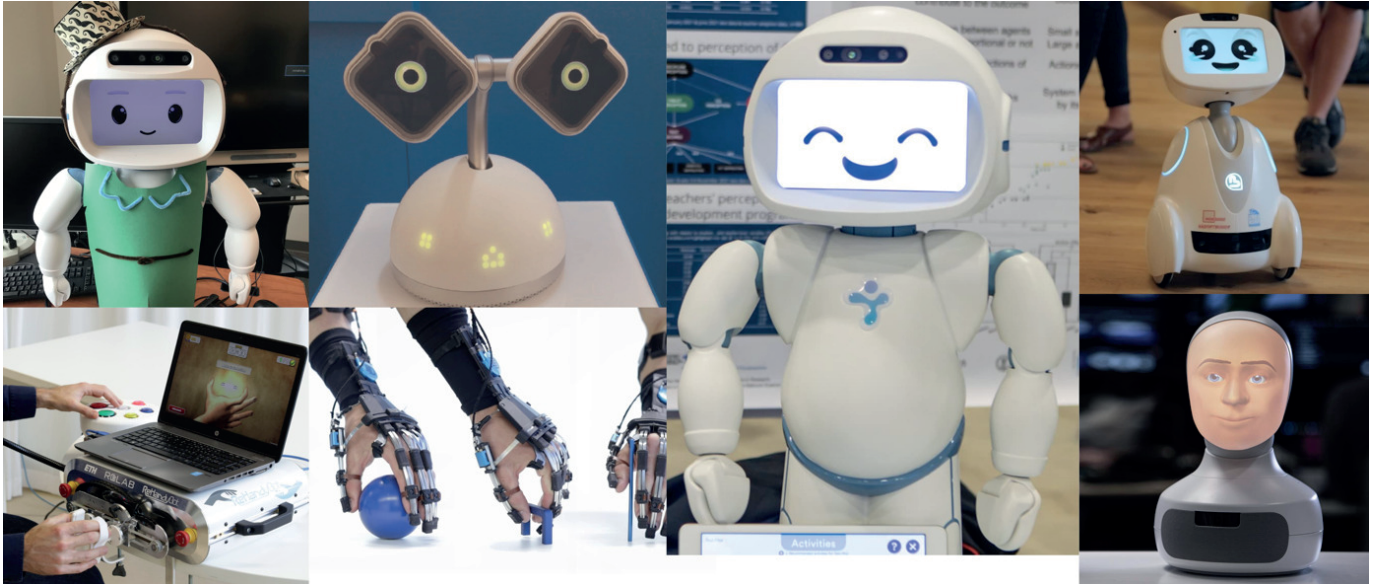


Assistive Robots Transforming Human Lives



By Lindgard Buder.

Assistive robots are emerging as vital helpers for individuals with disabilities, aiding them in various aspects of their daily lives. These innovative devices, designed to assist in activities like mobility, communication, and self-care, are tailored to meet the unique challenges, and needs of each user. By providing support in these essential areas, assistive robots empower individuals to live more independently and confidently, overcoming barriers that might otherwise limit their full participation in daily life.

Innovations in Assistive Robotic Technologies

The upcoming 2023 AI for Good Global Summit is set to showcase a range of transformative assistive robotic devices. Among these innovations is the RELab Tenoexo, a wearable robotic hand orthosis from ETH Zurich. This device is engineered to assist individuals with sensorimotor hand impairments, facilitating the opening and closing of their hands. It incorporates various control mechanisms like pushbuttons, voice control, and mobile applications, allowing users to customize the device to their specific needs. A pediatric version of this robotic hand is also available, enhancing therapy options for children.



Robotic Hand Orthosis for Therapy and Assistance

Robotic Device for Assessment and Therapy of Hand Function

Another notable development from RELab is the **ReHandyBot**, a state-of-the-art robotic device designed to aid in hand function recovery after neurological impairments. This table-top device includes a virtual reality interface, providing an engaging platform for users to exercise and interact with virtual objects. Its user-friendly design allows for independent operation by patients, complementing traditional hand therapy methods.

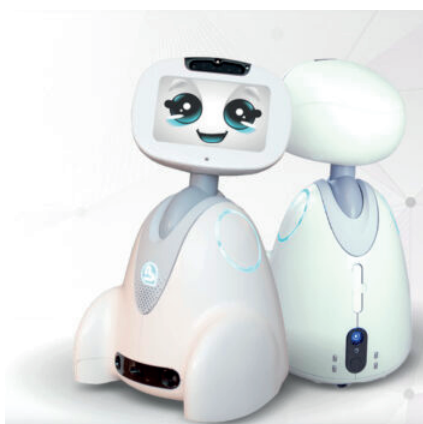
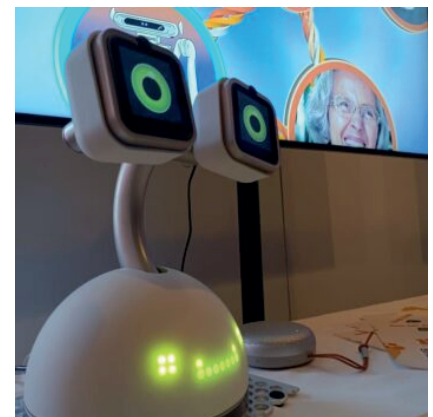


Interactive Robot for IKIGAI Support

EPFL CHILI Lab's **iReChEck** project is revolutionizing the way children learn handwriting. By interacting with a robot that learns from them, children not only improve their writing skills but also gain confidence. This interactive learning process is enhanced by the robot's ability to monitor their progress, assisting therapists and educators in tracking development.

The Impact of Social Robots on Emotional Well-being and Education

Social robots are also making significant strides in enhancing emotional well-being and education. **Haru**, developed by the Honda Research Institute, is a social robot that communicates emotions and fosters long-term interaction, cooperation, and creativity through empathetic engagement. Aimed at connecting with children globally, Haru encourages self-expression and promotes values such as diversity and understanding, contributing to the creation of inclusive communities.



The Emotional Companion Robot

Social Robot Designed to Make People Happy

In the realm of education and companionship, robots like **Buddy**, developed by Blue Frog Robotics, and Furhat from Furhat Robotics, are proving to be valuable assets. Buddy, with its ability to express a range of emotions, serves as an emotional companion, supporting learning, and preventing feelings of isolation in the elderly and autistic children. Similarly, Furhat's adaptable nature allows it to take on various appearances and languages, enhancing its role in educational settings, speech therapy, and special education programs.

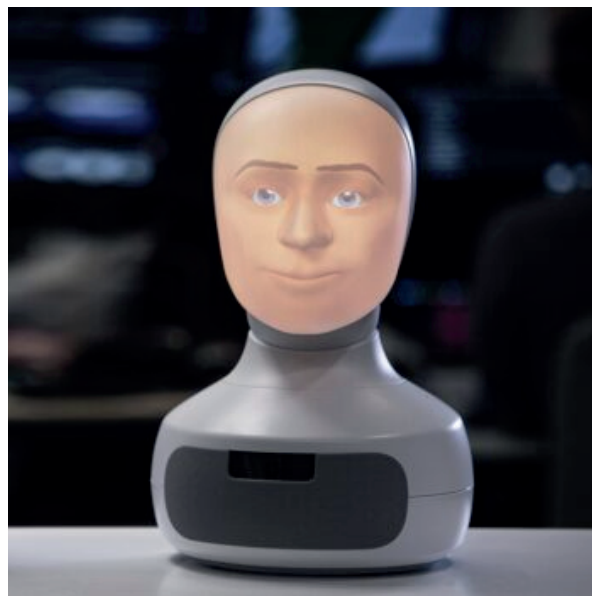
Assistive Robots Contributing to Global Goals

These assistive robots are not only transforming individual lives, but also contributing to broader global goals. By improving the health and well-being of people with disabilities (SDG 3), assistive devices like ReHandyBot and RELab Tenoexo facilitate faster recovery and enable patients to undertake daily tasks with greater dignity and independence. This advancement in healthcare technology also alleviates the burden on healthcare providers, allowing for more efficient and widespread therapy options.

World's First Social Robotics and Conversational System Platform

In the context of education (SDG 4), robots like Haru, **Furhat**, Buddy, and iReCHeCk are playing a crucial role. They provide interactive and engaging learning experiences, catering to diverse learning styles and needs. This approach ensures inclusive and quality education, keeping students motivated and involved in their learning journey.

Furthermore, by supporting individuals with various health or age-related limitations, these robots are instrumental in reducing inequalities (SDG 10). They enable individuals to participate more fully in society and everyday activities, enhancing both their physical, and mental well-being. In doing so, these robots contribute to building a more equitable and inclusive society.



Conclusion

In conclusion, assistive robots are proving to be invaluable in enhancing the quality of life for individuals with disabilities, enriching educational experiences, and fostering a more inclusive society. As technological advancements continue, the potential of these robots to contribute positively to various aspects of human life becomes increasingly evident. Their role in achieving several Sustainable Development Goals highlights the importance of continued innovation and application in the field of assistive robotics.

Taken and adapted from: <https://aiforgood.itu.int/assistive-robots-transforming-human-lives/>