



Aerial Wind Turbine

Advisor: Dimitri Papamoschou



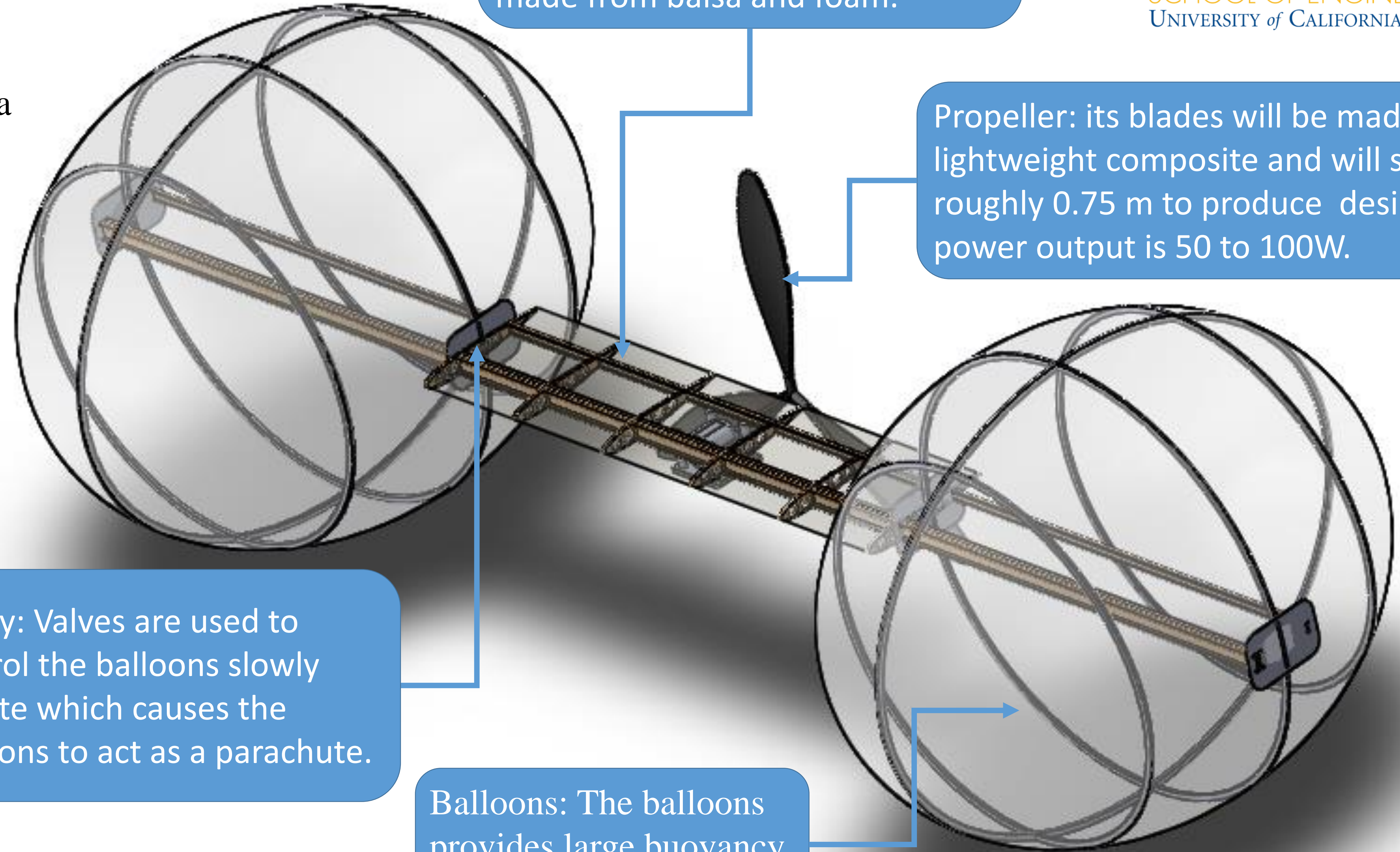
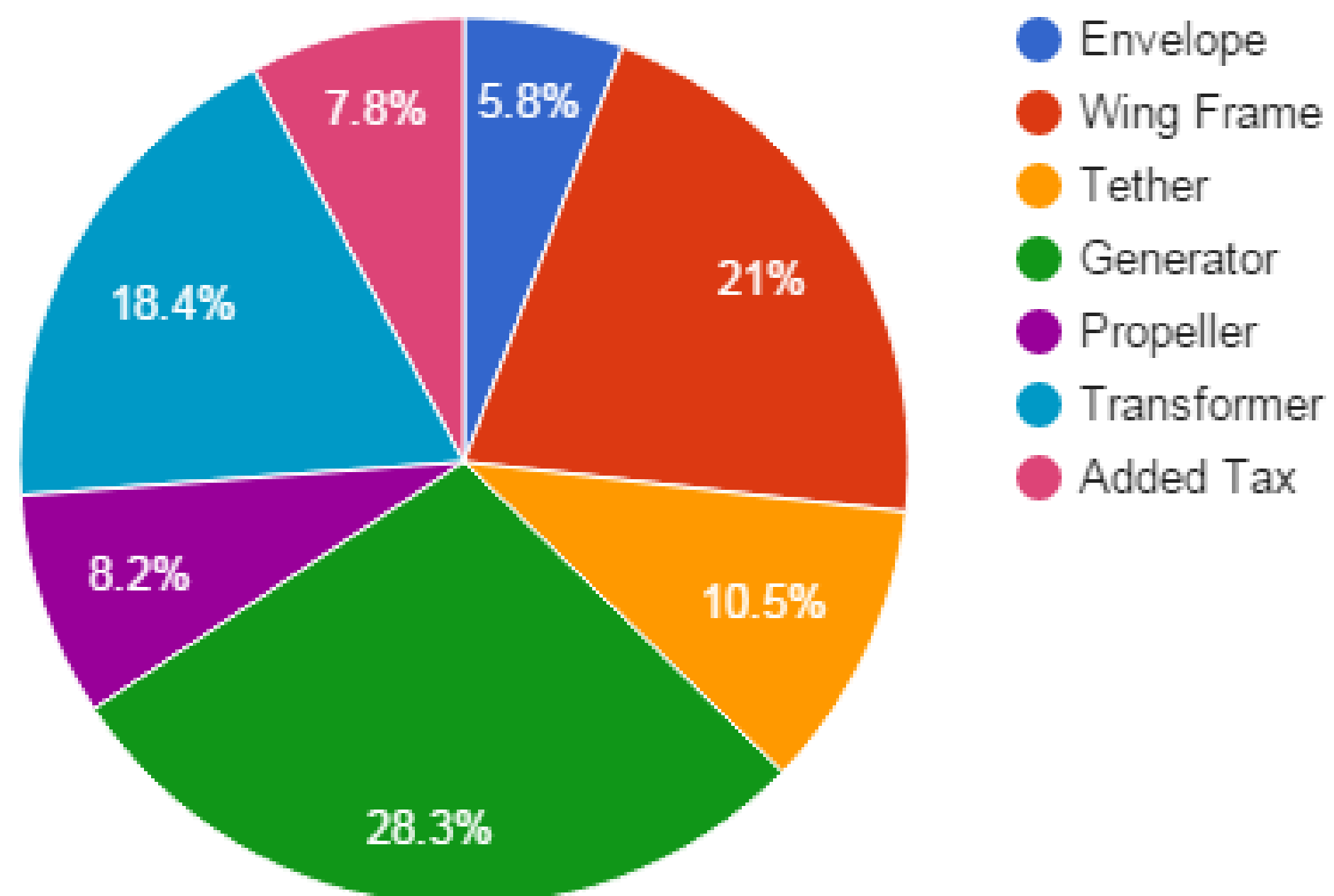
Background:

Renewable energy is a growing sector that serves as a promising alternative to fossil fuels. Several problems still exist regarding the wind turbine, such as the large size, high economic costs, and the noise generated. These issues are needed to be addressed.

Goal and Objectives:

- Develop an aerial wind turbine that could be deployed in a variety of locations
- Light enough to remain airborne
- Structurally safe for commercial use
- Augment the power output within the constraints of weight and financial restraint

2015-2016 COST AND EXPENDITURES TOTAL COST: \$878.4

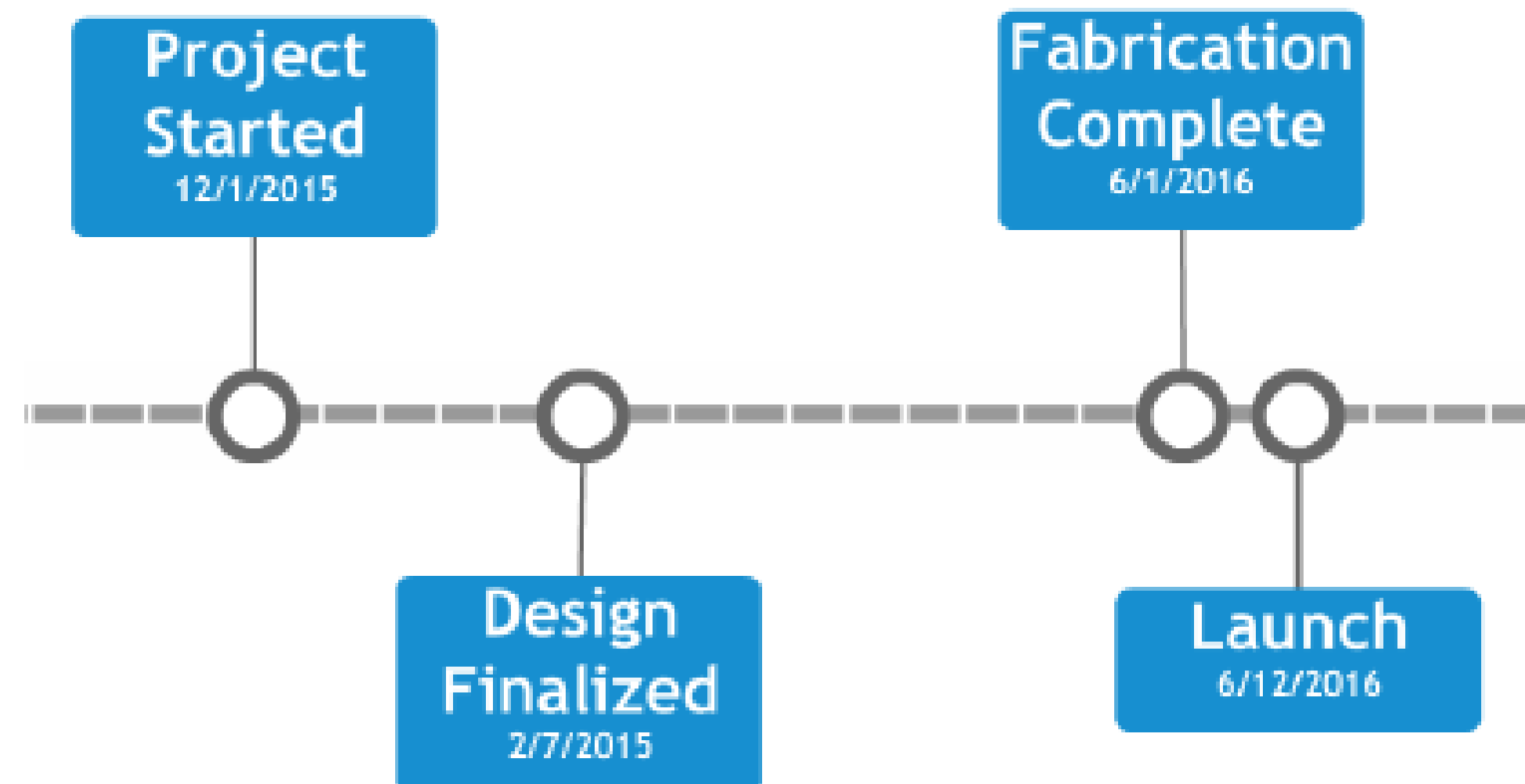


Wing: In order to handle the load, the internal frame is composed of 2 I-beams running through the 2D cross section of the wing, which is made from balsa and foam.

Propeller: its blades will be made of a lightweight composite and will span roughly 0.75 m to produce desired power output is 50 to 100W.

Safety: Valves are used to control the balloons slowly deflate which causes the balloons to act as a parachute.

Balloons: The balloons provides large buoyancy to lift it off the ground.



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