**Aventusoft LLC**

HEMOTAG

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**SINCE ITS FOUNDING IN 2009**

**13 SBIR Awards**

**7 Employees**

**10 Patents filed from SBIR**

**13 Clinical Publications**

**6 National Recognitions**





**Solicitation:**

*Acoustic Source Separation and Localization*

**DARPA** **SBIR Sponsor**

**SB092-009** **Topic Number**

**Human Impact** **Primary Innovation**

**Affordability, Usability** **Secondary Innovation**

## Cardiopulmonary Assessment at Point-of-Care

The objective of this topic is to develop sensors and controls that are able to separate and locate intermixed sounds in an auditory scene to advance audio-visual aids for hearing-impaired individuals.

As a use case, Aventusoft developed signal processing algorithms to localize, separate and interpret individual objects from the cardiac vibration data. A high fidelity multiple channel transducer system captures vibrations immune to environmental noise. A miniature electronic circuit captures, stores and transmits data over secure encrypted channels for processing on the cloud. These components enabled the development of a lightweight, re-chargeable and re-usable portable medical device which separates and tracks heart valve opening and closing during the cardiac cycle - HEMOTAG.

### IMPACT

Asymptomatic Heart Disease is a major cause of death and early diagnosis saves lives. The current standard for assessment (Echocardiography) is expensive and requires expert users. HEMOTAG offers the first feasible system usable in primary care, to enable accurate and actionable assessment in minutes. It does not require certified specialists to operate or interpret, enabling medical teams to diagnose conditions instantly, securely & effectively.

### BEYOND PHASE II

HEMOTAG has been patented, trademarked and validated with over 400 patients and multiple clinical studies are on-going. FDA Class II clearance is expected in 2019. Venture funding is being pursued to scale up sales targeting hospitals with goal of progressing to home use.

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