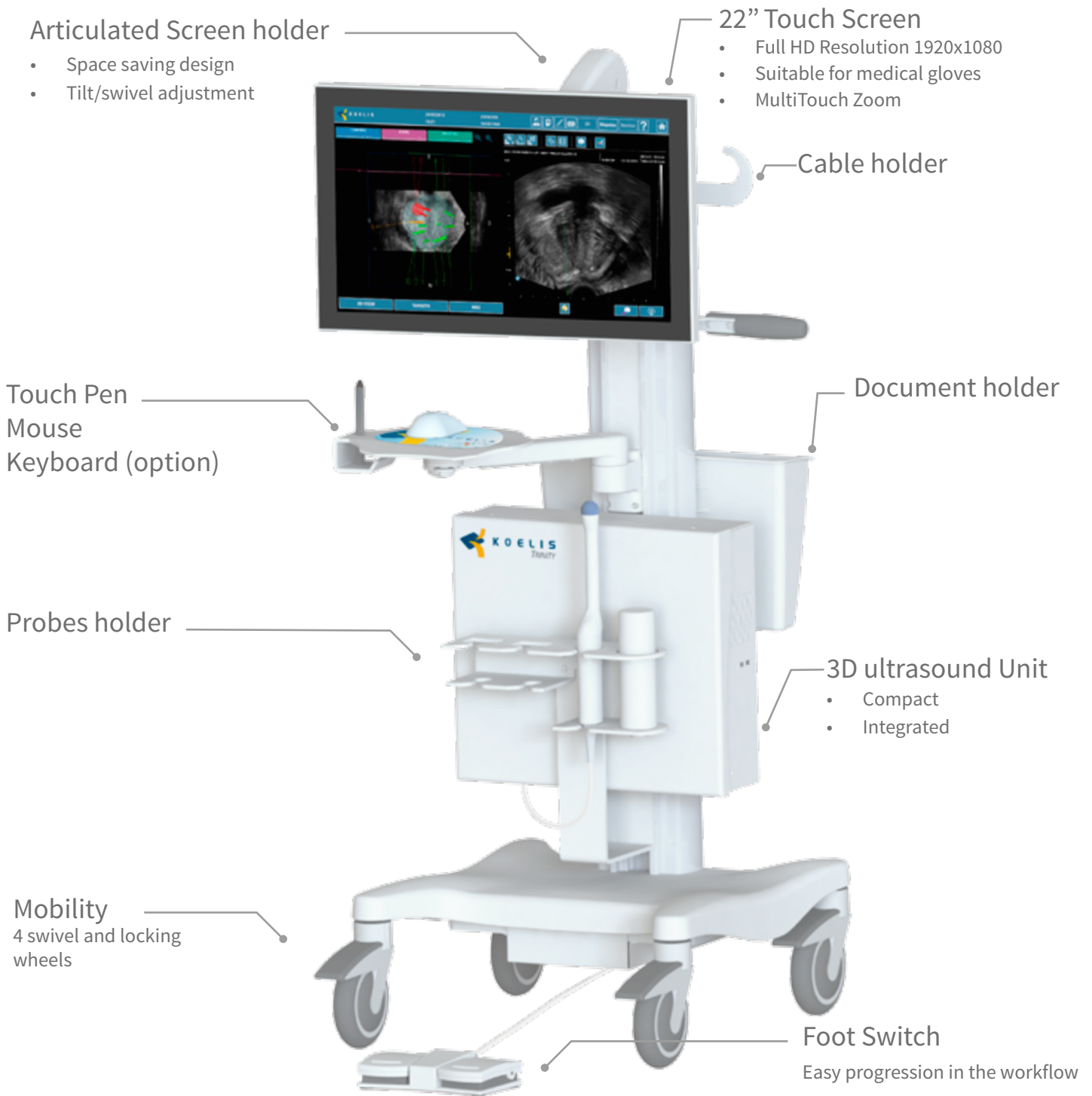




**TRINITY**<sup>®</sup>

3D TRUS & MRI GUIDED PROSTATE BIOPSY

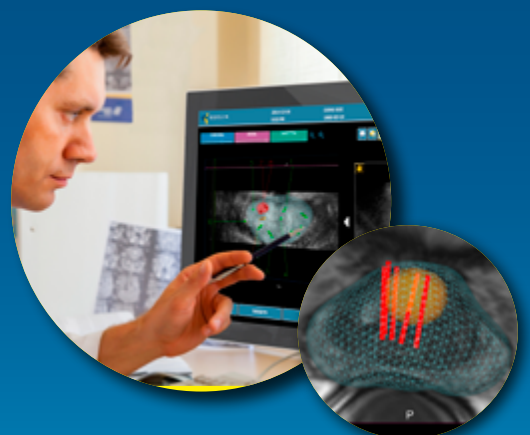


## KOELIS INTRODUCES TRINITY®

*Exclusive! 3D ultrasound, US/MR image elastic fusion and Organ-Based Tracking® are combined into a single, easy to use platform that enables physicians to control prostate biopsy precision and quality in order to bring personalized answers to every patient.*

At the convergence of urology and radiology, TRINITY® is a premium performance **mobile ultrasound imaging system** used to **assist every prostate biopsy procedure** with 3D imaging, prostate mapping, and intraoperative image fusion capabilities within the usual clinical routine. Its optimal ergonomics with respect to workflow and tactile interface make it the ideal assistant to urologists for the development of an innovative clinical program for prostate cancer management.

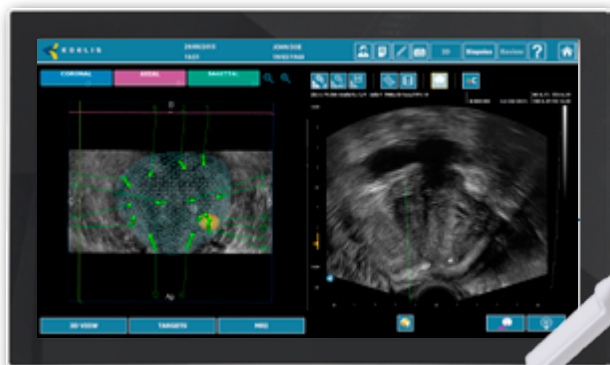
**3D Prostate Suite** includes Promap-US and, optionally, Promap-MR, and Promap-2L.





TRINITY® system offers capabilities to meet your most advanced imaging and interventional needs in urology.

TRINITY® system uses an advanced digital beamforming technology and allows the use of B-mode, color Doppler mode and fast 3D acquisition. Optimized to be used in most urological applications, its ergonomic/user-friendly design enables easy progression through the workflow.



### 3D TRANSRECTAL US

The K3DEC00 is a 3D endocavity probe designed to be used for prostate exploration and biopsy. The 3D-TRUS probe acquires high-quality volumes of the prostate in just a few seconds.

- Application: **Prostate**
- Frequency: **4- 9 MHz**
- Field of view: **146°**
- Steering angle: **90°**
- Radius of curvature: **10mm**
- Imaging modes: **B-mode, Color Doppler**



### 2D ABDOMINAL US

The K2DAB00 convex probe offers optimal skin contact and a good balance between penetration and resolution. Its 60mm radius footprint and 60° field of view is suitable for all abdominal applications.

- Application: **Kidney, Bladder**
- Frequency: **2- 5 MHz**
- Field of view : **60°**
- Radius of curvature: **60mm**
- Imaging modes: **B-mode, Color Doppler**



### 2D SMALL PARTS US

The K2DLN00 linear high-density probe is specific for examinations of surface organs.

- Application: **Scrotum, Testicle**
- Frequency: **7,5- 15 MHz**
- Field of view : **40mm**
- Imaging modes: **B-mode, Color Doppler**

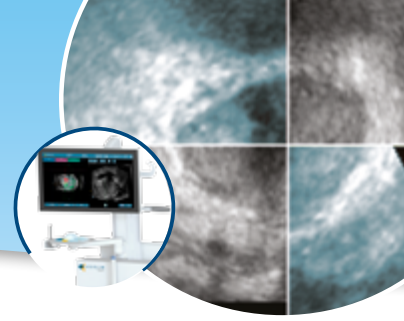


### »» US FEATURES

- Full 3D endo imaging
- B-mode imaging
- Color Flow Doppler
- Digital user presets
- Distance measurement
- Volume measurement
- Movie sequence «Cine-loop»
- Biopsy tract display

# PROMAP-US

## 3D MAPPING OF PROSTATE BIOPSY



KOELIS introduces PROMAP-US, a software application aiming to assist the physician's practice during prostate biopsy examination.

PROMAP-US combines full-3D Transrectal Ultrasound and automatic ORGAN-BASED TRACKING® to create and visualize in real time the 3D mapping of biopsy samples. Sample locations are stored for further patient management.



### DATA MANAGEMENT

Every patient file contains clinical information and images improving traceability for clinicians and hospitals.



### PANORAMA ACQUISITION

Full 3D end-fire endocavity probe allows the fast acquisition of the patient's entire prostate as a reference volume.



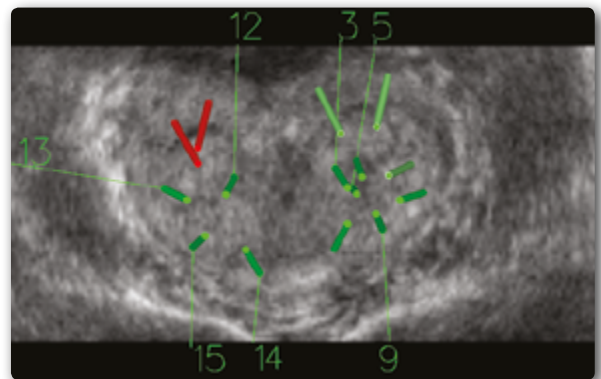
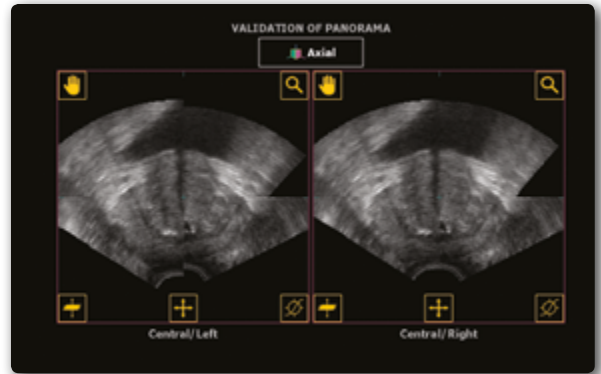
### 3D BIOPSY MAPPING

The biopsy cores appear one by one in the 3D panorama for precise visualization of sample location.



### STORAGE & REVIEW

Clinical data, images, and 3D biopsy locations are stored for future review and histologic results entry.



- Negative samples
- Positive samples

## » Organ-Based Tracking

Locating every biopsy sample with respect to a single 3D image of the prostate is made possible thanks to a unique registration technology called Organ Based Tracking. Automatic 3D transrectal ultrasound registration makes system manipulation and surgical procedure easy. The process is free-hand and compensates for intraoperative prostate or patient motion, and brings therefore precision and confidence.

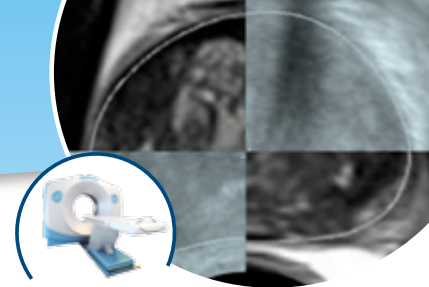


## » Benefits

- 3D biopsy mapping
- Improved prostate sampling
- Patient data traceability
- Quality insurance
- Enhanced diagnostic
- Help for treatment choice
- Easy clinical integration

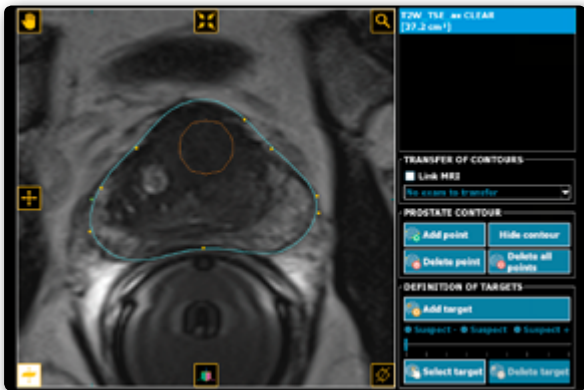
# PROMAP-MR

ELASTIC 3D TRUS AND MRI FUSION...  
FOR TARGETED PROSTATE BIOPSY



KOELIS introduces PROMAP-MR, a software application aiming to assist the physician's practice during prostate biopsy examination.

PROMAP-MR combines full-3D Transrectal Ultrasound and multiparametric MRI for biopsy samples in order to accurately reach lesions within the prostate. An improved workflow that allows the user to implement new biopsy strategies.



## US/MR CONTOUR

An elastic Fusion process based on an original morphological contouring method provides optimal precision.



## TARGET DEFINITION

Based on a precise reading of the MRI, target lesions may be easily positioned in 3d before fusion and biopsy.



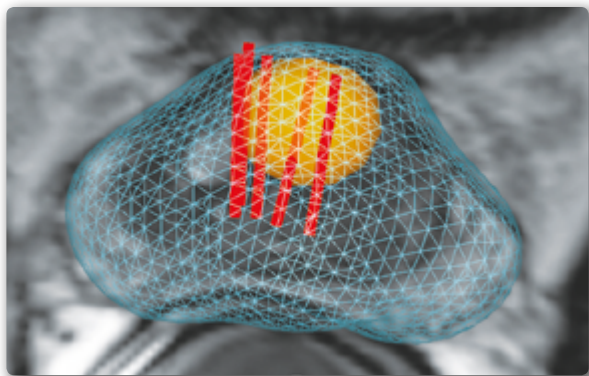
## US/MR FUSION



The elastic fusion of MRI to 3D TRUS combined with automatic Organ Based Tracking ensures a precise display of MR lesions in the prostate throughout the procedure.



## 3D MULTIMODAL DISPLAY

3D targets displayed on a multimodal, volume-rendered organ representation brings a new biopsy experience and opens new horizons.



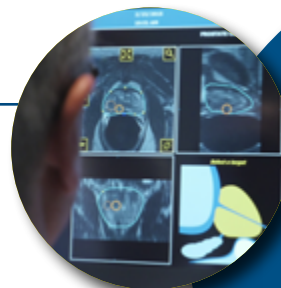
-  The suspicious area from MRI
-  Targeted positive samples

## » Elastic fusion Technology

3D display of prostate biopsies within Magnetic Resonance and Ultrasound Imaging is made possible thanks to elastic fusion technology.

Prostate 3D shape is easily obtained by a semi-automatic morphological contouring process on TRUS and MRI.

The prostate is smoothly deformed so that MRI contours match TRUS contours. Elastic fusion gives optimal precision and confidence.

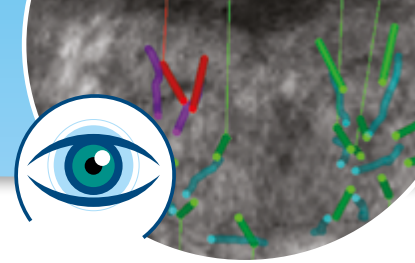


## » Benefits

- 3D biopsy mapping
- 3D multimodal display
- Targeted samples
- Help for treatment planning
- Patient data traceability
- Enhanced diagnosis
- Quality assurance

# PROMAP-2L

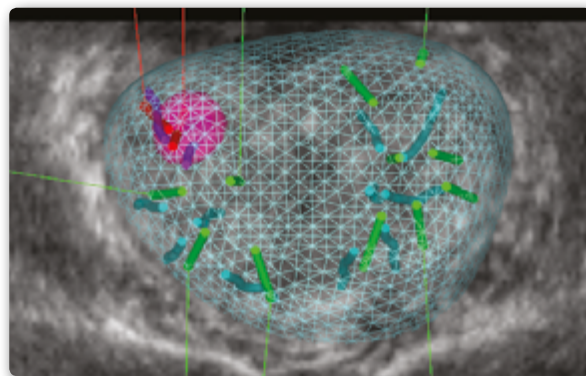
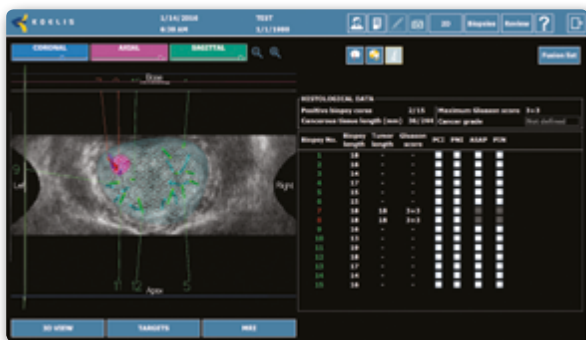
## INTER-SESSION ELASTIC FUSION FOR 2ND LOOK BIOPSY



KOELIS introduces PROMAP-2L, a software application that assists the physician's practice during second-look prostate biopsy examination.

PROMAP-2L combines 3D transrectal ultrasound and automatic ORGAN-BASED TRACKING® to perform and visualize secondary prostate biopsy sampling with respect to a previous 3D biopsy map.

Fusion for 2nd look prostate biopsy is used to repeatably target and document biopsy sessions for enhanced diagnosis and active surveillance follow-up.



- On going exam biopsy
- First exam biopsy
- On going positive cores
- First exam positive cores



### PREVIOUS SESSION MAPPING

Previous 3D prostate biopsy mapping is reviewed during the new examination session.



### INTERSESSION FUSION

KOELIS exclusive elastic fusion process based on full 3D TRUS reconnects previous session and current exam.



### 2ND LOOK MAPPING

Secondary prostate biopsy is performed with respect to the previous 3D biopsy mapping.  
**Revisiting biopsy:** targeting previously positioned areas.  
**Field biopsy:** targeting previously unsampled areas.



### STORAGE & REVIEW

Fusion for 2nd Look prostate biopsy is used to document biopsy for enhanced diagnosis and active surveillance follow-up.

## » Benefits

- 3D biopsy mapping
- Targeted 2nd look biopsies
- Improved prostate sampling
- Patient data traceability
- Quality assurance
- Enhanced Diagnosis
- Help for active surveillance

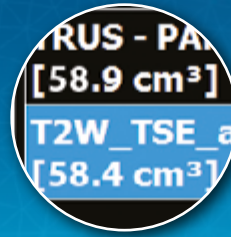


## » Export 3D mapping



The export of KOELIS 3D mapping on the network our USB device is now possible in 3D PROSTATE SUITE. With a single click, biopsy samples, MRI lesions and 3D ultrasound panorama of the prostate are transferred.

## » Prostate Volume measurement

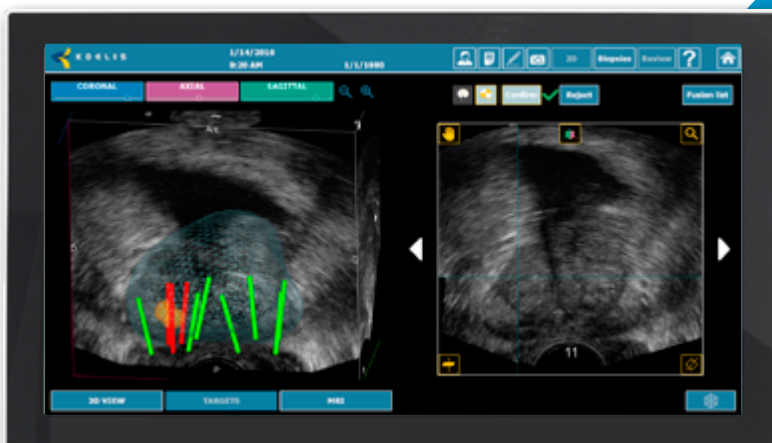


Elastic Prostate contours bring an accurate measurement of prostate volume. Its fast delineation process makes it the ideal companion for daily clinical practice.

## Report printing and archiving



## Multi-plane 3D display



## » Interface features

- 3D and multiplane display
- Computer Assisted Surgical Protocol
- Virtual Biopsy Simulation
- Volume rendering
- Prostate volume measurement
- Target definition
- Histology reporting
- Cancerous sample display
- Screenshots and annotations
- Report printing and archiving
- Multi Session display
- Export 3D Mapping



## KOELIS

16 chemin du Vieux Chêne  
38240 Meylan (Grenoble) - France

## KOELIS Inc. USA

185 Alewife Brook Parkway Suite 410  
Cambridge MA 02138 - USA

 [info@koelis.com](mailto:info@koelis.com)

 KoelisBx

 [www.koelis.com](http://www.koelis.com)

REF	Product
KURO-3000	TRINITY®
K3DEC00	3D endocavity probe
GPK490	Reusable needle guide for K3DECOO
K2DLN00	Linear Probe
K2DAB00	Convex probe

©2015 KOELIS All Rights Reserved. TRINITY® is a medical device CE (class IIa)

TRINITY® is indicated to generate, visualize and record, 2D and 3D ultrasound images, including particular features in multimodal image fusion and 3D prostate mapping.

KOELIS Reserves the right to modify the design, packaging, specifications and features shown herein, without prior notice or obligation.

Manufacturer: Koelis SAS, France - Please read user manual carefully

Caution : Federal (USA) Law restricts this device to sale by or on the order of a physician.