

The background of the slide is a detailed illustration of a blood vessel. A large section of the vessel is cut open, revealing the interior where numerous red blood cells are visible. A bright, glowing yellow light source is positioned within the vessel, casting a warm glow across the scene. The vessel's wall has a textured, bumpy appearance.

oBPM®

## Optical Blood Pressure Monitoring

:: csem



[info@csem.ch](mailto:info@csem.ch)

[www.csem.ch](http://www.csem.ch)

## TECHNOLOGY PORTFOLIO FOR MEDICAL APPLICATIONS

### Technology

From a single photoplethysmographic (PPG) signal, CSEM's oBPM® technology estimates beat-to-beat absolute changes in systolic, mean, and diastolic arterial pressure (AP), without any calibration. Absolute AP values are obtained after an initial 1-point calibration. CSEM's oBPM® technology estimates AP via a proprietary pulse wave analysis algorithm.

### Validation

From a single photoplethysmographic (PPG) signal, CSEM's oBPM® technology estimates beat-to-beat absolute changes in systolic, mean, and diastolic arterial pressure (AP), without any calibration. Absolute AP values are obtained after an initial 1-point calibration. CSEM's oBPM® technology estimates AP via a proprietary pulse wave analysis algorithm.

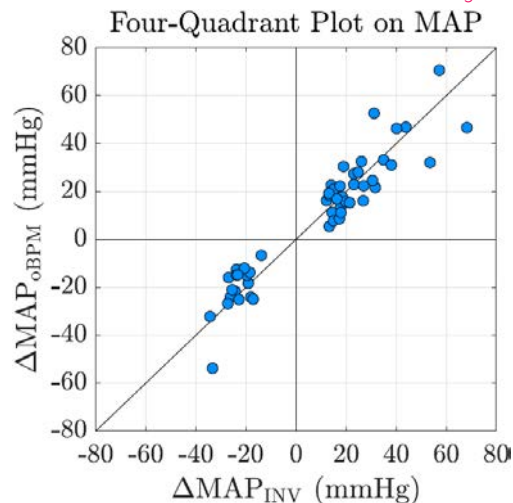
### Sensing form factors

Fingertip PPG (in transmission or reflectance mode, including using a smartphone camera), or reflectance PPG on the wrist (smartwatch/bracelet), the upper arm or upper thorax (e.g. chest, or shoulder).

### Applications

Short-term (seconds, minutes) monitoring in highly variable hemodynamic conditions (e.g. OR settings), mid-term (hours, days) monitoring (e.g. ICU settings), and long-term (weeks, months) monitoring (e.g. home monitoring).

NCT02651558 on [www.clinicaltrials.gov](http://www.clinicaltrials.gov)



Comparison between invasively-assessed changes in mean AP ( $\Delta\text{MAP}_{\text{INV}}$ ) and PPG-derived changes assessed by the oBPM® technology ( $\Delta\text{MAP}_{\text{oBPM}}$ ).

[www.csem.ch/Medtech](http://www.csem.ch/Medtech)

