THE VOLTING CUP AT IROS 2026

Eric Monacelli,director of LISV, and Hongyu Guan, a research engineer, are members of the judging panel for the Volting Cup, held as part of IROS 2026 in Pittsburgh.

September 27 through October 1, 2027
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2026), Pittsburgh, Pennsylvania.

The Volting Cup is an interdisciplinary initiative that combines robotics, art, inclusive dance, and assistive technologies to explore new forms of human-robot interaction. Building on the success of the Wheelchair Dance Competition presented at IROS 2025, the 2026 edition proposes an expanded international platform integrating a hands-on competition focused on embodied intelligence, benchmarking, evaluation metrics, and

societal impact.

3 Axes of competition proposed
The Volting Cup competition operationalizes this concept through three complementary experimental axes :

1. **Intelligent wheelchairs**
2. **Robotic assistance dogs**
3. **Humanoid Robots**

The project aims to redefine the relationship between technology and humanity by promoting robotics applications in rehabilitation, adaptive sports, and inclusive artistic practices. At the center of the initiative is the idea that robotic systems — including humanoid robots, robotic assistance dogs, and intelligent wheelchairs — can become not only functional assistive devices but also expressive and collaborative partners in performance and daily life.
Volting Cup brings together researchers, engineers, artists, clinicians, rehabilitation specialists, and disabled performers to foster innovation and social inclusion through creative experimentation. By combining artistic expression with advanced robotics research, the project highlights the importance of co-adaptation, emotional interaction, and socially intelligible robotic behavior.
Hosted within IROS 2026, Volting Cup positions robotics as a human-centered discipline dedicated to accessibility, collaboration, and societal benefit, while strengthening international cooperation and interdisciplinary research.

The jury members for The Volting Cup at IROS 2026 :

- **Eric Monacelli, Coordinator, Professor at the University of Versailles, Paris-Saclay University.**
- **Jianwei Zhang, Foreign Member of the Chinese Academy of Engineering, Member of the National Academy of Science and Engineering (Germany).**
- **Yasuhisa Hirata, Professor, Graduate School of Engineering; Tohoku university.**
- **Fabio Bonsignorio, Professor, co-chairing the IEEE RAS Technical Committee on Performance and Benchmarking.**
- **Jianmin Wang, Professor and Doctoral Supervisor of College of Arts and Media, Tongji University.**

» **Hongyu GUAN, Research engineer at the University of Versailles, Paris-Saclay University.**

At the same time, the Volting Cup includes challenges related to mobility assistance, including:

Axe 1 - Intelligent wheelchairs :

Intelligent wheelchairs integrates mobility assistance challenges, including:

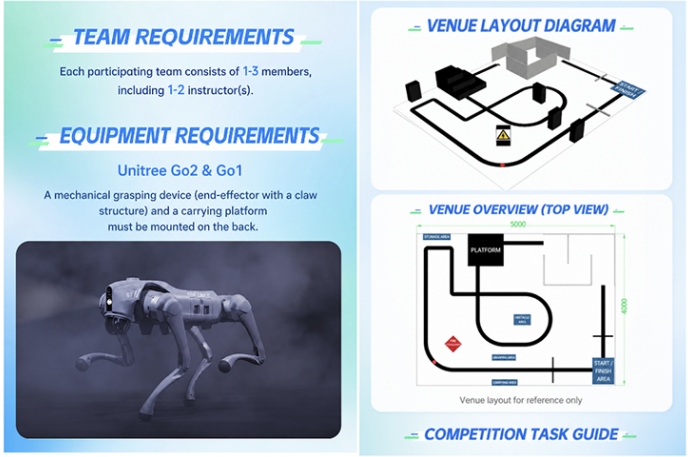
- Robotic wheelchairs
- Intelligent walkers
- Exoskeletons
- Smart wearable systems

These systems address real-world challenges in:

- Safe navigation
- Adaptive assistance
- User-centered control
- Ergonomics and accessibility
- AI-assisted decision support

By combining expressive humanoids with functional assistive technologies, Volting Cup provides a holistic
platform for human assistance robotics, spanning artistic interaction and daily-life support.

Axe 2 : Robotics Assistance Dogs



Unitree Technology – Official partner of the competition

Thanks to their excellent mobility and ability to adapt to their environment, quadruped robots have gradually emerged as a new generation of intelligent inspection solutions to assist in sectors such as guidance. Compared to traditional manual inspection

methods, these robots offer greater
adaptability to complex environments. They can operate continuously 24 hours a day, 7 days a week, whilst ensuring high-precision data collection and excellent stability.
They thus effectively reduce operational safety risks, improve the efficiency of inspection missions and lower overall operating and maintenance costs.
This competition aims to enable participants to understand and master the use of quadruped robots in inspection scenarios, whilst contributing to the training of new talent for the sector’s development.

Axe 3 : Humanoid Robots

LISV/UVSQ and Unitree Technology have chosen shows and stage performances featuring humanoid robots as their starting point. Dance performances in particular combine embodied AI and multimodal AI to develop robotic performance solutions.
To date, Unitree has already validated its system in some of the most demanding environments: the 2026 New Year’s Gala for Senior Citizens, several regional New Year’s galas in China and internationally, live broadcasts on Douyin, as well as concerts at the Beijing National Stadium (the ‘Bird’s Nest’), amongst others.

Jury IROS 2025

INFORMATIONS COMPLÉMENTAIRES

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