



# ALTRA MEETS **ARION.**

THE MOVEMENT REPORT

ALTRA

# Why selecting the right shoes for your running style matters - and how ARION can help.

At ARION, we are on a mission to decode human movement. After over a decade of research, years of operation, and thousands of hours of recorded movement data, one thing has become evident to us. Movement is exceptionally unique.

We have always had a passion for technology and the human body with a team of experts in Technology, Sports Sciences, and Biomechanics, including 4 PhD's and collaborations with leading institutes from across Europe such as, TNO (Dutch National Research Institute), Loughborough University, Luxembourg Institute of Health and Maastricht University. Built on more than 15 years of research heritage we have established a number of patents and a huge amount of knowledge related to human movement, particularly in the field of running and running-related injuries which would ultimately form the basis for our ARION innovations.

Our research shows that there can be no such thing as the one perfect style of running shoes. It all depends on your own unique biomechanics and your individual goals.

The movement report aims not to simply judge generic shoe performance but to highlight the uniqueness of human movement and the array of potential benefits specific running shoes can bring to individual runners.

We all have our own body types, varied techniques, unique philosophies and personal goals. All of these elements heavily influence the way we move. Each contributes to our individual biomechanical profile into what we call, your unique running identity.

For this experiment, we tested the latest ALTRA running shoes. We utilized our ground-breaking technology to demonstrate with data how running shoe models can have very diverse results for different types of runners.

We hope you enjoy our findings and use them to move your brand, your technology, and your products forward!

Kind Regards,

**ANDREW STATHAM**  
**ARION CIO & FOUNDER**



# THE EXPERIMENT

Torin 6



Via Olympus



50

STEPS

10 & 12

KM/H

3

RUNNERS

# THE RUNNERS

RUNNER

AGE

FOOTSTRIKE

EXPERIENCE

Elzemieke

26

HEEL  
STRIKER

Recreational

Manouk

27

FOREFOOT  
STRIKER

Recreational

Lucia

27

HEEL  
STRIKER

Recreational

# BIOLOAD

Lucia



Elzemieke



Manouk



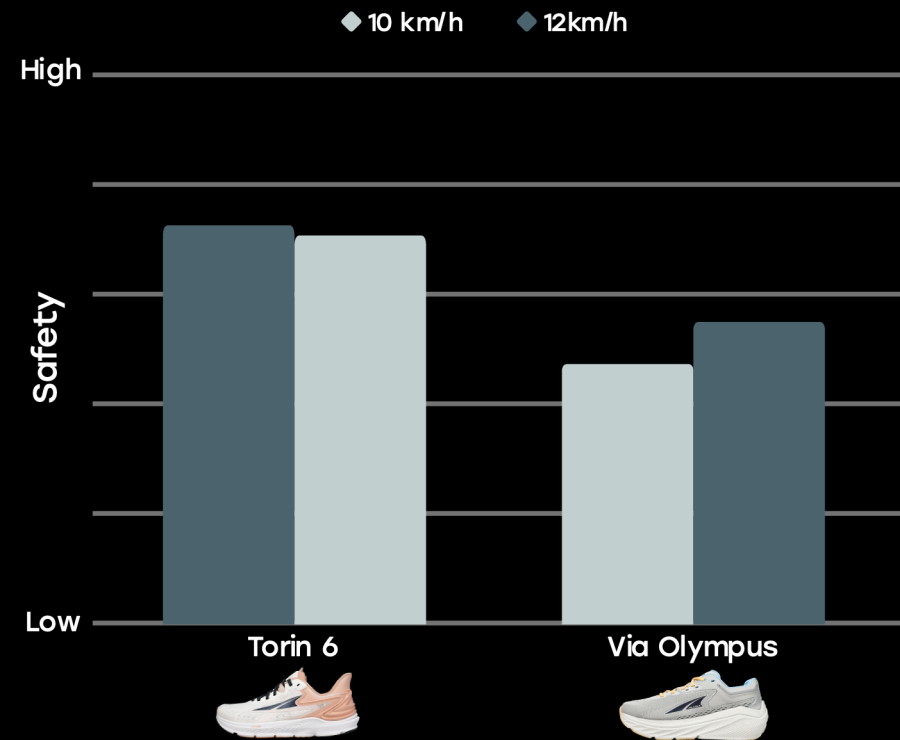
✓ Each runner has a unique biomechanical loading profile

**Safety index**



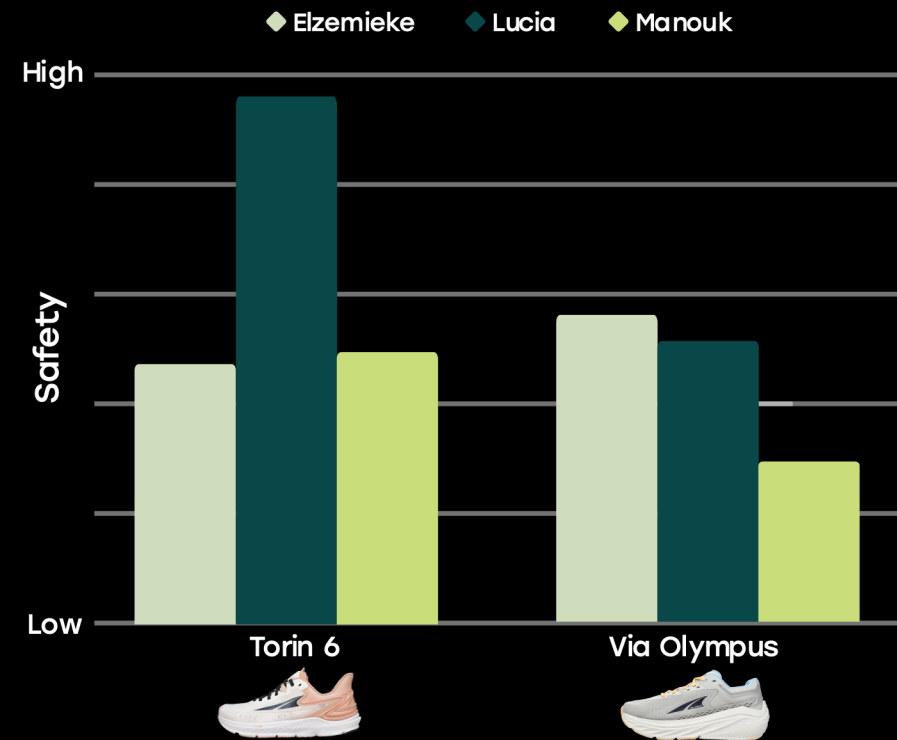
# SAFETY INDEX - OVERALL

- ✓ Torin 6 had the highest safety index overall
- ✓ Potentially due to the low-drop profile, flexible design and wide toe box, facilitating a natural gait pattern



# SAFETY INDEX - INDIVIDUAL

- ✓ Manouk and Lucia both benefited more from Torin 6
- ✓ However, Elzemieke saw most benefit from the Via Olympus



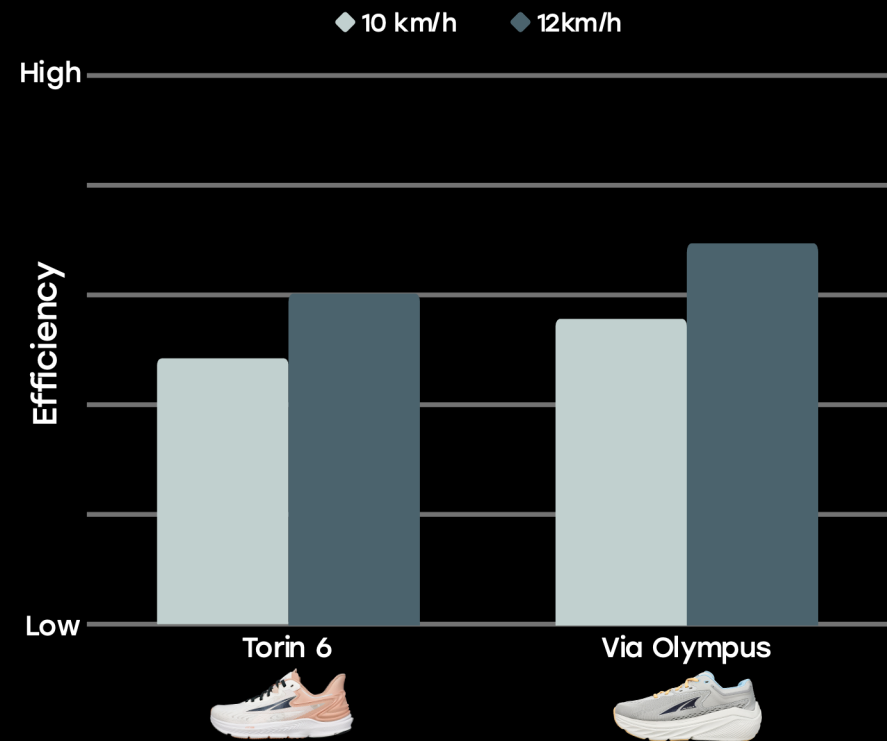


**Efficiency index**



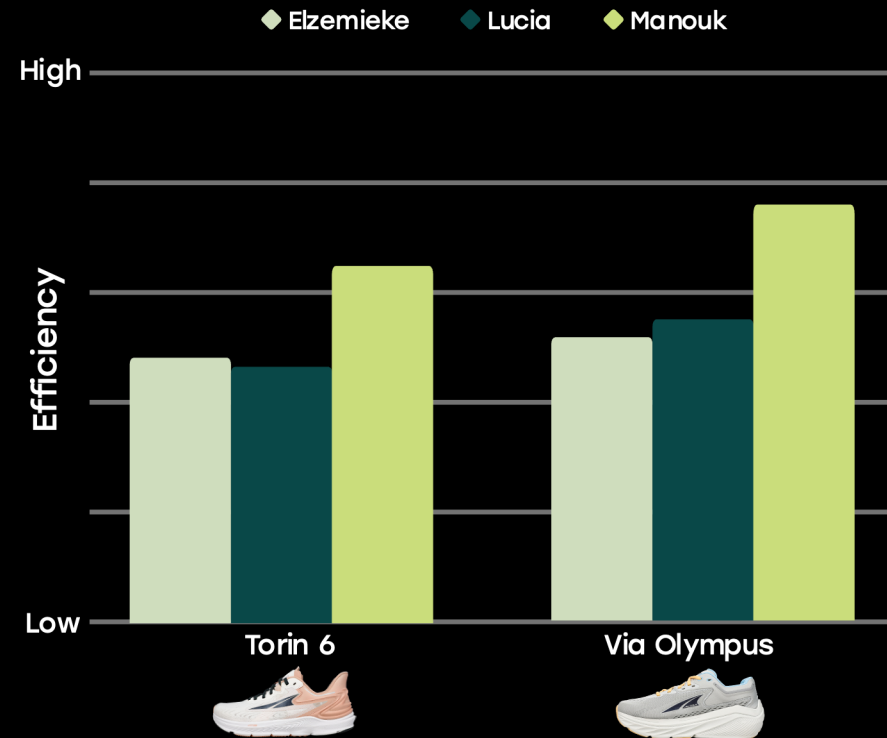
# EFFICIENCY INDEX - OVERALL

- ✓ The efficiency was generally higher for the Via Olympus
- ✓ Potentially due to the additional energy return foam, rocker, and higher shoe stiffness



# EFFICIENCY INDEX - INDIVIDUAL

- ✓ The efficiency index increased for all three runners for the Via Olympus compared to the Torin 6



# FOOTSTRIKE

✓ Elzemieke and Manouk's footstrike was further forward in the Torin 6



Elzemieke

Lucia

Manouk

Via Olympus



Torin 6



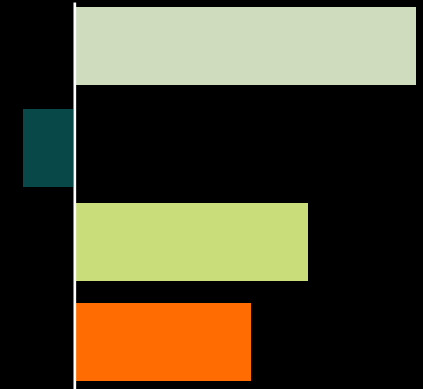
Elzemieke

Lucia

Manouk

Average

0



# TOE-OFF

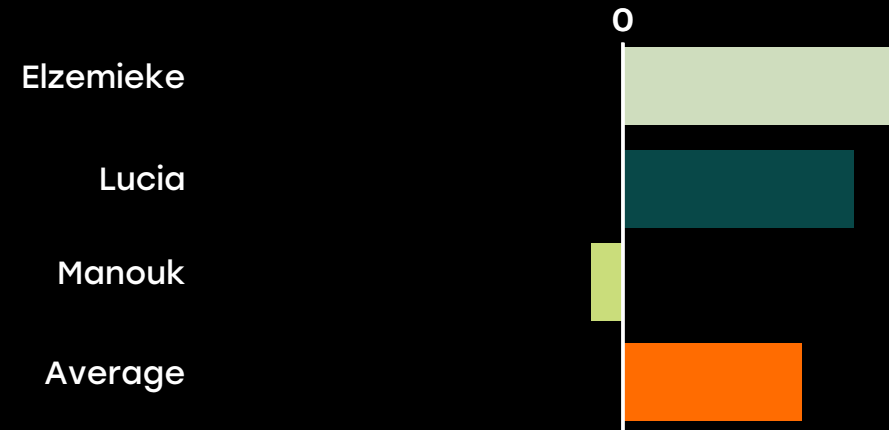
✓ Elzemieke and Lucia had more toe activity at toe-off in the Torin 6



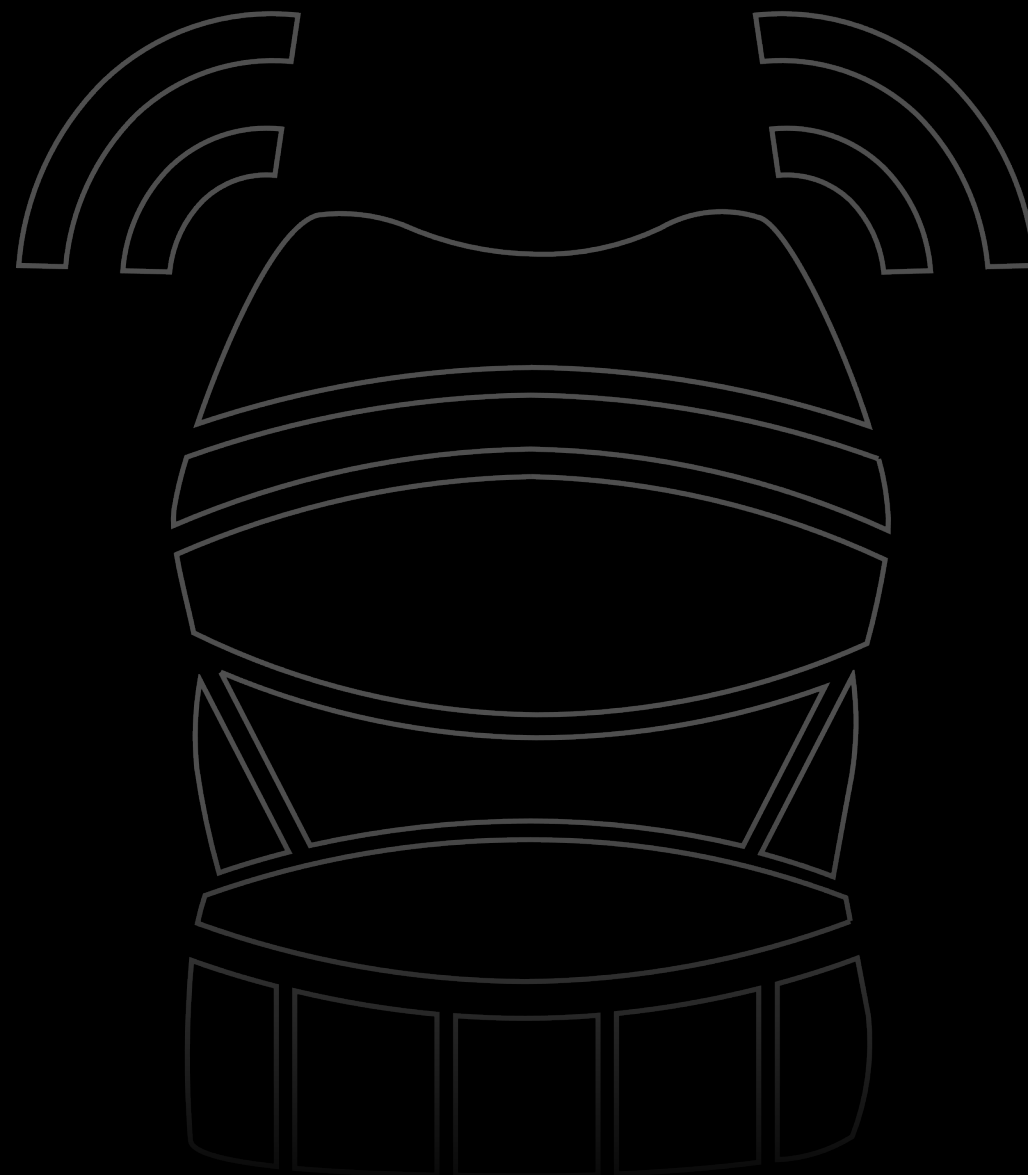
Via Olympus



Torin 6

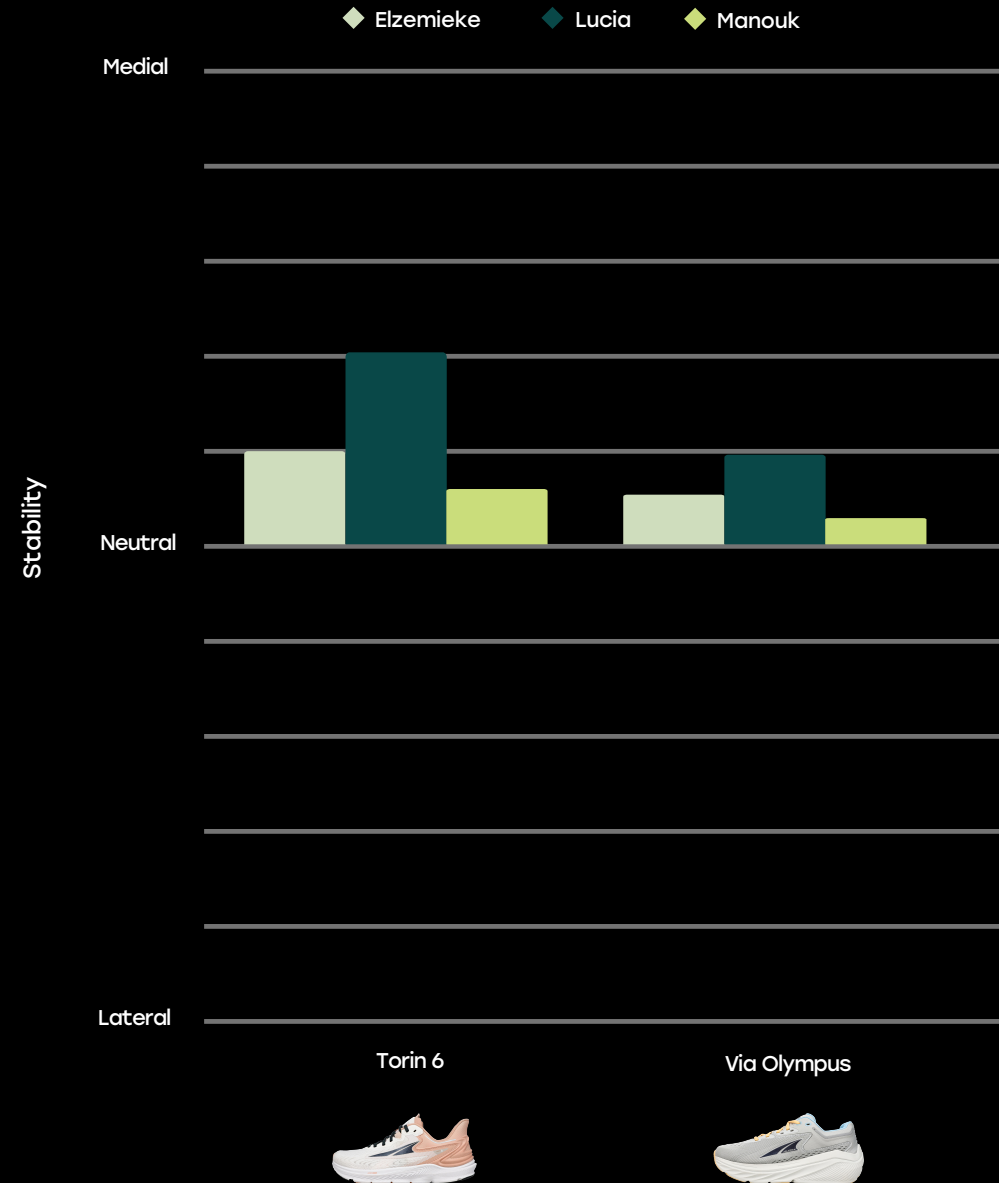


**Stability**



# STABILITY

- ✓ Stability is more medial focused for the Torin 6 (the feet tend more towards the inside of the foot)



# KEY INSIGHTS

1

**Via Olympus had  
the highest  
efficiency index**

2

**Torin 6 had the  
highest safety  
index overall**

3

**Runners' toes  
were most  
actively used  
in the Torin 6**



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We digitize **human movement** to accelerate breakthrough innovations that move the world forward.



COMMERCIAL CONTACT

**Stuart Burnett**  
Global Sales Director

+44 7825 232338

Stuart.Burnett@ato-gear.com

linkedin.com/in/stuart-burnett-a5295324/



TECHNICAL CONTACT

**Lissa Verhoeven**  
Team Lead,  
Biomechanical Engineer

+31 4024 05245

Lissa.Verhoeven@ato-gear.com

linkedin.com/in/lissa-verhoeven96/



f facebook.com/arion.run

linkedin.com/company/ato-gear/

in instagram.com/arion.run/