

PRESS RELEASE

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A Symetrie hexapod recreates a virtual garden to test an autonomous lawn mower

Symetrie delivered a dynamic MISTRAL hexapod to STIHL, the world leader in landscape maintenance.

STIHL wants a comprehensive test bench to simulate virtual gardens in the factory in order to test their iMOW autonomous lawn mower in a large number of possible cases, as its customers expect it to mow their lawns reliably no matter what.

Thus, the tests are no longer subject to weather conditions that are not necessarily favorable (rain, snow), the R&D teams and equipment are available nearby and the tests are reproducible, which was not the case when outdoor tests were made.

The MISTRAL hexapod with its extra continuous rotation integrated into the hexapod upper platform enables to simulate the garden slopes. In addition, STIHL mounted pneumatic actuators onto the mobile platform in order to generate impacts against a tree trunk, for example.

The robotic iMOW lawn mower installed on the hexapod experiments the scenario indicated to its digital twin. To close the loop, Symetrie has provided the External Real-Time Trajectory software option, which allows the hexapod trajectory to be modified in real time, with a control frequency of 200 Hz.

This test bench is evolutive so that it can be adapted to the future features of the iMOW.



Credits: STIHL/Torben Jäger



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SYMETRIE is an innovative company specializing in high precision positioning and motion hexapods of all sizes for 20 years.

SYMETRIE in a few words:

- 6 M€ turnover, an R&D department, 70% of engineers
- Major customers: Airbus Defence and Space, Leonardo, Naval Group, Rio Tinto, Safran, Thales, University of Hawaii, University of Western Australia...
- Large scale technological projects: Megajoule Laser; ground-based telescopes: DAG, DOT, NOEMA, OAJ and Pan STARRS 2; space: BepiColombo, EnMAP, Euclid, Gaia, JWST, MPO, MTG, PLATO, Sentinel 5, synchrotrons: APS, the Australian Synchrotron, DLS, Elettra, ESRF, IHEP, LBL, LNLS, MAX-lab, PAL, PSI, RRCAT, SLAC, SOLEIL, SSRF...

Contact us for more information!

Anne Duget - Tel: +33 4 66 28 87 20 - Email: anne.duget@symetrie.fr