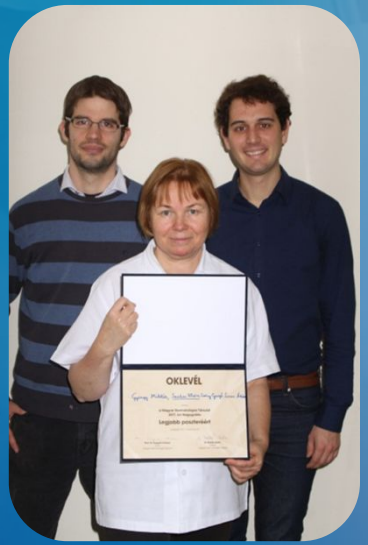
SEE DEEPER. CARE BETTER.

Dermoscopy-Assisted High-Frequency Ultrasound

DERMUSVISION.COM

Company History

- Founded in 2018
- Spin-Off of Pázmány Péter Catholic University, Hungary
- Close collaboration with Semmelweis University, Hungary



Capable Team

Serving Needs

- experienced medical sales
- dermatologist scientific advisor

Deep tech

- 11 engineers
- SW: AI, Cloud, CompVision
- HW: FW, Elec, Mech
- 4 PhDs

Focus on quality

- 2 certified auditors

Customer Satisfaction and Operations

Research & Development, Quality & Regulatory

Introducing
SkinScanner

EU MDR
CE
CLASS IIA MEDICAL DEVICE

FDA pending

dermus

Skin Imaging

Surface imaging

- Tip of iceberg – missing information
- Misses full volume

Radiological imaging

- Costly
- Non-portable
- Difficult to interpret

Our Technology

- **Surface+depth** imaging made **simple+affordable**

Our Technology

Dermoscopy + Ultrasound

- **Multimodal**: more information
- **Simultaneous**: guided imaging
- **Registered**: better interpretation
- **AI**: automated measurements
- **Cloud-ready**: decentralized trials

Portable SkinScanner

- Highest frequency
- High resolution
- Single-hand operation
- Colorized ultrasound image (echo intensity)

Measurement Techniques

dermus

I. Geometric	2-point distance (thickness, diameter) AI-assisted segmentation (layer differentiation) Volume estimation Point location correlation to surface (projection)
II. Intensity	Comparison for different structures → Hydration trend Variability for a certain tissue area → Collagenization / vascularization estimation, trend
III. Doppler	Flow detection (along 1-D line currently) 2-D Doppler under development

High-Frequency Ultrasound

Skin Imaging: 15-100MHz

Frequency (MHz)	Penetration depth (mm)	Visualized Structures
7.5	>40	Deep structures, lymph nodes
10	35	Epidermis, dermis, subcutaneous tissue
20	10	Epidermis and dermis, a fragment of the subcutaneous tissue
50	3-4	Epidermis and dermis
75	3	The epidermis and a fragment of the dermis
100	1,5	Epidermis only

Imaging

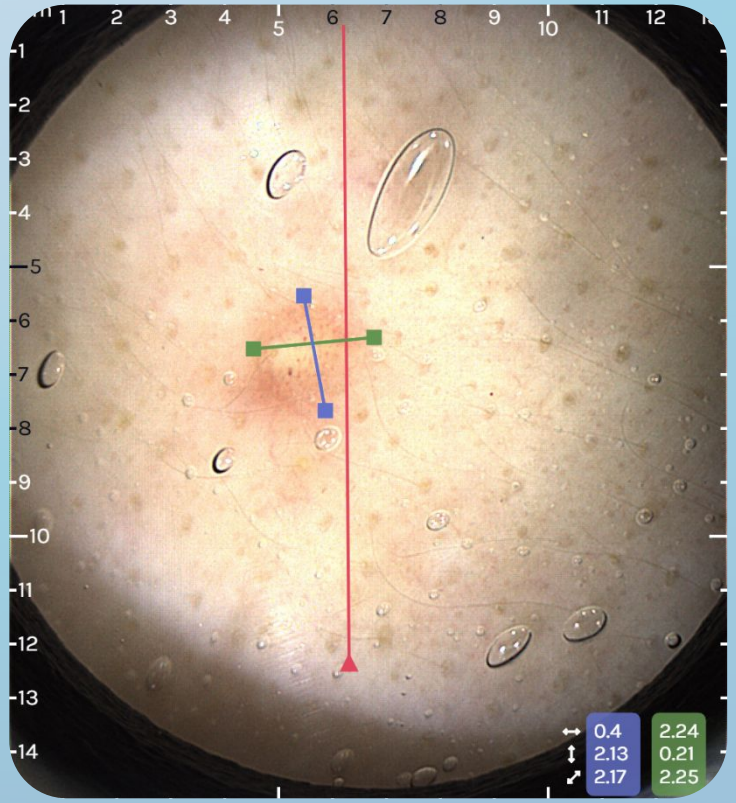
Specifications

Optical field of view	12 mm x 12 mm
US frequency	20–40 MHz
US depth	up to 10 mm
US field of view	10 mm (depth) x 12 mm (lateral)
Frame rate	4+ fps
Resolution	100/300 um

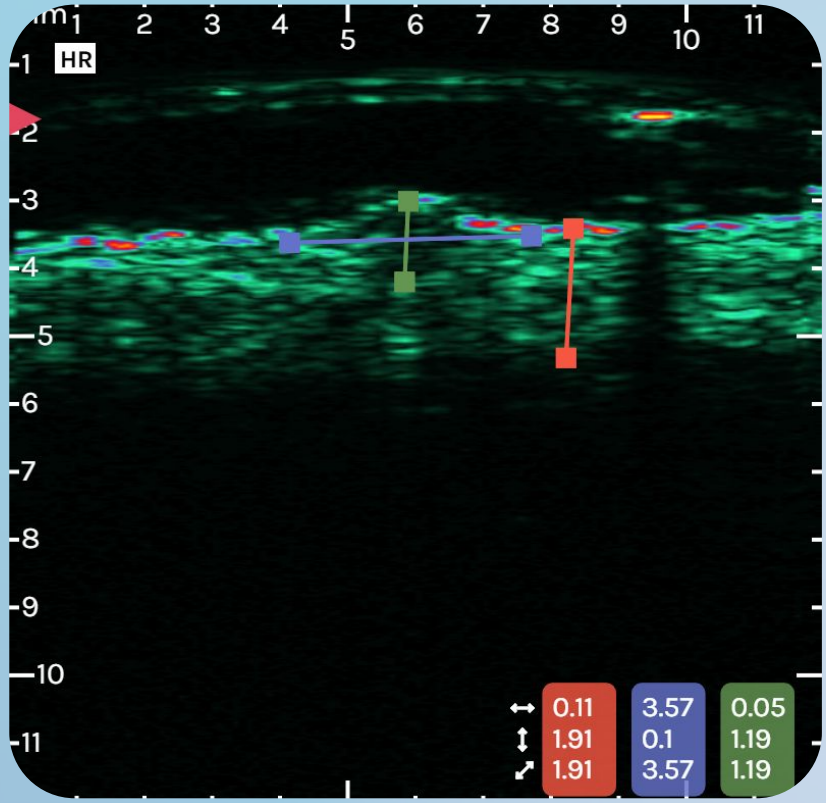
Clinical Applications

AREA	USE CASES	ROLE OF DG-HFUS
A. Skin Cancer	Melanoma BCC SCC	• Measure depth & extent • Treatment choice • Surgical planning
B. Inflammation	Atopic dermatitis Acne Alopecia areata Rosacea	• Measure depth & extent • Treatment planning
C. Rejuvenation	Topical treatments Laser treatments	• Collagenization • Hydration
D. Filler treatments	Volume restoration Contour enhancement Filler removal	• Treatment planning (safety) • Treatment monitoring • Guided dissolving of filler

2-point distance measurement



on both images

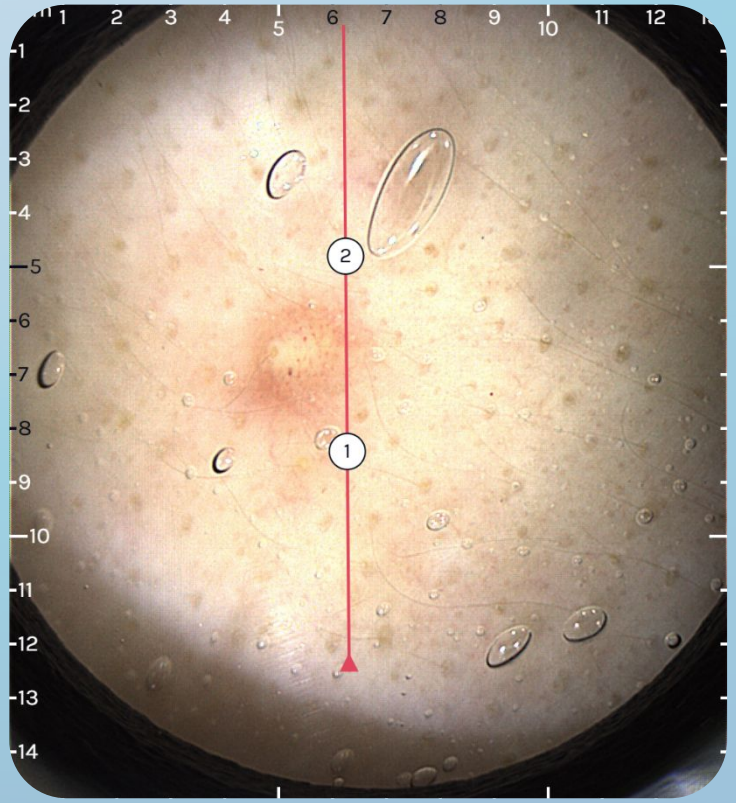


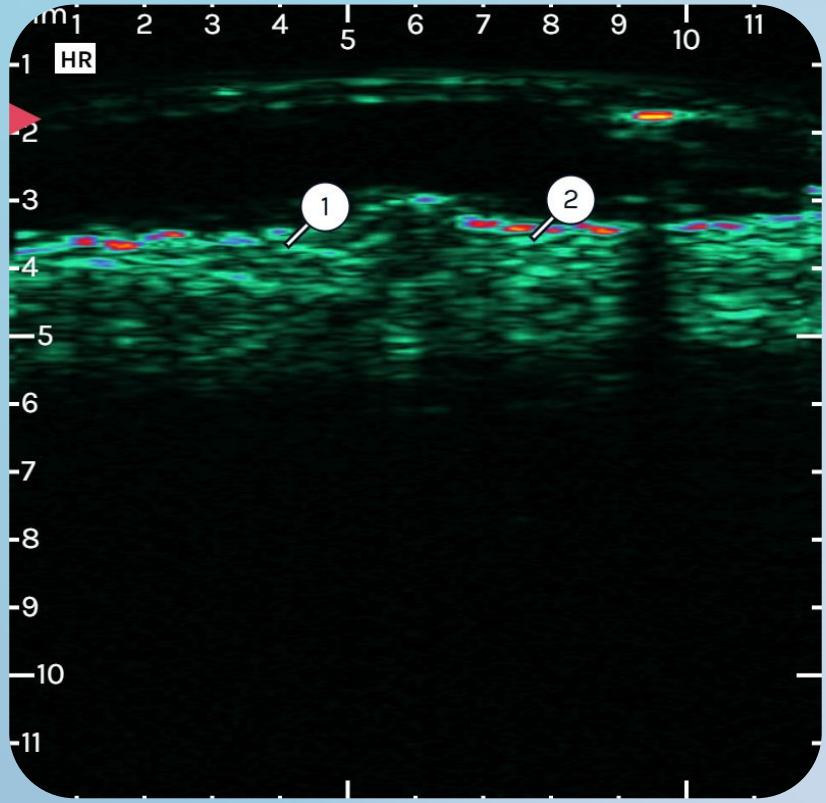
distance + projections displayed

dermus

Courtesy of Dr. I. Pfeiffer | images captured by skinscanner

Annotation



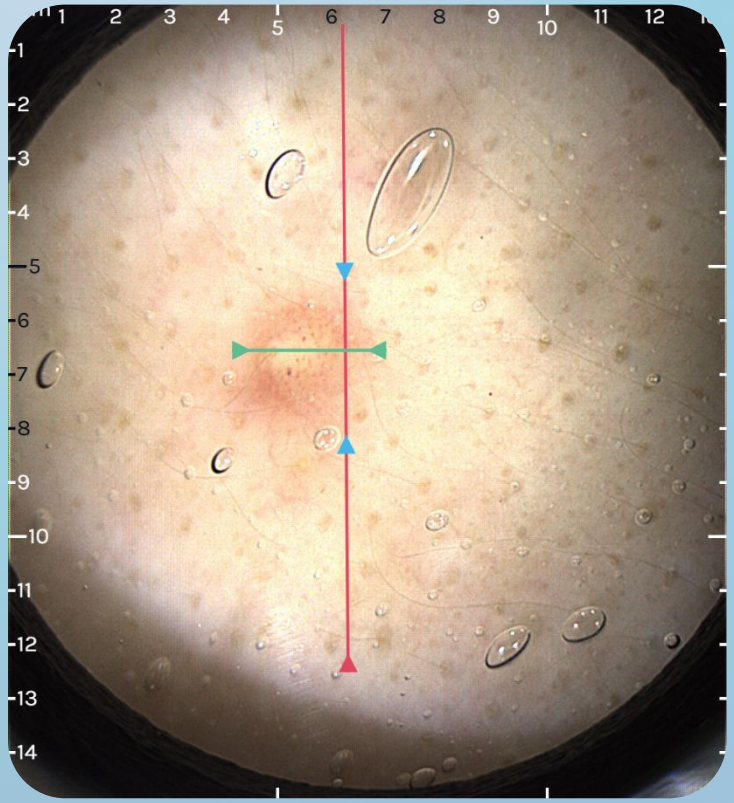


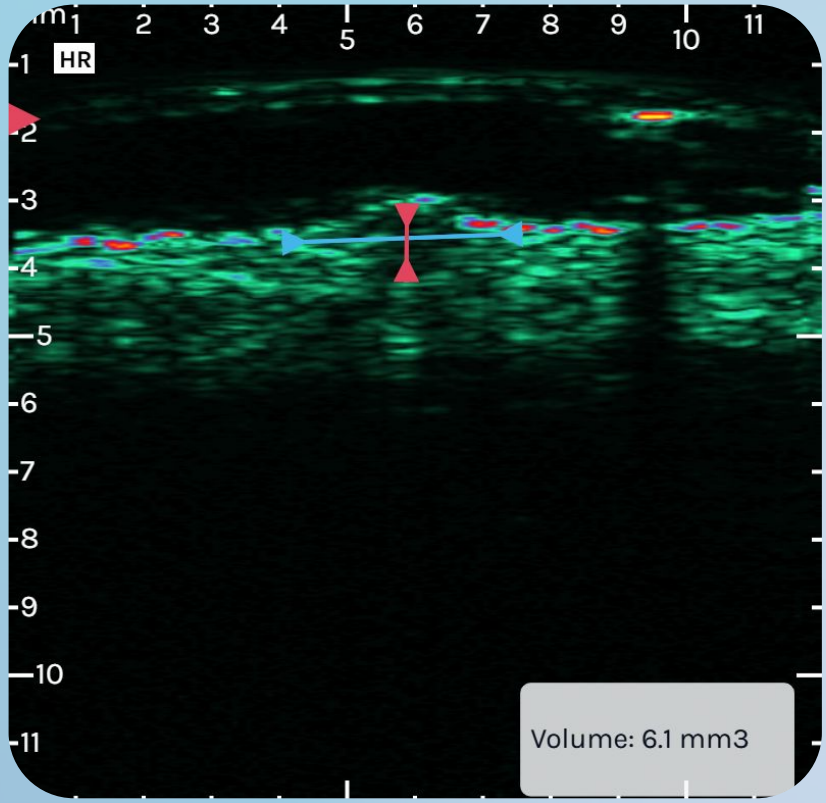
★ projection appears on surface image

dermus

Courtesy of Dr. I. Pfeiffer | images captured by skinscanner

Volume estimation

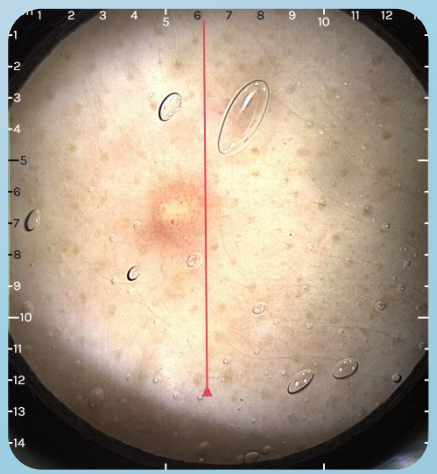


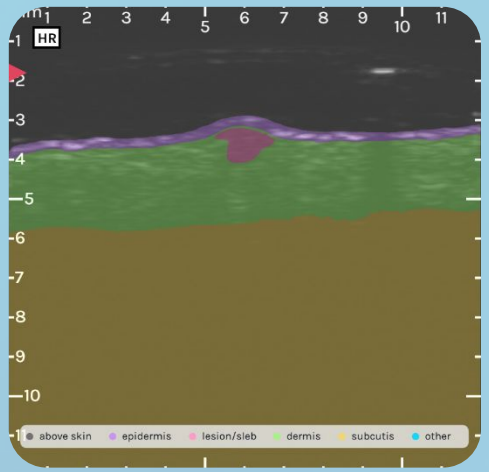


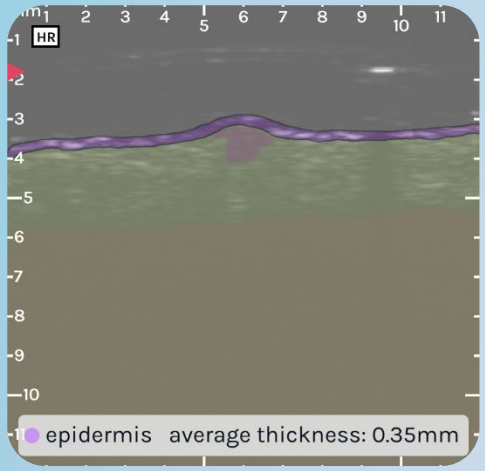
★ informational estimates only

dermus

AI-assistance





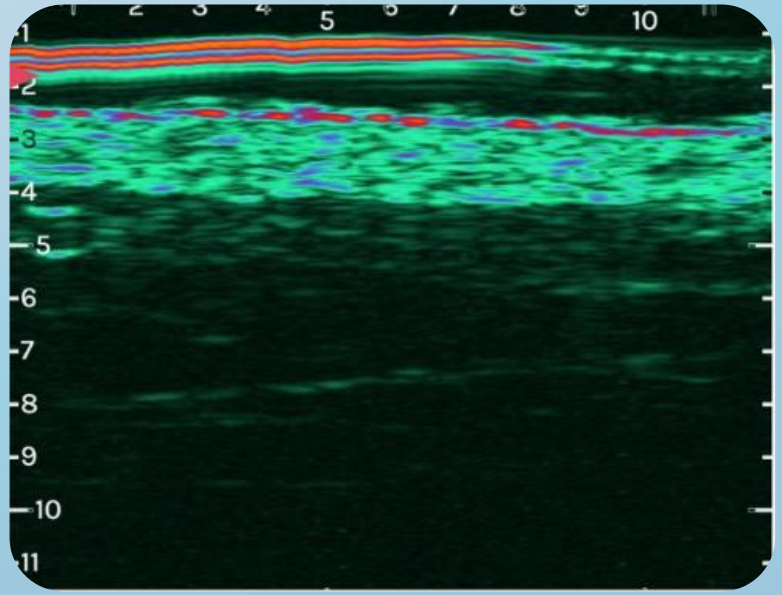


- AI-assisted thickness measurements
  (AI-based segmentation of primary skin layers and of skin lesion)

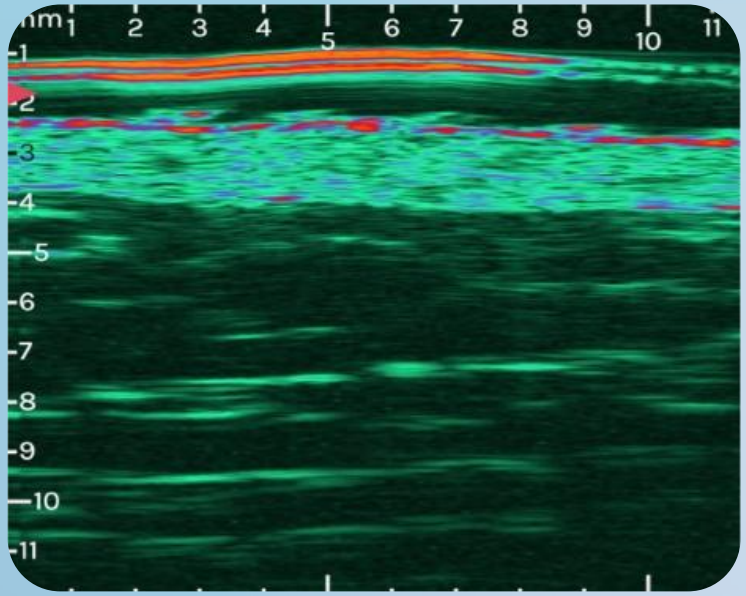
dermus

Courtesy of Dr. I. Pfeiffer | images captured by skinscanner

Imaging modes



High resolution

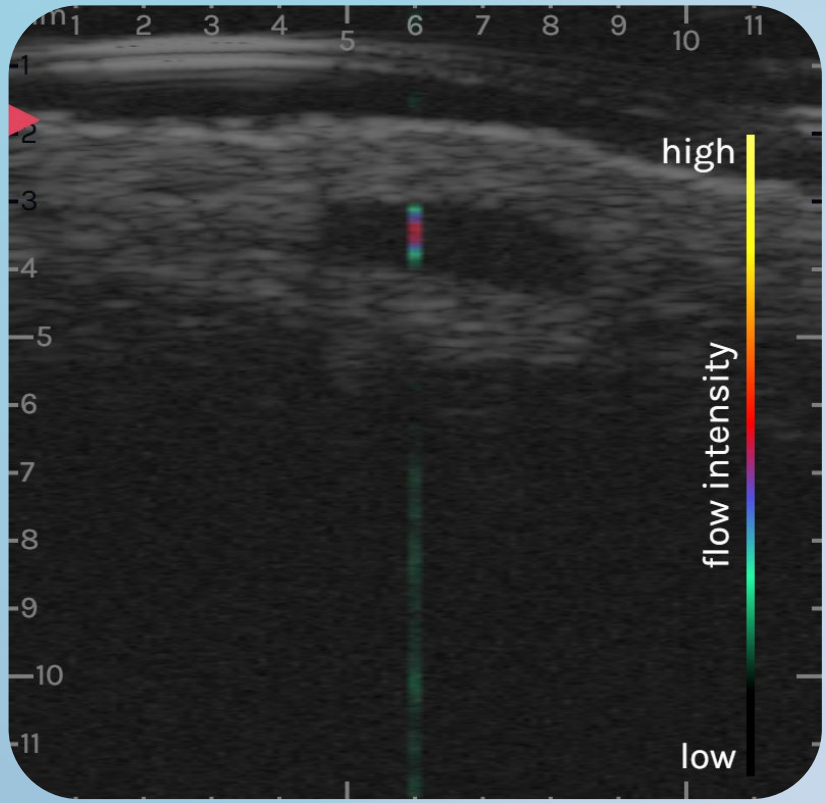


High depth

dermus

Images captured by skinscanner

Flow detection

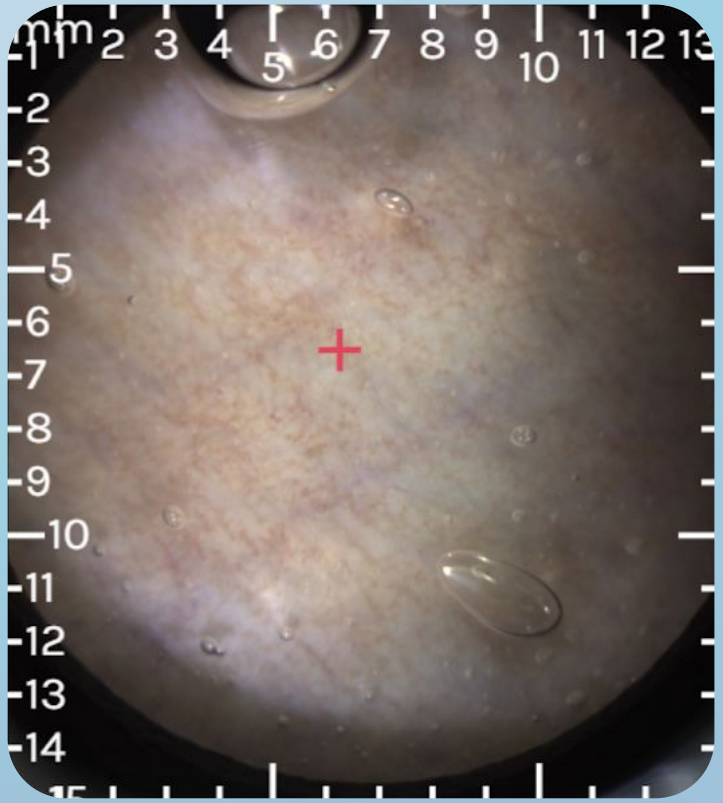


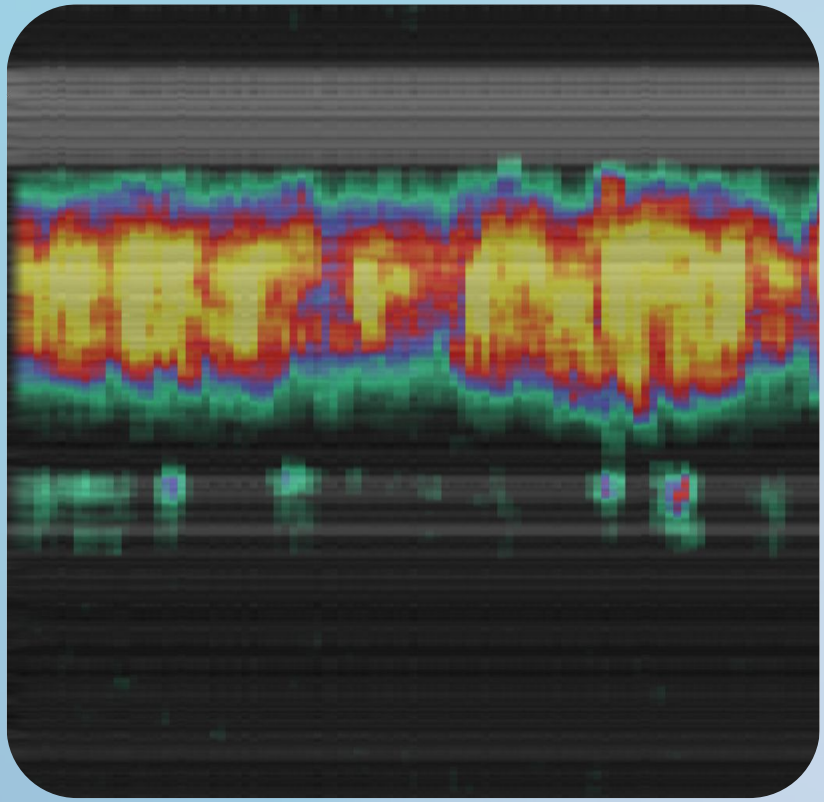
★ visualization of current development

dermus

Images captured by skinscanner

Flow detection



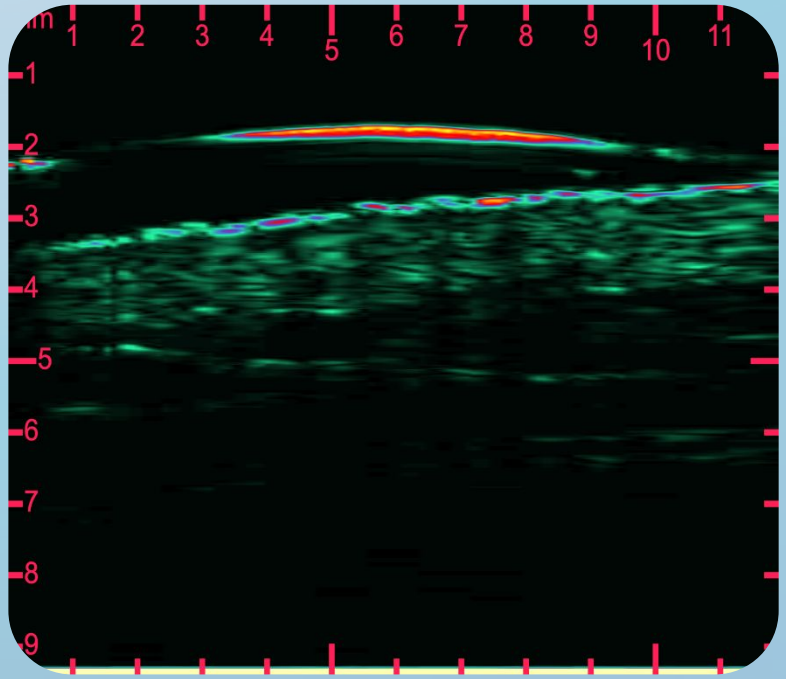


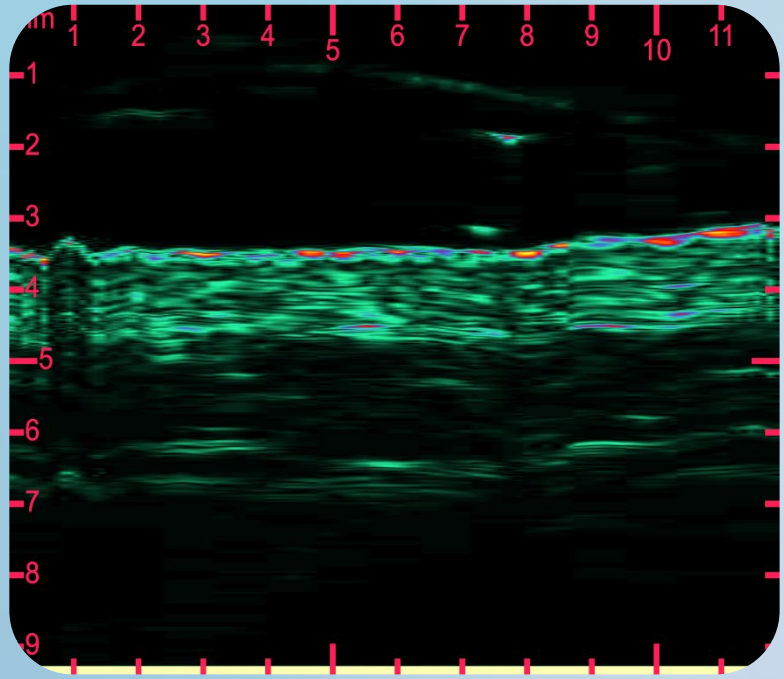
★ visualization of current development

dermus

Images captured by skinscanner

Echo intensity comparison





★ visualization of current development

dermus

Images captured by skinscanner

Our Offer

Advanced, multimodal skin analysis

- More information
- Objective evaluation

Personalized treatment planning

- Individual anatomy and skin condition
- Safe and effective treatments

Informative treatment monitoring

- Follow-up potential
- Reproducibility

dermus

Trusted
By

Key users

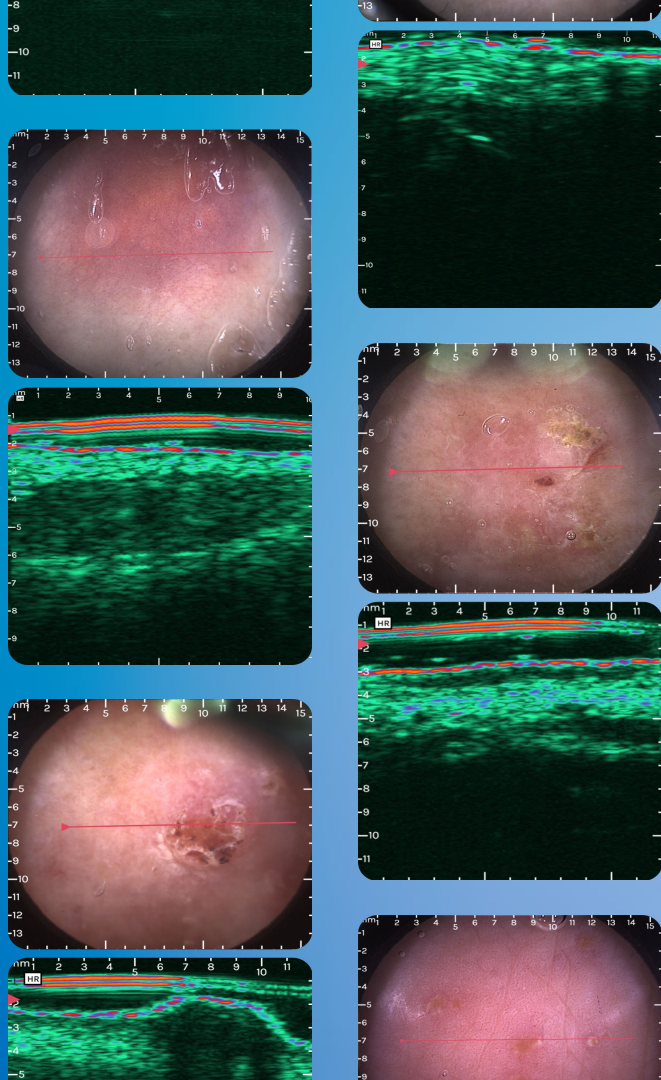
- Beiersdorf
- Roswell Park Comprehensive Cancer Center
- Semmelweis University
- Wyss Center

KOL researchers

- Dr. J Malvehy (Hospital Clínic de Barcelona; 20000+ citations)
- Prof. M-G Trakatelli (Aristotle U. Thessaloniki; 4500+ citations)
- Prof. M Suppa (Hospital Erasme; 2000+ citations)
- Prof. C Cantisani (Sapienza U. Rome; 1500+ citations)
- Dr. F Fanian (FILLMED Laboratories; 800+ citations)

Thank You

For Your Attention!



dermus