• Headquarters in Nijmegen,
• Dept. in Utrecht
• NovioMEMS is part of Novioscan

11-4-2017  Peter van Stiphout  www.Novioscan.com
Novioscan creates wearable ultrasound solutions for personalized health monitoring
First application: Noviomini Bladder Monitor

Noviomini tracks the bladder filling
When the bladder is nearly full, the device vibrates and a warning is send to a smartphone
**PEDiATRIC CARE**

- Paediatric Care
  - Continence training
  - Neurogenic bladder

**ADULT CARE**

- Acute Care
  - Post – operative patients
  - Geriatric patients

- Paraplegia
  - Rehabilitation
  - Neurogenic bladder

- Nursing home
  - Geriatric patients
Working principle

- Based on ultrasound technology
- Multiple beam technology
- Algorithm for interpretation of bladder filling
- Warning via Noviomini and smartphone/mobile device
Pediatric measurements

Bladder measured in four separate angles:

- Angle: -5°
- Angle: 5°
- Angle: 15°
- Angle: 25°

Bladder filling measured over time (5 year old girl):
Adult measurements

Bladder measured in four separate angles:

Bladder filling measured over time (26 year old male):
Ultrasound-on-a-chip

Benefits

Ultrasound

Fast workflow
Real-time information
Non-invasive

on a Chip

Small
Versatile
Affordable

MULTIPLE POTENTIAL APPLICATIONS

Novionano
MEMS required: CMUT or PMUT arrays

- The frequency of a MEMS membrane is determined by its size
- For more power and less divergence, arrays of MEMS are needed

CMUT or PMUT cell

Element or array element

CMUT or PMUT array
Beam steering needed

Electronic beam steering is done activating the separate elements with different delays.
Advanced packaging is required

- US-MEMS
- ASIC
- wireless communication
- energy supply