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PRESS RELEASE

AGIMUS: Reflecting on a Year of Achievement!

AGIMUS, a Horizon Research & Innovation project, embarked on its journey in October 2022 with the support of the European Union under Grant Agreement No. 101070165. Setting to run 48 months, AGIMUS focuses on shaping a European vision for trustworthy, secure, and trustworthy AI, Data, and Robotics technologies, aligning seamlessly with EU values and regulations.

Our goal is to provide a pioneering open-source solution in AI-driven agile production. We aim to introduce innovations that expand the boundaries of perception, planning, and control in the field of robotics, making it possible for versatile robots to be rapidly deployed, work autonomously, and easily adapt to alterations in the manufacturing process. To realize this objective, AGIMUS harnesses the latest technologies and goes above and beyond current industry standards. Our approach involves enhancing existing mobile robotic platforms with advanced task and motion planning features that can be trained using readily accessible online video resources.

At the helm of AGIMUS is the esteemed Centre National de la Recherche Scientifique (CNRS), leading a consortium of nine partners spanning four European countries: France, Czechia, Greece, and Spain.

Our recent project meeting at the CIIRC & THIMM Packaging facilities in Prague was a pivotal moment in our AGIMUS journey. We explored industrial robotics extensively, diving into task and motion optimization evolution, offline training methods, industrial pilot case study design, and enhancements for the TIAGo robot.

In terms of tangible progress, AGIMUS has achieved remarkable milestones. We've developed an accurate and efficient differentiable physics simulator capable of simulating

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various physical phenomena, such as friction and contacts for complex shapes. Additionally, our trajectory optimization software is able to handle hard constraints by incorporating contact invariance techniques. We've also created a Multi-Contact Task and Motion Planning software, guided by video demonstrations, advancing the current state-of-the-art planners. Moreover, our vision perception module excels in consistently estimating object poses for objects that were not seen during training, even in diverse temporal and spatial contexts.

In the publication arena, the AGIMUS consortium proudly presents eight significant papers, spanning topics from multi-contact planning guided by video demonstrations to efficient collision detection methods.

Our partners have also been making their mark on the international stage, participating in prestigious events and conferences, while PAL Robotics introduced the cutting-edge TIAGo Pro Edition. CNRS' LAAS even earned a finalist spot for the IEEE TRO best paper award. We actively participated in the euROBIN project Yearly Event 2023 in Seville, fostering valuable synergies.

Furthermore, our engagement extended to Robotics4EU workshops, where we delved into topics like reskilling the labor force, the role of community building for responsible robotics, and the impact of the EU AI ACT on robotics for agile production.

These accomplishments and initiatives reflect our dedication to the progression of robotics technology. AGIMUS is committed to advancing trajectory optimization and motion planning, with a focus on simultaneous task-and-motion planning. We're updating our video-guided planner and 6D object pose estimation methods. Additionally, we're developing a responsive Model Predictive Control system for agile robot adaptation to changing environments. Anticipate robot upgrades designed to boost efficiency in real-world industrial settings. Our future is filled with innovation and pragmatic solutions.

Don't miss the AGIMUS Winter School! Join us from December 11th to 15th, 2023, in Banyuls, South of France, for an immersive 5-day learning experience. Discover our expertise in motion planning, computer vision, and more. Stay tuned for details on our website!

You may find more information about the project and keep up to date with its progress and developments, by visiting the AGIMUS website (www.agimus-project.eu), where you may also subscribe to the AGIMUS newsletter. Additionally you can follow AGIMUS' social media accounts on on LinkedIn, Twitter, Facebook and YouTube.