

Wireless Augmented Reality Point Of Care Ultrasound

Part of project „**ARNI**“ (Augmented Reality Needle Intervention)
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Bundesministerium
für Bildung
und Forschung

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Partners



- Startup
- Augmented Reality
- Ultrasound visualization



- Research
- Ultrasound image processing, AI



- Clinical partner
- Ultrasound users

Project objective

ARNI combines

- real-time ultrasound with
- Augmented Reality (AR) and
- image processing (AI)

to assist physicians placing central venous catheters (CVCs).

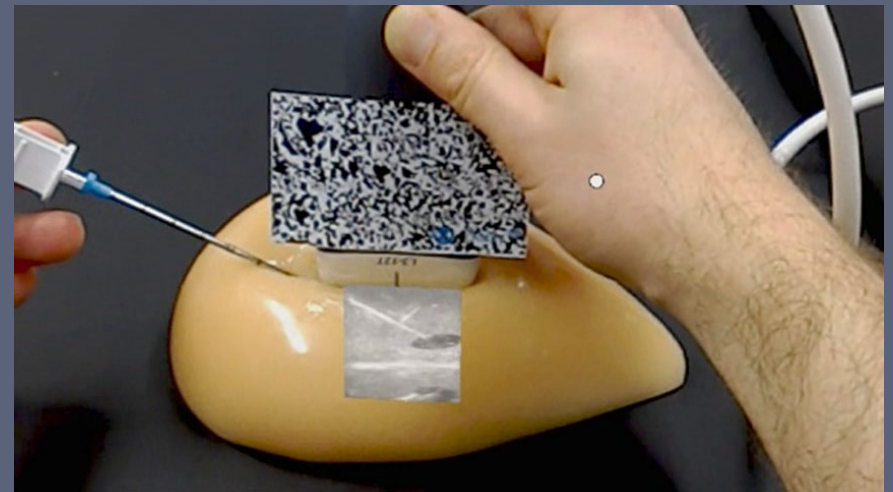
Problem



Ultrasound gives only an **indirect** view into the human body.

Objective

Direct view into the body using AR ultrasound.



Example

[Ultrasound-guided Augmented Reality Needle Intervention with Hololens 1 - YouTube](#)

Wireless

- Q7 Wireless ultrasound scanner (Youkey Medical; probe L11-4Ks)
- HoloLens 2
- ARNI transmission box (SomaView)



Data flow



Q7 Wireless
ultrasound
scanner
(Youkey Medical)



ARNI transmission
box (SonoIQ,
ARNI-server)



Hololens 2
(ARNI-client)

Results

- Delay < 0.2 seconds, rated “fast enough”
- Image quality from “good” to “acceptable”
- Images beneath transducer too small for some application

Conclusion / Outlook

- Wireless ultrasound scanner
plus AR-glasses
plus AR-software
can be used as a highly portable POCUS-solution
- Further studies should explore
 - ergonomic and
 - accuracyaspects in different settings/environments.

Contact

Questions?

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