**PRESS RELEASE**

**Transforming wheelchair mobility with a brain-machine interface: Tunisian team selected as a finalist for the Young Inventors Prize 2024**

* **Young Tunisian inventors have developed the MOOVOBRAIN system, which controls wheelchairs using brain signals, voice, facial expressions or a touchpad**
* **This technology could help millions of wheelchair users worldwide by giving them new independence to those constrained by physical limitations**
* **The Tunisian team will compete against a Dutch finalist and a Ukrainian one for the Young Inventors Prize on 9 July**

**Munich, 4 June 2024** – According to [the World Health Organization (WHO)](https://www.who.int/publications/i/item/9789240074521), at least 80 million people (or 1% of the world’s population) are likely to require a wheelchair to assist their mobility. However, many users do not have full control of their upper body and have to rely on caregivers for mobility. A team of young Tunisian female engineers, aged between 27 and 28, is addressing this issue. **Khaoula Ben Ahmed (28), Ghofrane Ayari (27), Souleima Ben Temime (28) and Sirine Ayari (28)** have developed the MOOVOBRAIN smart wheelchair control system, a technology that **allows users to operate their wheelchairs using voice, brain signals, facial expressions or a touchpad.** This innovation offers newfound autonomy to those often sidelined by conventional assistive technologies. **Nominated for the Young Inventors Prize at the European Inventor Award 2024**, the team’s MOOVOBRAIN system addresses two of the United Nations’ Sustainable Development Goals (SDGs). The young inventors were selected from over 550 candidates for this year’s edition.

**Emphasis on diversity and inclusion**

The MOOVOBRAIN system introduces a new method for wheelchair control, tailored to meet the diverse needs of its users. It features **four intuitive driving modes**: Voice Driving Mode enables operation through voice commands; Brain Driving Mode uses a specialised headset that detects brain signals; Grimace Driving Mode allows control through facial expressions; and Manual Driving Mode provides a touchpad or smartphone app interface for those with some manual capabilities. This system, made by the team’s startup, GEWINNER, is designed to **enhance the quality of life for individuals with mobility impairments** across the globe, ensuring accessibility and independence. The four driving modes accommodate different needs, disabilities and health conditions. Available for people who can speak and those who cannot, this system is a four-in-one solution with a multiplied potential impact. Furthermore, it can be retrofitted to conventional wheelchairs.

Additionally, the MOOVOBRAIN system provides a space for assistants and caregivers, offering features like tracking the wheelchair and the user's phone battery in real time, along with receiving notifications and alerts. This comprehensive approach not only caters to a broad spectrum of disabilities but also emphasises user independence, safety, and connectivity.

*“We are always talking with wheelchair users to continually upgrade our system and help them gain more independence – moving without the help of others. We want to give them a solution, so they don’t have to feel trapped at home or always dependent on others to get around”,* said Khaoula Ben Ahmed, CEO and Co-Founder of GEWINNER.

**Transforming lives through innovation**

While studying at the Higher Institute of Medical Technologies of Tunis, the young team developed the MOOVOBRAIN system after one of the team had a family member struck with a sudden disability. This highlighted the **urgent need for more adaptable assistive technologies.**

Since its founding in 2019, GEWINNER has been recognised under Tunisia’s Startup Act Label for its innovative contributions, has featured prominently at international tech events like VivaTech Paris, and has garnered several awards for technological excellence. The team also benefitted from mentorship through a programme from the European Investment Bank, which provided expertise in finance and business planning.

The MOOVOBRAIN system directly contributes to United Nations’ Sustainable Development Goals (SDGs) 3, Good Health and Well-Being, and 10, Reduced Inequalities. By offering an innovative solution that enhances mobility and independence, the invention addresses the health and well-being of a significant portion of the global population that faces daily challenges due to mobility impairments. By accommodating various disabilities with its multiple control modes, MOOVOBRAIN offers more opportunities for mobility and greater participation in society.

Reflecting on the journey and ongoing motivation for developing MOOVOBRAIN Souleima Ben Temime stated, *"It is great to see the impact that we're creating in our society. This is the fuel we need to keep going with the project, especially as it's not easy working with advanced technologies in a globalised market that requires us to be in contact with a lot of people, attending fairs and visiting places around the world".*

The Tunisians behind the innovation have been named one of three finalists for the Young Inventors Prize for this year’s European Inventor Award, recognising outstanding inventors aged under 30**.** The other finalists are Dutch Rochelle Niemeijer, whose portable test kit for the rapid identification of bacterial infections could be crucial in the fight against antibiotic resistance, and Ukrainian Valentyn Frechka who has developed a method to convert fallen leaves into recyclable paper, reducing deforestation and lowering CO2 emissions. **The winners of the 2024 edition of the European Inventor Award and Young Inventors Prize will be announced** during a ceremony [livestreamed](https://www.epo.org/en/news-events/european-inventor-award/streaming?mtm_campaign=EIA2024&mtm_keyword=pressrelease&mtm_medium=press) from Malta on 9 July 2024.

Find more information about the invention’s impact, the technology and the inventors’ stories [here](https://www.epo.org/en/news-events/european-inventor-award/meet-the-finalists/khaoula-ben-ahmed-ghofrane-ayari-souleima?mtm_campaign=EIA2024&mtm_keyword=pressrelease&mtm_medium=press).

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**About the Young Inventors Prize**

The European Patent Office established the Young Inventors Prize in 2021 to inspire the next generation of inventors. Aimed at innovators aged 30 or below from all around the world, it recognises initiatives that use technology to contribute toward the United Nation's Sustainable Development Goals. The winner will receive EUR 20 000, the second and third placed finalists will receive EUR 10 000 and EUR 5 000, respectively. An independent jury comprising former finalists of the European Inventor Award selects the finalists and winner. The EPO will confer the prize at the European Inventor Award 2024 hybrid ceremony on 9 July. Unlike the traditional Award categories, the Young Inventors Prize finalists do not need a granted European patent to be considered for the prize. [Read more](https://new.epo.org/en/news-events/european-inventor-award?mtm_campaign=EIA2023&mtm_keyword=EIA-pressrelease&mtm_medium=press&mtm_group=press) on the Young Inventors Prize eligibility and selection criteria.

**About the European Inventor Award**

The European Inventor Award is one of Europe's most prestigious innovation prizes. Launched by the EPO in 2006, the award honours individuals and teams, who have come up with solutions to some of the biggest challenges of our time. The finalists and winners are selected by an independent jury comprising former Award finalists. Together, they examine the proposals for their contribution towards technical progress, social and sustainable development, and economic prosperity. All inventors must have been granted a European patent for their invention. Read more [here](https://www.epo.org/en/news-events/european-inventor-award?mtm_campaign=EIA2024&mtm_keyword=pressrelease&mtm_medium=press) on the various categories, prizes, selection criteria and livestream ceremony to be held on 9 July in Malta.

**About the EPO**

With 6,300 staff members, the [European Patent Office (EPO)](https://www.epo.org/?mtm_campaign=EIA2023&mtm_keyword=EIA-pressrelease&mtm_medium=press&mtm_group=press) is one of the largest public service institutions in Europe. Headquartered in Munich with offices in Berlin, Brussels, The Hague and Vienna, the EPO was founded with the aim of strengthening co-operation on patents in Europe. Through the EPO's centralised patent granting procedure, inventors are able to obtain high-quality patent protection in up to 45 countries, covering a market of some 700 million people. The EPO is also the world's leading authority in patent information and patent searching.