

SOTA Tech Shanghai Co.,Ltd.

3D Moment App
Earth 3D Reconstruction
CHAOS

Sep. 2026

About Company

Focus on the R&D of 3D AI covering CG, 3DCV, Spatial computing, 3D/4D Reconstruction & generation, rea-time rendering. The company is developing an App called **3D Moment app**, targeting massive users, with an Earth 3D Reconstruction vision, the 3D&4D data on 3D Moment will be shaping a data foundation called **SplatEarth**, and with the accumulated data, the company will be building and training a general world model called **CHAOS**.



Spatial & Spatiotemporal Data Service

The next-gen 3D spatiotemporal data platform SplatEarth, built on 3DGS by massive users globally, creates hyper-realistic and physically accurate interactive 3D spaces and 4D spatiotemporal data of the real world, breaking the high barriers, high costs, big domain gaps, and low efficiency limitations of traditional spatial data.



CHAOS World Model as a Service

CHAOS world model is trained on massive real-world third-person visual 3D & 4D reconstruction data. By automatically recognize, segmenting, and labeling 4D spatiotemporal interaction data, it reverse-learns pseudo-true physical properties that are usable in engineering, solving the problem of data, models, and physics not converging.



4D Real-time Interactive Tech Support

Creating, sharing, and interacting with 4D space-time content is no longer a technical headache for the industry. With single or multiple data inputs, offline or real-time 4D reconstruction and rendering interaction are supported, and it can be implemented across devices or between endpoints in practical applications.

Market Size

Booming ADAS stage

It is projected that the global market size will reach USD 46.1 billion by 2035, with a compound annual growth rate (CAGR) of 12.0%. Market growth is driven by the popularization of ADAS and autonomous vehicles, demand for low-cost testing, and high-fidelity simulation technologies. Meanwhile, the market faces challenges including high hardware and software costs and the complexity of real-world scenario reconstruction.

Robotics Blue Ocean

According to academic estimates, general embodied intelligence requires a threshold of 100M+ hours of general-purpose interaction data.

The global industry's valid accumulated real-world physical-environment interaction data stock is only 0.5M hours.

The supply-demand gap reaches 200×; existing stock represents just 0.5% of total demand.

3D Content UGC Era

The past two decades belonged to the Internet era, which enabled easy creation, sharing and interaction for consumers. The success of large models also benefits from massive data generated by consumer-side Internet users. The next two decades will be the era of 3D content. 3D content creation will free from the constraints of professional, complex and linear PGC workflows and shift toward UGC.



Strategic Positioning: three-pillar of "Tools + Data Infrastructure + World Model"

3D Moment App



SplatEarth



CHAOS

Challenges in Autonomous Driving



The industry is making a critical leap from "functional availability" to "safety and trustworthiness". Proving absolute system reliability in the complex, dynamic real world has become the core bottleneck for large-scale deployment of autonomous driving.



"Unlimited" Demand for Testing Mileage

Industry estimates indicate that verifying reliability for L4 autonomous driving requires over 1 billion miles of road testing. Relying solely on real-world road tests creates practically insurmountable time and capital costs.



Long-tail Scenarios Reproducing Challenges

Corner cases such as extreme weather and sudden road conditions feature low probability yet high risk. Natural road data collection cannot achieve large-scale coverage, posing potential safety hazards and technical bottlenecks to autonomous driving systems.



Bottlenecks of Static High-Definition Maps

Traditional HD maps incur high production costs and long update cycles, typically on a monthly basis. They fail to reflect dynamic road changes such as construction and temporary restrictions in real time, and cannot support real-time vehicle decision-making.

Challenges of Embodied Robotics



Data represents the ultimate challenge. Hardware embodiment, models, data, and evaluation are tightly coupled. Hardware iteration impacts model development and data collection, and model tuning also affects hardware design and data acquisition. Any adjustment to models or hardware requires corresponding updates to data. Models drive hardware operation, while data empowers model iteration.



Difficulties in Body Morphology Convergence

Different application scenarios impose distinct requirements on the structure, morphology, load capacity, battery life, flexibility, adaptability and stability of embodied hardware. Embodied bodies, motors, dexterous hands and other core components are still in rapid iteration. The lack of universal interfaces and design specifications results in poor device compatibility and hinders large-scale adoption.



Divergence in Model Definition and Tech Paths

Large language models lack spatial perception and reasoning capabilities. The world model field features diverse technical paradigms, including the generative explicit 3D approach proposed by LeCun Yann and Fei-Fei Li, as well as solutions that define vision as a world model. Without universal standards and evaluation systems, fragmented technical routes lead to low R&D efficiency, restricting large-scale product iteration and scenario coverage.



Scarcity of Trainable Data

Manufacturers adopt highly divergent design solutions with incompatible data protocols. Models cannot be easily migrated and reused across different embodied hardware, which significantly raises R&D and adaptation costs.

Teleoperation-generated data suffers from slow production, high costs and poor generalization. Simulation data can be produced in large volumes at high cost yet suffers from substantial domain gaps. Ego-centric first-person data is relatively low-cost and high-volume, but contains limited valid samples. Better approaches are urgently needed to resolve the data scarcity problem.

Data is the ultimate challenge.

Access to low-cost, high-efficiency, massive and diverse data will be the decisive factor for final success.

Way out: From C-end to World Model to Embodied Body

Break away from the traditional high-cost data collection model reliant on professional equipment. Leverage innovative consumer-oriented data collection solutions, enabling global C-end users to become data contributors using smartphone cameras. Build a 3D spatial and 4D spatiotemporal interaction data foundation that covers the real world, delivering continuous fuel for the boom of general-purpose AI and embodied intelligence.



Massive user Collection

Leverage smartphone monocular cameras as collection terminals to acquire large-scale 3D geometric structures and 4D dynamic interaction data of real-world scenes at near-zero marginal cost, breaking the collection constraints imposed by professional devices.



New World Model Infra

Trained on massive real-world datasets, the general world model is built with physical intuition, spatial understanding and interactive reasoning capabilities, serving as the core "digital brain" for embodied intelligence systems.



Deployment on Robots

Quickly migrate the pre-trained world model to various robot embodiments to achieve effective decoupling of algorithms and hardware, and endow robots with autonomous perception, decision-making and execution capabilities in complex real-world scenarios.



Exponential Data Explosion: Breaking the Bottleneck of Data Scale

Shift from "professional collection" to "mass co-creation". With near-zero data acquisition costs, it enables rapid coverage of hundreds of millions of real-world scenarios and provides inexhaustible "fuel" for model training.



New Paradigm: Intelligence Comes After the World

Establish a layered architecture of "World Model + Robot" to achieve complete decoupling of algorithms and hardware. This not only equips intelligent algorithms with strong reusability and transferability, but also eliminates retraining costs caused by hardware iterations.

Way out :Data Collection: 3D Moment App

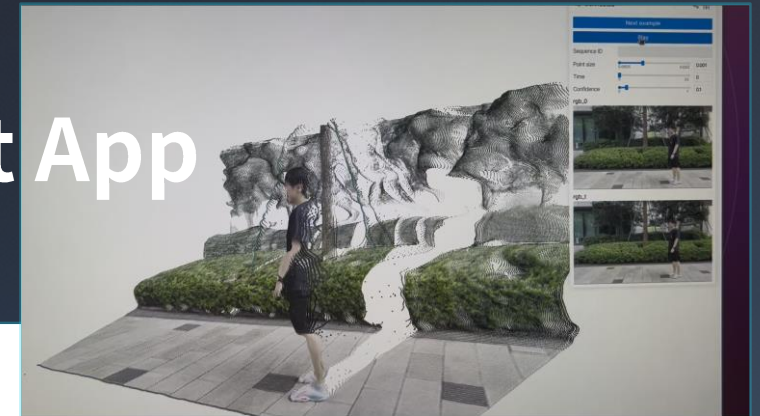
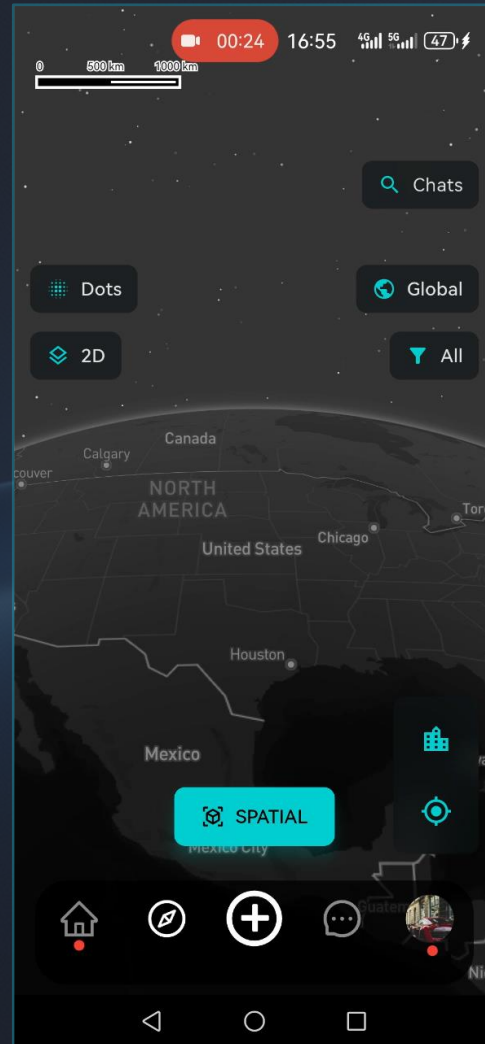
Global Massive Users

Phone/Drone Camera

Third Person View

LBS&SBS

Earth 3D Reconstruction



Way out: General World Model: CHAOS



Static Reconstructed Data

Massive real-world static spatial point cloud, depth, RGB and geometric mesh data to build a high-precision geometric foundation and high-fidelity real-time-renderable real-world scenes.



Dynamic Reconstructed Data

Capture continuous spatiotemporal sequences of human-object-environment interactions from third-person perspectives, record motion trajectories and state changes, and construct high-precision, high-fidelity spatial and dynamic 4D reconstruction data.



CHAOS (混沌)



Automated Data Processing

1. Recognition and Perception
2. Dynamic Attributes Annotation
3. Optical Flow Calculation
4. Scene Flow Reconstruction



Spatial Understanding and Geometric Reasoning

not only perceives static geometric structures, but also infers topological relationships of invisible regions to build a global spatial cognitive map.



Pseudo-Real Physics and Causal Reference

Learn physical constraints and dynamic laws of the real world, simulate causal chains of object interactions, and predict future states.



Auto Generation and Planning

Generate long-term feasible action sequences based on environment understanding and physical prediction to enable autonomous decision-making in complex scenarios.

4D Data Embodies Physical Laws



4D Spatialtemporal Flow

Records not only geometric coordinates, but o millisecond-scale force transmission, motion trends and object responses. These real-world interaction traces serve as a "natural database" for mining physical laws.

01 Visual Features: Capture Dynamic Manifestations of Interactions

Extract posture, motion velocity, acceleration variation and object slipping trends during interactions, convert complex dynamic visual signals into quantifiable feature vectors to provide solid inputs for physical inversion.

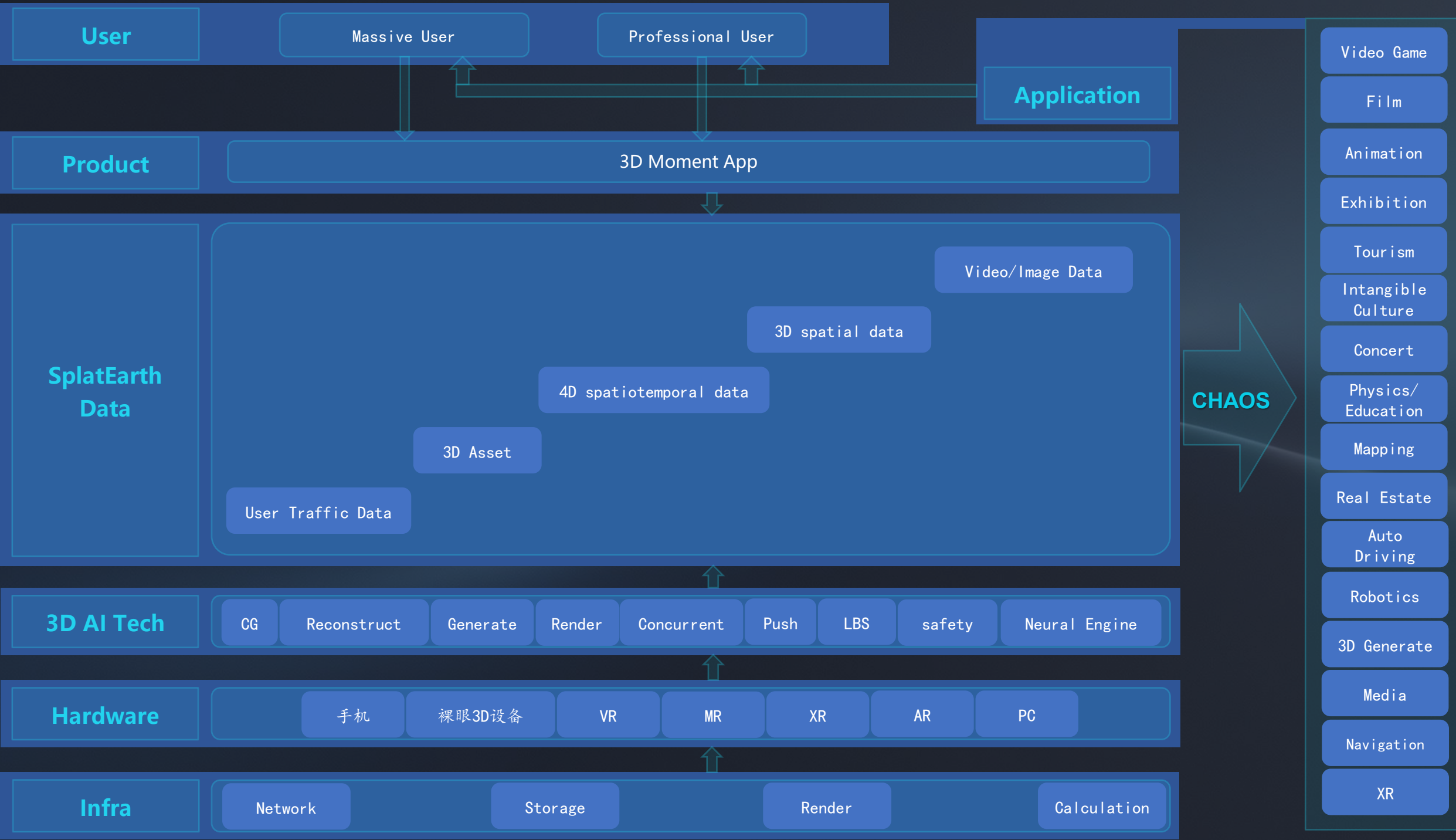
02 Physical Inversion: Law Mining from Effects to Causes

Based on inverse dynamics and differentiable physics engines, infer physical essence from motion appearances. For instance, deduce weight from object-lifting postures and friction coefficients from sliding trajectories to realize "tracing causes from effects".

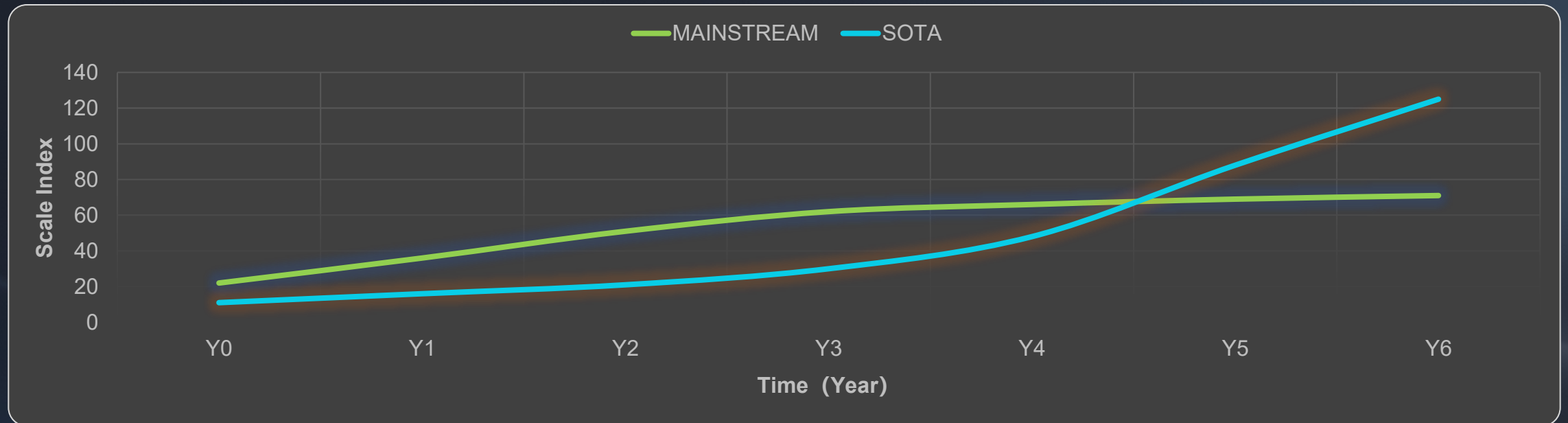
03 Common-sense Construction: Statistically-Converged Physical Intuition

Instead of pursuing absolute ground truth for single points, it eliminates noise through big-data statistical convergence, builds a probabilistic common-sense library of physical properties for real-world objects, and endows the model with intuitive judgment over the physical world.

Core Value: Compensate for single-sample errors with data scale, enabling CHAOS to "learn" physical common sense from massive interactions rather than merely relying on predefined rules. This marks a critical step toward building a general-purpose world model.



Future: Convergence and Divergence of Two Paths



Linear Growth Driven by Hardware Stacking

Relying on computing power and hardware iteration. Constrained by the tight coupling among robot bodies, models and data, it cannot iterate rapidly and delivers gentle linear growth.

Exponential Explosion Driven by Data Flywheel

Under incubation for the first four years, The fifth year marks a technical inflection point where the data-flywheel effect officially kicks in, exponential leaps in intelligence capability to achieve full superiority.

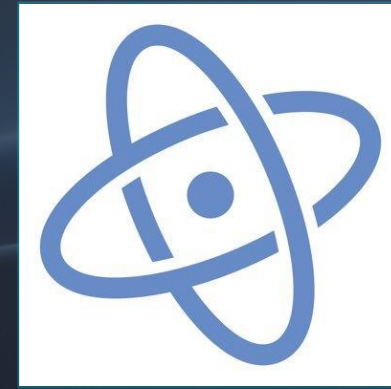
Competitor



Over the Reality

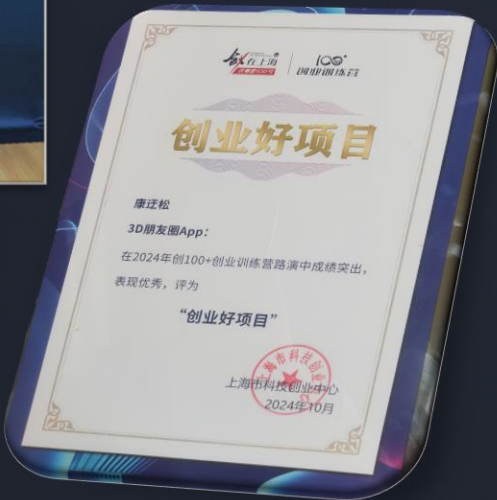


Luma AI



Niantic Spatial

Honor





Thanks

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