

TL;DR

Reports indicate Wan 2.2 adds MoE-style architecture and strong performance on consumer GPUs; verify dates, licenses and specs with official sources.

Paired with Spline Path Control v2, creators can achieve precise trajectory control for cinematic motion.

1 Wan 2.2: The breakthrough everyone was waiting for

1.1 What makes Wan 2.2 revolutionary

Alibaba's Wan 2.2 has been presented as a significant iteration in open-source video generation. Reports describe a **Mixture of Experts (MoE) architecture** for improved fidelity and motion coherence.

Key Technical Innovations:

- **High-noise experts** → Handle overall layout and composition
- **Low-noise experts** → Refine details and motion quality
- **Result** → Unprecedented visual fidelity and motion coherence

1.2 Performance that changes everything

The **TI2V-5B model** delivers game-changing performance metrics:

Performance Notes:

- Throughput depends on prompts, parameters and hardware (e.g., RTX 4090 class GPUs)
- Quality targets often cite 720p/24fps; verify settings in official docs
- Efficiency claims vary by workflow (ComfyUI, nodes, quantization)

Why this matters: For the first time, professional-quality video generation runs on consumer hardware without compromising speed or quality.

2 Advanced compression and motion capabilities

2.1 High-compression VAE technology

Wan 2.2's **Wan2.2-VAE** achieves remarkable efficiency through advanced compression:

Compression Specifications:

- **Base compression** → 4×16×16 ratio
- **Overall compression** → 64x while maintaining quality
- **T12V-5B enhancement** → Total compression ratio reaches 4×32×32
- **Memory efficiency** → Optimized VRAM usage for consumer GPUs

2.2 Enhanced motion and control

The model excels in areas where previous versions struggled:

Motion Capabilities:

- **Complex movements** → Nuanced body motion and athletic actions
 - **Facial expressions** → Detailed emotional nuance
 - **Multi-subject scenes** → Improved interaction depiction
 - **Spatial accuracy** → Precise object positioning in complex scenes
 - **Camera control** → Professional cinematography techniques
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3 Spline Path Control v2: Precision meets creativity

3.1 What is Spline Path Control v2

Developed by **WhatDreamsCost**, Spline Path Control v2 transforms how creators define motion trajectories in AI video generation. Unlike text-based motion descriptions, this tool provides **pixel-perfect trajectory control** through intuitive spline editing.

Core Features:

- **Multi-spline editing** → Control multiple objects simultaneously
- **Real-time preview** → See trajectory paths before generation

- **Customizable keyframes** → Precise timing control
- **ComfyUI integration** → Seamless workflow integration

3.2 Advanced spline technology

The tool leverages professional-grade spline mathematics for smooth, natural motion:

Technical Capabilities:

- **Bezier curve optimization** → Smooth trajectory interpolation
 - **Keyframe interpolation** → Natural motion between control points
 - **Trajectory subdivision** → Add control points anywhere on the path
 - **Fixed point anchoring** → Keep specific elements stationary
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4 The perfect integration: ATI framework

4.1 Any Trajectory Instruction (ATI)

ATI frameworks have been proposed as bridges between trajectory inputs and latent conditioning, enabling more flexible motion control.

ATI Core Concept:

- **Input** → Image + user-defined trajectories
- **Processing** → Point-wise motion paths integrated into latent conditioning
- **Output** → Highly flexible animated content following exact paths

4.2 Unified motion control

ATI revolutionizes video generation by unifying different motion types:

Motion Control Types:

- **Object movement** → Control how subjects move through the scene
 - **Local deformation** → Animate specific parts while keeping others static
 - **Camera movement** → Professional camera pans, zooms, and angles
 - **Combined control** → All motion types simultaneously in one workflow
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5 Complete workflow setup

5.1 Hardware requirements

Minimum Specifications:

- **GPU** → RTX 4090 or equivalent (24GB VRAM)
- **System RAM** → 32GB recommended
- **Storage** → 100GB+ for models and cache
- **ComfyUI** → Version 0.3.40 or later

Recommended Specifications:

- **GPU** → 48GB+ VRAM for optimal performance
- **System RAM** → 64GB for complex scenes
- **Storage** → NVMe SSD for faster model loading

5.2 Software installation

Installation Steps:

- **Download** → Wan2_1-I2V-ATI-14B_fp8_e4m3fn.safetensors model
- **Install** → ComfyUI-WanVideoWrapper nodes
- **Setup** → Spline Path Control v2 from GitHub
- **Configure** → ATI framework integration

5.3 Two-stage workflow process

Stage 1: Pre-Setup

- **Load model** → Initialize Wan 2.2 with ATI support
- **Test prompt** → Verify model functionality
- **Prepare workspace** → Set resolution and frame parameters

Stage 2: Motion Control

- **Enable nodes** → Activate Spline Path Control integration
 - **Define trajectories** → Draw motion paths using spline editor
 - **Configure timing** → Set keyframes and animation duration
 - **Generate video** → Execute the complete workflow
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6 Spline editor mastery

6.1 Control techniques

Essential Controls:

- **Shift + Click** → Add control point at path end
- **Ctrl + Click** → Insert control point between existing points
- **Right Click** → Delete control points (except start/end)
- **Single Dot** → Create fixed trajectory for stationary elements

6.2 Professional tips

Best Practices:

- **High-resolution input** → Always use high-quality source images
 - **Trajectory length** → Adjust curve length for smoother motion
 - **Fixed anchors** → Use single dots where no movement is desired
 - **Path subdivision** → Add control points for complex curves
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7 Real-world applications

7.1 Content creation scenarios

Professional Use Cases:

- **Product demonstrations** → Controlled camera movement around products
- **Educational content** → Precise annotation and object highlighting
- **Social media** → Engaging motion graphics for higher retention
- **Marketing videos** → Professional presentation of brand stories

7.2 Creative applications

Artistic Possibilities:

- **Character animation** → Bring static portraits to life
- **Environmental storytelling** → Animate landscapes and scenes
- **Abstract motion** → Create artistic movement patterns
- **Hybrid workflows** → Combine with traditional animation tools

8 Performance optimization

8.1 VRAM management

Memory Optimization:

- **FP8 quantization** → Reduce model size without quality loss
- **Layer-by-layer offload** → Manage GPU memory efficiently
- **Sequence parallelism** → Optimize for longer video generation

8.2 Speed improvements

Performance Tips:

- **Remove offload flags** → For 80GB+ VRAM setups
 - **Disable T5 CPU mode** → When sufficient VRAM available
 - **Batch processing** → Generate multiple variants efficiently
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9 Future implications

9.1 Industry transformation

The combination of **Wan 2.2's open-source accessibility** with **Spline Path Control v2's precision** democratizes professional video creation:

Market Impact:

- **Accessibility** → Professional tools available to independent creators
- **Cost reduction** → Eliminate expensive animation software subscriptions
- **Speed increase** → Rapid prototyping and iteration cycles
- **Quality parity** → Consumer hardware achieving professional results

9.2 Technical evolution

What's Next:

- **Real-time generation** → Move toward live video synthesis
- **Multi-modal integration** → Combine with audio and 3D generation

- **Advanced physics** → Realistic motion simulation
 - **Collaborative workflows** → Team-based video creation tools
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10 Getting started today

10.1 Quick start checklist

Immediate Steps:

- **Hardware check** → Verify RTX 4090 or equivalent GPU
- **Download models** → Get Wan 2.2 T12V-5B from Hugging Face
- **Install ComfyUI** → Latest version with Wan support
- **Clone repository** → Spline Path Control v2 from GitHub

10.2 First project workflow

Beginner Project:

- **Select image** → High-resolution portrait or product shot
 - **Draw trajectory** → Simple movement path using spline editor
 - **Generate video** → 5-second test with basic parameters
 - **Iterate** → Refine trajectory based on results
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11 Community and resources

11.1 Essential links

Official Resources:

- [Wan 2.2 GitHub Repository](#)
- [Hugging Face Model Hub](#)
- [ComfyUI Documentation](#)
- [ATI Framework GitHub](#)

11.2 Learning resources

Tutorials and Guides:

- [ComfyUI Docs - Overview](#)
 - [Spline Path Control Documentation](#)
 - [ThinkDiffusion Video Tutorials](#)
 - [RunComfy Workflow Gallery](#)
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12 Call to action

Ready to revolutionize your video creation workflow?

The combination of Wan 2.2 and Spline Path Control v2 represents the most accessible path to professional video generation available today.

Start experimenting: Download the models, set up your workflow, and join the community of creators pushing the boundaries of AI video generation.

References

- [Wan2.2 \(GitHub\)](#)
- [CG-Taylor Acceleration \(arXiv\)](#)
- [AnimateDiff \(GitHub\)](#)
- [AnimateDiff \(arXiv\)](#)

Last updated July 30, 2025 - covering the latest Wan 2.2 release and current Spline Path Control v2 capabilities.