



SKINLABS
INNOVATIVE SOLUTIONS

JANUARY
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Skinlabs Insight

Welcome to Skinlabs!

Curious about who we are and what drives us?

In this issue, we're excited to bring you Delfin's cutting-edge Instruments — tools that help you measure, monitor, and understand skin properties like never before.

DELFIN

Partnership Spotlight

Get to know our partner and its mission to develop and manufacture scientifically reliable, validated instruments that deliver accurate and reproducible measurements, backed by over 1,600 scientific publications.



About Delfin Technologies

Delfin Technologies is a spin-off company of Kuopio University Hospital, a leading medical university hospital in Eastern Finland. Established in 1998 by Tapani Lahtinen, PhD, Jouni Nuutinen, PhD (skin research specialist), and Esko Alanen, Doctor of Philosophy in Engineering and Expert in Electromagnetism, Delfin is committed to advancing medical skin research and measurement.

Delfin's Mission

Delfin has a dual mission:

- To develop instruments that are reliable, accurate, and user-friendly dedicated to medical, scientific, cosmetic and therapeutic applications.
- To ensure the success and effectiveness of research projects and clinical applications by enabling clinicians and researchers to rely on precise, validated skin assessment instruments.

DELFIN TECHNOLOGIES:

From Skin to Subcutaneous Tissue — Instruments for Objective Measurement and Research

Innovative, Scientifically Proven Technologies

Customers benefit from Delfin's patented technologies and innovative Instruments, which support applications ranging from skin water loss measurement to elasticity and sebum assessment, as well as skin gloss and color evaluation.

The devices have also contributed to critical research areas, including tracking early breast cancer detection and post-cancer surgery lymphedema treatment.

Their values are simple but yet powerful:

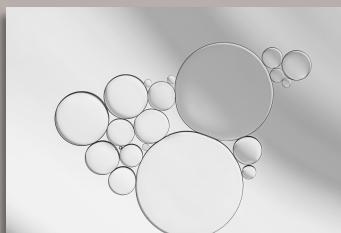
- **Precision** — because great science starts with accurate data.
- **Integrity** — trust and transparency guide every collaboration.
- **Innovation** — staying ahead to deliver tomorrow's solutions today.
- **Partnership** — your goals are their mission.



Engineering Skin Vitality



Better tools, better care



Elevate Your Research

Global Reach & Expert Support

Delfin Instruments are used in over 40 countries, with North America, Europe, and Asia as leading markets. They are headquartered in Kuopio, Finland.

Their global network of distributors ensures that professionals in skin research can access Delfin technologies wherever they work.

The products are divided into two categories:

1. Medical
2. Scientific (Cosmetic, Dermocosmetic & Dermatologic)

Medical Applications

Lymphedema

Lymphedema is the most feared localized complication following a surgical operation.

Delfin Technologies pioneered the first scientifically validated Instruments for accurate lymphedema assessment, enabling early detection and tracking of chronic lymphedema directly in the tissue compartments where it develops.

Superficial edema for tissue swelling measurement

Delfin has Instruments for multiple applications to assess tissue water and edema in diabetes; injuries; ulcers; edema and tissue swelling in venous,

cardiovascular and kidney diseases; conditions affecting lower extremities and drug penetration research.

Delfin Technologies offers advanced Instruments for assessing skin properties, not only in human but also in animal health.

They support research and clinical applications in veterinary medicine and comparative physiology to study dehydration, burn healing, dermatitis, and edema.

Cosmetic Applications

Efficacy testing, claims validation and skin research

Delfin Technologies provides advanced measurement Instruments for reliable claim validation and accurate data generation for both regulatory compliance and marketing purposes.

Their instruments are widely used to evaluate the efficacy, safety, and performance of personal care, cosmetic, skincare products, dermocosmetic and dermatology.

Typical applications of Delfin's instruments include:

- Studying the effects of ingredients, raw materials, formulations, and finished products on skin health.
- Assessing human and animal skin and its physiological changes.
- Evaluating materials and products in in-vitro testing setups.

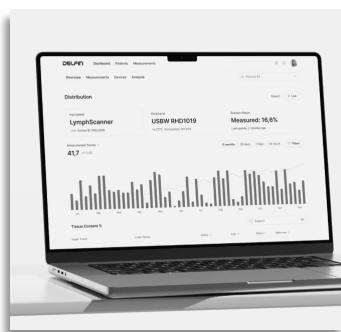
Key Features of Delfin Measurement Instruments

Delfin Instruments are designed for maximum practicality and ease of use, making them ideal for clinical, research, and therapeutic settings.

With short measurement times, wireless data collection, and orientation-independent positioning, these devices ensure both user convenience and patient comfort.

The Delfin Modular Core PC software enhances workflow efficiency by allowing seamless project creation, accurate measurement data collection, and effortless export of results to other programs for advanced analysis.

Together, Delfin Instruments and software provide a reliable, user-friendly solution for precise skin assessment and monitoring.



DMC Software

A Legacy of Innovation: How Delfin Evolved

Delfin's journey is rooted in collaboration with scientists, clinicians, and industry leaders.

Over the years, the company's instruments have been featured in thousands of peer-reviewed studies, attesting to their reliability and scientific value.

Today, Delfin's product lineup spans medical lymphedema assessment, skin biomechanics and hydration analysis, and advanced dermatological measurement tools – all grounded in scientific rigor and designed for real-world clinical and laboratory use.

Scientific and Technological Foundations

What truly sets Delfin apart is its commitment to **scientific validation and technological innovation**.

Each instrument is developed through research-driven design, calibrated to yield objective measurements with high reproducibility and minimal operator variability.

Wireless connectivity, ergonomic designs, and robust software support enable seamless analysis and data collection.

Delfin Instruments are broadly used for:

- Medical diagnostics
- Quantitative skin biomechanics (firmness, elasticity, fibrosis),
- Hydration and barrier function assessments,





LymphScanner

MoistureMeterD™
4 Probes

SkinFibroMeter™

Better tools, better care

- Colorimetric and sebum analysis,
- Research and product development.
- all with fast, non-invasive protocols and rigorous scientific backing.

Delfin Product Categories & Instruments Explained

To help our readers understand Delfin's capabilities, here's a deep dive into each **core category and Instrument**, showing how they contribute to science and clinical practice.

1. Medical Instruments

These advanced medical instruments enable precise assessment and management of tissue water content, edema, and fibrosis, supporting clinicians in early detection, monitoring, and treatment of localized lymphedema and post-surgical tissue changes.

By providing objective data on tissue stiffness, hydration, and mechanical properties, these devices improve post-surgical skin evaluation, guide personalized treatment plans, and enhance patient outcomes in clinical and research settings.

- **LymphScanner**

A scientifically validated, non-invasive device for detecting localized lymphedema and monitoring treatment outcomes.

It uses Delfin's patented **Tissue Dielectric Constant (TDC) technology** to measure tissue hydration.

It is then converted into **Percentage Water Content (PWC)** in the skin, providing clinicians with objective data for precise post-surgical and lymphedema assessment.

- **MoistureMeterD™ 4 probes**

It measures tissue water and edema at 4 different depths (effective depths range from 0.5 to 5 mm), allowing clinicians to assess hydration changes associated with pathology or therapy.

Its sensitivity makes it valuable in both medical and research settings.

- **SkinFibroMeter™**

A highly sensitive indentation device designed to measure skin and subcutaneous firmness, induration, and fibrotic tissue changes — supporting objective evaluations in conditions like sclerosis, scarring, and fibrosis.

Its non-invasive design makes it especially useful for tracking changes over time giving results in seconds and Newtons (N).

Early Detection, Accurate Evaluation & Continuous Monitoring, for Optimal Patient Care and Research.



ElastiMeter™



Eye-VapoMeter™



Horiba LAQUA



MoistureMeterEpid™



MoistureMeterSC™



MoistureMeterD™ Compact



SkinColorCatch™



SkinGlossMeter™



SkinPhotoTyper™

2. Scientific Instruments

These Instruments target measurement of skin behavior and physical properties, essential for:

- Dermatology research
- Clinical treatment monitoring
- Cosmetic science
- Product formulation
- Cosmetic claim validation
- Clinical Aesthetic studies

○ **ElastiMeter™**
Uses an indentation method to objectively assess skin **elasticity and resilience** – critical in aging impact, as well as evaluating the clinical and environmental conditions on the skin's elasticity.

○ **Eye-VapoMeter™**
Objectively assess Tear Evaporation Rate (TER) in case of **dry eye syndrome** or because of **wearing contact lenses**. It can also track eye drop efficacy and treatment validation.

○ **Horiba LAQUA**
Designed for both field and laboratory settings. It is widely used to measure skin surface pH – on non-liquid, uneven, or very small sample areas, such as skin – a key indicator of skin barrier function and acid mantle integrity.

○ **MoistureMeter™ Series**
From epidermis with the **MoistureMeterEpid™**, to the **stratum corneum** with the **MoistureMeterSC™**, and the **dermis** with the **MoistureMeterD™**

Compact, these Instruments measure skin hydration from surface to deep layers, providing insight into moisturizer efficacy and skin condition.

- **SebumScale™**
Quantifies **sebum secretion**, supporting studies in acne, cosmetic product testing, and skin physiology.
- **SkinColorCatch™**
An all-in-one colorimeter that measures skin **color, melanin, and erythema** in a single pass – a powerful tool also showing $L^*a^*b^*$, chroma, hue and RGB values.
- **SkinGlossMeter™**
Measures and transforms skin shine into quantitative data with **Skin Gloss Units (SGU)**. By Focusing on **specular reflection only**, it ensures that measurement closely align with the true optical definition of gloss.
- **SkinPhotoTyper™**
Assesses skin phototype providing quantitative, unbiased results using optical reflectance spectroscopy.
- **VapoMeter®**
Provides precise and instant **TransEpidermal Water Loss (TEWL)** results with a **patented closed-chamber technology**.



Manufacturing Excellence and Global Impact

Delfin Instruments are engineered with user convenience and scientific fidelity at their core. Their portable, battery-powered designs and wireless data capabilities make them suitable for both lab and clinical environments.

Recognized for their accuracy, reproducibility, and ease of use, these Instruments support standardized research, clinical assessment, and product development on a global scale.

Delfin operates under high-standard, internationally recognized medical device quality and manufacturing practices.

It ensures exceptional accuracy, safety, reliability, and consistent performance.

Delfin: The Future of Skin Measurement

As precision medicine and evidence-based skincare continue to rise, Delfin Technologies remains a trusted partner for clinicians, researchers, and innovators. Its instruments empower users to measure what was once only subjectively judged, transforming diagnostics, tracking therapies, and validating products with science at the core.

Whether evaluating lymphedema, fibrosis, hydration, or barrier health, Delfin Instruments enable **better decisions backed by real data** – a leap forward for patient care and scientific discovery.



Why Delfin Instruments Are Scientifically Unique

Several unique qualities distinguish Delfin from competitors:

- **Objective, reproducible metrics** that reduce operator bias.
- **Wireless and ergonomic design**, enabling real-time data capture with minimal training.
- **Broad scientific validation**, with instruments featured in thousands of published studies.
- **Applications spanning medical, dermatological, cosmetic science, and research** – giving them versatility beyond single use-cases.

Interested in advancing your clinical or research practice with cutting-edge measurement technology?

Explore the full range of Delfin Instruments and join the global community driving skin science forward.

[Join us!](#)

**Designed Around the Body
Built For Precision**

**Ergonomic Design
Compact and Lightweight
Fully Wireless Operation
Applicable in Any Position
and To All Body Area**