A 3D cutaway illustration of a blood vessel. The vessel is shown in a cross-section, revealing the interior filled with red blood cells. A bright yellow light beam enters from the left, passing through the vessel. The vessel wall is textured and colored in shades of purple and blue. The background is a soft, blurred gradient of pink and blue.

oBPM®

Optical Blood Pressure Monitoring

:: csem



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# 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.

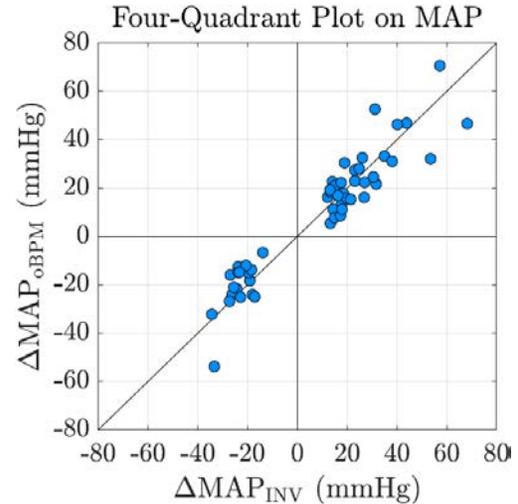
## Sensing form factors

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 ( $\Delta\text{MAP}_{\text{oBPM}}$ ).

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