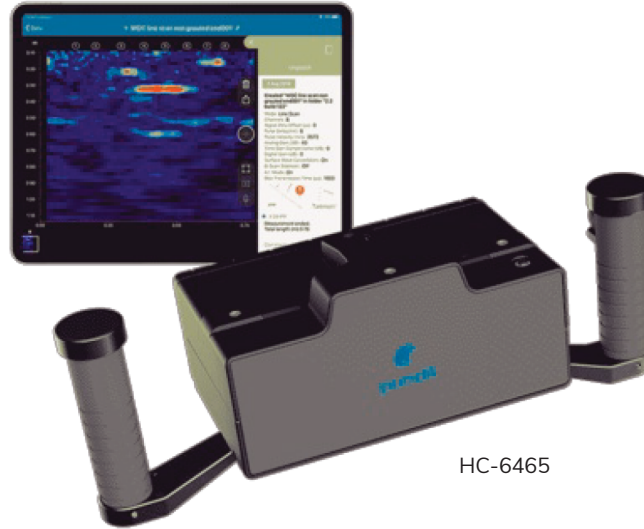


Pundit Ultrasonic Pulse Echo, HC-6465



HC-6465

Pundit Ultrasonic HC-6465

Consolidated power in a single device for structural imaging, object and defect detection with ultrasound pulse echo



Efficiency

Have the power of the Pundit 200 PE, Pundit 250 Array and PD8000 with a single device. Enhanced wireless inspections with on-site, 2D, heatmap and high-resolution 3D imaging



Innovation

Experience the lightest, yet most intelligent pulse echo structural imaging device available on the market. Powered by ever-evolving software with AI and AR, to expand your inspection capabilities



Productivity

Unbeatable productivity ensured by AI assisted positioning and data interpretation, real-time feedback of probe controls, immediate data visualization and easy report creation

Pundit Ultrasonic Pulse Echo

The Pundit Ultrasonic Pulse Echo, PD8050, is the wireless inspection solution with multi-channel ultrasonic pulse echo technology, brings on-site structural concrete assessment and imaging to the next level when it comes to pragmatism and productivity.

Pundit PD8050 is powered by intelligent software for real-time visualization providing unmatched precision, sharpness, focus and image stability for the longest scans and at unheard-of before penetration depths. The AI.-powered data analysis makes it easy to identify features and flaws, interpret them, and communicate the value of your inspection work to your customer.

The rugged and robust housing makes Pundit PD8050 perfect for the demands of a harsh construction environment. The ergonomic design of the probe and its controls enhance your productivity: they are placed directly on the handles, making seamless and convenient operation possible under any conditions.

AI-assisted positioning and automated image stitching drastically improve the quality of your insights, while accelerating your overall inspection process. PD8050 probe wirelessly connects to the Pundit Live Array app for iPad providing unmatched concrete imaging thanks to crisp, high-resolution touchscreen. The gesture driven and user-friendly app is rich with intelligent features and sophisticated algorithms and together with superb mobile processing power enable on-site analysis and immediate visualization on-site including the true 3D view together with Augmented Reality, with the highest precision, focus and clarity. AI-assisted data analysis and material identification algorithms allow to identify and interpret inspection results precisely and reliably.

Finally achieve clarity of your data thanks to voice, image and text annotations that enrich the built-in Logbook of each measurement. Thanks to the cloud services make sharing data and collaborating with your colleagues instantaneously possible from anywhere, anytime.



Processing Unit / Sensor

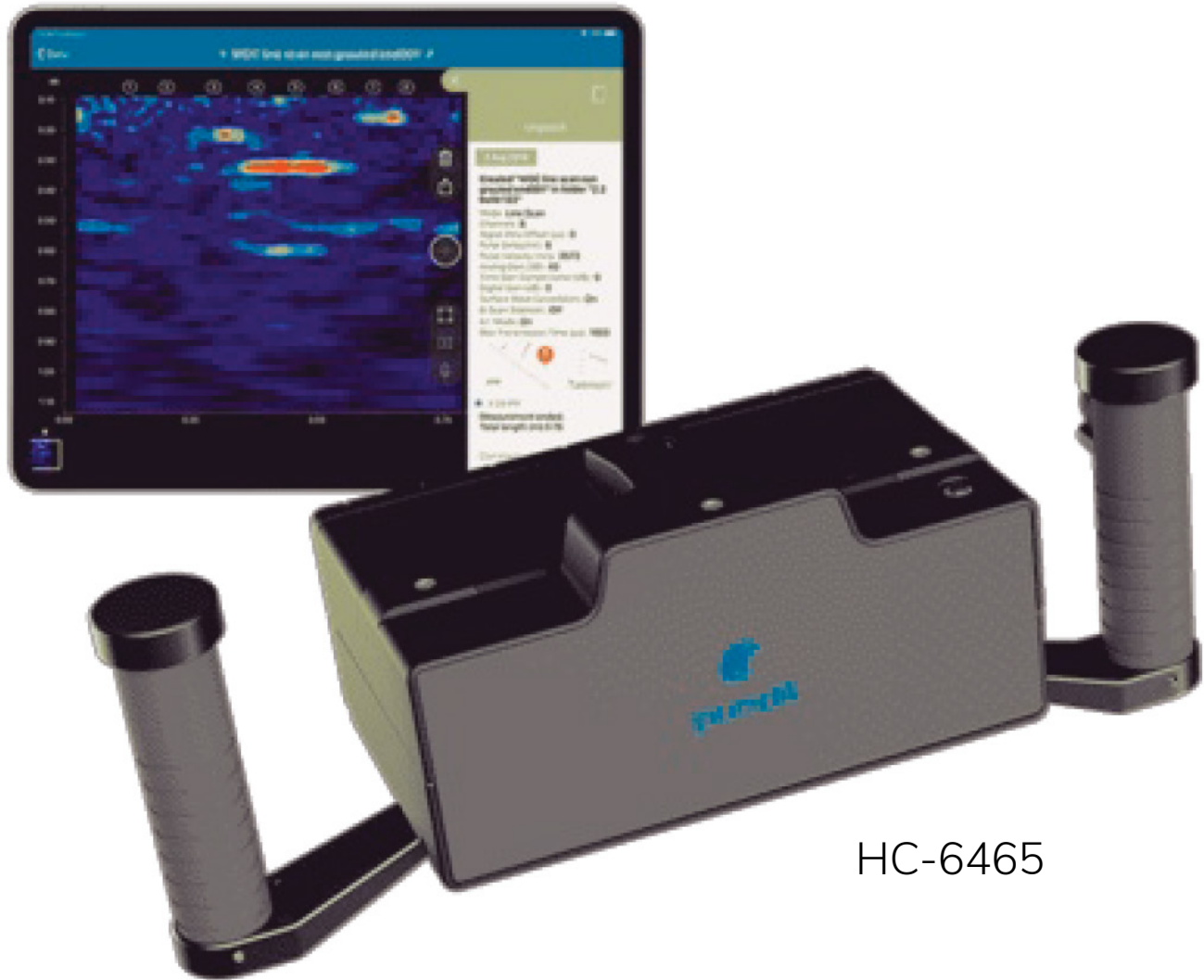
Transducer Bandwidth	20 - 80 kHz
Technology	Multi-channel Ultrasonic Pulse Echo
Measuring resolution	0.1 us
Pulse voltage	±50 to ±150 V (UPE)
Receiver Gain	1 to 10'000 (0 to 80 dB)



Software / Workspace App

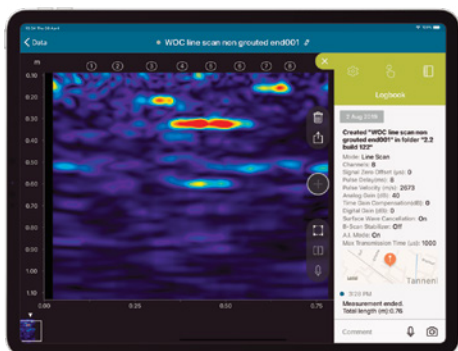
Display Unit	Any compatible Apple® iPad (iOS 11.0 and higher)
Workspace Integration	App synchronization Share via URL Automatic logbook Raw data export HTML export Instant report generation
Measurement Modes	Line scan Stripe Scan Grid Scan (Coming soon)
Measuring Range	Up to 2 m / 6.6 ft in depending on concrete quality
Review modes	A-scan (incl. envelope) B-scan (Line view) C-scan (Time-Slice view) Heat map (depth) Heat map (pulse velocity)
Battery	Battery pack, 6x AA (NiMH), flight-safe High definition focus view Macro view - variable frequency and voltage Wide panoramic B-scan Augmented Reality 3D view
Special Features	AI.-assisted positioning AI.-assisted feature interpretation AI. assisted material identification (coming) Image stabilizer

Pundit Ultrasonic Pulse Echo





PD8050



Quick Start Guide & Product Certificates
Kurzanleitung & Produktzertifikate
Guide de Prise en Main & Certificats de produits
Guida Breve & Certificati di prodotto
Guía de Inicio Rápido & Certificados del producto

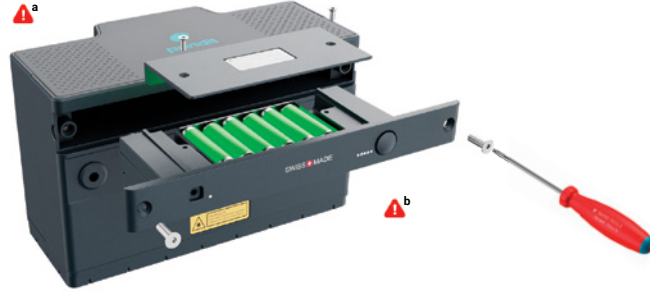
Guia de Inicio Rápido & Certificados do produto
Краткое руководство & Сертификаты продукта
クイックスタートガイド & 製品証明書
快速入门指南 & 产品证书
빠른 시작 안내서 & 제품 인증서

Pundit PD8050

A	●
B	●
C	●
D	●
E	● (x3)
F	●
G	●
H	●
I	●
J	○
K	○
L	○
M	○

- Included / inbegripen / inclus/
incluso / incluido / incluido /
включены / 含まれる / 包括 /
포함 된
- Optional / optional / optionnel /
opzionale / opcional / opcional /
необязательный / オプション /
可选项 / 선택 과목





a Ensure correct polarity when inserting the rechargeable AA batteries. Alternatively, you can use non-rechargeable AA batteries. Warning: do not charge non-rechargeable AA batteries!

Achten Sie beim Einlegen der wiederaufladbaren AA-Batterien auf korrekte Polarität. Alternativ können Sie nicht wiederaufladbare AA-Batterien verwenden. Warnung: laden Sie keine nicht wiederaufladbaren AA-Batterien auf!

Assurez-vous que la polarité est correcte lors de l'insertion des piles AA rechargeables. Vous pouvez également utiliser des piles AA non rechargeables. Attention: ne pas charger les piles AA non rechargeables!

Garantire una corretta polarità quando si inseriscono le batterie AA ricaricabili. In alternativa, è possibile utilizzare batterie AA non ricaricabili. Attenzione: non caricare batterie AA non ricaricabili!

Asegurar la polaridad correcta al insertar las baterías AA recargables. Alternativamente, puede utilizar baterías AA no recargables. Advertencia: ¡no cargue baterías AA recargables!

Assegurar a polaridade correcta ao inserir as baterias AA recarregáveis. Alternativamente, você pode usar baterias AA não recarregáveis. Atenção: não carreguem baterias AA não recarregáveis!

Убедитесь в правильной полярности при установке аккумуляторных батарей типа AA. Кроме того, вы можете использовать неперезаряжаемые батареи типа AA. Предупреждение: не заряжайте неперезаряжаемые батареи типа AA!

適正しい極性を挿入する場合は、二次電池、また、非充電式単三電池を使用することもできます。警告：非充電式単三電池を充電しないでください！

插入可充电AA电池时，请确保持极性正确。另外，也可以使用不可充电的AA电池。警告：不要为不可充电的AA电池充电！

해 올바른 극성을 삽입할 때 AA 배터리를 재충전을 사용할 수 있습니다. 또는 비하용 AA 건전지. 경고:을 청구하지 않 비 충전 AA 배터리!

b Do not leave the batteries inserted during storage for longer than 3 months. Remove the AA batteries by following the reverse procedure.

Lassen Sie die Batterien während der Lagerung nicht länger als 3 Monate eingesetzt. Entfernen Sie die AA-Batterien nach dem umgekehrten Verfahren.

Ne pas laisser les piles dans l'emballage pendant plus de 3 mois. Retirez les piles en suivant la procédure inverse.

Non lasciare le batterie nella confezione durante la conservazione per più di 3 mesi. Rimuovere le batterie AA seguendo la procedura inversa.

No deje las baterías en el envase durante más de 3 meses. Retire las pilas AA siguiendo el procedimiento inverso.

Não deixe as baterias na embalagem durante o armazenamento por mais de 3 meses. Retirar as baterias AA seguindo o procedimento inverso.

Не оставляйте батарейки в упаковке во время хранения более 3 месяцев. Извлеките батарейки типа AA, выполнив обратную процедуру.

電池を3ヶ月以上保管中にパックに入れないでください。逆の手順に従って単三電池を取り外します。

請勿將電池放入包裝中儲存時間超過3個月。按照相反的步驟取出AA電池。

을 떠나지 않는 배터리 팩에 저장 하는 동안에 대한 이상 3 개월입니다. 을 제거하는 AA 배터리를 통해 다음과 같은 역 절차입니다.



c Green: charging; off: charging complete; red: AA batteries incorrectly inserted, or temperature limit exceeded.

Grün: aufladen; aus: Ladevorgang abgeschlossen; rot: AA Batterien falsch eingesetzt oder Temperaturgrenze überschritten.

Vert: charge; off: charge complète; rouge: Piles AA mal insérées ou température limite dépassée.

Verde: ricarica; off: ricarica completa; rosso: Batterie AA inserite in modo errato o superato il limite di temperatura.

Verde: carga; off: carga completa; rojo: Pilas AA insertadas incorrectamente, o se ha superado el límite de temperatura.

Verde: carga; desligado: carga completa; vermelho: Pilhas AA incorrectamente inseridas ou limite de temperatura excedido.

Зеленый: зарядка не горит; зарядка завершена; красный: Батарейки типа AA вставлены неправильно, или превышен температурный предел.

緑:充電オフ:完全な充電、赤い:誤って挿入単三電池、または温度制限を越えました。

綠色：充电；关闭：充电完成；紅色:AA電池插入不正確，或超出溫度限制。

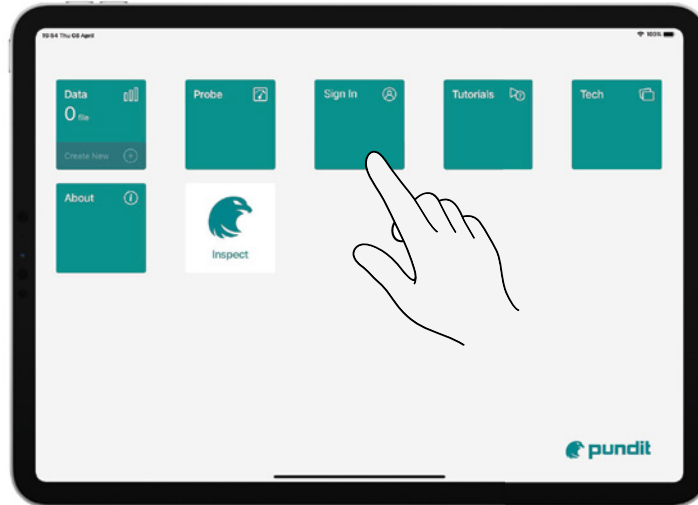
녹색:위탁,off:충전 완료,레드: AA 배터리를 잘못 삽입되거나,온도 제한을 초과.

①

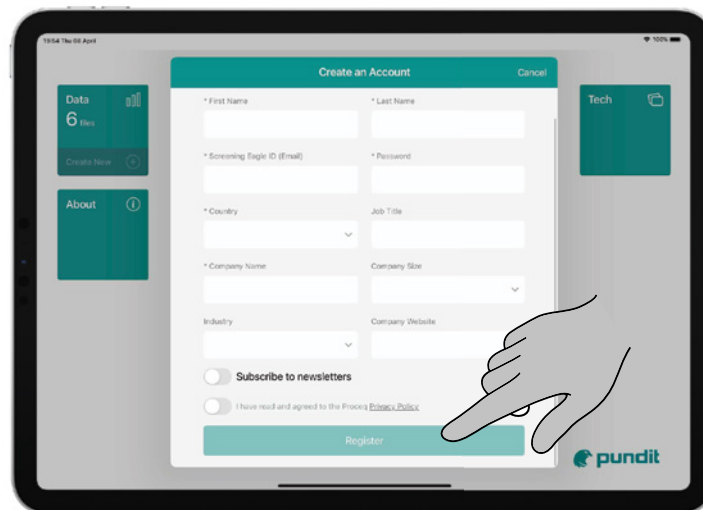
Apple® App Store >
"Pundit Live Array"



②



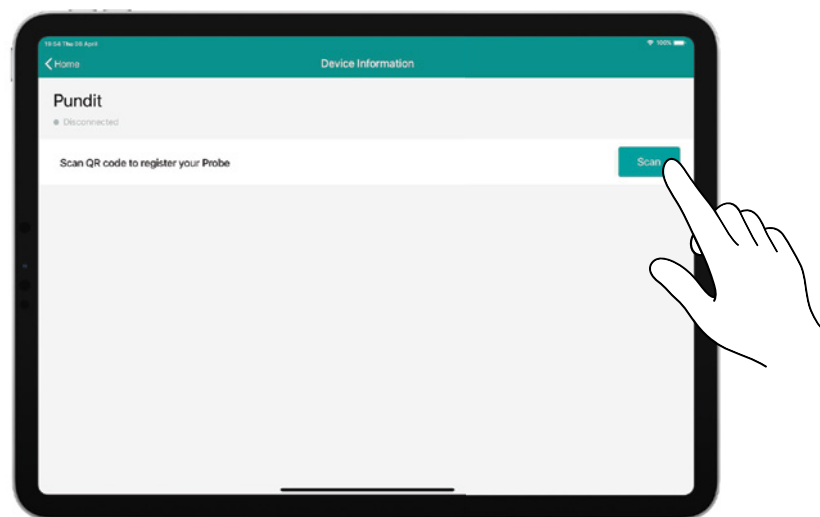
④



5



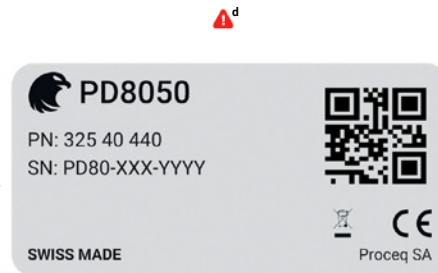
6



7



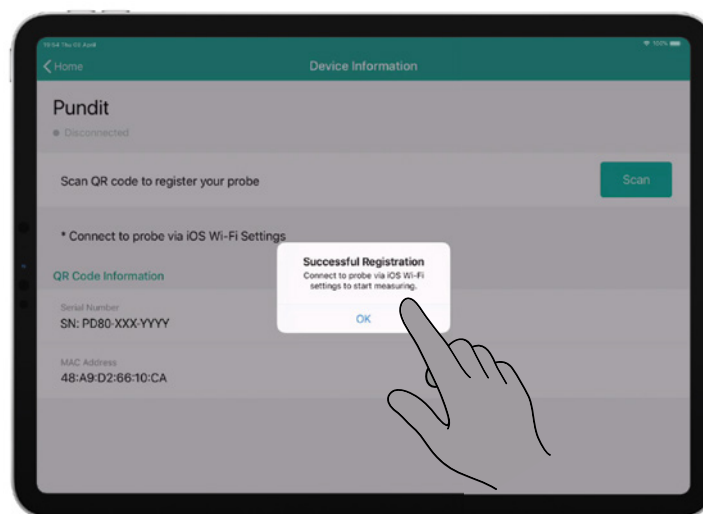
8



d Scanning the QR code is only needed once, for the initial setup.
 Der QR-Code braucht nur einmal für die Ersteinrichtung eingescannt zu werden.
 La numérisation du code QR est nécessaire une seule fois, pour la configuration initiale.
 La scansione del codice QR è necessaria una sola volta, per la configurazione iniziale.
 El código QR tiene que escanearse una sola vez para la instalación inicial.

Apenas é necessário escanear o código QR uma única vez, para a configuração inicial.
 QR-код требуется отсканировать только один раз при первоначальной настройке.
 初期セットアップ時にQRコードのスクリーンは1回だけ必要です。
 只需在初次设置时扫描一次二维码。
 초기 설정시 QR 코드는 한 번만 스캔하면 됩니다.

9





Testing Equipment for



Construction Materials

HUMBOLDT

Humboldt Mfg. Co.

www.humboldtmfg.com

875 Tollgate Road

Elgin, Illinois 60123 U.S.A.

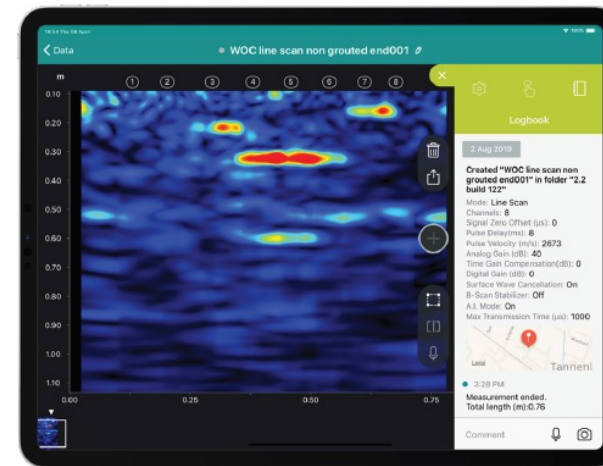
U.S.A. Toll Free: 1.800.544.7220

Voice: 1.708.456.6300

Fax: 1.708.456.0137

email: hmc@humboldtmfg.com

Pundit PD8050



Overview

1. Introduction

2. Product Overview

3. Applications

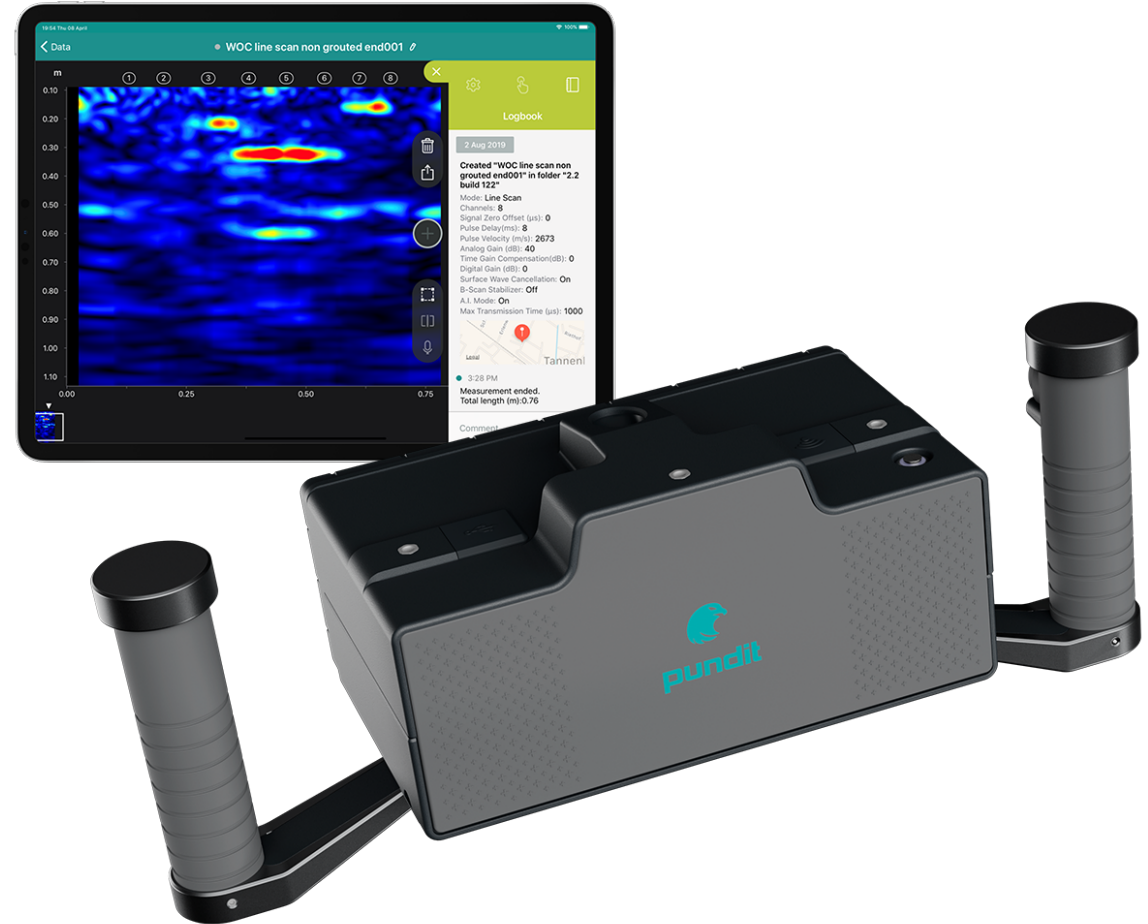
4. Export and Workspace

5. Offer package

Product Overview

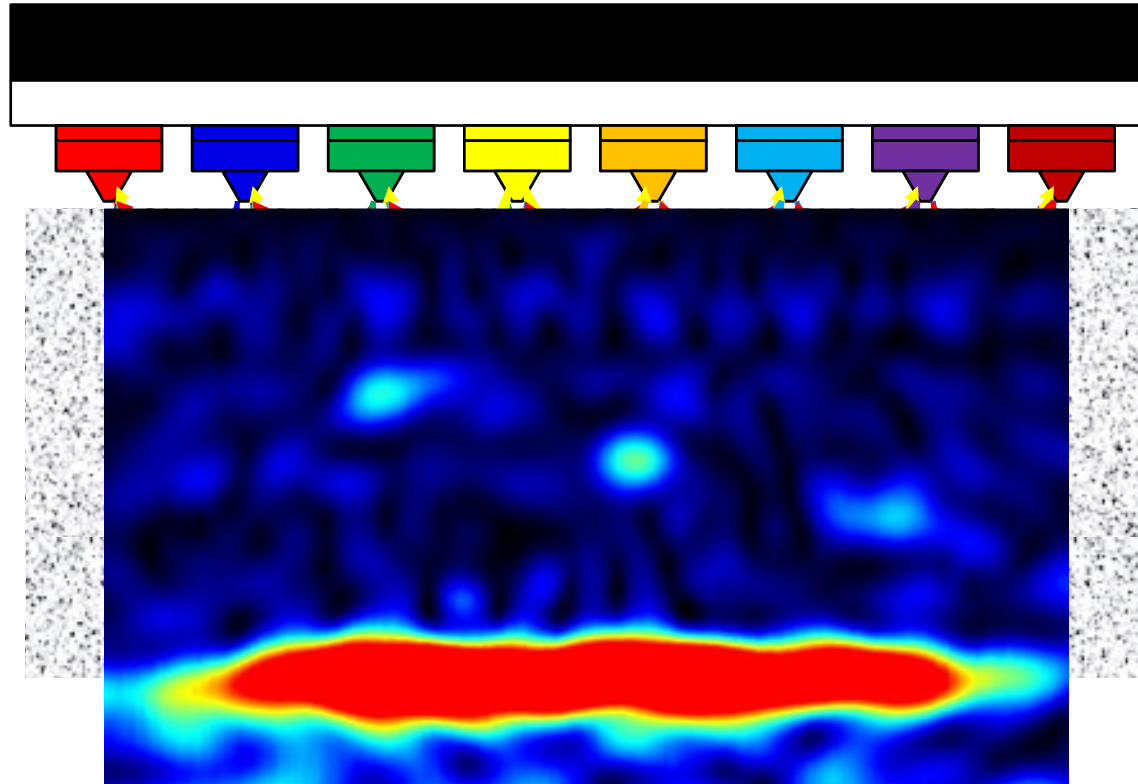
Pundit PD8050

*The world's lightest
pulse echo array
transducer with wide
area 2D and 3D
imaging on-site*



Pulse echo technology

Each channel transmits in turn. A full cycle takes a matter of milliseconds



The resulting A-scans are combined to create a B-scan in real time

Overview

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Product Overview

Feature, Benefit, Value

Feature Set	Benefits	Value
Modular, light transducer	<ul style="list-style-type: none">✓ Fast scanning times✓ Less fatigue✓ Scalable for application	Money Time Peace of mind Joy Prestige
Workflow optimization	<ul style="list-style-type: none">✓ A.I. positioning for fast acquisition✓ Real-time imaging for instant feedback✓ Fastest set-up of transmission parameters	
Superior software user experience	<ul style="list-style-type: none">✓ See the full picture✓ Large scale 2D scans directly on site✓ Large scale 3D scans directly on site✓ AR projection of scans onto the structure✓ Future-proof, long-lasting investment	
Versatility and comfort	<ul style="list-style-type: none">✓ Wireless probe✓ Modular design to fit application✓ Standard, flight-safe battery operation	

Product Overview

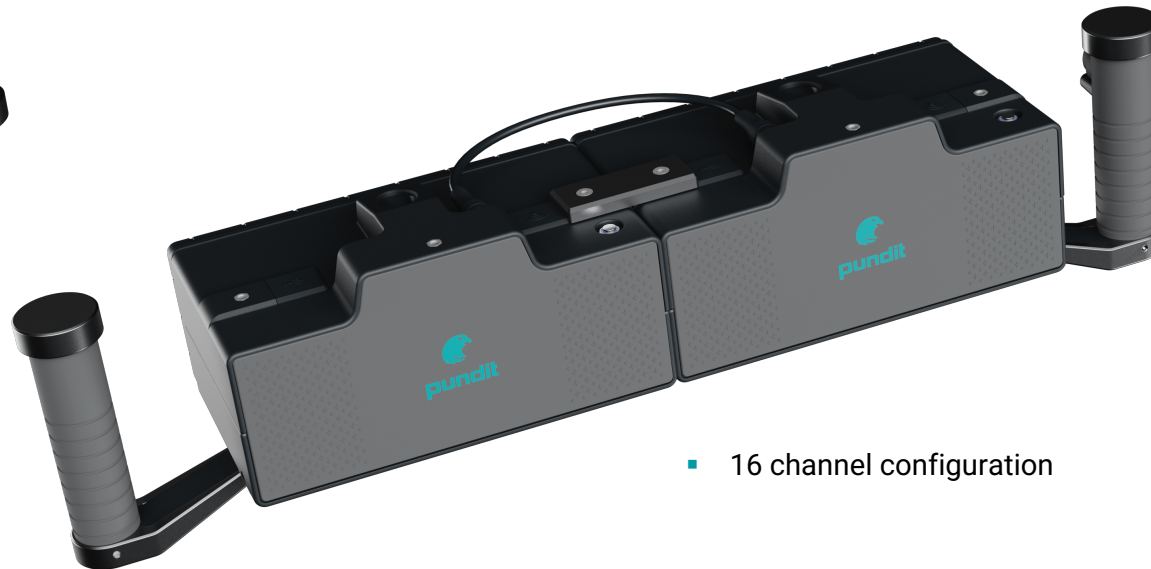
Modular Design



- Standard sensor



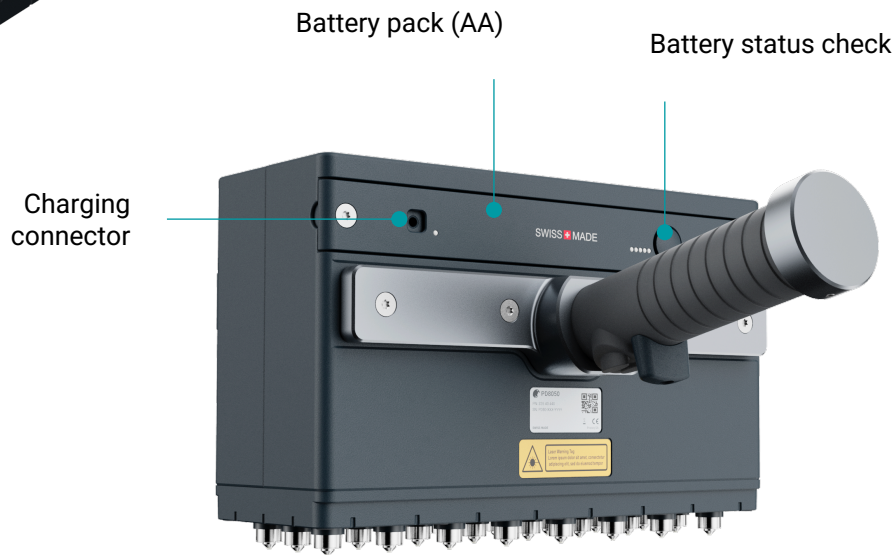
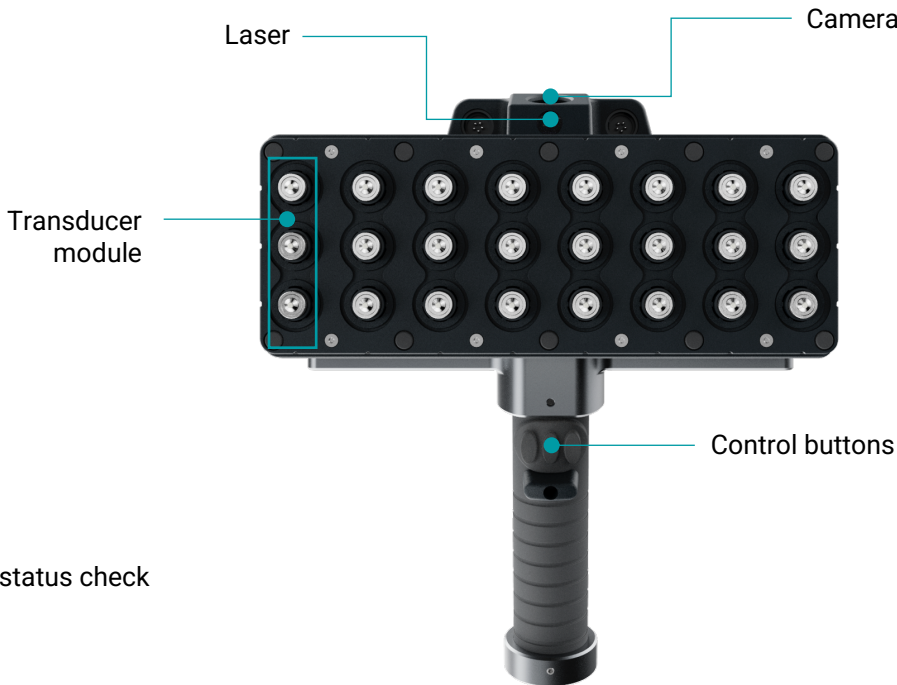
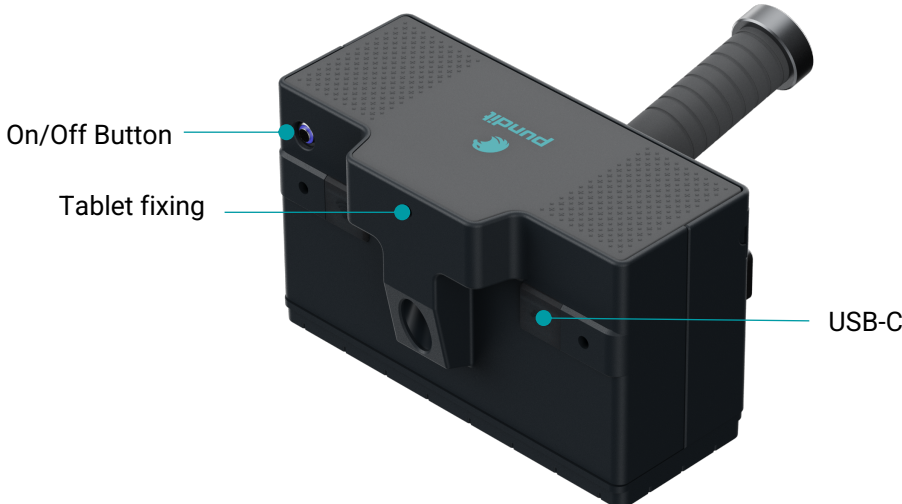
- Dual handle configuration



- 16 channel configuration

Product Overview

Sensor

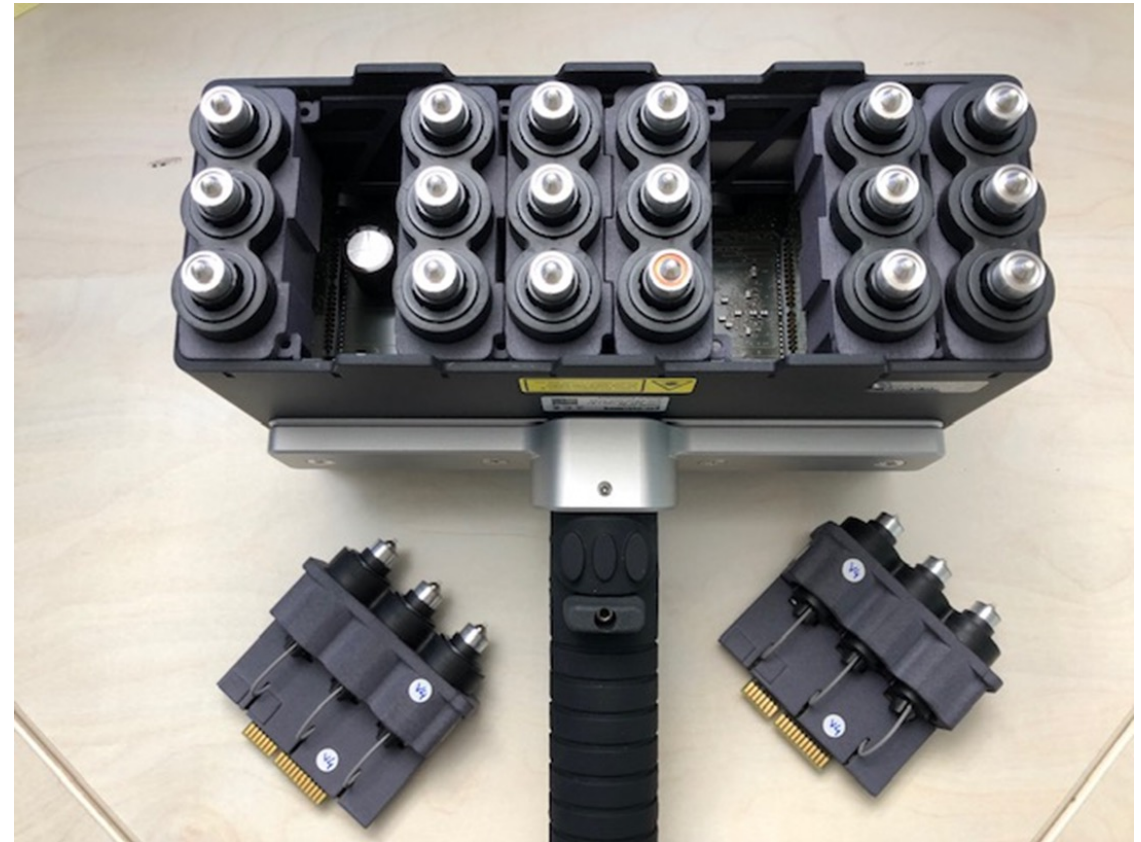


Product Overview

Modular transducer

- **Replace transducer modules locally**
- **Take advantage of new transducer types (planned)**

- Transducer Module PD8050 – 390 CHF List price (06/2021)



Annex

Standards & Guidelines

- **EN 12504-4 - Testing concrete. Determination of ultrasonic pulse velocity - Europe**
- DGZfP Merkblatt B4 - Germany
- ZTV-ING Teil 5 Tunnelbau - Germany
- ACI 228.2R-13 - North America

New EN standard means pulse echo can now be used for uniformity and compressive strength estimations for the first time - OPPORTUNITY

Value Proposition Summary



Performance

Wireless
On-site large scale 2D
On-site 3D
Workspace integration



Future- Readiness

Extendable probe
Modular transducers
Ever-evolving software



Productivity

World's lightest array probe
A.I. assisted positioning
Real-time feedback of probe
controls
Immediate data visualization

Overview

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Precast- Construction Delamination



Spotlight: Precast Construction - Delaminations



✓ Location

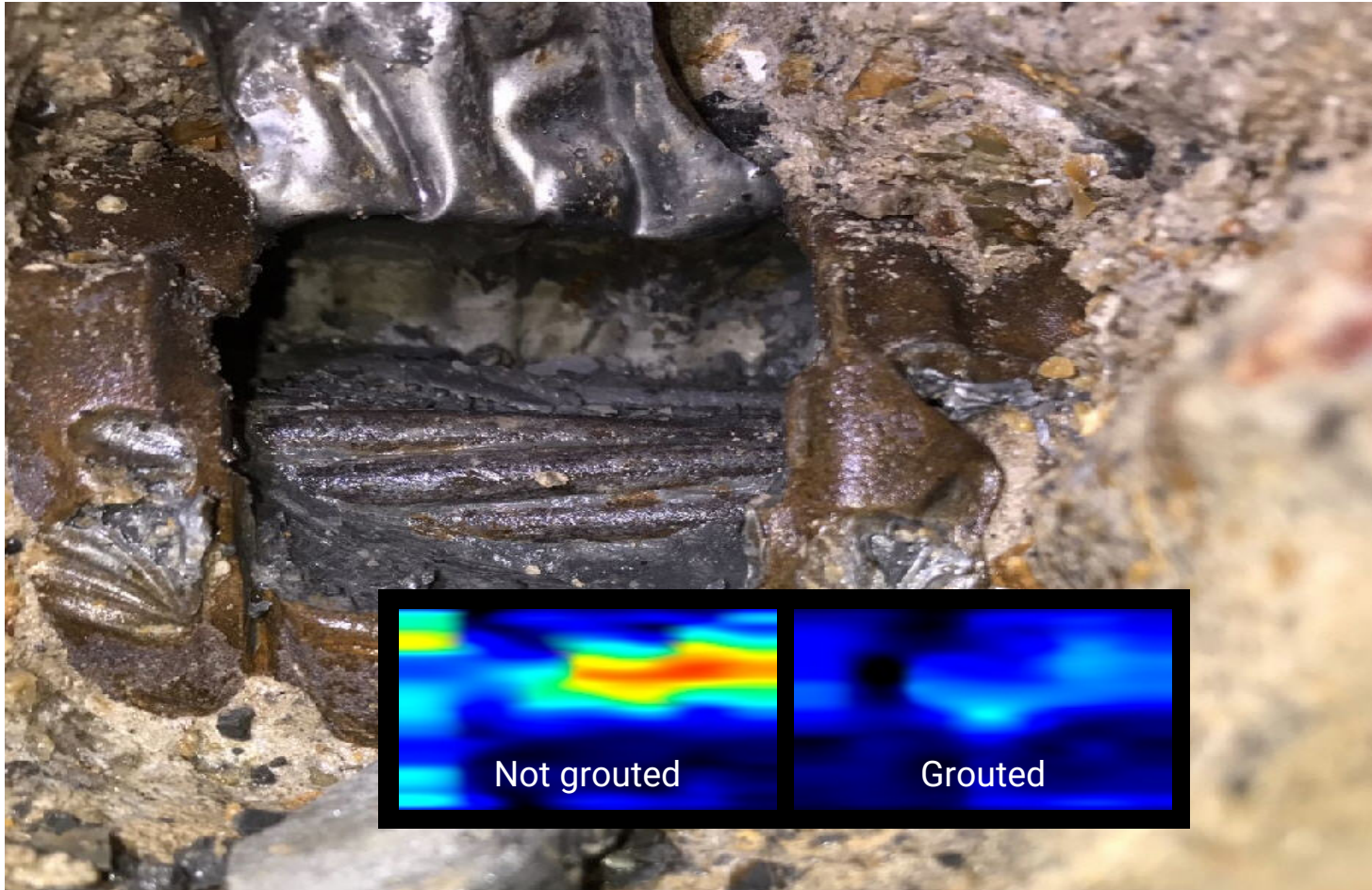
✓ Extent

✓ Depth

Tendon-duct Inspection



Spotlight: Tendon Duct Grouting Defects



Location



Identification



Grouted /
not grouted

Structural Integrity



Tunnel Inspection



Shotcrete Walls



**Inspection on
uneven
surfaces**

Thick Structures



Uncovering Mysteries



Facade Integrity



Closely-spaced Rebars



Single Side



Overview

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Homepage

Recent Files

Lists your recently taken and modified measurements

Your applications

Access all your collected data at the click of one button

Your Probes

You see all probes you have used with your Eagle ID

Export

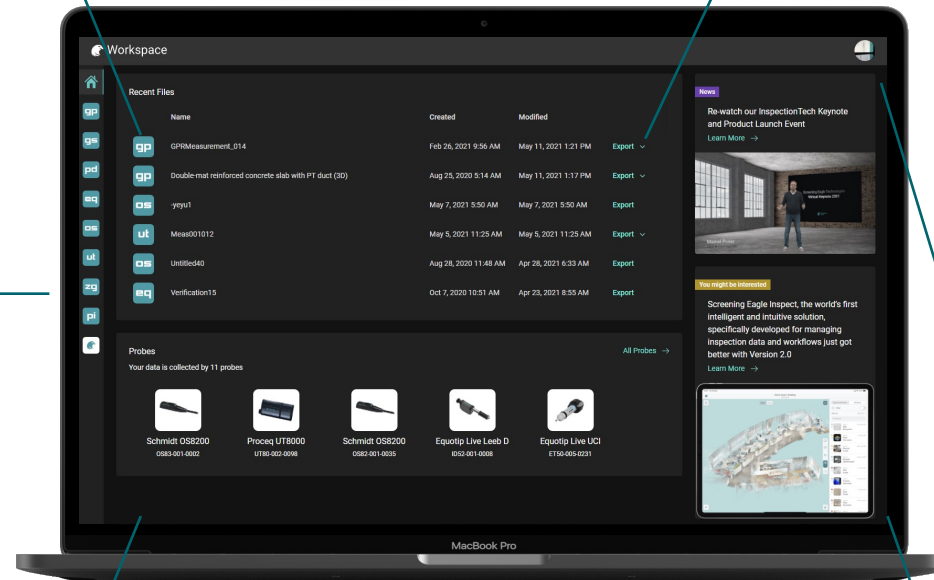
Directly export your recent files

You account details

Change your user data, see your subscriptions and more details on your probes

“You might be interested in”

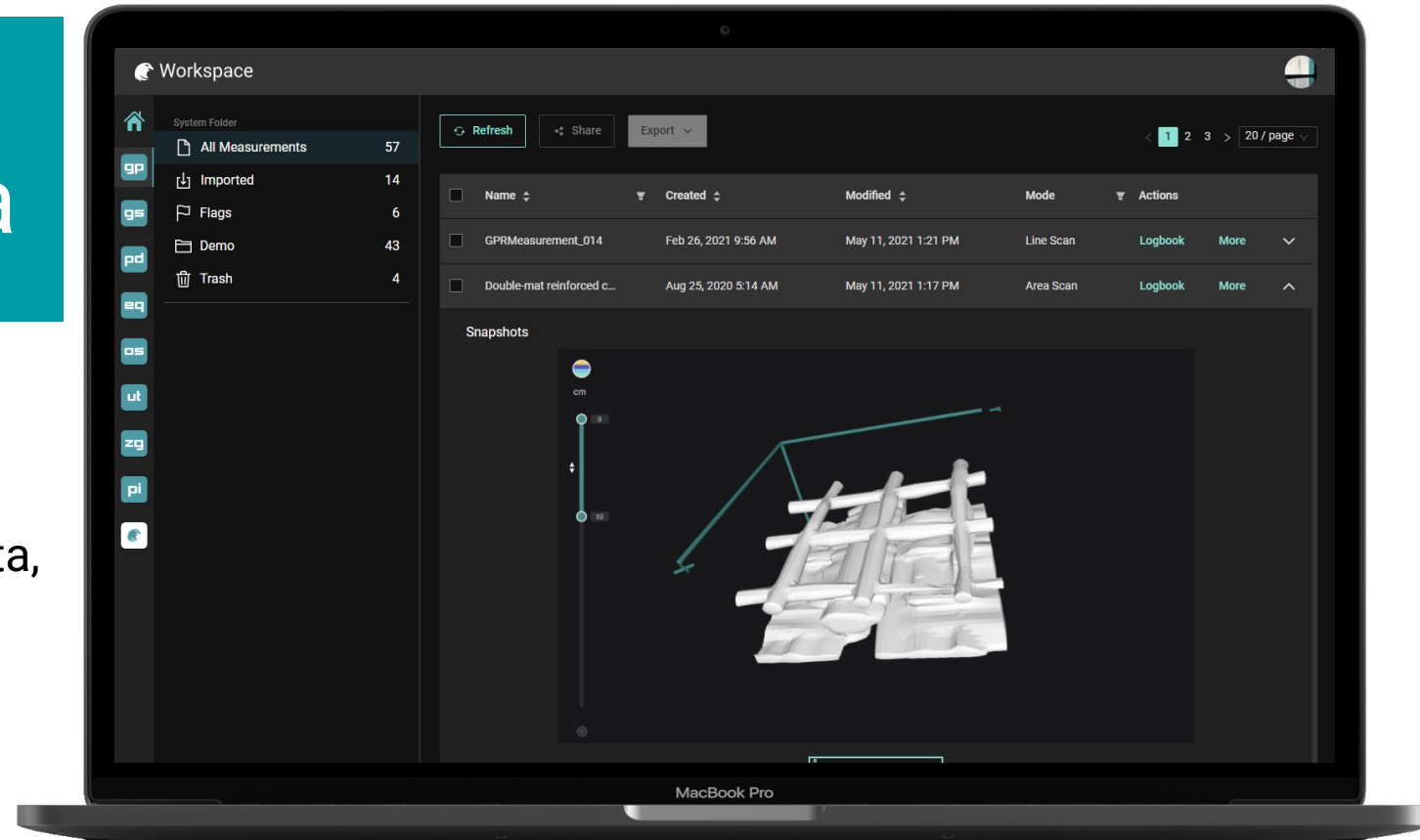
Changing marketing content to drive up- and cross-selling



Manage your Data

Access all your Measurement Data

- Access all data with a few clicks, no cables necessary
- Browse through your measurement data, statistics and image snapshots
- Export and download in the format of your choice

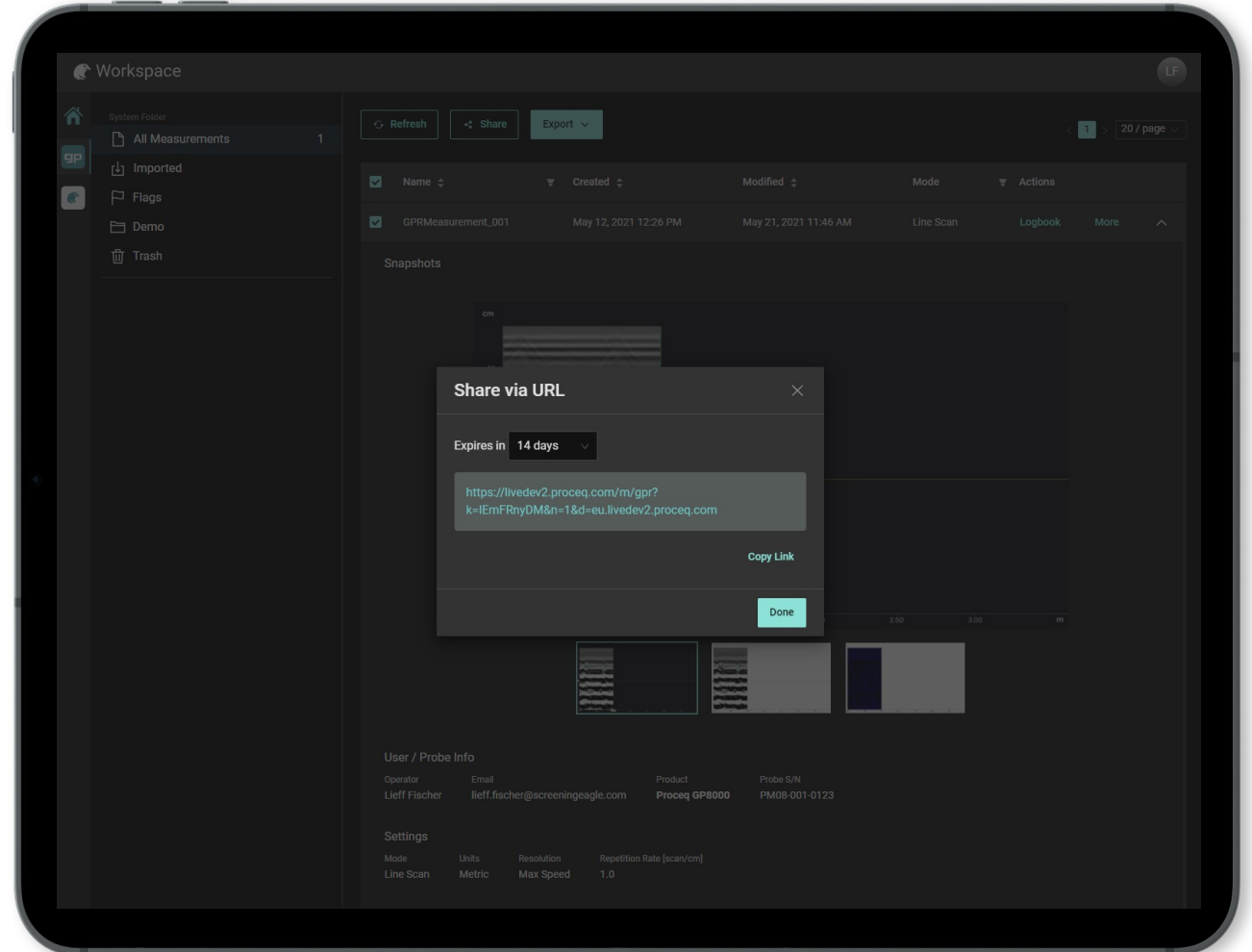


Collaborate

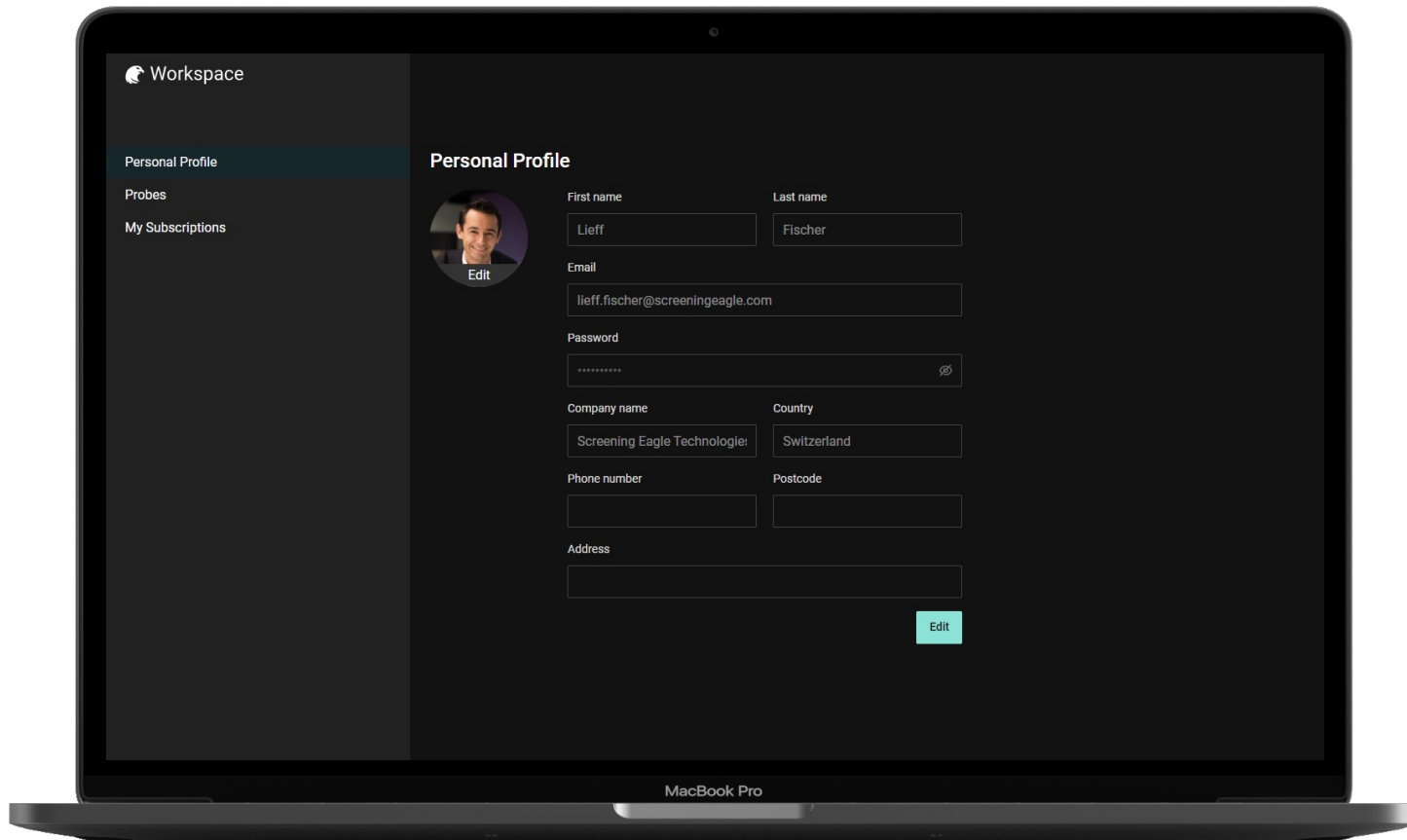
Collaborate

- It's never been easier to discuss and share project data, no matter which technology was used on the inspection
- One solution – available globally
- Collaborate and share* your data within your team and with customers

*Full sharing functionality implemented by the end of June



Manage your Profile



Manage your Profile

- Manage your user data in one central place
- Reset your password
- View and manage your Screening Eagle Probes and subscriptions*

*Currently only Inspect subscriptions.
Probe subscriptions to be added later

Overview

1. Introduction
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Offer Package

pd

Hardware Purchase

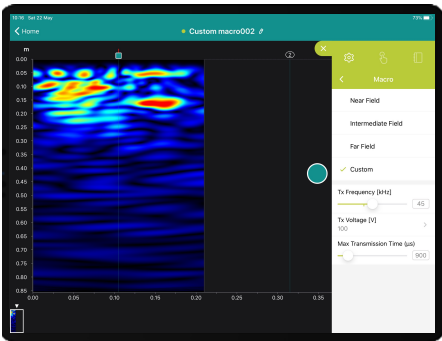
Software Subscription

Workspace

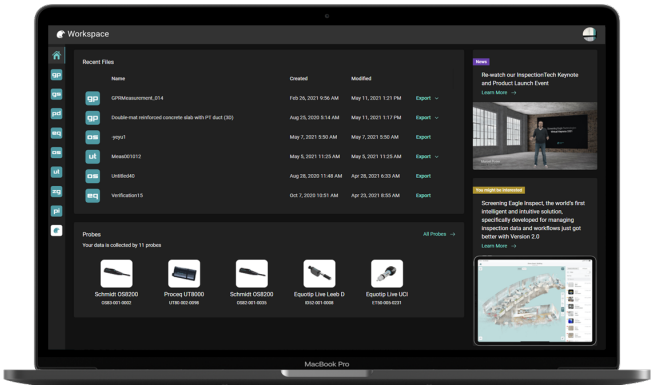
Free of charge



SAP# 32540400



SAP# 32798202

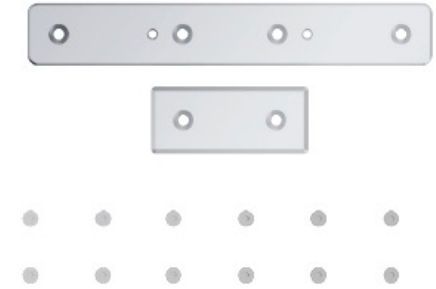


Product Overview

Pundit PD8050 accessories



Dual handle kit



16 channel connection kit PD8050

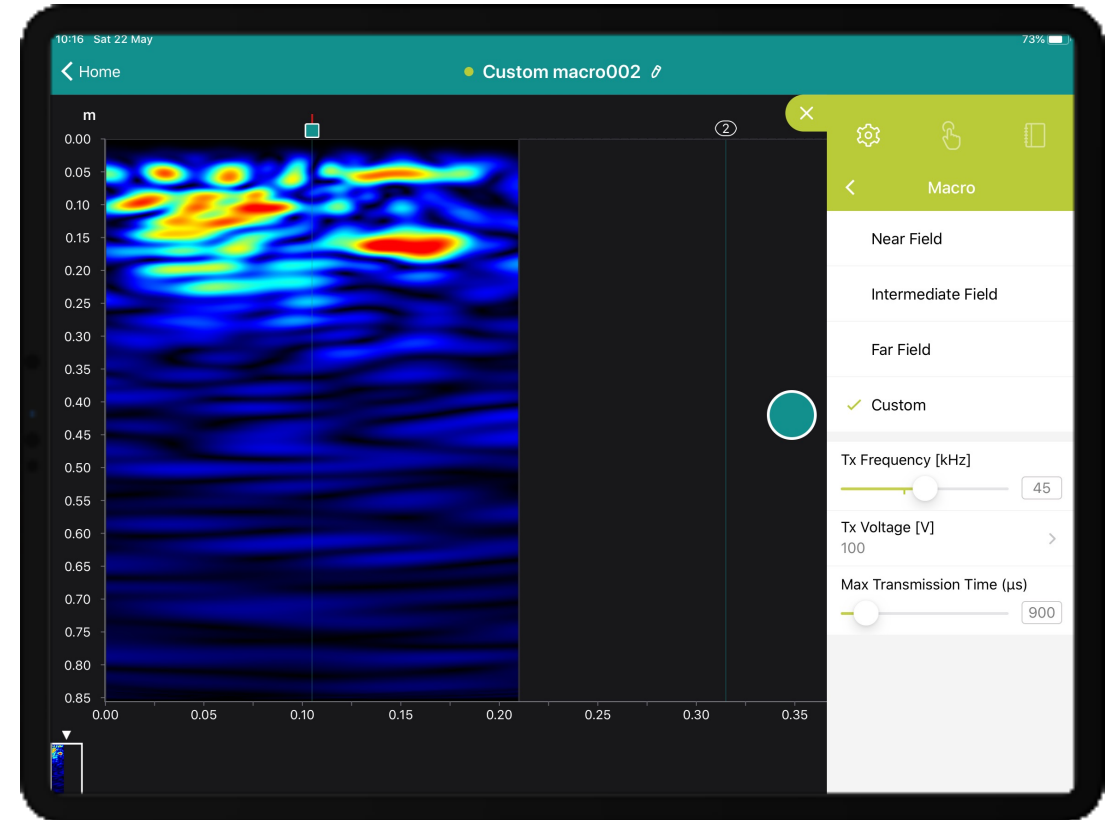
Evolving Platform

App Version 5



New features:

- Support for PD8050 sensor
- Grid scan measurement mode
- Custom macro setting
- New SAFT algorithm
- Raw data offset



Example – Grid Scan

You will be able to:

- **Map depth uniformity**
- **Map pulse velocity uniformity**
- **Project heat map onto surface with AR**



PROTECT
THE BUILT
WORLD



www.humboldtmfg.com
1.800.544.7220