

N5Digital Car of the Future

Lev Neymotin, PhD

N5Digital, Inc.

The **N5Digital Car of the Future** is not just a redesign of personal transport—it is a **complete reinvention**. Lightweight, intelligent, roadless, and ultra-efficient, it invites us to imagine a world where we **walk instead of roll**, and **progress finally catches up with imagination**.

I. Introduction: A Stuck Paradigm

It is truly astonishing how little progress has been made in personal transportation since the dawn of the industrial age—and even earlier. Despite remarkable advances in comfort, we are still essentially using an upgraded horse-drawn carriage. The standard four-wheel format persists, with the horse replaced by a heavy engine.

Today's vehicles remain **massively heavier than their passengers**, often by a factor of 20 or more. This means most of the energy is consumed not in transporting the human being, but in moving the vehicle itself. Ironically, this imbalance is even more extreme in modern **electric vehicles**, where heavy batteries increase total weight without increasing payload. This deeply inefficient "useful load ratio" is the first point of serious concern.

II. A Journey Back to the Future

Let us take a leap forward—by first looking back. The vision for a radically different mode of personal transport already appeared in 1897, in **H.G. Wells'** prophetic novel *The War of the Worlds*. In it, Wells described towering **three-legged Martian machines** that moved not on wheels, but on articulated legs. "...A monstrous tripod, higher than many houses, striding over the young pine trees... a walking engine of glittering metal..."

These tripods were:

- Over 100 feet tall
- Moved via articulated legs
- Equipped with articulated arms, metallic tentacles, and advanced weaponry (heat-ray, chemical smoke)
- Mechanically self-contained and mobile across varied terrain

A modern tribute to these machines stands in Woking, England: a 23-foot stainless-steel sculpture designed by Michael Condron in 1998, commemorating Wells' pioneering imagination.

III. From Fiction to Vision: Enter the N5Digital Car

Drawing inspiration from Wells' vision—but eliminating the warlike connotation—the **N5Digital Car of the Future** embodies a **revolutionary transformation** in both form and function.

This new vehicle concept emphasizes:

- **Walking instead of rolling**
- **Lightweight construction**
- **Electric propulsion**
- **AI-controlled navigation**
- **No roads required**

The Martian tripods' legacy is their combination of mobility, efficiency, and terrain independence—all elements that the N5Digital vehicle aims to recreate.

IV. Design Principles of the N5Digital Car

No Wheels – It Walks

The N5Digital vehicle uses **three telescopic legs**, controlled by onboard software and stabilized via a **gyroscopic system**. A two-legged version is also being explored.

Smooth Passenger Experience

The passenger sits in a compact cabin resting atop the platform. As the legs expand and contract to maintain balance and locomotion, the cabin remains steady, keeping the center of gravity constant for a smooth ride—even on uneven ground.

No Roads Needed

Because it walks, the N5Digital car doesn’t need roads. It can **walk, jump, and park** on any landscape. AI-driven traffic coordination between cars ensures safe, efficient movement without paved infrastructure.

Feasibility Backed by Reality

With humanoid walking robots such as Tesla’s Optimus already demonstrated, the concept of walking vehicles has moved beyond science fiction. The N5Digital car is a **near-future possibility**.

V. The Game-Changer: Energy Efficiency

Perhaps the most significant advantage of the N5Digital car is its **tremendous energy efficiency**.

Key Energy Loss Components Analyzed:

- a. Acceleration
 - b. Braking
 - c. Air Friction
 - d. Internal Friction (engine and mechanical)
 - e. Tire-Road Friction
 - f. Elevation Change
 - g. Turning Losses
-

VI. Comparative Analysis

Case 1: Average Car (2025)

- Vehicle: Medium-weight gasoline passenger car
- Weight: 3,250 lbs
- One passenger: 170 lbs
- Average power required: **22 kW**

Case 2: N5Digital Car of the Future

- Vehicle: Lightweight electric walker
 - Weight: 200 lbs
 - One passenger: 170 lbs
 - Aerodynamic cross-section: 20 ft²
 - Power requirement to match performance: **2.37 kW**
-

VII. Comparison Table: Power Use per Loss Component

Loss Component	Case 1 (% Loss)	Case 1 (kW)	Case 2 (% Loss)	Case 2 (kW)	Savings (kW)
Acceleration	14.00%	3.08	2.86%	0.07	3.01
Braking	12.00%	2.64	4.53%	0.11	2.53
Air Friction	22.00%	4.84	33.20%	0.79	4.05
Internal Friction (engine, etc.)	28.00%	6.16	26.41%	0.63	5.53

Loss Component	Case 1 (% Loss)	Case 1 (kW)	Case 2 (% Loss)	Case 2 (kW)	Savings (kW)
Tire-Road Friction	13.00%	2.86	12.26%	0.29	2.57
Elevation Change	6.00%	1.32	11.32%	0.27	1.05
Turning Losses	5.00%	1.10	9.43%	0.22	0.88

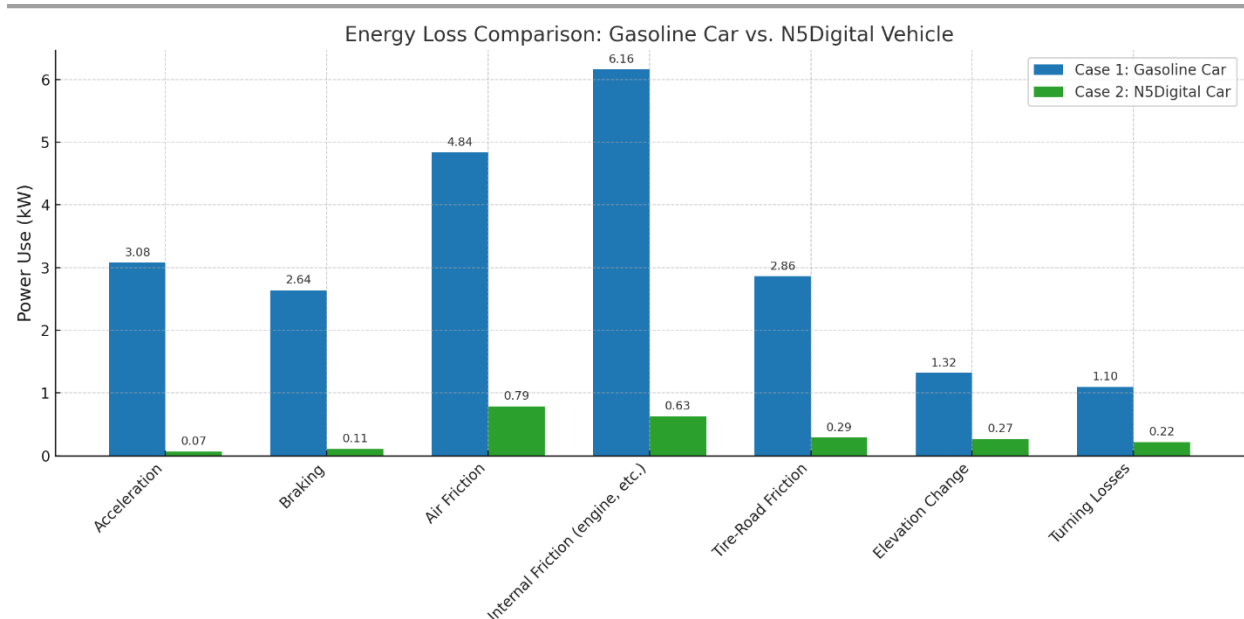


Figure: Energy Loss Comparison Between a Gasoline Car and the N5Digital Walking Vehicle

The chart below illustrates the dramatic reductions in power usage across all major energy loss categories in the N5Digital Car of the Future compared to a conventional gasoline vehicle. While the traditional car expends most of its energy moving its own heavy structure, the N5Digital vehicle's lightweight body, regenerative braking, and walking mechanism allow for extreme efficiency—without compromising performance. The result is a compelling visual story of a near-90% reduction in total power consumption.

VIII. Highlights and Conclusion

- **Total Power Use (Case 1):** 22 kW
- **Total Power Use (Case 2):** 2.37 kW
- **Energy Savings:** ~19.63 kW, or nearly **90%** reduction

CONCLUSION

The **N5Digital Car of the Future** is not just a redesign of personal transport—it is a **complete reinvention**. Lightweight, intelligent, roadless, and ultra-efficient, it invites us to imagine a world where we **walk instead of roll**, and **progress finally catches up with imagination**.