

**CADEX**



# CADEX TRI FRAMESET

## IMPOSSIBLY FAST

It's not derived from a road bike, or even a time trial bike. It doesn't play by those rules. The all-new CADEX Tri frameset is a no-holds-barred triathlon machine—no restrictions, no limitations. It's designed, engineered and put to the test by the world's fastest triathletes in a bold quest to push the sport forward. It rewrites the rules.

There's nothing conventional about this bike. The frame, with its radical monocoque design, unlocks a new level of aero efficiency. It gives triathletes an entirely new way to access nutrition, hydration and other essentials right from their racing position without the wind ever noticing. It's all right there, tucked inside the aero down tube, invisible to the wind.

The fork, with its wide-spread legs and dual-crown design, boosts performance in multiple ways. Its wing-like structure directs air around the rider's legs toward the rear of the bike. The front end of the bike is engineered as part of a system that includes the seatstays in the rear, which are also spread wide and have a horizontal orientation that minimizes surface contact with passing air.

And the fork is more than just aero. Its bladed legs extend upward from the front wheel to the cockpit area, which increases stiffness and minimizes flex in the base bar and extensions for improved handling on the road.

It's not enough to be fast in a wind tunnel. To make real-world gains in an Ironman race, an athlete must hold their aero-optimized riding position for 180km. That's why the CADEX Tri frame makes it easy to achieve a personalized fit. It offers nearly endless incremental adjustment options with more than 1,000 fit configurations.



And because not everyone travels with a personal mechanic, there's less hardware to fiddle with. Simple spacers and fewer screws. The cleanly integrated cables don't need to be rerouted with every cockpit adjustment. That means it's easier for riders of all heights and body dimensions to dial in a perfect fit that combines power, aero efficiency and comfort for hours on end.

Want proof? Look no further than the Ironman World Championships at St. George. That's where Kristian Blummenfelt used his prototype CADEX Tri frame to win it all in his first-ever attempt at the Ironman Worlds.

Kristian has played a major role in the development of this bike. He's the perfect athlete to push things forward, known for his hard-charging race style, relentless training, and unwillingness to accept status quo. That's how Kristian broke the Ironman 70.3 world record by five minutes and it's how he became the first triathlete to win the Olympics and Ironman World Championship in a one-year span.

The CADEX Tri frameset was also a key factor in Kristian's historic Sub7 victory, when he smashed the seven-hour mark for the Ironman distance. Working with a supporting cast of sports scientists, athletes and technicians including the CADEX engineering team, Kristian did what had been previously thought impossible, crossing the line with an astounding time of 6:44:25.

That's what this bike was made for. To set new PRs. To smash records. To reimagine what's possible in the sport of triathlon.



# THE CADEX ADVANTAGE

## PERSONALIZED FIT

One of the most fundamental performance factors of a triathlon bike is how it fits the athlete. There's a reason that pro triathletes and their coaches go to great lengths to get this right—a perfect fit allows the rider to produce maximum power in the most aerodynamic position possible while remaining comfortable over long distances.

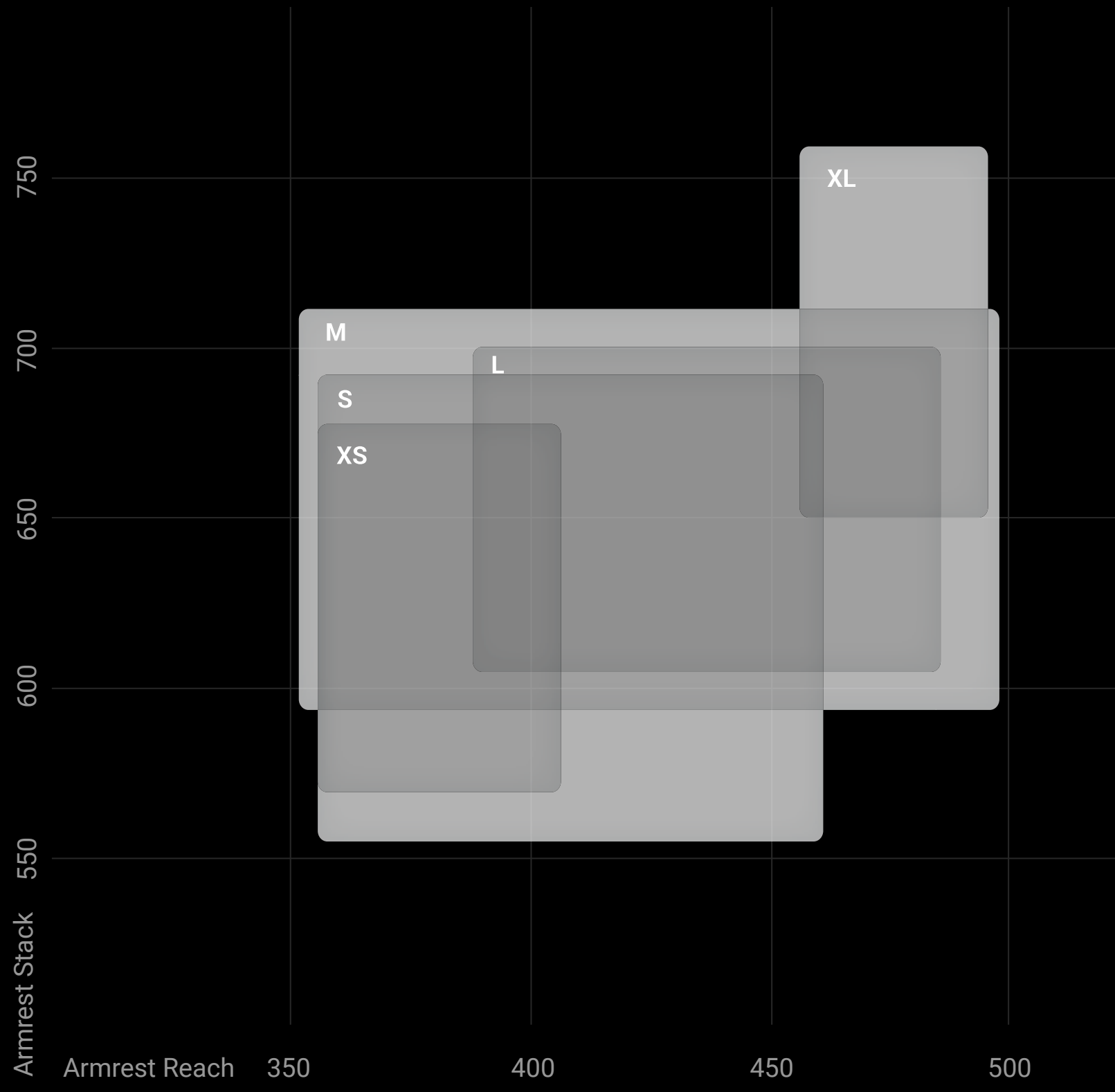
A primary objective of the CADEX Tri frameset was to make it easier for athletes of all heights and body dimensions to achieve a perfect fit. The CADEX engineering team started by collecting real-world dimensional data from 150 pro and amateur triathletes. This process led to the creation of five frame sizes: XXS, XS, S, M, and L.

From there, the team looked at stack and reach data, then configured ways for any rider, no matter what frame size they choose, to easily adjust these critical fit factors with greater ease. It's not just about height, leg length and body proportions. Athletes with similar body dimensions can have very different bike setups depending on variables such as flexibility, core strength and preferred race distance.

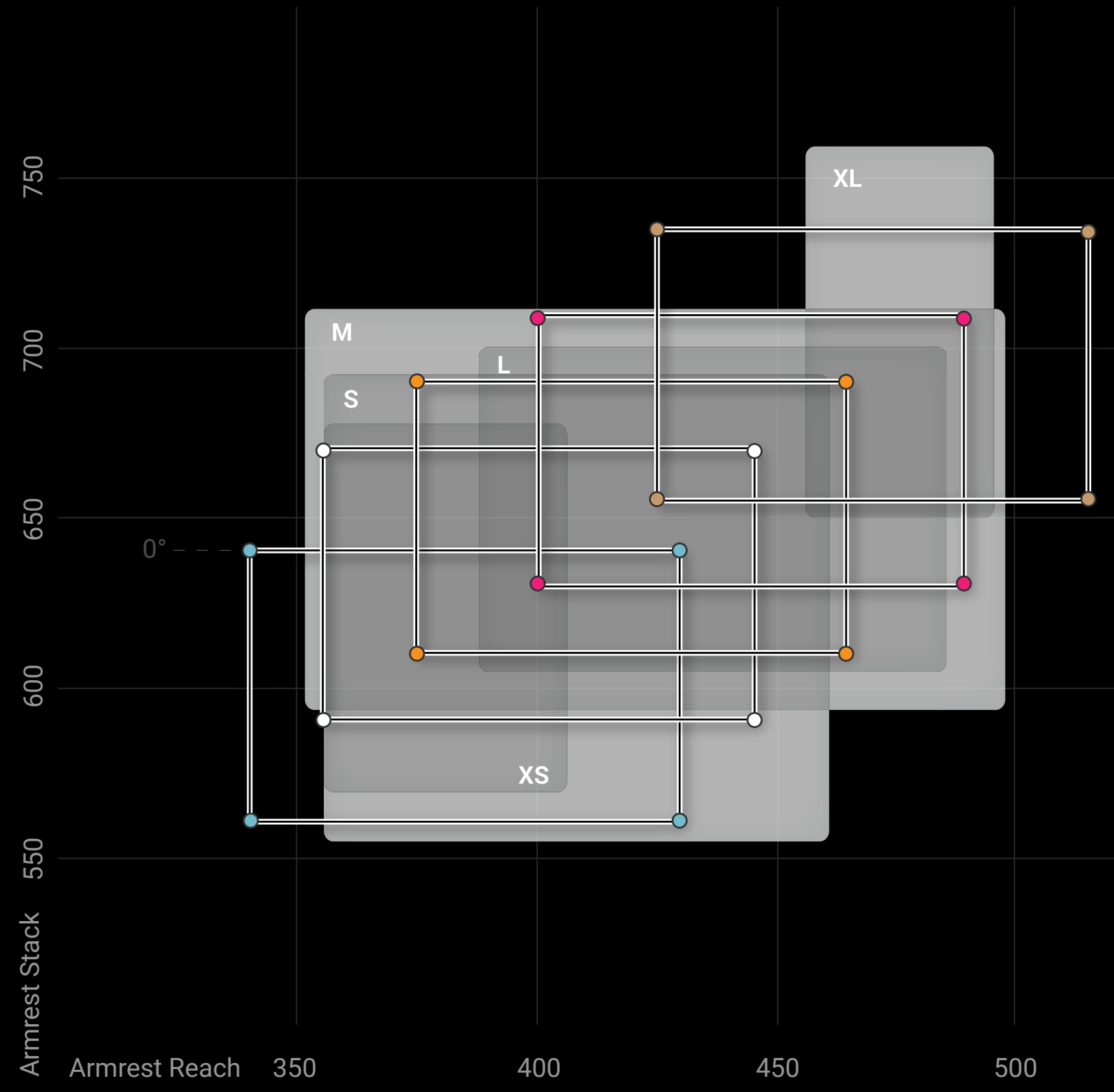


# FIT DATA CHARTS

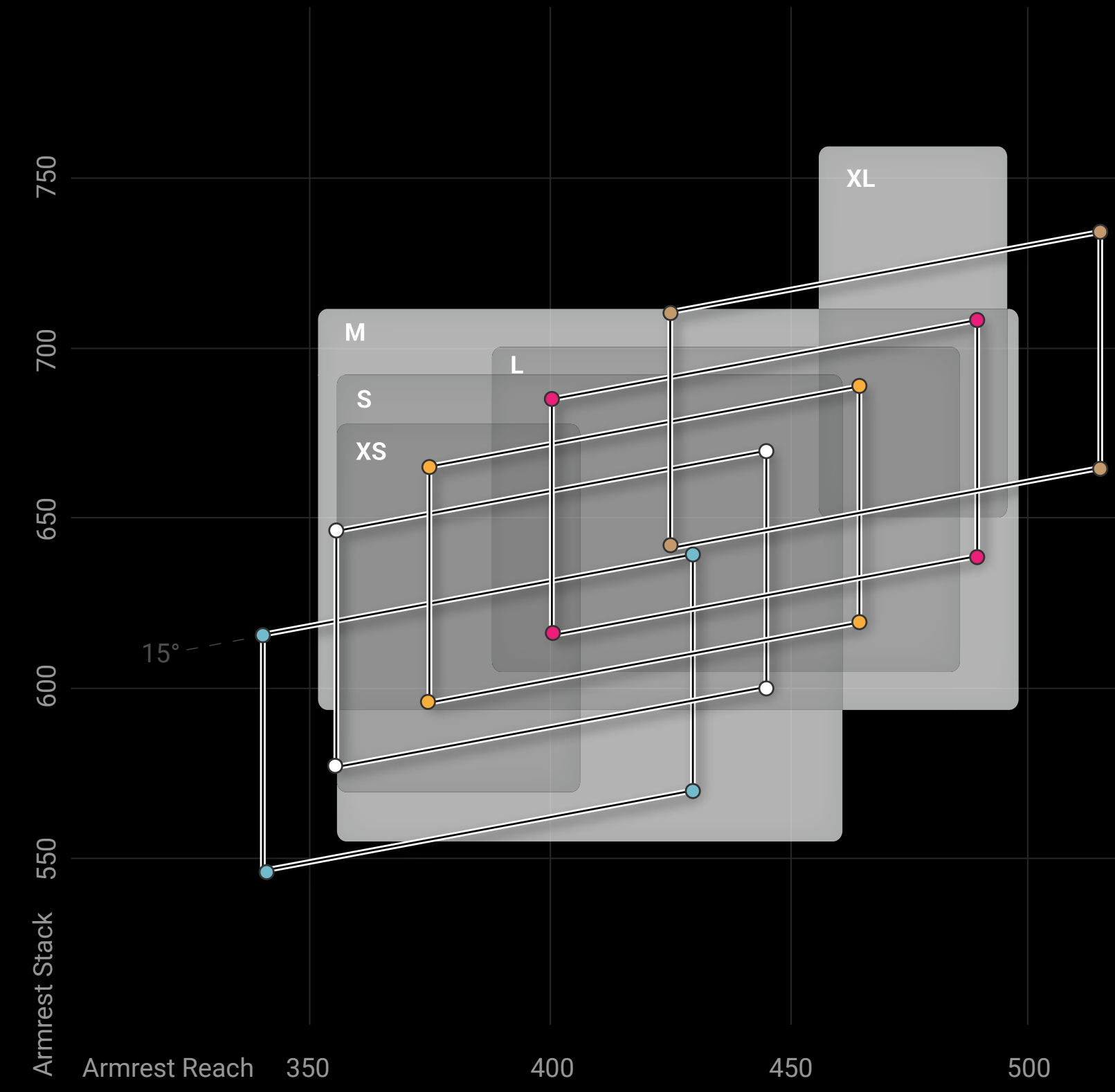
CADEX Tri Fit Range



0 Degree Position Fit Range



15 Degree Position Fit Range



Frame Size :

- XXSmall
- XSmall
- Small
- Medium
- Large

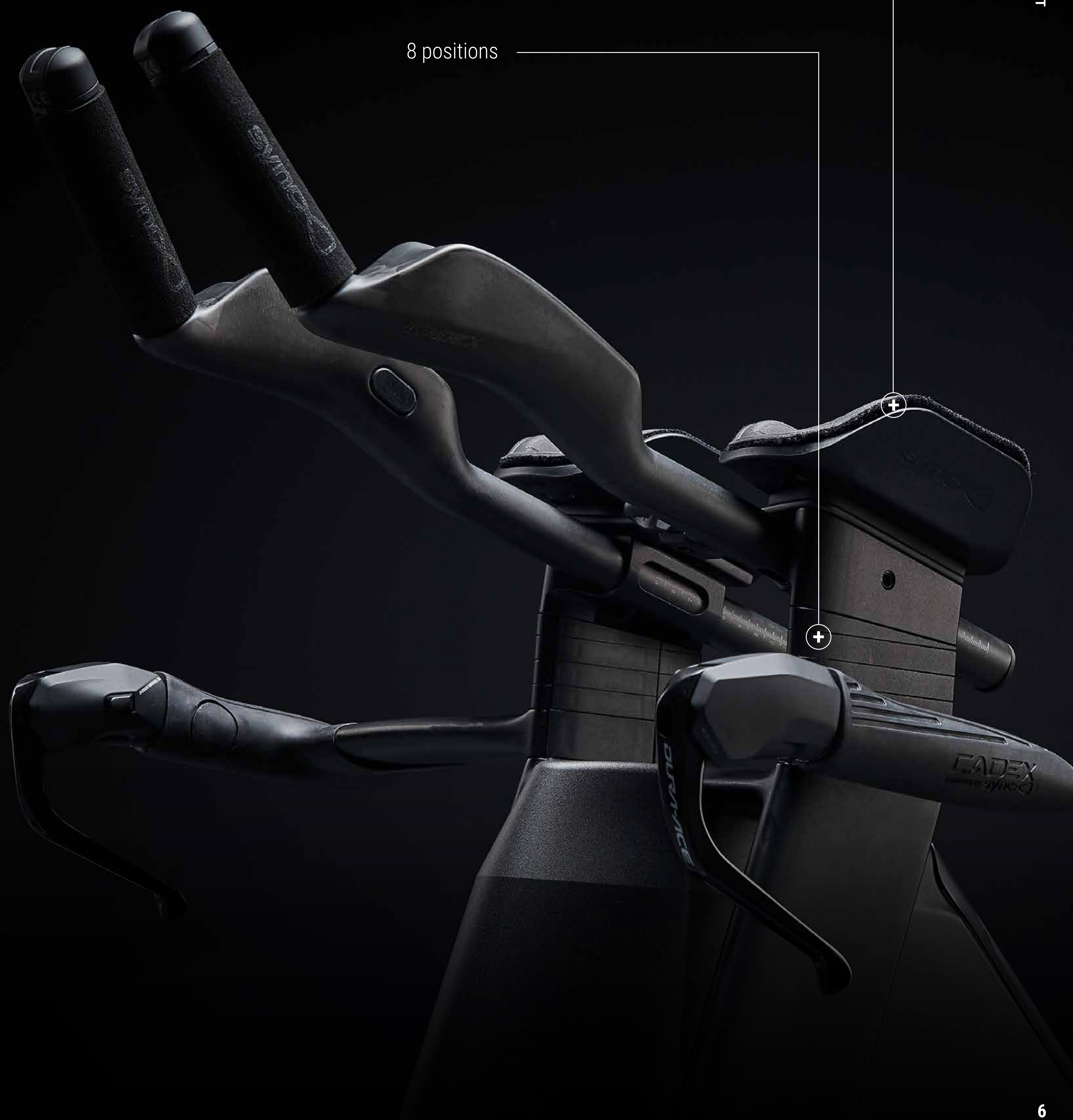
## PERFECT FIT MADE EASY

Beyond frame size, having a perfect fit comes down to adjusting the key contact points including the pedals, saddle, base bar, arm rests and bar extensions. The CADEX Tri bike makes it easy to adjust the cockpit components using simple hardware.

The overall structure of the cockpit is integrated, but the setups are independent. The arm extensions, designed in collaboration with leading components manufacturer Sync Ergonomics, can be moved forward and backward, and the angles can be changed without the hassle of removing any spacers. This system allows you to raise or lower stack height without moving the extension bars. And the quick-release spacer system allows the cable routing to remain in place while making these adjustments.

80mm of  
stack height

8 positions



## STACK ADJUSTMENT

The cockpit provides 80mm of stack height adjustment with eight different positions. Spacers can be placed above or below the base bar so the arm rests and extensions can be positioned closer or further apart, giving riders the flexibility to fine tune their position and fit.

80mm of total stack height adjustment



40mm of base bar height adjustment



## REACH ADJUSTMENT

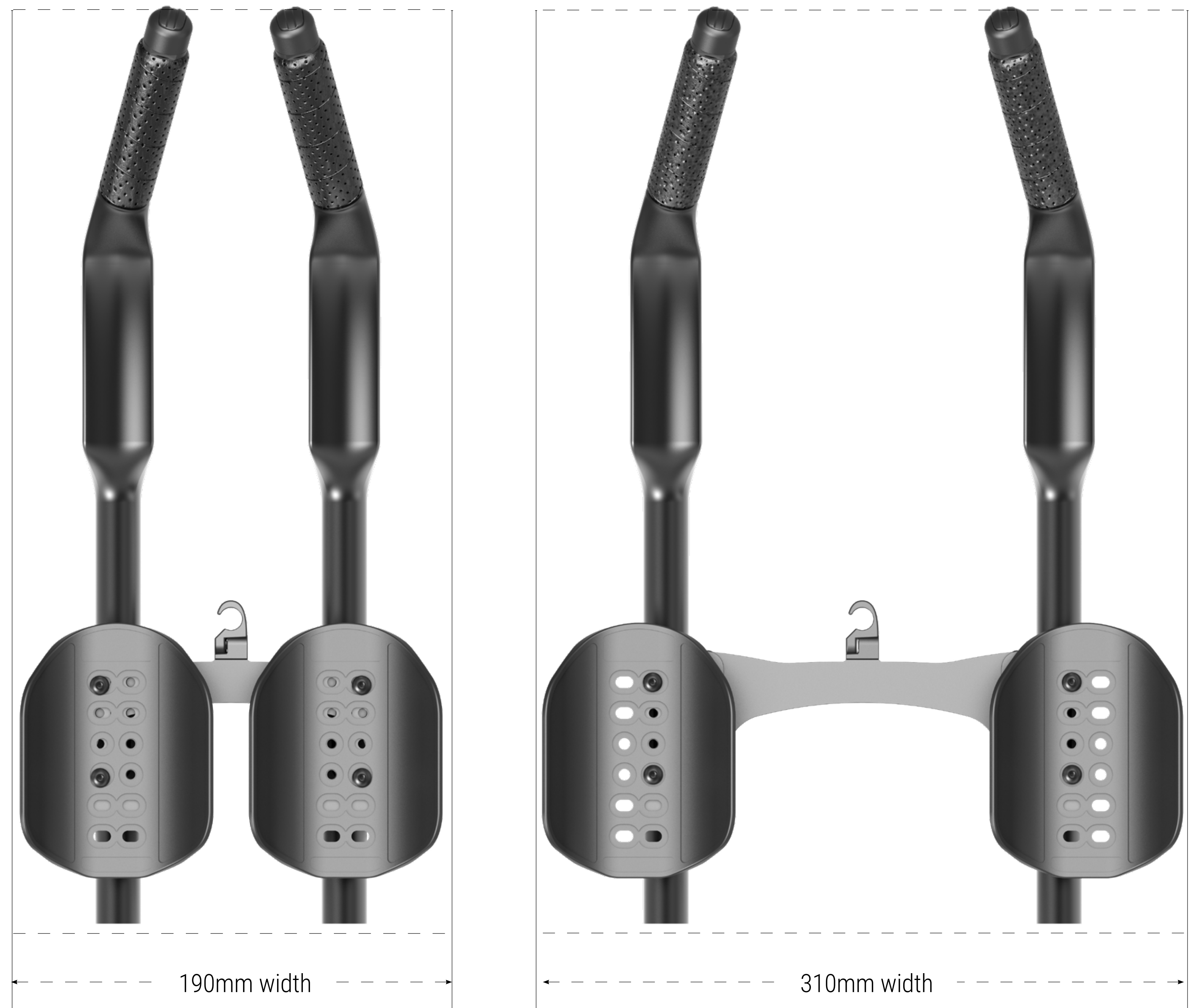
To adjust reach, the arm rests can be moved forward or back 90mm in 15mm increments. The extension bars also have 90mm of step-less fore/aft adjustment so that riders can easily dial in their precise reach and hand positioning.





## WIDTH ADJUSTMENT

The width of the arm rests can be set between 190mm and 310mm in 15mm increments. There are seven positions for width—more than other competitor triathlon bikes including the Specialized Shiv, Cervelo P5X and Canyon Speedmax—and a total range of 120mm. Width on the extension bars can also be set to two positions: narrow (110m) or wide (190mm).



## ANGLE ADJUSTMENT

The final key adjustment feature for the bars is the angle of the exclusive Sync Ergonomics arm rests. There are four angle options (0, 5, 10 and 15 degrees) so that riders can choose the exact height of their hands for aerodynamic positioning and comfort. It's a quick and easy adjustment made with angled wedges that set below the arm rests, which also increases the contact area at the forearms to improve stability.



## POWER POSITION

The effective seat tube angle can be adjusted by changing the saddle setback position. The rear clamp on the seatpost provides an independent fore/aft saddle adjustment range of 70mm. When the saddle is pushed all the way to the rear setting, the effective seat tube angle is 76 degrees. In its most forward position the seat tube angle is 80 degrees.

For Ironman triathletes like Kristian Blummenfelt, all these adjustment possibilities add up to the winning formula. "We are constantly looking for ways to improve aerodynamics, pedaling efficiency and of course comfort," Blummenfelt said. "Over the course of 180km, small changes add up. And sometimes what works in the wind-tunnel doesn't work as well out on the road. Having the ability to make these adjustments quickly and easily is a game-changer when you're trying to optimize your position and fit."

**FORWARD POSITION**  
80° EFFECTIVE SEAT TUBE ANGLE

**REAR POSITION**  
76° EFFECTIVE SEAT TUBE ANGLE

## ENDURANCE AERO

Being aero for 40km or even 80km isn't enough. To win an Ironman race or set a new PR, a rider must be able to hold the most aero position for the entire 180km bike leg. That was the guiding philosophy behind the CADEX Tri frameset: Aero performance goes beyond wind-tunnel data. It's about achievable gains for real-world racers.

It starts with the shapes, lines and angles of the frameset itself. The tubing features AeroSystem Shaping Technology, which uses Computational Fluid Dynamics and wind-tunnel data to optimize each tube shape to create superior aerodynamic performance.

Looking at the bike from the front, the most striking design element is the fork. The wide-spread legs allow air to flow cleanly through and around their long, bladed profile, directing airflow past the rider's moving legs toward the streamlined rear end of the bike. Extensive wind-tunnel testing showed that this design reduces airflow blockage at the front of the bike and minimizes the overall drag of the rider and bike.

The bladed fork legs are part of a dual-crown design, with the legs extending upward into the cockpit area. This offers the secondary benefit of creating an extremely stiff front end, reducing flex in the base bar and extensions to improve the overall handling of the bike.

"The fork is wild looking, one of the things you notice when you first look at the bike," Blummenfelt said. "Our test data showed that it clearly makes the bike faster in the wind, and I can really feel how stiff and precise the front end feels while descending or cornering."

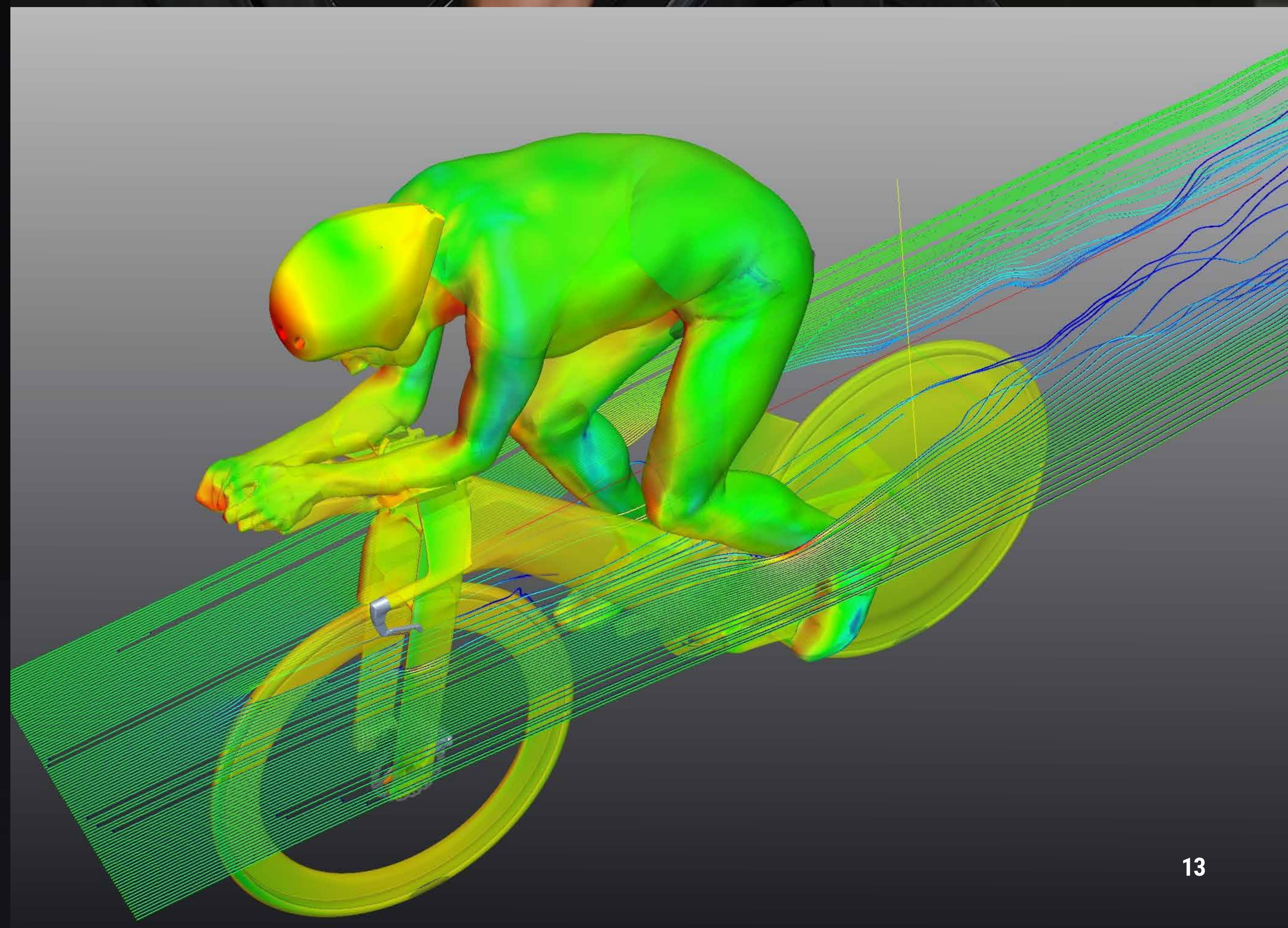
The fork legs are part of a holistic aero system that includes similarly wide-spread and horizontal seat stays. These seat stays are aligned with the fork width. Traditional seat stays extend straight from the rear dropouts to the seat tube, but the CADEX Tri frame's seat stays angle upward and slightly forward from the rear wheel axis in a near-vertical path, and then bend sharply toward the seat tube to form a horizontal line. This minimizes their contact surface as air passes freely through the rear end of the bike, reducing drag and boosting aerodynamic performance. This design also bolsters stiffness in the rear end of the bike, improving power transfer to the rear wheel.



# AERODYNAMIC TESTING



TRI FRAMESET



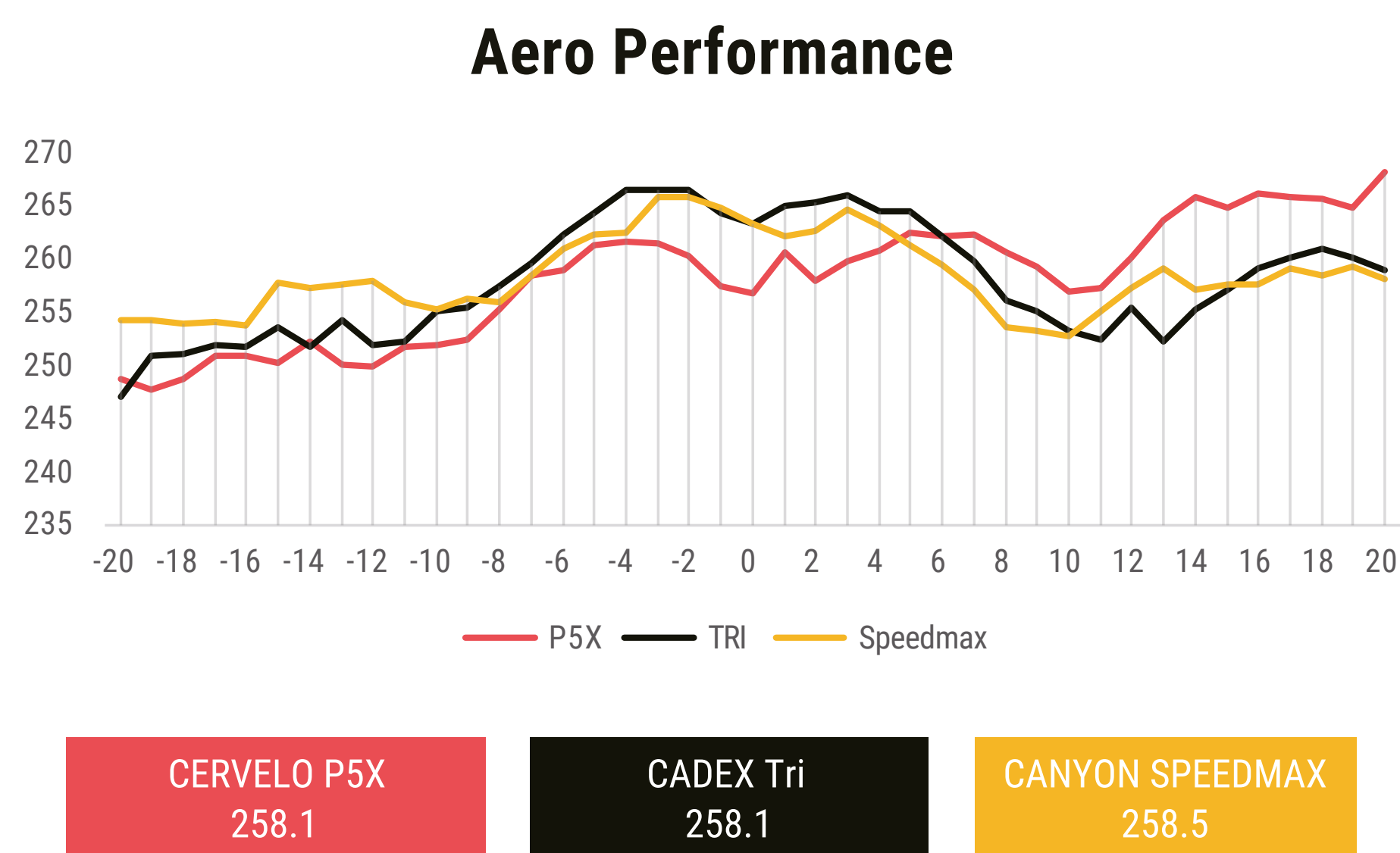
# AERODYNAMIC TESTING

Aerodynamic testing for the CADEX Tri frameset was conducted with a dynamic pedaling dummy at multiple wind-tunnel facilities as well as Kristian Blummenfelt at the Eindhoven University of Technology wind tunnel in The Netherlands. Here's a look at the key findings:

## WIND TUNNEL TEST CONDITIONS

<b>Test bikes</b>	CADEX Tri versus Cervelo P5X and Canyon Speedmax
<b>Frame Size</b>	Medium
<b>Test rider</b>	Dynamic Pedaling Dummy and Kristian Blummenfelt
<b>Wind Speed</b>	47kph
<b>Wheel Speed</b>	47kph
<b>Yaw Angles</b>	-20° to +20°

## METHODOLOGY



## CONSISTENT RIDER POSITIONING

A rider's position significantly affects aero data. To obtain reliable results, testers ensured that the pedaling dummy held the same riding position for every test with each bike setup and configuration.

## REAL-WORLD SIMULATION

The wind tunnel simulated the speed ranges and wind conditions of an Ironman race, with the rider remaining in the same position and the rolling platform accelerating to set speed and yaw angles. This test measured aerodynamic load, providing comprehensive simulations of real-world aero performance.

## RESULTS

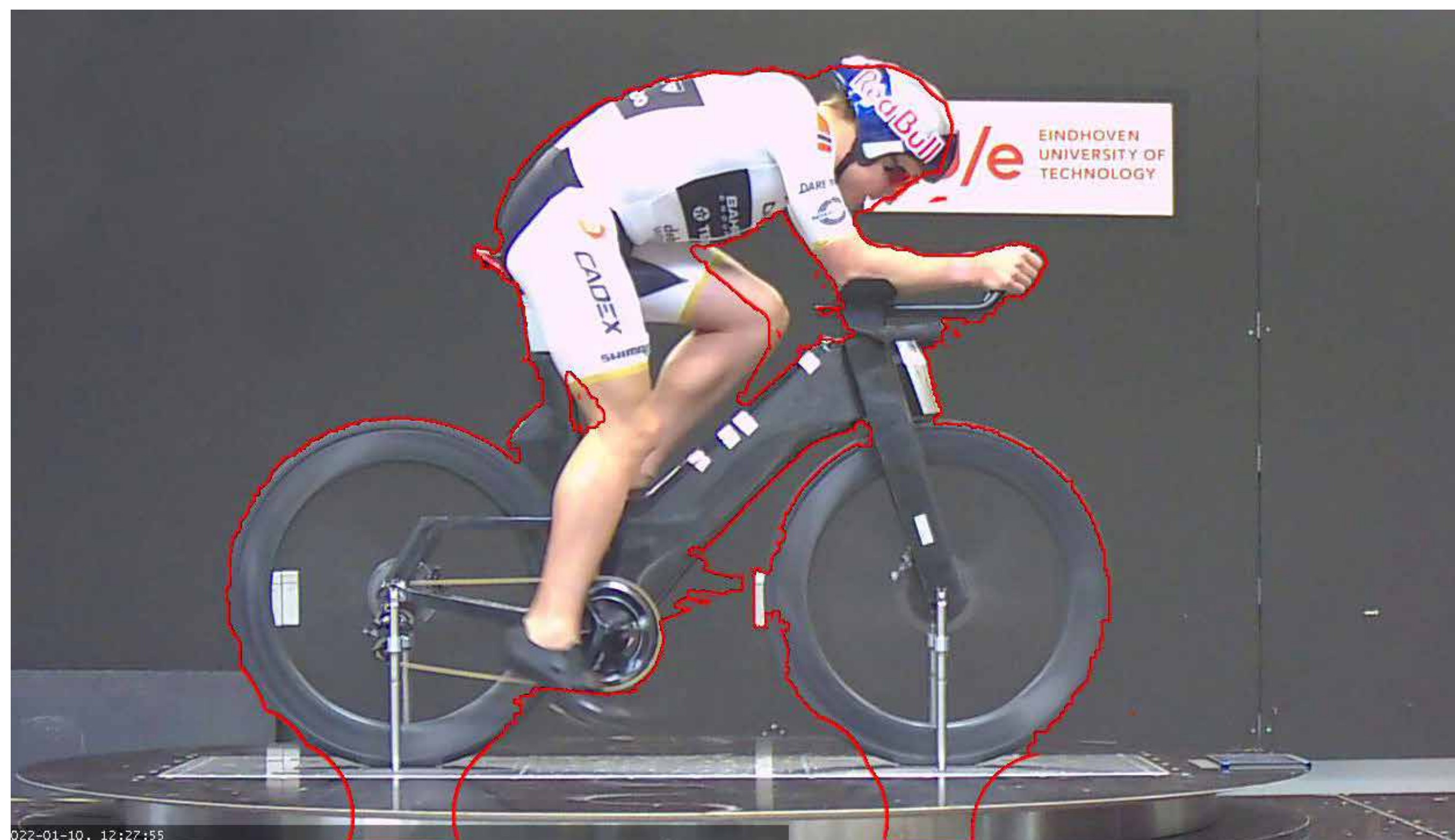
Riding with the same setup and position on the three bikes, the CADEX Tri achieved top-notch aero performance among the fastest non-UCI regulated Triathlon bikes.

## IRONMAN RACE OPTIMIZATION

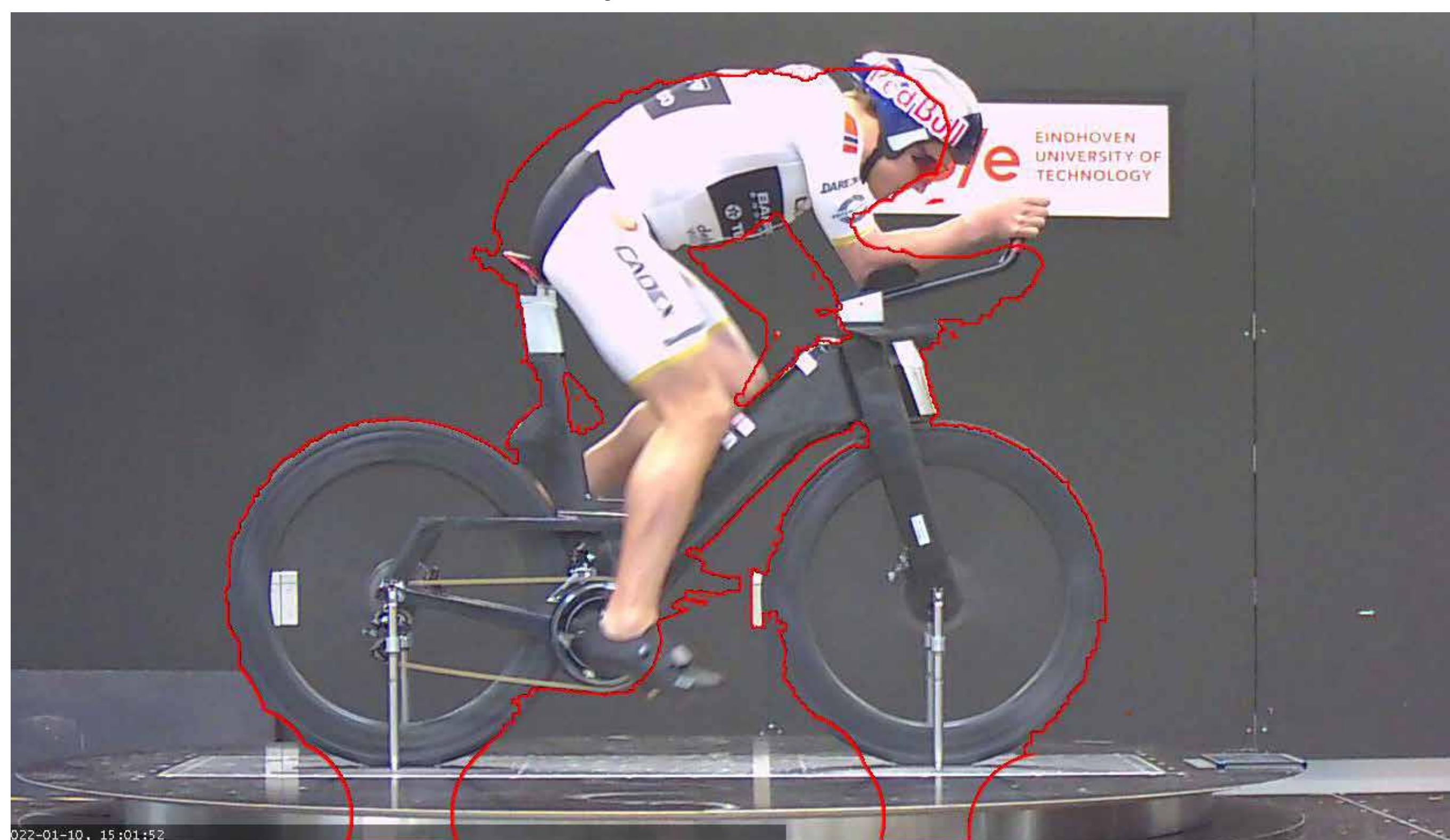
Testers used the frame's maximum adjustability to find an optimal riding position for Blummenfelt that balanced aero performance with pedaling efficiency over time.

### RESULTS

Adjusting from a low hands position of  $0^\circ$  to a high hands position of  $15^\circ$  and setting the saddle to a much more forward position on the CADEX Tri gave Blummenfelt a more aerodynamic position, saving 7 watts of power at 47 kph.



0 Degree Low Hands Position



15 Degree High Hands Position

## RACE-READY INTEGRATION

Nutrition, hydration and self-sufficiency are critical factors for any triathlete. Over the years, triathletes have devised their own ways to deal with these needs, but the CADEX Tri frameset offers a complete solution that's fully integrated into the frame. From the start of this project, race-ready storage was one of the key performance goals, and the end result is one of the primary factors that sets this bike apart from the competition.



The unique chassis of the CADEX Tri frameset—a massive down tube with no top tube—includes a bento box, hydration system and toolbox, all cleanly integrated into the frameset. The system is designed to allow the rider to hydrate and refuel quickly and conveniently from the seated aero riding position.



## BENTO BOX

The removable bento box is made to hold up to ten 32ml gel packs in the size L frame and is designed to be easily accessible while riding in an aero position. Located at the top of the down tube, it features an exclusive rubber cover that holds energy bars or gels in place while having a portion of the nutrition packaging stick out of the box for easier access.



## HYDRATION SYSTEM

A removable bladder sits inside the down tube, featuring capacity adapted to each frame size, from 600ml in an XXS frame up to 1000ml in a size L. The fluid is accessed via a straw that extends from the aero cover at the head tube, allowing the rider to hydrate on the go without having to remove their hands from the bars or come out of their aero riding position. Likewise, the centrally located refill port makes adding more fluid quick and easy. The frame also includes bottle cage mounts on the front of the seat tube to carry extra fluids for training rides.



\*Please note: Inner tube and CO2 cartridge not included.

## TOOLBOX

Whether racing or training, triathletes know that being self-sufficient on the road is critical. That means in addition to fueling, being prepared for tire punctures or other mechanical issues. This integrated toolbox is located down toward the bottom bracket area, accessible from the non-drive side quickly and easily. It comes with essential repair tools including a multi-tool, tire lever and CO2 inflator.

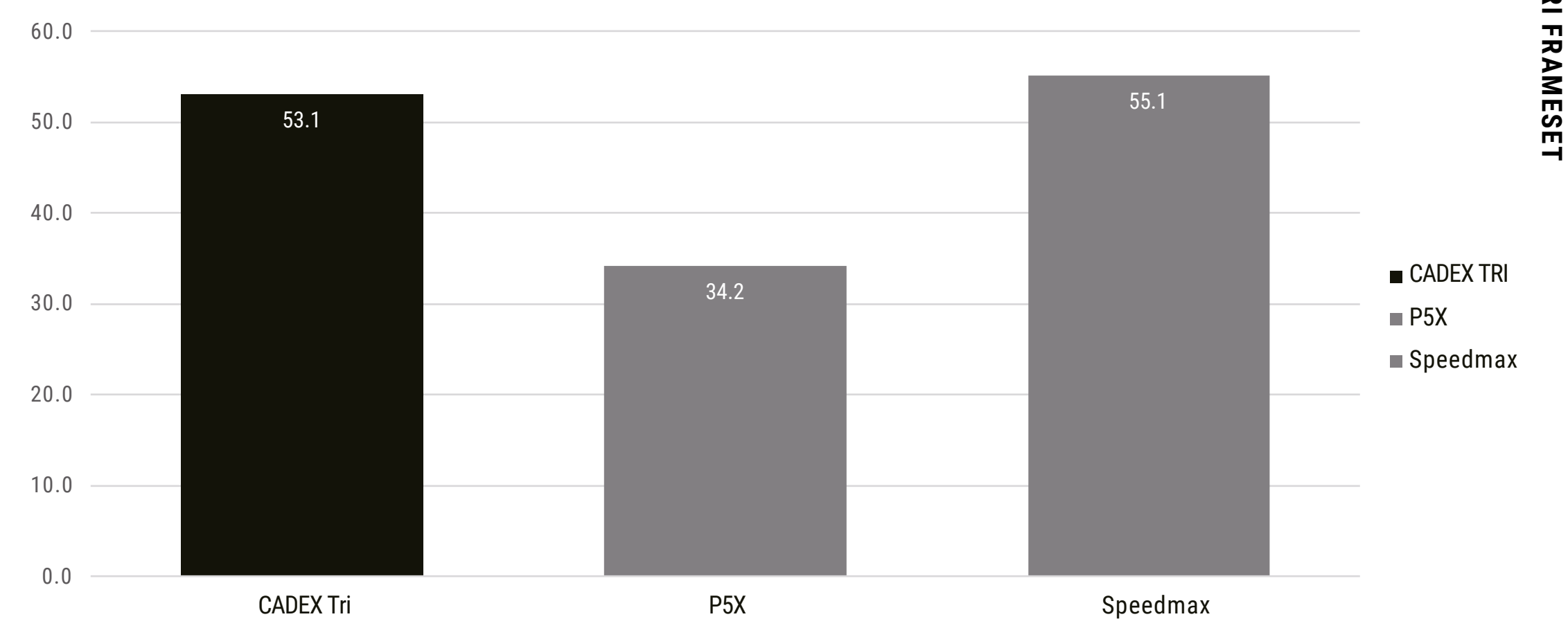


## TOTAL EFFICIENCY

From the outset, the ultimate goal of the CADEX Tri project was to produce a bike with uncompromised efficiency for real world Ironman racing. Making the frame super aero, light and stiff just for the lab wasn't enough. It had to win where it counts: on the course.

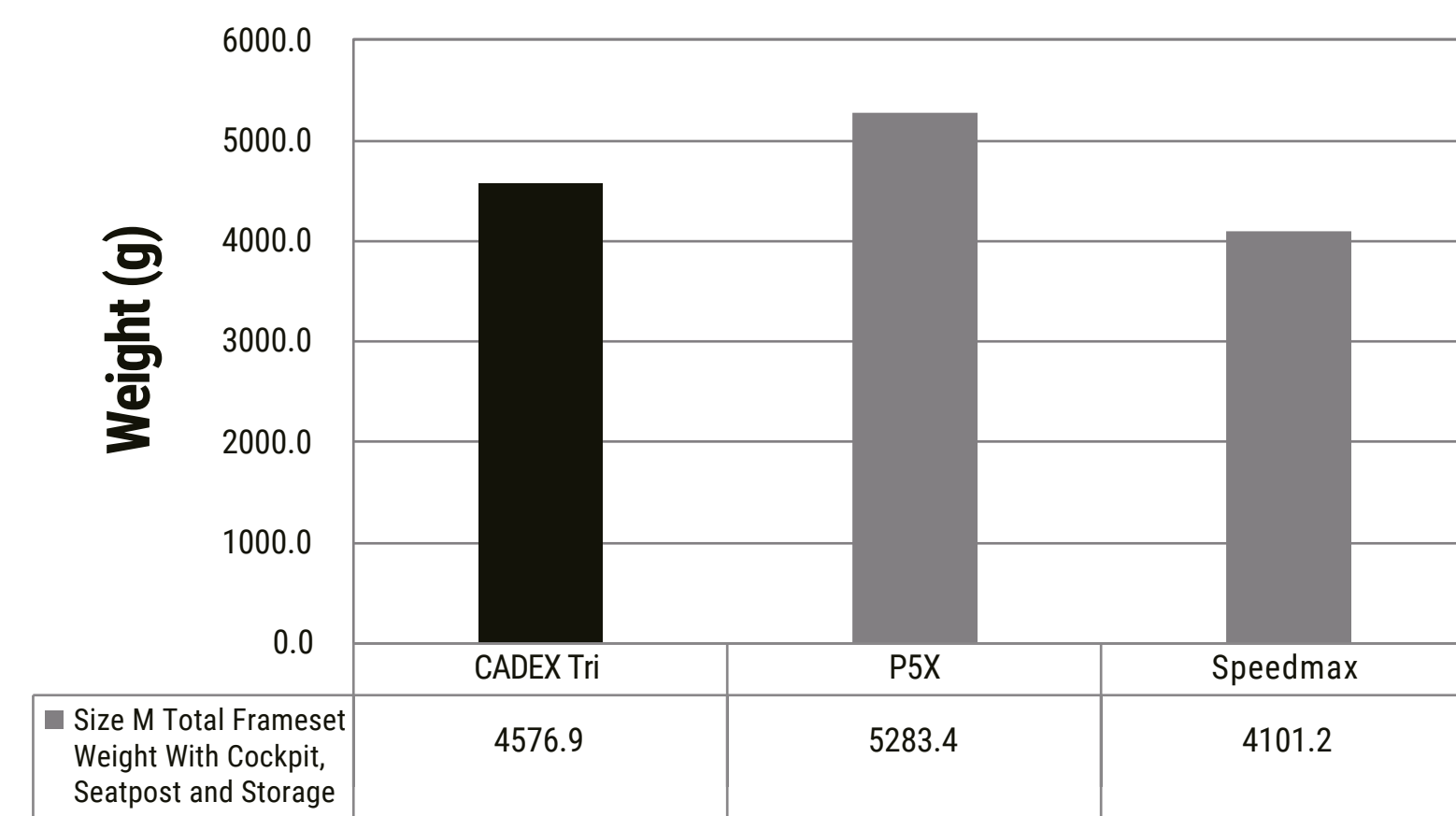
Engineered with the highest grade T1000 carbon fiber, as well as cutting-edge layup techniques, the CADEX Tri frameset features class-leading pedaling and torsional stiffness with a total weight of just under 4577 grams. This exceptional stiffness-to-weight ratio means zero watts wasted with each pedal stroke. When combined with ultra-adaptable fit, groundbreaking endurance aero technology, and a completely integrated hydration and nutrition system, the result is record-breaking total efficiency.

### Frame Stiffness-to-Weight

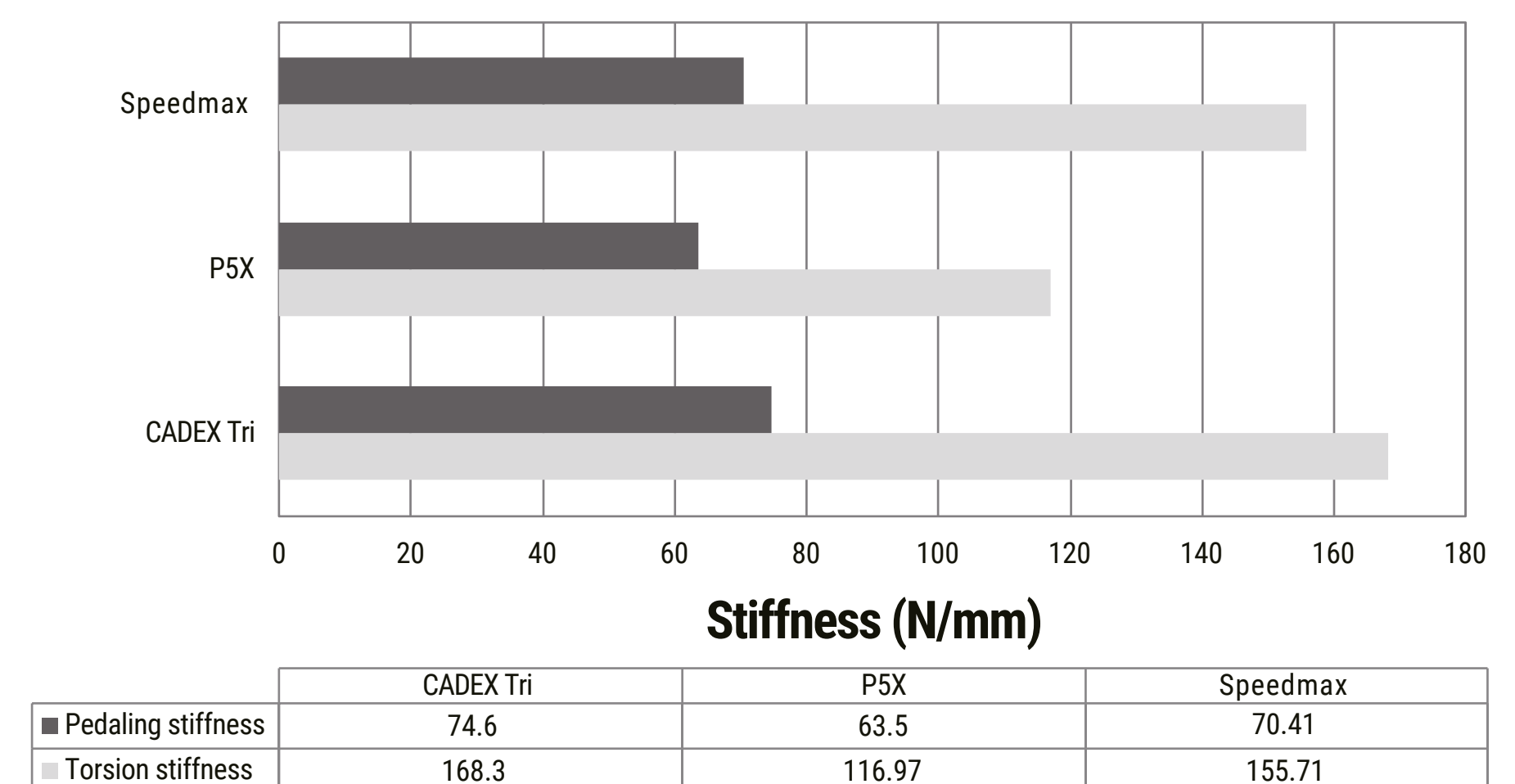


TRI FRAMESET

### Frame Weight



### Frame Stiffness



## COMPLETE TRAVEL SOLUTION

Travel is a big part of any triathlete's race routine. Streamlining the process of getting a bike to the start line can help reduce stress and improve the racing experience. The CADEX Tri frameset factored this into its overall design, minimizing the amount of disassembly and reassembly needed. The frameset also comes with a purpose-built Topeak travel case.

The base bar and extensions are designed to fold down easily into a compact size that can be loaded into the travel case without having to disassemble the parts. The travel case is made with a sturdy polycarbonate shell that provides high-impact strength and protection. It has wheels to make airport travel easier and complies with airline luggage restrictions.

The case includes interior protection sleeves, a drivetrain cover, and a frameset mounting system to keep the frameset protected and secure inside the case. The mounting system can also be used as a mini work stand.





Frameset mounting system

Drivetrain cover

Protective wheel bags and strap retention system



The case includes interior protection sleeves

# CADEX TRI FRAMESET

This is a no-holds-barred triathlon machine—no restrictions, no limitations. The CADEX Tri frameset is designed, engineered and put to the test by the world's fastest triathletes in a bold quest to push the sport forward. Created in conjunction with Ironman World Champion Kristian Blummenfelt's attempt to break the seven-hour mark for the Ironman distance, a project dubbed Sub7, it features a radical monocoque frame, wide-spread fork legs and horizontal seatstays. The massive down tube doubles as a race-ready storage system, making hydration and nutrition easily accessible. And its wide-ranging adjustability makes it quick and easy to dial in over 1,000 fit configurations for personalized performance.

## KEY FEATURES

- Wide ranging and precise fit options including armrest angles, seatpost positions, extensions, and spacer heights, resulting in more than 1,000 fit configurations.
- Simplified fit design. Every touchpoint allows for easy adjustment using less hardware.
- Aero System Shaping Technology ensures every tube and angle is shaped to deliver superior aerodynamic performance.
- CADEX-exclusive Sync Ergonomic components including arm rests, extensions and grips provide body, arm and high-hand support while allowing the rider to stay in the aero racing position over long hours.
- The highest grade T1000 carbon fiber material forms the heart of the frameset and fork, resulting in best-in-class lightweight performance that's more than 500g lighter than competitor framesets.
- Engineered for flat-mount disc brakes with 12mm thru-axles front and rear to provide superior braking performance and control.
- Integrated bento box in the upper section of the down tube allows the rider to quickly and easily access nutrition while remaining in the most optimized riding position.
- High-volume hydration reservoir in the lower down tube connects to an extended straw in the stem. The reservoir can store up to 1100ml of fluid and can be easily refilled from bottles while riding.
- Additional external water bottle mount for training rides.
- Integrated toolbox in the lower down tube holds a multi-tool, tire levers, CO2 inflator and patch kit.
- Bento box and hydration system are easily removable and feature openings that make them easy to clean.
- Frame comes with a customized CADEX x Topeak Pakgo travel case featuring a Makrolon® polycarbonate shell. Case features an internal aluminum mounting system that can be used as a work stand.

## KEY TECHNOLOGIES

- Exclusive Sync Ergonomics Components
- Aero System Shaping Technology
- Race Ready Integration
- Exclusive Makrolon® polycarbonate shell travel case



## SPECIFICATIONS

<b>Frame</b>	CADEX Tri Frameset
<b>Frame colors</b>	Silver Rush / Aurora Hologram
<b>Fork</b>	CADEX Tri Aero Dual Crown Fork
<b>Arm rest kit</b>	CADEX x Sync Ergonomics arm rest kit
<b>Extension bars</b>	CADEX x Sync Ergonomics extension bars
<b>Seatpost</b>	CADEX Tri Aero Post
<b>Max tire clearance</b>	28c Front & Rear
<b>Max chainring size</b>	55T
<b>Weight</b>	4576g (Size M)
<b>Travel case</b>	CADEX x Topeak- Pakgo





## GEOMETRY

Size	XXS	XS	S	M	L
Body Height (cm)	150 - 162	156-168	164-176	172-186	180-195
Inseam Height (cm)	62 - 76	65-80	70-85	75-90	80-98
Saddle Height Range (mm)	540 - 710	580 - 750	620 - 790	660 - 830	700 - 870
Seat Tube Length (mm)	440	475	510	545	580
Seat Tube Angle (degrees)	76 - 80	76 - 80	76 - 80	76 - 80	76 - 80
Top Tube Length (mm)	475	495	520	550	580
Head Tube Length (mm)	70	95	120	145	170
Head Tube Angle (degrees)	71.00	73.00	73.00	73.00	73.00
Fork Rake (mm)	40	40	40	40	40
Trail (mm)	76	63	63	63	63
Wheelbase (mm)	968	976	1005	1039	1072
Chain Stay Length (mm)	405	405	405	405	405
Bottom Bracket Drop (mm)	80	80	77	74	74
Armrest Stack (15D / mm)	545 - 615	575 - 645	595 - 665	615 - 685	640 - 710
Armrest Reach (15D / mm)	340 - 430	355 - 445	375 - 465	400 - 490	425 - 515
Frame Stack (mm)	483	513	534	555	579
Frame Reach (mm)	390	405	426	452	478
Handlebar Height (mm)	530 - 570	560 - 600	580 - 620	600 - 640	625 - 665
Handlebar Width (mm)	400	400	400	400	400
Extension Width (mm)	110   190	110   190	110   190	110   190	110   190
Armrest Width (mm)	190 - 310	190 - 310	190 - 310	190 - 310	190 - 310
Wheel Size	700 x 28C	700 x 28C	700 x 28C	700 x 28C	700 x 28C

# CADEX

## GLOSSARY

### AEROSYSTEM SHAPING TECHNOLOGY

Uses Computational Fluid Dynamics and wind tunnel data to holistically optimize tube shapes for superior aerodynamic performance.

### CADEX X SYNC ERGONOMICS COMPONENTS

CADEX-exclusive arm rests, extensions and grips provide body, arm and high-hand support.

### CADEX X TOPEAK PAKGO

Customized Makrolon® shell travel case with integrated work stand.

### CADEX TRI AERO DUAL CROWN FORK

Air flows cleanly through and around the widespread, long, bladed legs, directing airflow past the legs toward the streamlined rear end, reducing airflow blockage at the front of the bike and minimizing overall drag of the rider and bike.

### CADEX TRI AERO POST

The effective seat tube angle can be adjusted by changing the saddle setback position. With an independent fore/aft saddle adjustment range of 70mm, in the rear setting, the effective seat tube angle is 76 degrees and the most forward position, 80 degrees.

### RACE READY INTEGRATION

Fully integrated hydration, nutrition and tool storage system allows riders to maintain total efficiency on the course.



**CADEX**

[CADEX-CYCLING.COM](http://CADEX-CYCLING.COM)