Power Measurement for Performance Bicycles

Problem
- Create a more accurate power meter
- Make it affordable

Background

Our solution is the Integrated Intelligent Torque Measurement System.
- Torque measurement using strain gauges to achieve greater accuracy
- Attachment at the crankset to make it more affordable and more applicable to different bike types

Methods and Results

Mechanical
The Mechanical Team designed and built the casing and performed static and dynamic testing.

Electrical
The Electrical Team designed the circuit and wrote the code necessary to transmit and interpret the mechanical data.

Results
- The relative error of our initial calculations is quite adequate considering the test system was not even completely calibrated

Research
The Research Team conducted a preliminary market analysis. They conducted a survey among local bike clubs.

Cost vs. Brand
- The most important factors when buying a power meter

A special thanks to the Pony Shop!