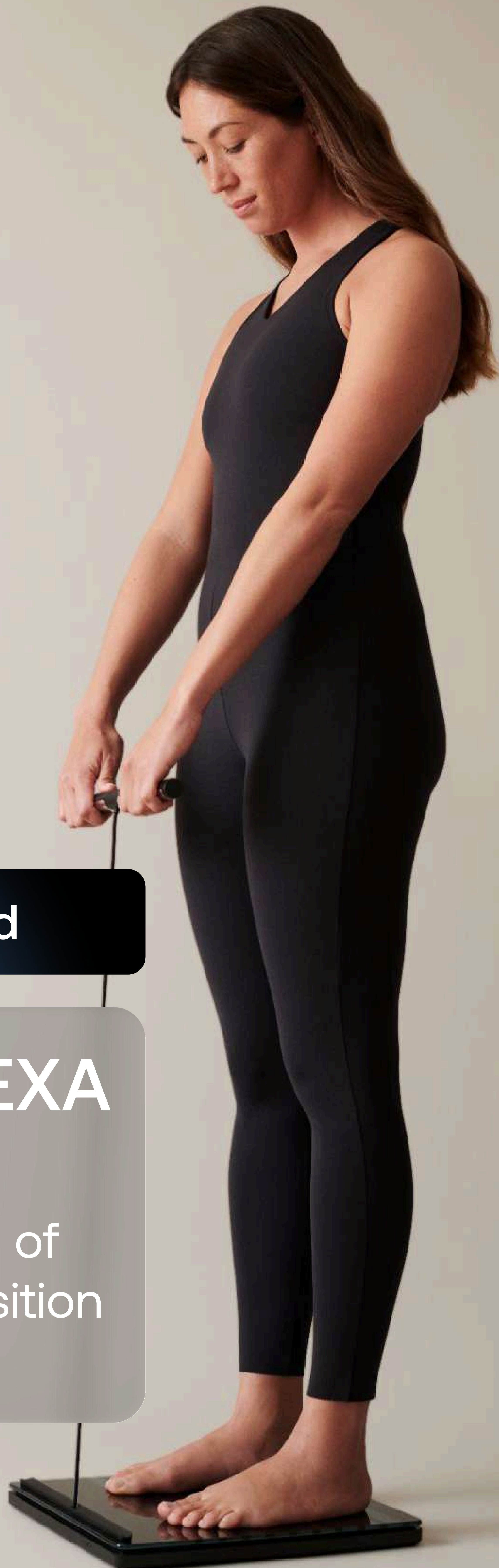


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 The Science Behind

Body Scan vs DEXA

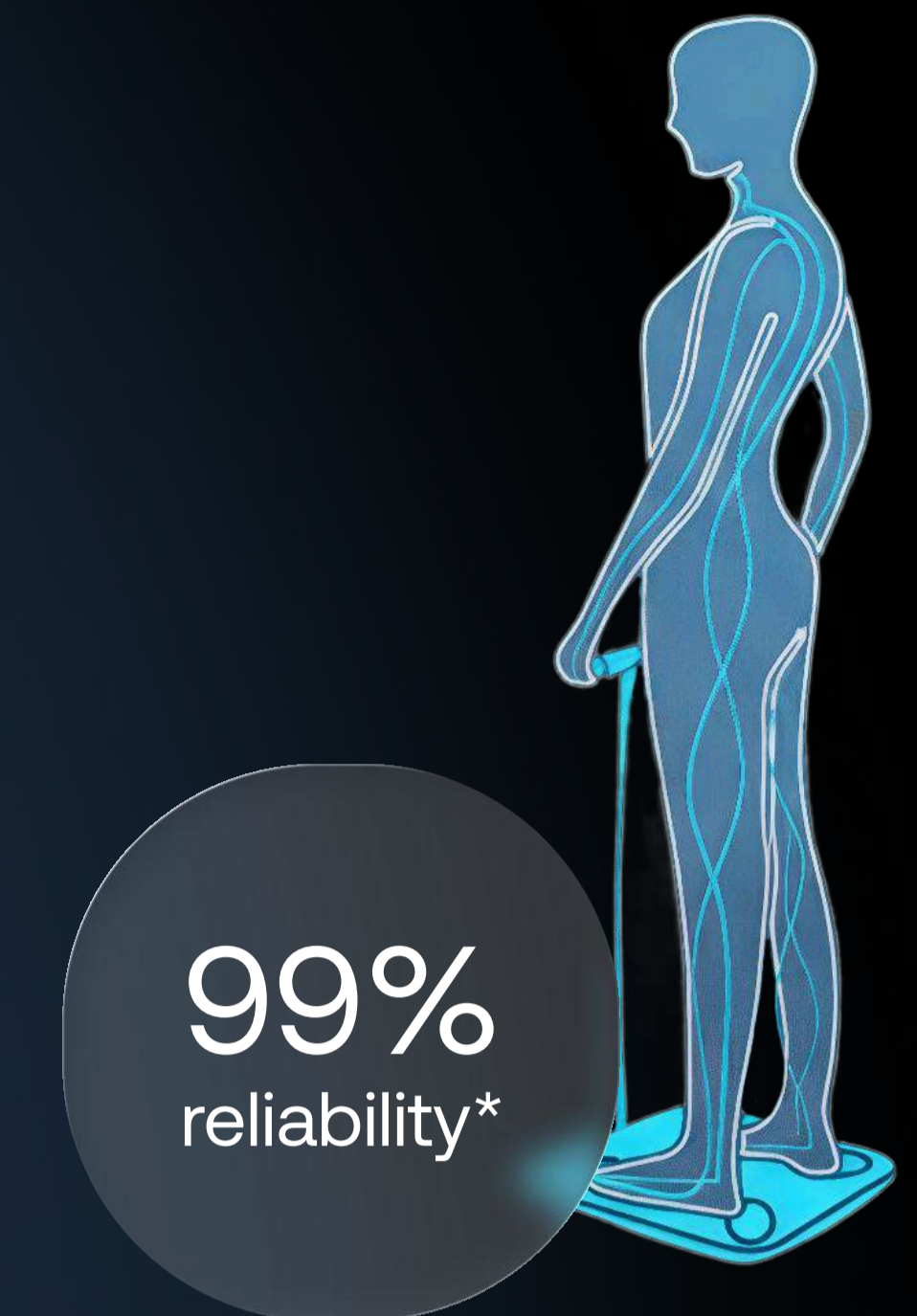
The clinical performance of
segmental body composition
at home

Withings Body Scan vs. DEXA: Professional body composition analysis, finally accessible at home

Withings Body Scan

A 2025 joint clinical study conducted with Mon Stade confirms the exceptional performance of the Withings Body Scan. The study found a correlation coefficient of $r = 0.99$ when compared to DEXA body composition measurements.

These results reinforce earlier validations, which had already demonstrated a 98% correlation with the medical-grade Tanita 780 device.

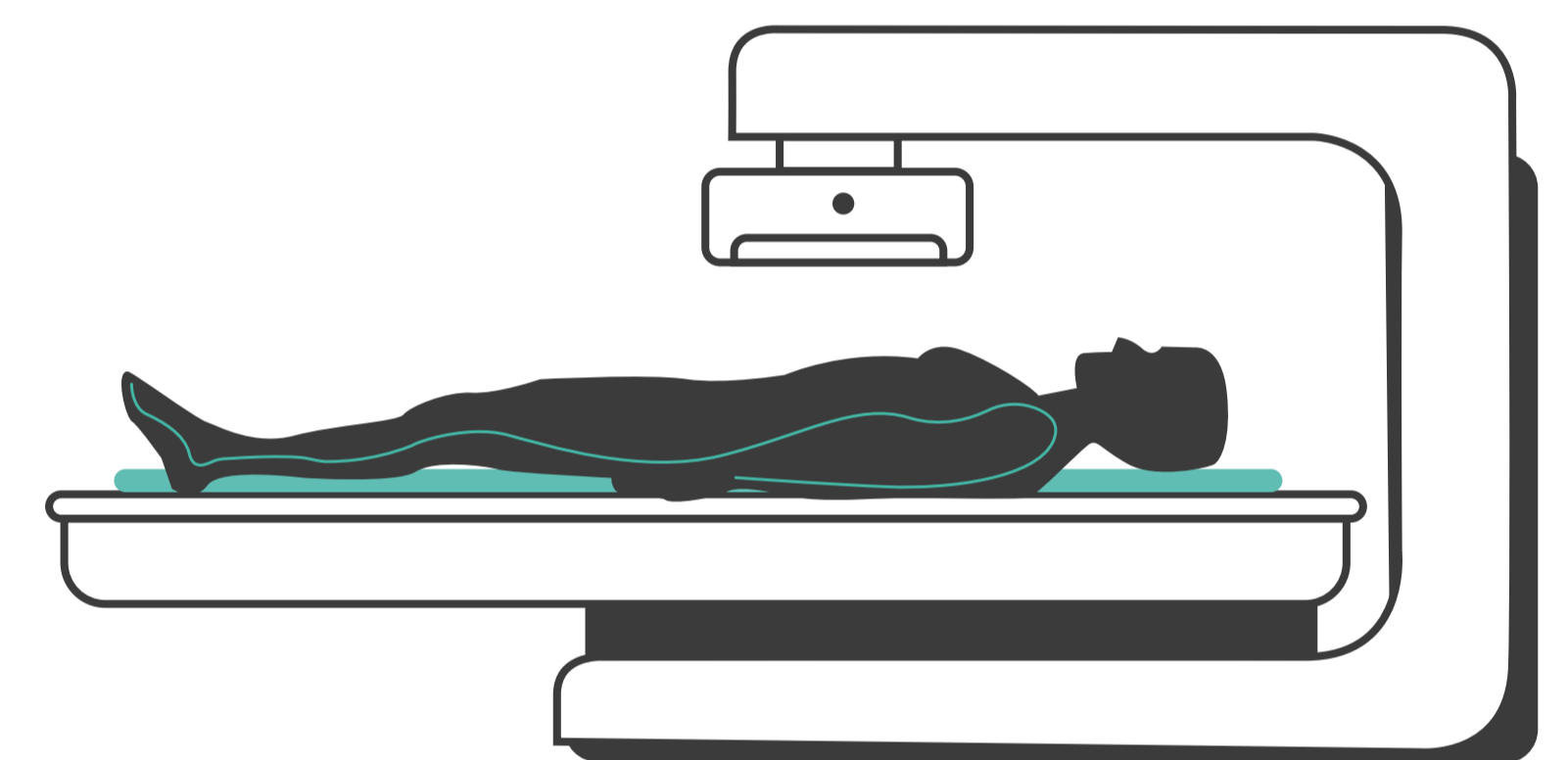


*This percentage is strictly based on the correlation coefficient of total body fat measured during the Mon Stade study.

Backed by this scientific validation, Body Scan establishes itself as the premier high-end consumer solution to offer an unprecedented level of medical reliability. It democratizes daily access to professional-grade monitoring for a fraction of the cost of DEXA exams, all with the simplicity of a connected scale.

Before analyzing these remarkable results, it is important to understand why body composition is such a crucial metric compared to traditional weight measurements.

DEXA Scan



Is tracking your weight enough?

Weight is usually the first number we check when stepping on a scale. However, on its own, it cannot capture the full complexity of your health. Two people with the exact same weight can have vastly different profiles in terms of muscle mass, fat distribution, and metabolic risk.

To simplify this complexity, we have long relied on a single indicator: the Body Mass Index (BMI). But is it truly reliable?

The limitations of BMI, according to The Lancet

A global commission of experts led by *The Lancet Diabetes & Endocrinology* asserts that BMI is insufficient as a health measure on an individual level. The report recommends using BMI only as a screening tool, rather than the sole criterion for diagnosing obesity.

The commission introduces two new diagnostic categories:

- Preclinical obesity: Excess fat that poses a risk but has not yet led to complications.
- Clinical obesity: Excess fat accompanied by organ dysfunction, disease, or long-term physical limitations.

Consequently, they advocate for more precise measurements, such as the direct analysis of body composition.

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The DEXA “gold standard”

Dual-Energy X-ray Absorptiometry (DEXA) is widely recognized as the gold standard clinical method for measuring body composition. This method uses low-intensity X-rays to scan the entire body, precisely distinguishing between lean mass, fat mass, and bone mass.

However, DEXA has significant limitations for the average person. It is:

- expensive,
- time-consuming,
- and impractical for daily monitoring due to the exposure to X-rays.

In contrast, bioelectrical impedance (BIA) is a non-invasive alternative. It allows for practical, repeated measurements right from home, making it far more accessible for everyday life.

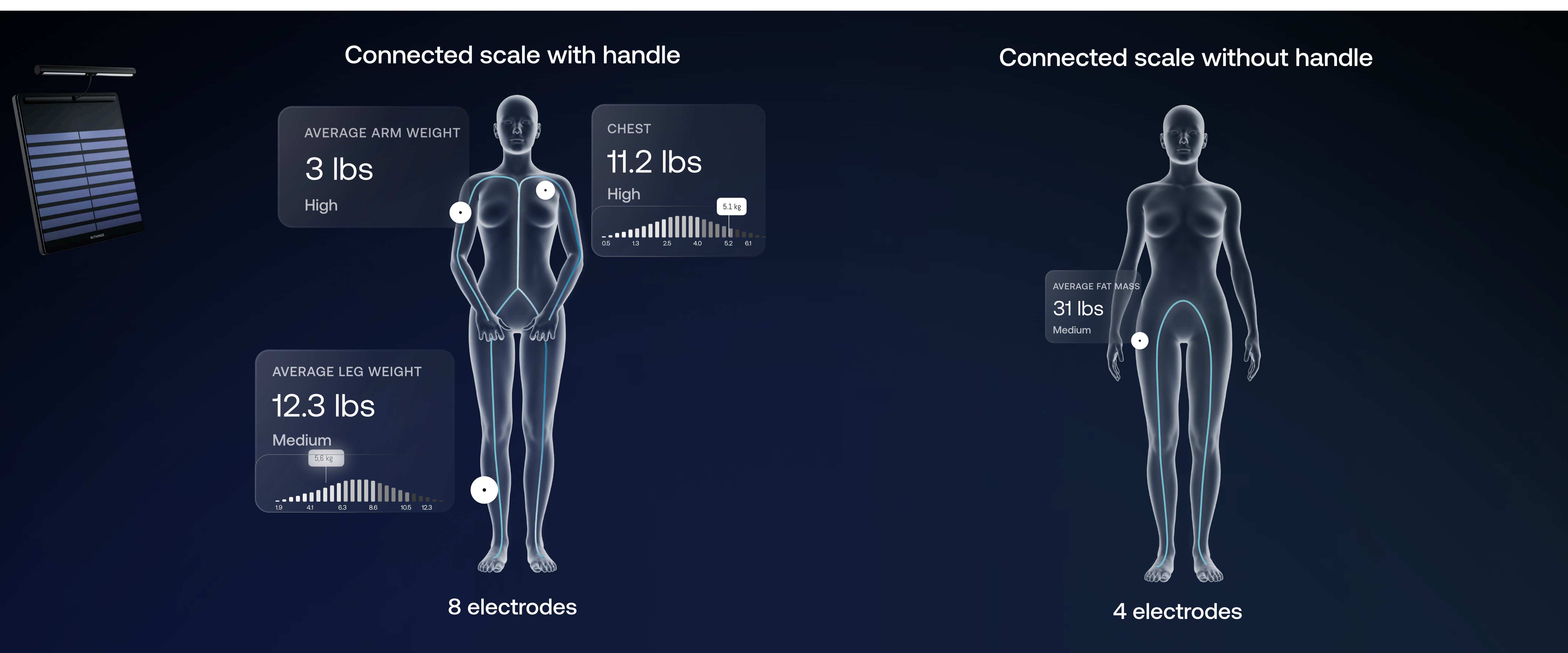
A much more comprehensive indicator: body composition

Body composition refers to the distribution of weight between lean mass (muscles, bones, organs, water) and fat mass (visceral and subcutaneous fat). It is a delicate balance; extremely low body fat is not necessarily ideal for health, just as excessive fat mass carries its own risks.

Segmental analysis: an even more precise approach

Segmental body composition analysis represents a significant advancement over traditional methods. Instead of providing a single average value for the entire body, it measures the composition of each body segment—right arm, left arm, torso, right leg, and left leg—independently.

This approach offers several crucial advantages. It helps detect muscular imbalances between limbs, identifies specific areas of muscle loss related to aging or inactivity, and allows users to accurately track the effectiveness of targeted training programs.

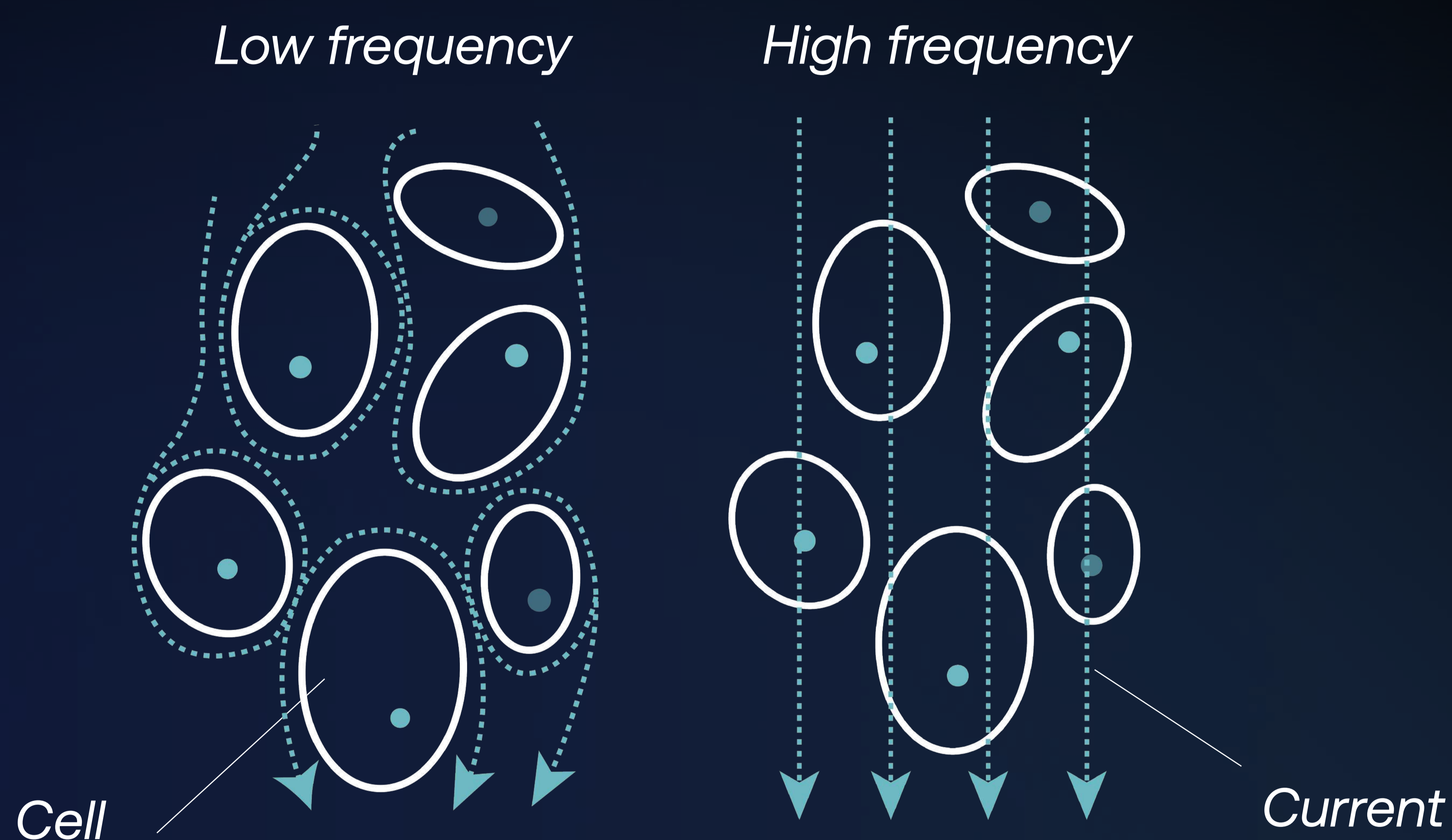
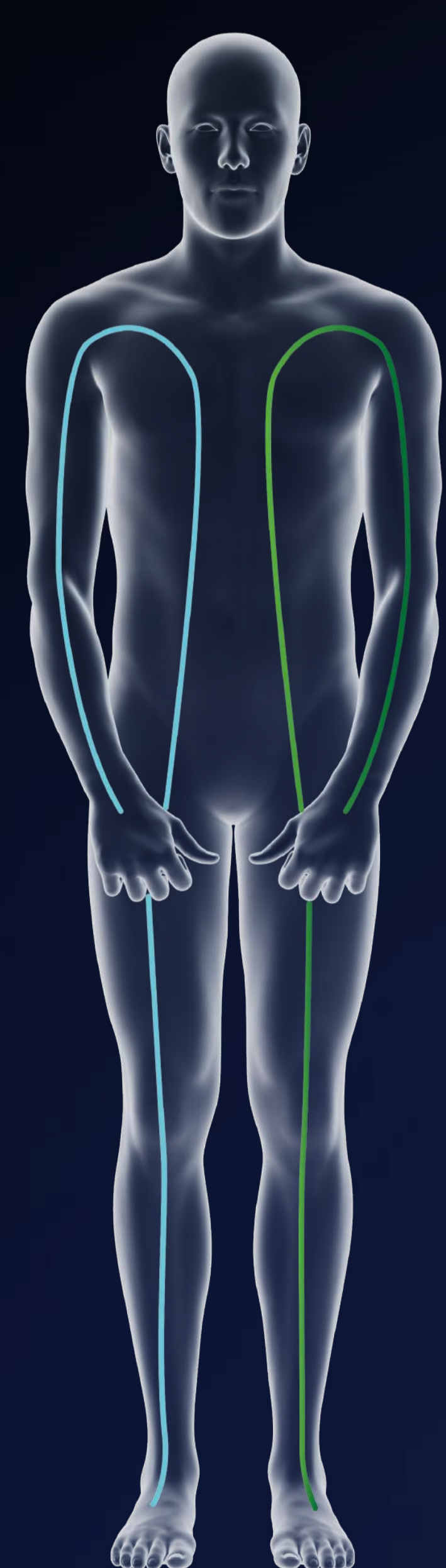


Body Scan technology

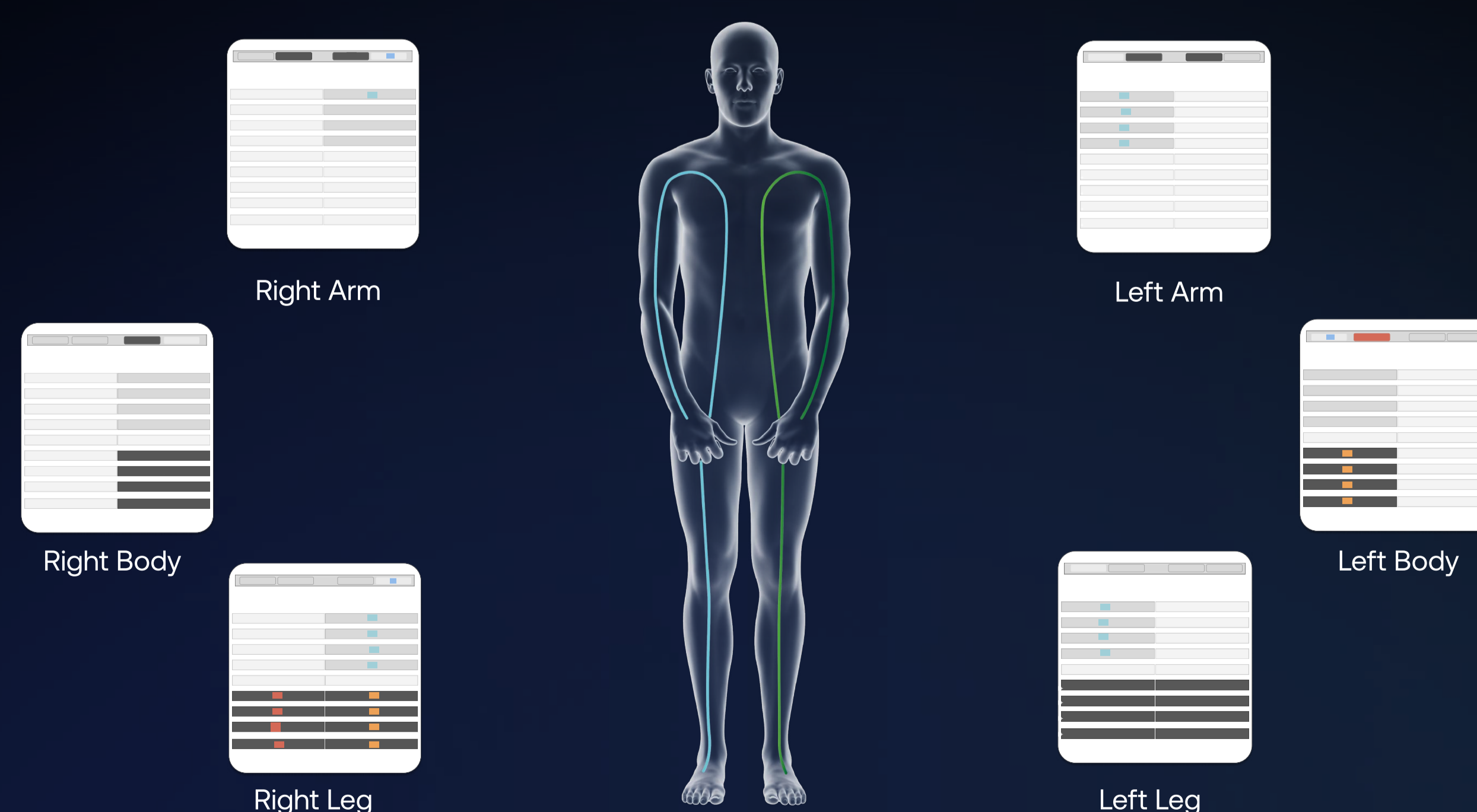
Body Scan utilizes very high-frequency Bioelectrical Impedance Spectroscopy (BIS), operating up to 250 kHz. Powered by algorithms trained on millions of Withings data points, this technology enables an exceptionally accurate analysis and mapping of your body.

How it works

By measuring impedance across a wide range of frequencies, the signal is able to penetrate deeply into cells, delivering advanced metrics of segmental body composition. Crucially, the use of high frequencies allows the device to distinguish between intracellular and extracellular water. This results in a direct, precise measurement of total body water. In contrast, traditional scales (which use lower frequencies) cannot penetrate cell walls and must rely on estimation formulas to extrapolate this value, making them significantly less precise.



By utilizing specific combinations of its 8 electrodes, Body Scan strategically directs the flow of electrical current through each limb. This targeted current allows for an individualized analysis of every morphology, ensuring the data is accurate regardless of your body shape.



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The clinical study: Mon Stade x Withings Body Scan versus DEXA

Mon Stade is a specialized health & sports center, fully authorized by the French regional authorities ARS and the DRAJES of Ile-de-France. In collaboration with Withings, this comparative study was conducted on a cohort of 80 individuals to validate the performance of Body Scan against the industry “gold standard,” DEXA.

Clinical study protocol

To ensure the highest level of accuracy, each participant underwent four consecutive measurements:

- One DEXA scan (the control)
- Three measurements with Body Scan

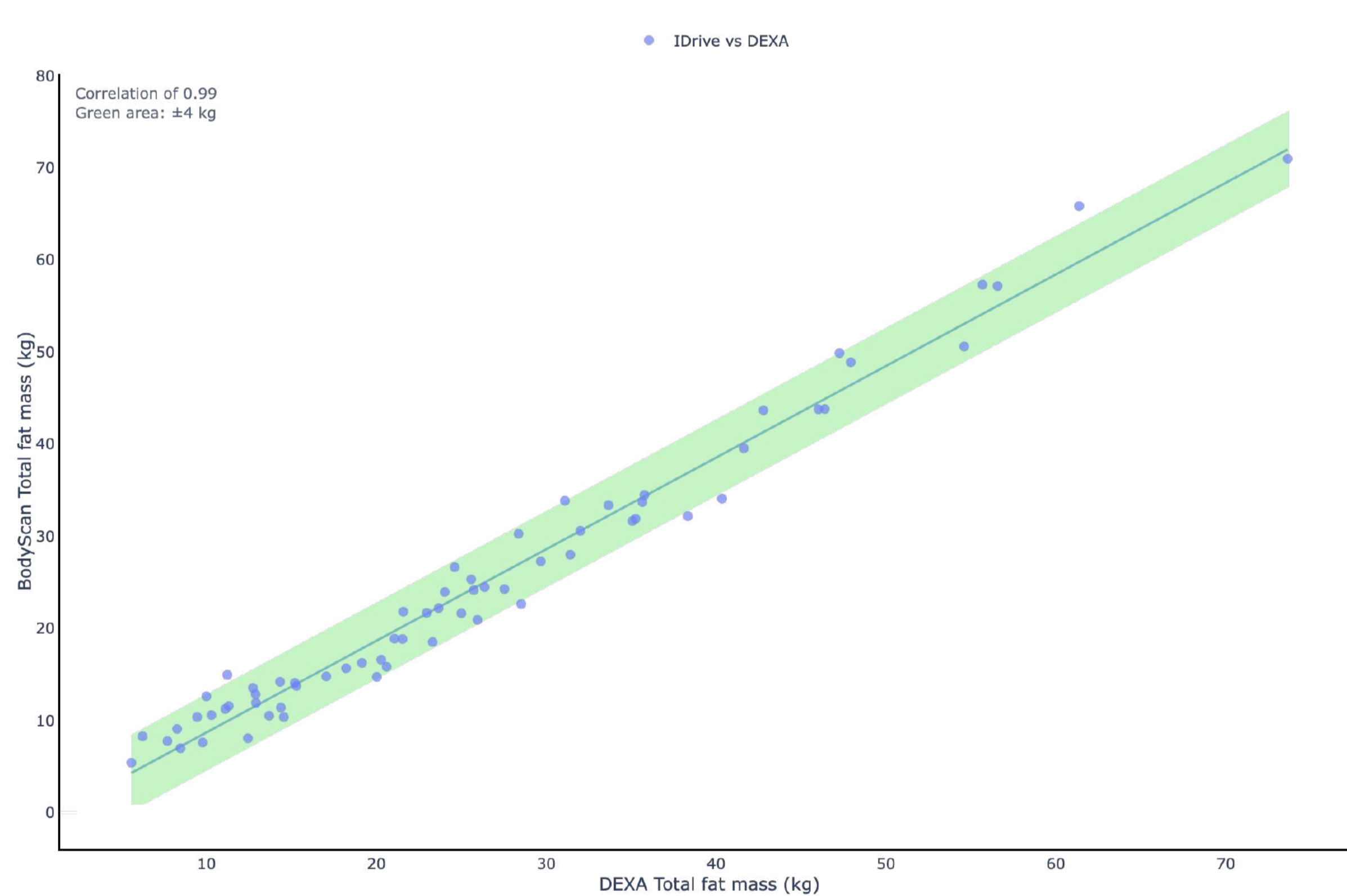
This sequential approach allowed for a direct, immediate comparison of the two technologies under identical physiological conditions. By testing back-to-back, the study minimized variables related to body composition changes over time, ensuring high statistical reliability.

The Results: correlation with DEXA The study yielded exceptional correlation coefficients when compared to the gold standard:

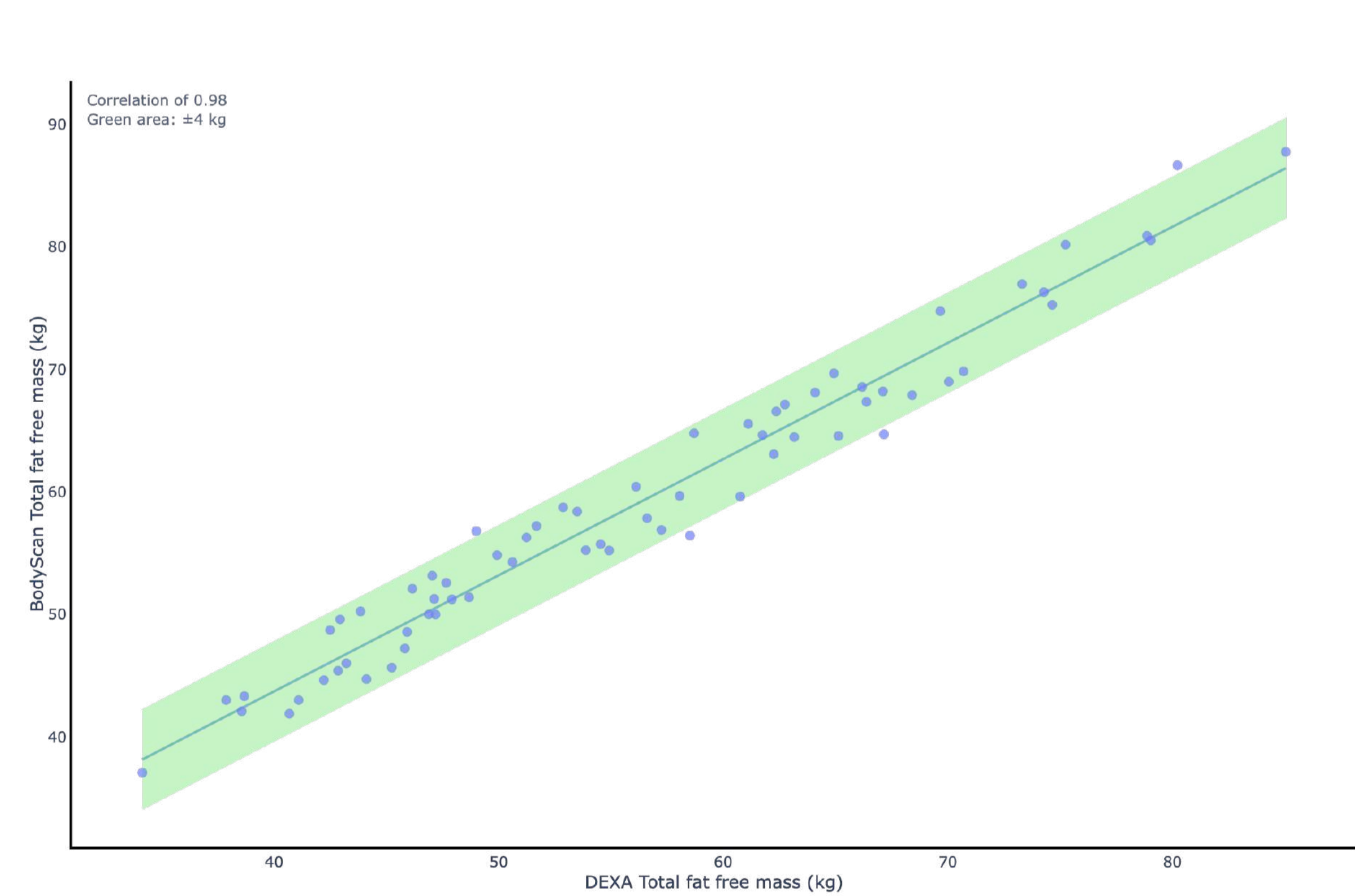
- Total fat mass: $r = 0.99$
- Total muscle mass: $r = 0.98$
- Lean mass: $r = 0.98$
- Total water mass: $r = 0.95$

These figures confirm that Body Scan does not merely provide an estimate. It delivers robust and scientifically validated data comparable to that obtained by the reference method.

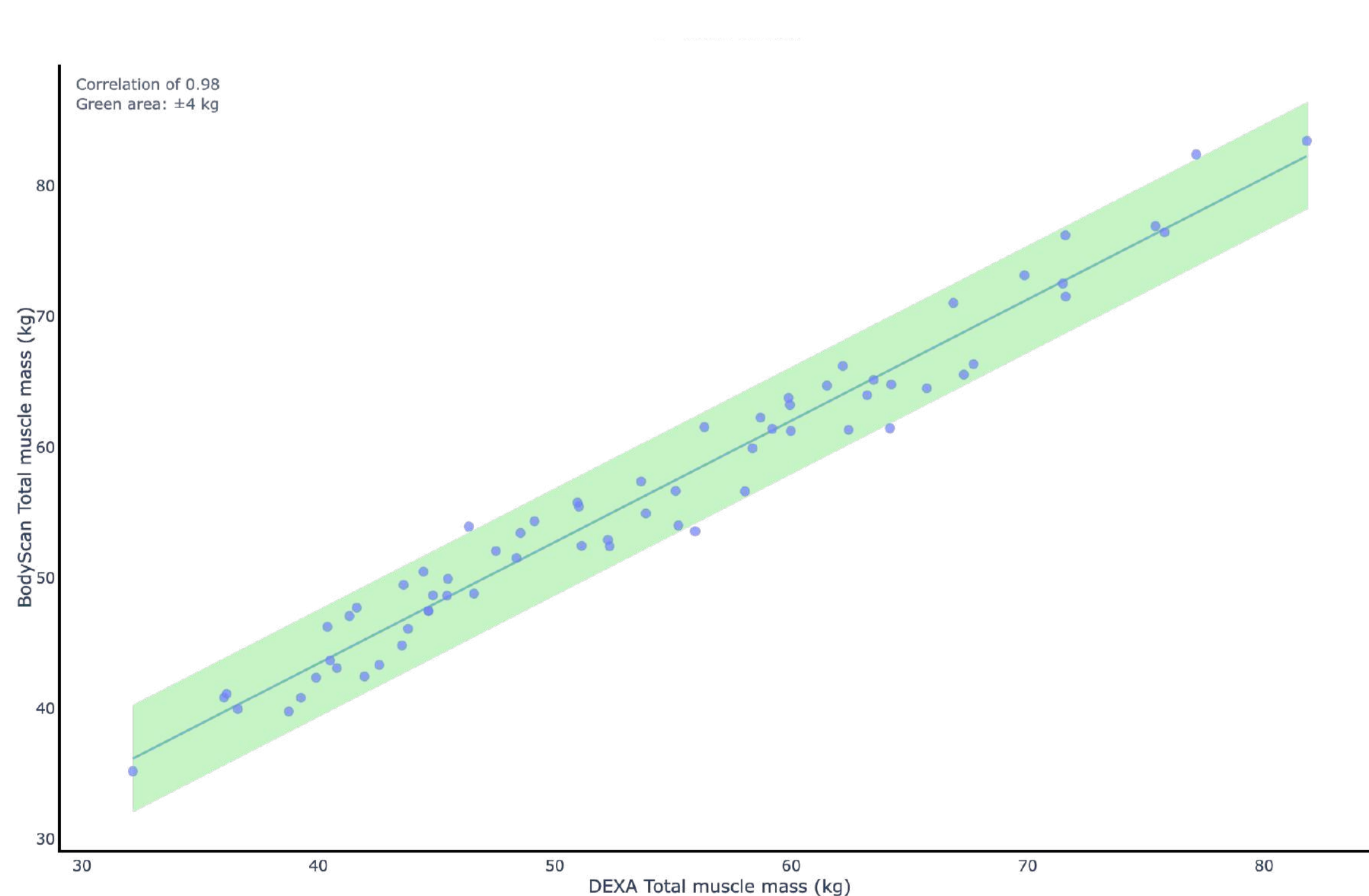
Correlation WBS08 vs DEXA - total fat mass



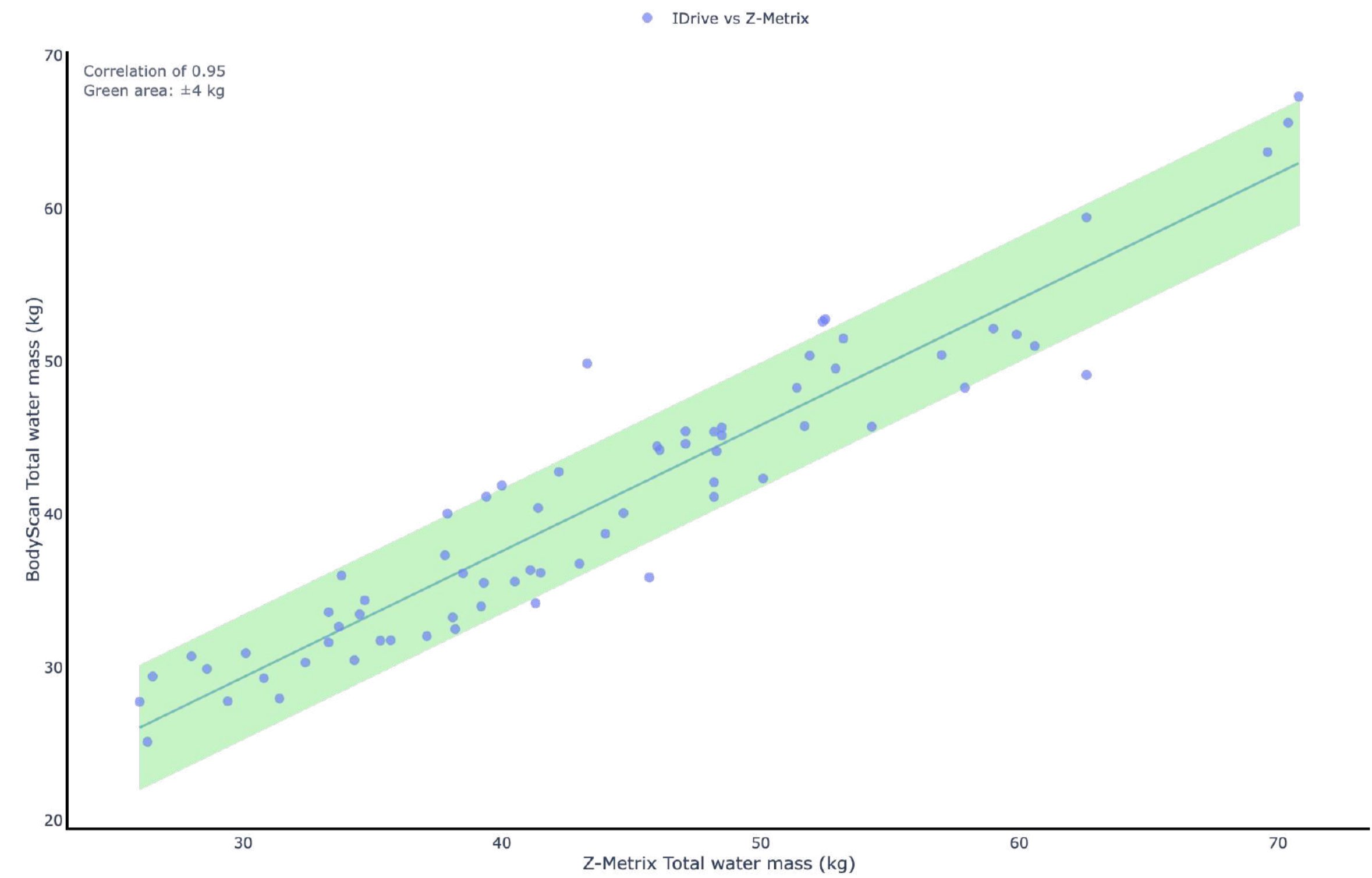
Correlation WBS08 vs DEXA - lean mass



Correlation WBS08 vs DEXA - muscle mass



Correlation WBS08 vs Z-Metrix - total water mass



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The Withings advantage: 15 years of data and innovation

These results are no accident. Withings has defined the history of connected scales since launching the world's first model in 2009.

Since then, we have built a legacy based on:



- **Unrivaled data:** Over 750 million body composition measurements collected over the years, forming a unique database. Our powerful algorithms are trained on this real data to ensure unparalleled performance.
- **Proprietary technology:** With more than 300 patents filed, our innovation puts medical-grade technology into products designed for daily life.
- **Exceptional loyalty:** The quality of our products speaks for itself, 50% of our users are still using their scale after 10 years.
- **Award-winning designs:** The Body Scan has been recognized globally. It was named Best Connected Scale of 2025 by the renowned German publication *BILD*, and received prestigious honors from CES 2022 and *TIME* magazine.
- **A reimagined experience:** In 2025, we redesigned our app to provide even more comprehensive health support. Through the Withings+ premium subscription, users now have access to Withings Intelligence, a personalized health assistant powered by advanced artificial intelligence. It offers real-time analysis, automatic trend detection, and actionable recommendations to promote progress and longevity.



This heritage, combined with a dedicated engineering and research team, is what makes Withings products unique in the industry.

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Conclusion

Body Scan: Clinical expertise accessible to all

At Withings, we create technologies that people love to use to improve their health every day. Now, the incredible reliability of Body Scan has now been validated against DEXA, the gold standard in segmental body composition measurement.

Building on this proven accuracy and the unique expertise gained from millions of data points, we are democratizing access to professional-grade body analysis. We are empowering everyone to decode their body with unparalleled clarity, take proactive control of their health, and build a healthier future.



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