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Implantable Cardiac Blood Flow Monitor

Application

- **Driver:** Improve the health and quality of life of people with Cardio Vascular or Peripheral vascular disease
- **Market size:** This technology would benefit the lives of millions of people;
- **Need:** An automated wireless blood flow measuring system that provides a simple real time hand held monitoring device for the patient

Research Needs

- Scientific/technological problems and barriers:**
- Nano wire sensors, Wireless powering and measurement , and management;
 - Software and system control algorithms;
 - Implantable device on to the vascular system or graft.

Advantages

- **Impact, if successful:** This technology would benefit the lives of millions of people with Cardio Vascular or Peripheral vascular disease
- **Benefits/advantages over current capabilities or technology:** This technology would improve the quality of life preventing patients leading to complicated surgery and associated impacts of pain and cost

Metric(s) of Progress

- **3 Year Goal**
 - Demonstrate the feasibility of an implantable wireless blood flow system.
- **5 Year Goal**
 - Demonstrate the feasibility of an implantable, wireless multi parameter cardiac measuring system with bio compatible packaging
- **10 Year Goal**
 - Successful demonstration of the wireless cardiac monitoring system in Human bodies.

Resource requirements: - **Annual cost :** ~\$700K/year; **People:**3-4 Faculty ; **Time:** Near term goals ~ 3 yrs., Long term goals ~ 10 yrs.; **Facilities:** Interdisciplinary teams with access to nano-electronics & MEMS fabrication and clinical test facilities