Physical AI — the path to a beautiful tomorrow.

PRAVDA REPLIKANTA

THE REPLICANT TRUTH
A NEWSPAPER ABOUT PHYSICAL ARTIFICIAL INTELLIGENCE

BREUKELEN (Netherlands)
Forecast · 2026-10-31 · CET

≋	MORNING · 09:00 **6.6°**	Fog Wind: E 2.6 m/s · 0%
☁	MIDDAY · 12:00 **8.1°**	Cloudy Wind: SE 3.2 m/s · 0%
☁	EVENING · 18:00 **8.9°**	Cloudy Wind: E 2.6 m/s · 0%

Daily: 5.8–11.1 °C
Precipitation probability: 0%

All we can do is learn to be human while the rain falls.

ISSUE № 3 · 2026-10-31 rev. 2 ·

Weather source: Open-Meteo · Retrieved: 2026-10-30 19:37 CET

Pravda Replikanta — Engineering Edition

Two new research methods: predicting motion and learning from failed actions.

News

WorldFlow forecasts video and 3D motion together

Robots can plan more effectively if they anticipate how a scene will change. WorldFlow, reported on October 29, predicts both future video frames and the movement of selected points in three-dimensional space. This is a predictive world model, not a system that directly commands motors.

The researchers trained the joint architecture on 1.44 million object-level samples. Their WorldFlowBench evaluation set contains 1,678 samples from 11 sources. On SpatialCog, average displacement error was 0.060 metres, a 54.2% reduction compared with the strongest external baseline in the authors' tests.

A real deployment would still require latency measurement, camera calibration checks, occlusion robustness and analysis of accumulated error. Forecasting geometry accurately does not itself demonstrate safe or reliable manipulation.

Sources

WorldFlow: Joint Video and 3D Motion Prediction via Large-Scale Pretraining · 2026-10-29

Event2Reward learns from setbacks and recovery

A robot may keep moving while making no progress. Event2Reward, introduced on October 29, learns to distinguish stalls, setbacks and recoveries. The estimated progress helps shape rewards for reinforcement learning rather than relying only on final success labels.

The authors analyzed approximately 100,000 real-robot execution records, including failures. They infer relative progress between nearby states instead of assigning absolute progress scores to every frame. Across 40 tasks in four LIBERO suites, average policy success improved by 18.16 percentage points against a sparse-reward baseline.

On real robots after 30 minutes of training, average success reached 60% on three precision-insertion tasks and 90% on three object-manipulation tasks. These are author-reported results, not a guarantee of safe online learning in factories.

Sources

Event2Reward: Learning Robotic Rewards from Progress Relations · 2026-10-29

Analysis

WorldFlow forecasts video and 3D motion together

The October 29 WorldFlow study predicts future video and 3D point trajectories; average displacement error on SpatialCog was 0.060 m.

Real-robot validation remains essential.

Sources

WorldFlow: Joint Video and 3D Motion Prediction via Large-Scale Pretraining · 2026-10-29

Event2Reward: Learning Robotic Rewards from Progress Relations · 2026-10-29

Issue glossary

Key terms in this issue.

01 **World model**

A model predicting changes in a physical scene.

02 **3D trajectory**

A point's path through space.

03 **Average error**

Mean deviation between prediction and observation.

04 **Reinforcement learning**

Learning actions using reward feedback.

05 **Reward**

A numerical signal about an action's usefulness.

Sources

WorldFlow: Joint Video and 3D Motion Prediction via Large-Scale Pretraining · 2026-10-29

Event2Reward: Learning Robotic Rewards from Progress Relations · 2026-10-29