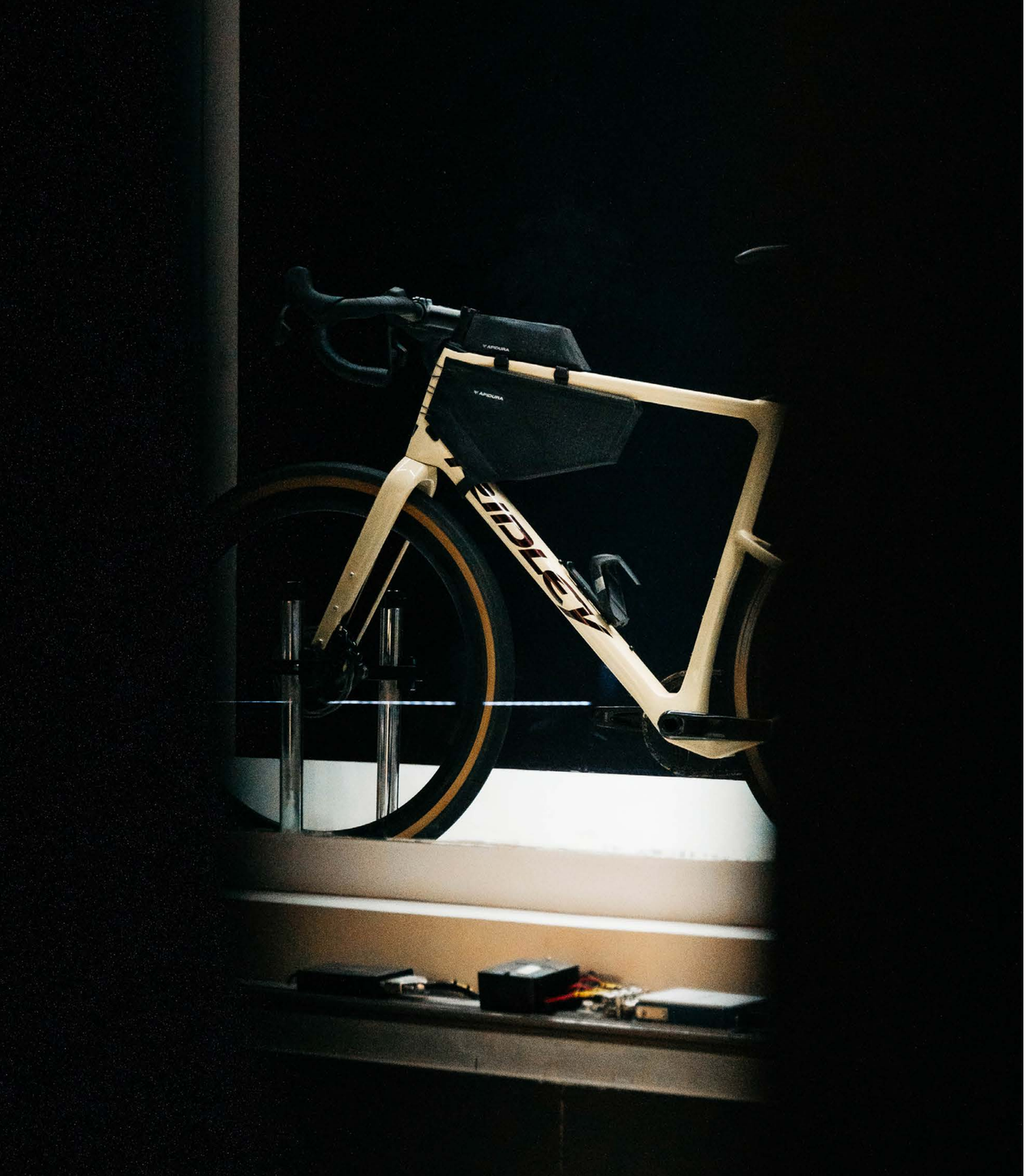
APIDURA

CARRYING SPEED

DEVELOPING THE AERO SYSTEM

FASTER, NOT JUST FURTHER



FASTER, NOT JUST FURTHER

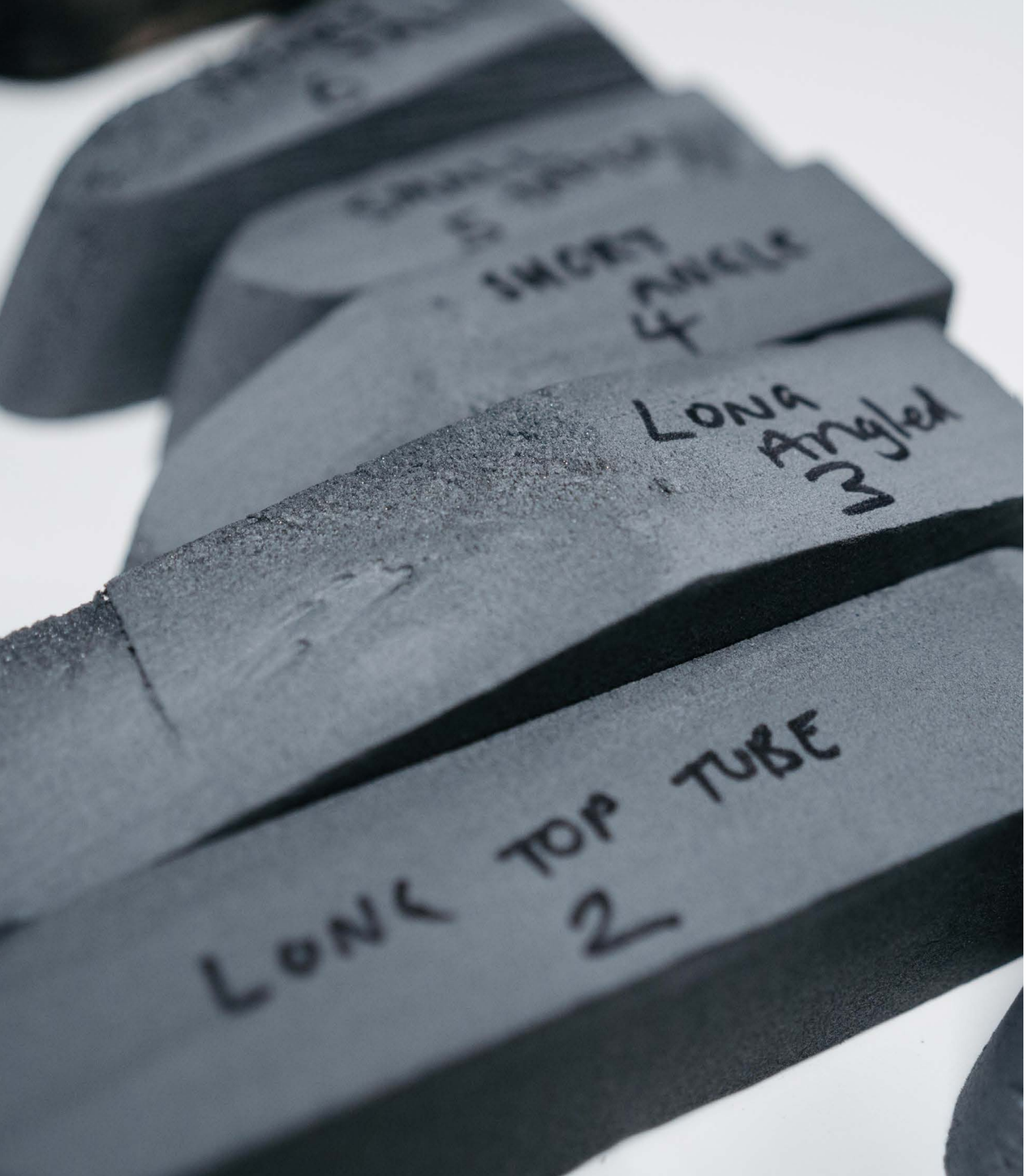
For over a decade, we've focused on enabling riders to carry what they need to go further - whether that's water, food, spare layers, or a full sleep system. We've always believed that any bike, from road to gravel to mountain, has the potential to take you across a country, or a continent.

But what if we could do more than help you ride longer? What if we could help you ride faster? At a surprisingly low speed, air resistance becomes the biggest force slowing a rider down. Improve a bike's ability to cut through the wind, and suddenly, it moves faster for the same effort.

What if we could rethink the role of a pack? What if we could use it to 'fill in' the shape of your bike - tricking the wind into thinking you're on a time trial machine - while keeping all the benefits of a gravel or road setup?

Just as bikepacking freed riders from needing a dedicated touring bike, we're setting off in a new direction - proving that you don't need an aero bike to be fast.

For years we've helped riders go further, now were helping them to go faster.



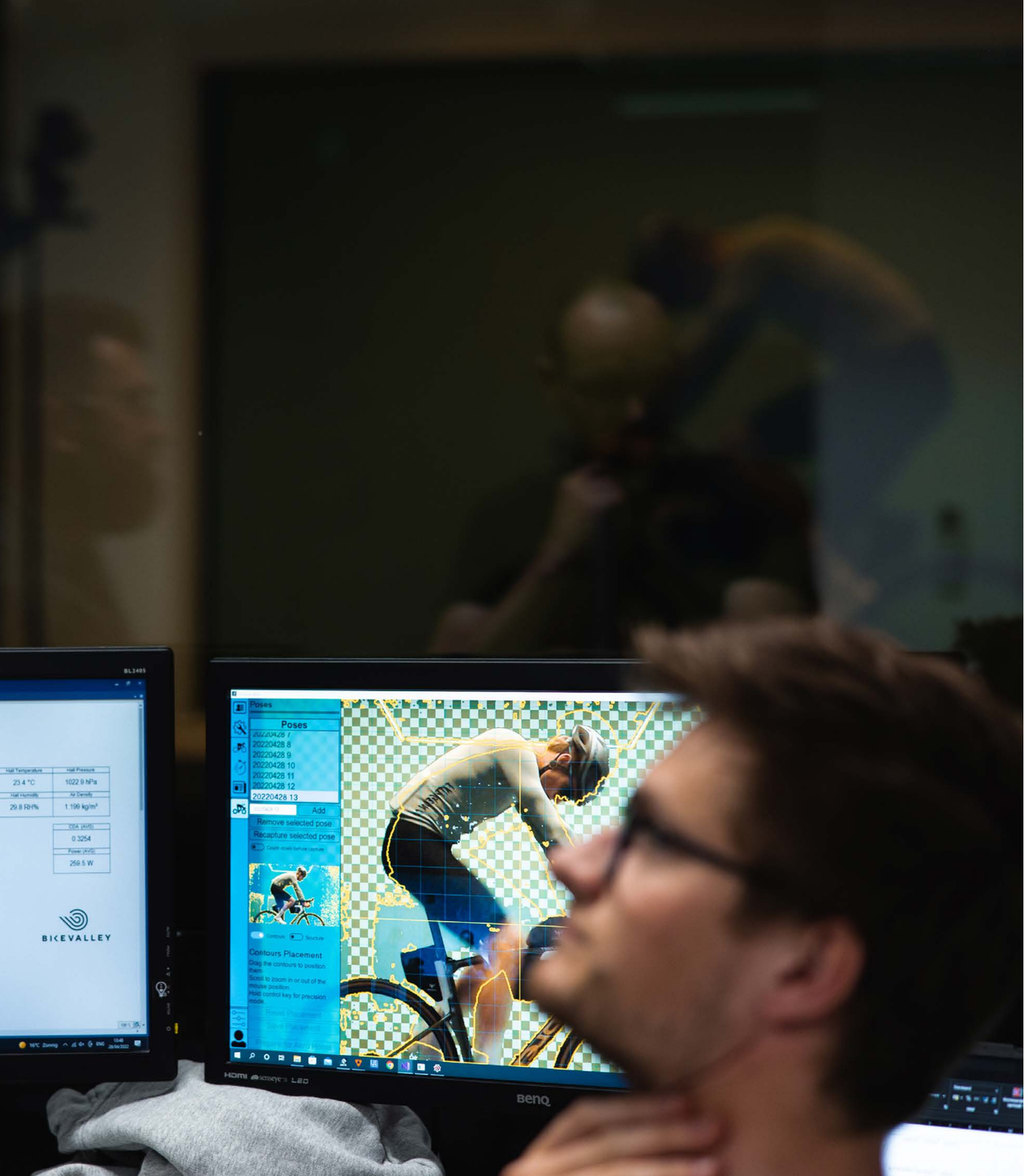
DEVELOPMENT

The Aero System began life as Project Breakaway - a collaboration between Apidura, Ridley, and Hunt to build the world's fastest gravel bike. What started as a one-off concept evolved into a three-year design journey, combining CFD analysis, wind tunnel testing, and real-world race validation.

The journey started with rough, foam mock-ups - transforming gravel bikes into something more reminiscent of a triathlon setup. Working with Ridley and the broader expertise of Belgium Cycling Factory, we refined these forms through CFD analysis and extensive wind tunnel testing to identify the shapes with the greatest aerodynamic impact.

Performing in the wind tunnel was only part of our requirement, the product needed to perform in race-day conditions: We developed Unbound-ready prototypes, first for the Kanzo Fast, making its debut at Unbound in 2022. This initial design incorporated 3D-printed components and modified frames to achieve an integrated fit.

Throughout 2023, we refined the system - eliminating the need for custom hardware to achieve a universal fit. By Unbound 2024, the final prototype delivered a podium finish under Piotr Havik of Ridley Classified. Now compatible across a broad range of bikes, the Aero System delivers a wind-tunnel-proven benefit to riders looking to stay ahead of the bunch.



WIND TUNNEL TESTING

A core part of developing the Aero System was designing with wind tunnel data from the outset - not just validating at the end.

Working with the Bike Valley Wind Tunnel in Flanders, we used foam prototypes and a range of bikes to test shapes in real time—often with unexpected results. Across multiple sessions, we refined the design using data, not assumptions.

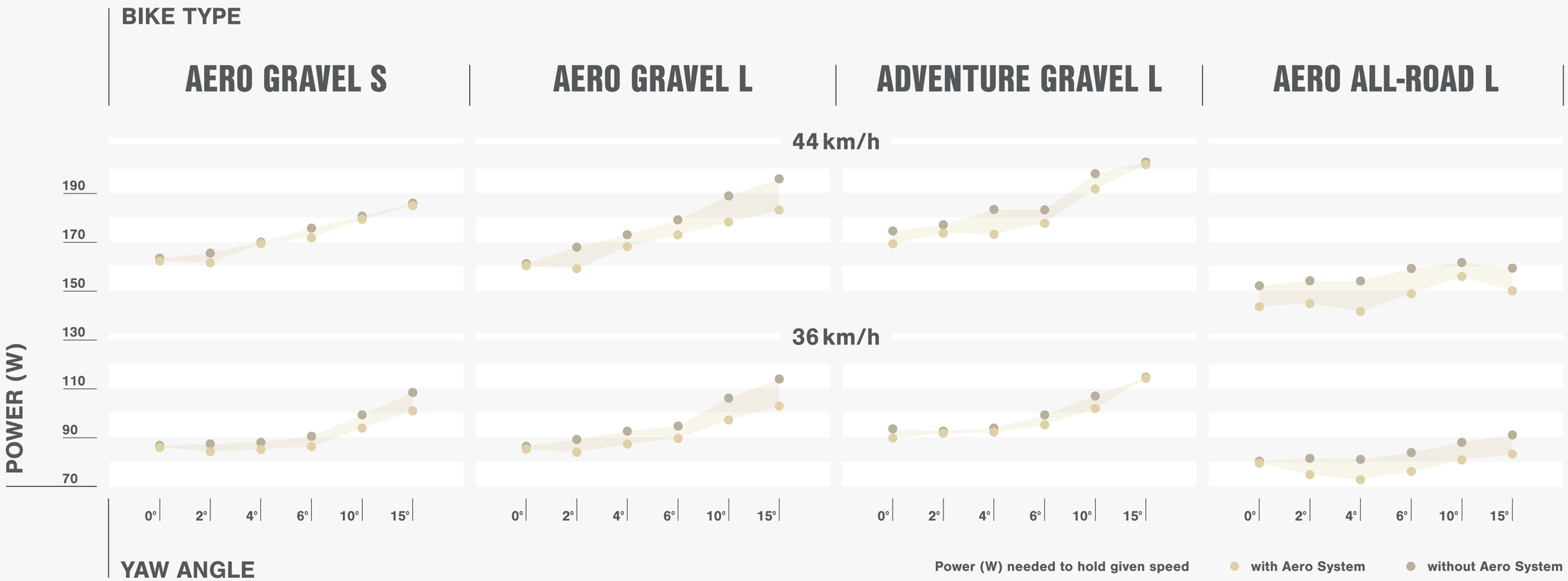
Our final test, using the production version of the Aero System, confirmed an average 5 watt saving at realistic race speeds (36 km/h and 44 km/h). For reference, 36 km/h was the winning average at Unbound 2024, with 44 km/h representing an above average effort that could feasibly be required to breakaway from the bunch. At higher speeds, the benefit of the system increases, but we have focussed on real-world speeds in order to give the most realistic picture of the Aero System and its tangible benefit to racers.

TESTING PROTOCOL

- Yaw angles: 0°, 2°, 4°, 6°, 10°, 15°
- Speeds: 36 km/h and 44 km/h
- Test bikes:
  - Aero gravel bike in small and large sizes with S/M and L/XL Aero Systems respectively
  - Adventure gravel bike (Large) with L/XL system
  - Aero all-road bike (Large) with L/XL system

DATA

Aero System shows an average of 5 Watt saving across test scenarios.



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