



SAE
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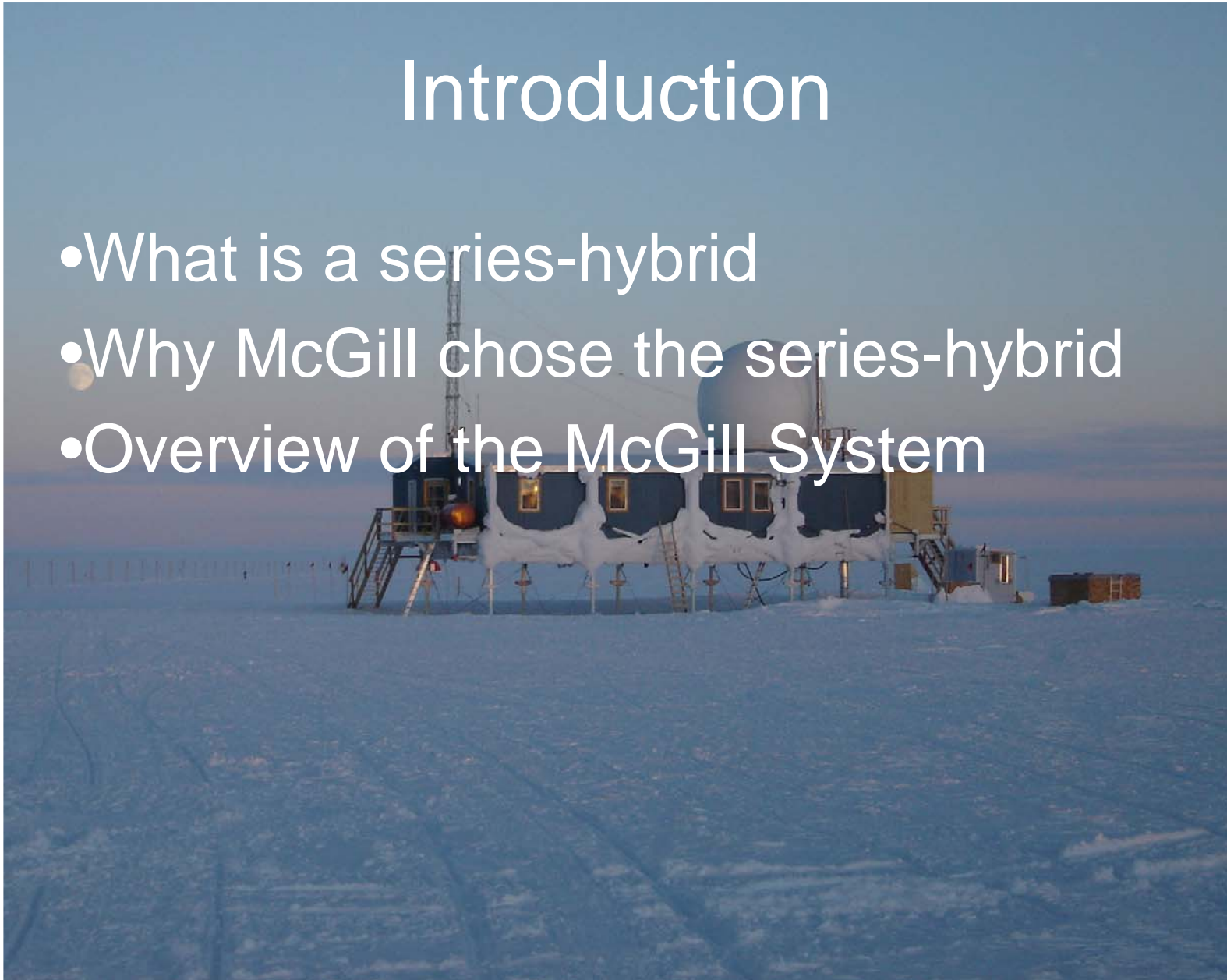
Clean Snowmobile Challenge
2007

Design Presentation

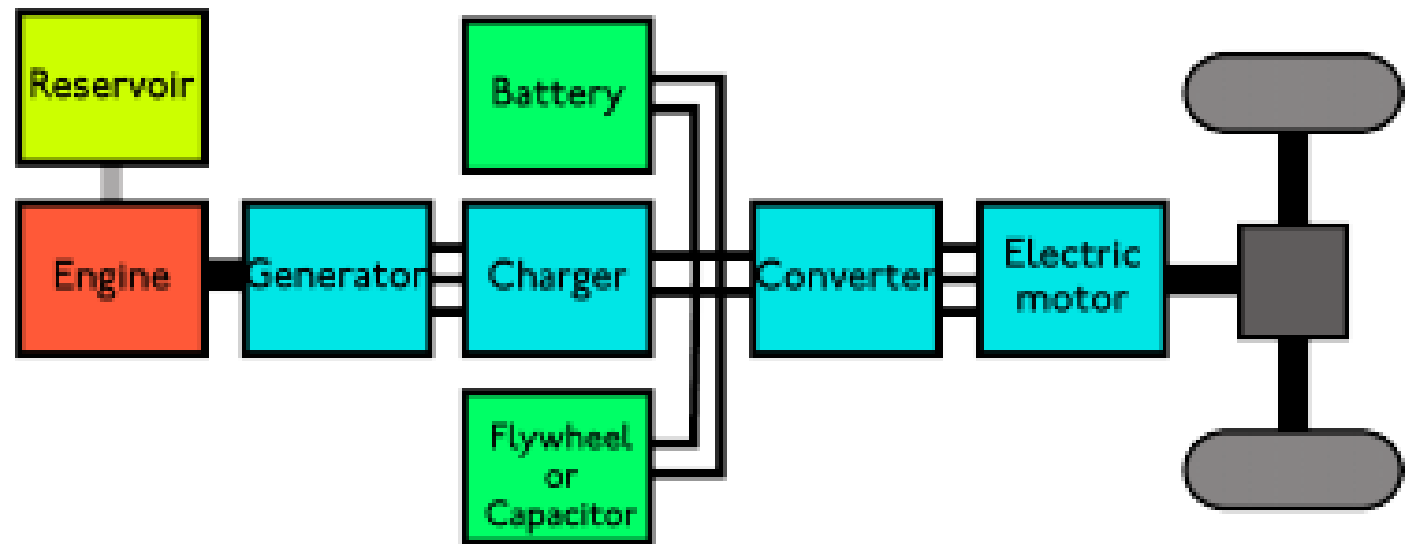
Series-Hybrid Snowmobile
Prototype

Introduction

- What is a series-hybrid
- Why McGill chose the series-hybrid
- Overview of the McGill System



What is a Series Hybrid



Why a series hybrid

- Limited Range of Electric Vehicle

Energy Carrier (EC)	Gasoline	Batteries (Li-Ion)
Vehicle	Ski-Doo Tundra	
Dry Weight	172 kg	
Energy On-Board	297,840 Wh	
EC Volume	34 l	1049 l
EC Weight	24.8 kg	2837 kg
EC/Dry Weight Ratio	0.144	16.5

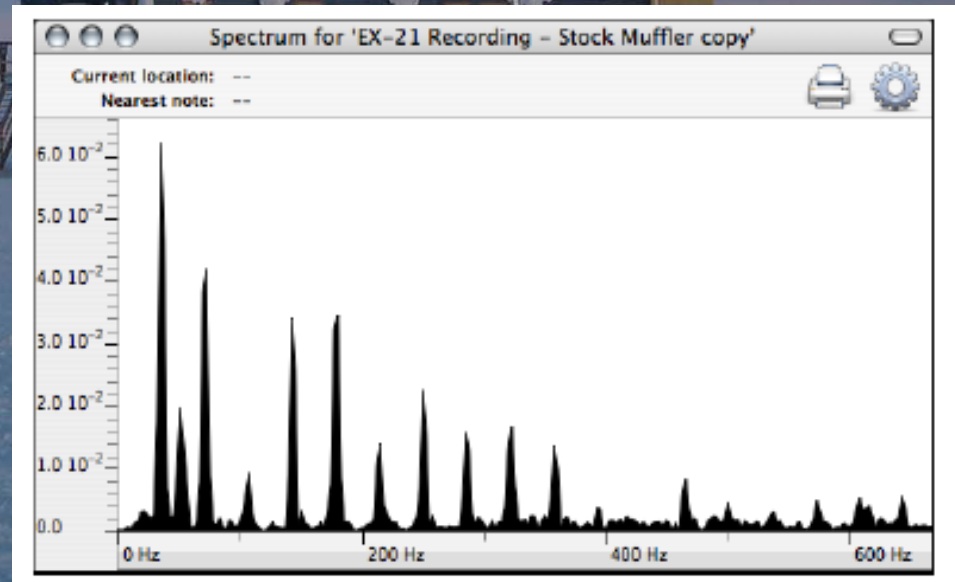
Why a series hybrid

- Energy Efficiency

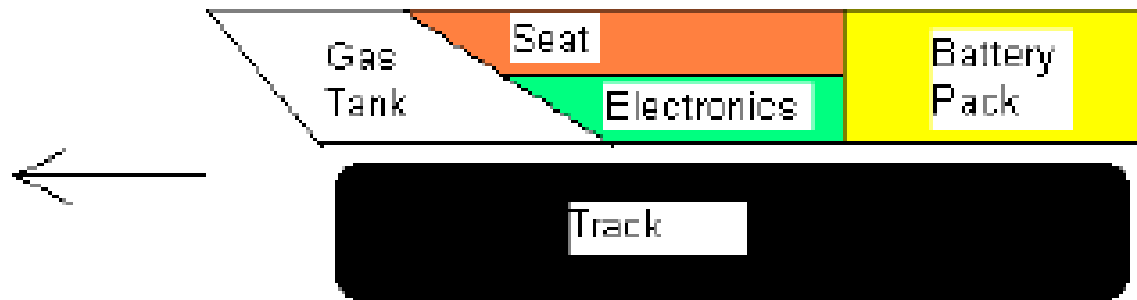
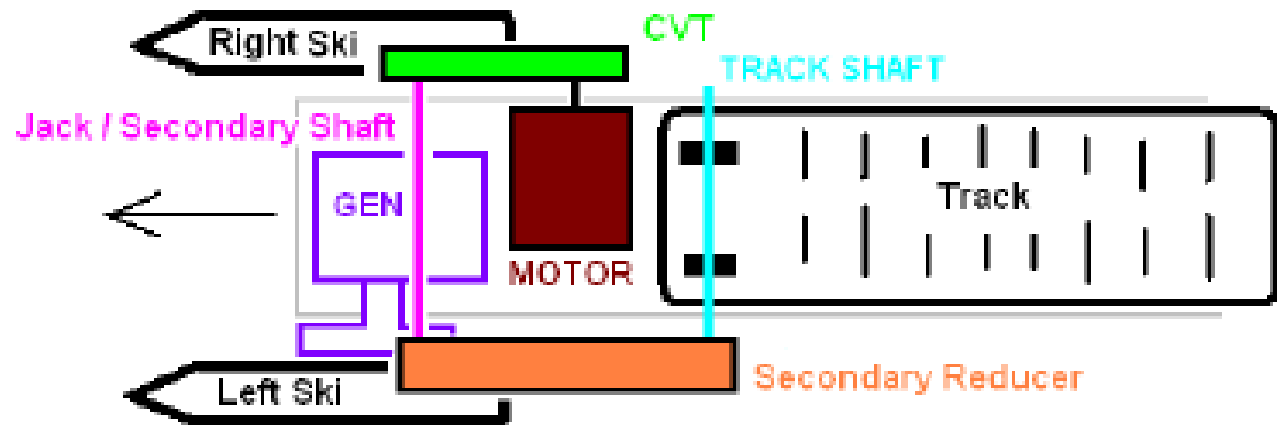
Snowmobile	Efficiency (km/kWh)
BRP Rotax, 4-TEC, V-800	1,26
McGill Electric 2006	4.629

Why a series hybrid

- Energy Intake
- Noise
- Zero Emissions Mode



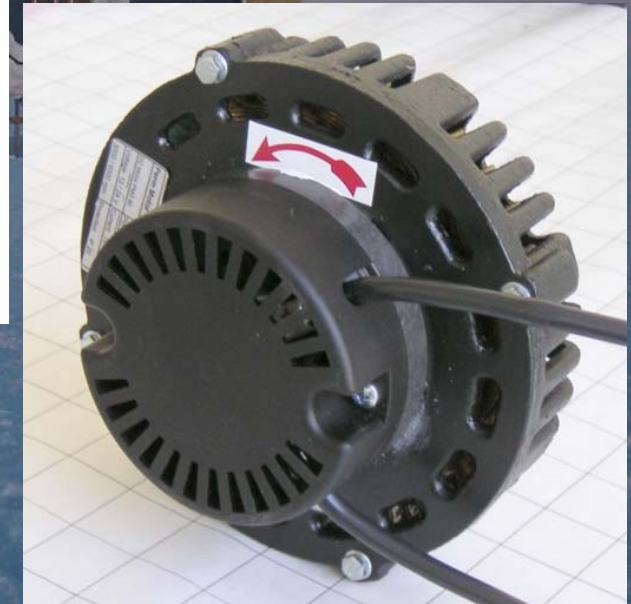
Overview of the McGill System



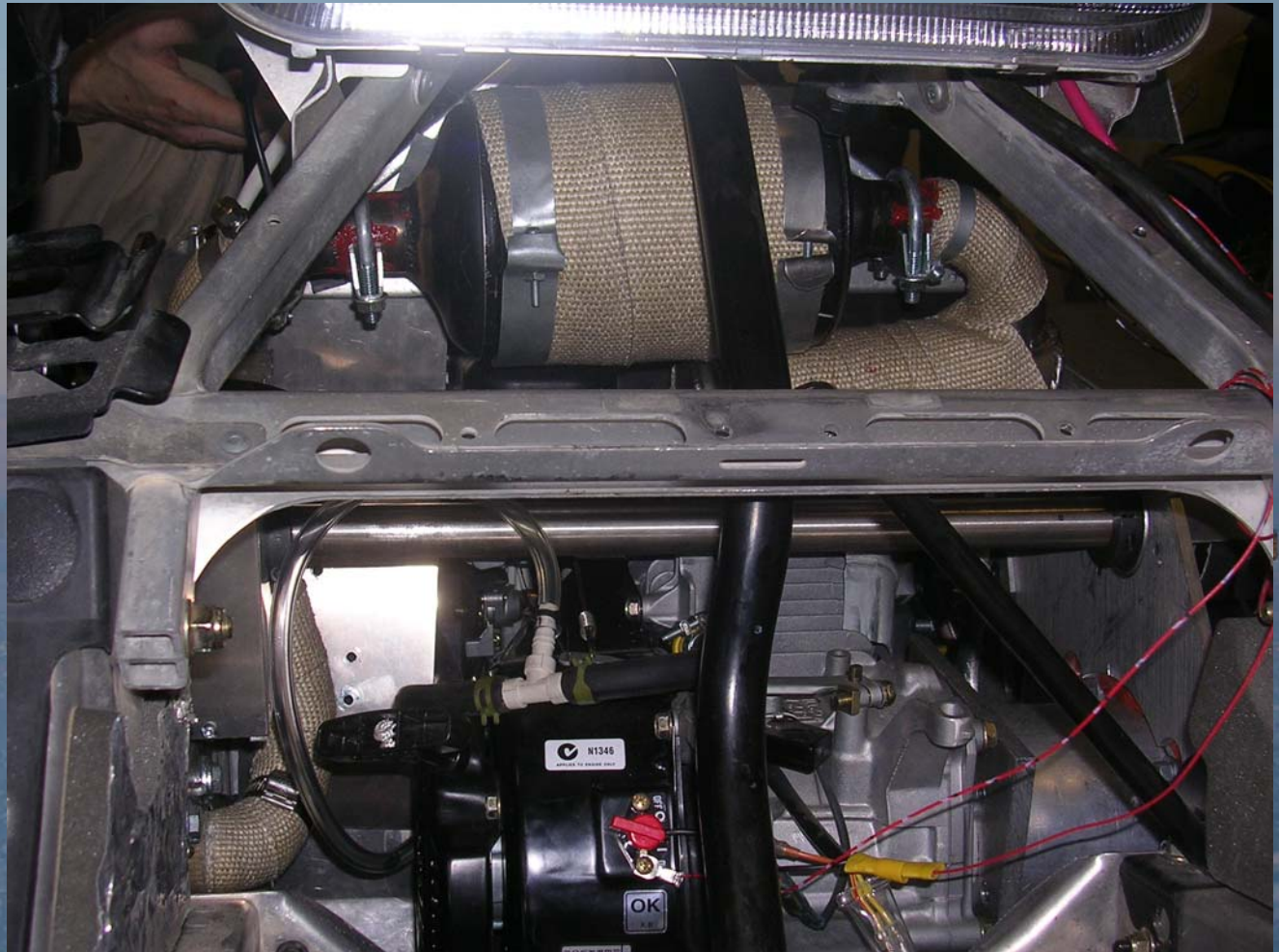
Overview of the McGill System



Overview of the McGill System



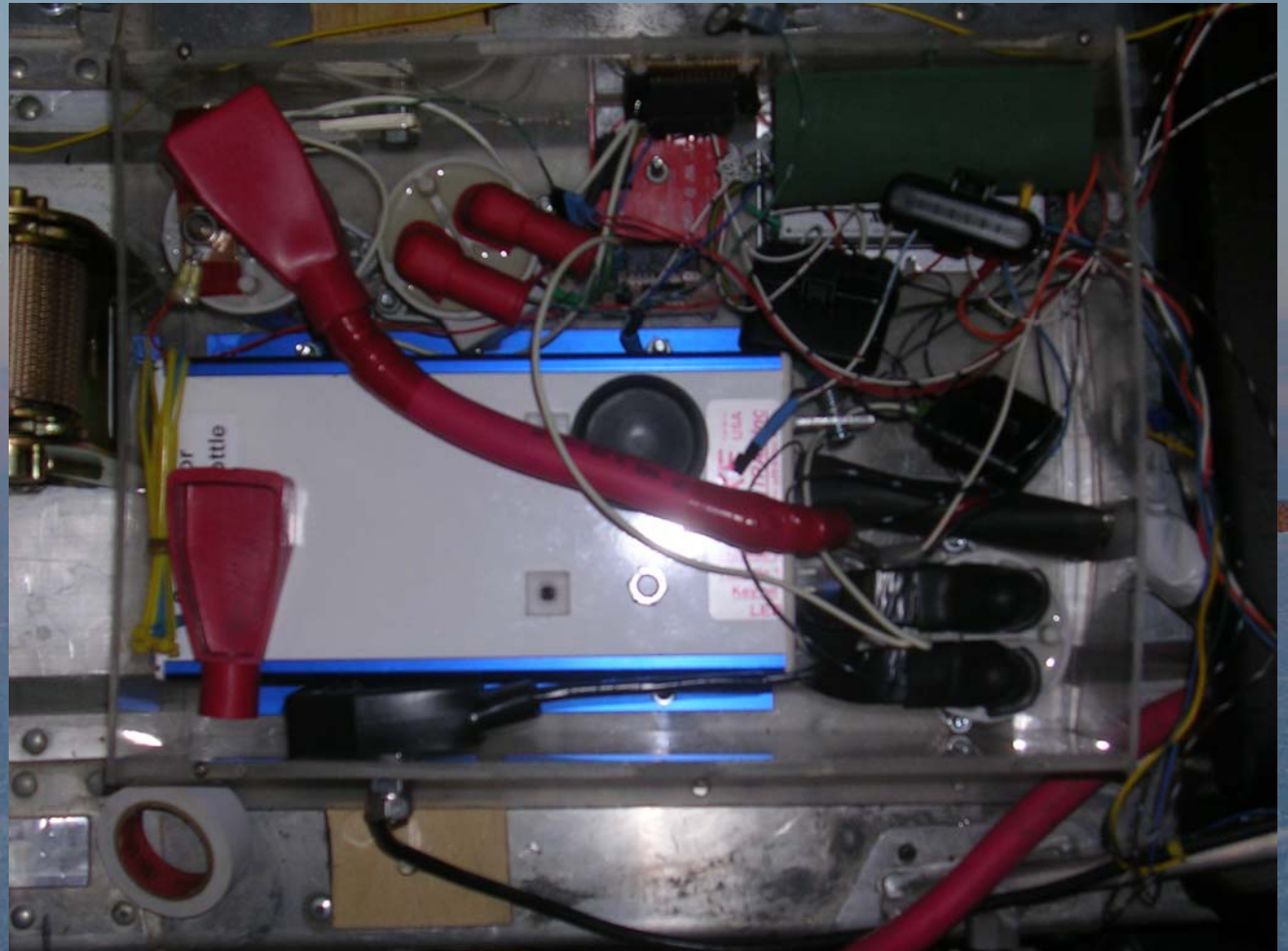
Overview of the McGill System



Overview of the McGill System

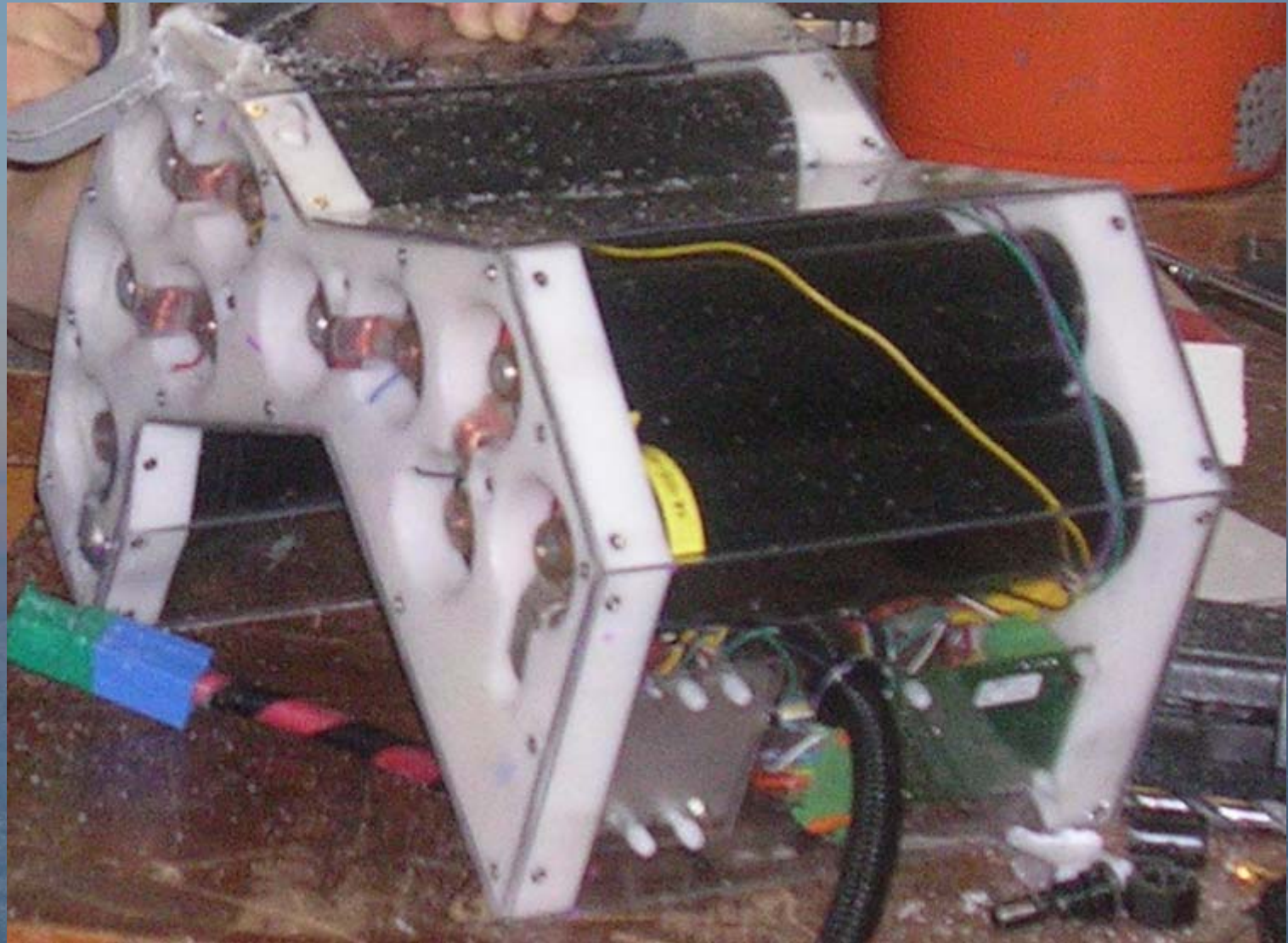


Overview of the McGill System





McGill Electric Snowmobile Team



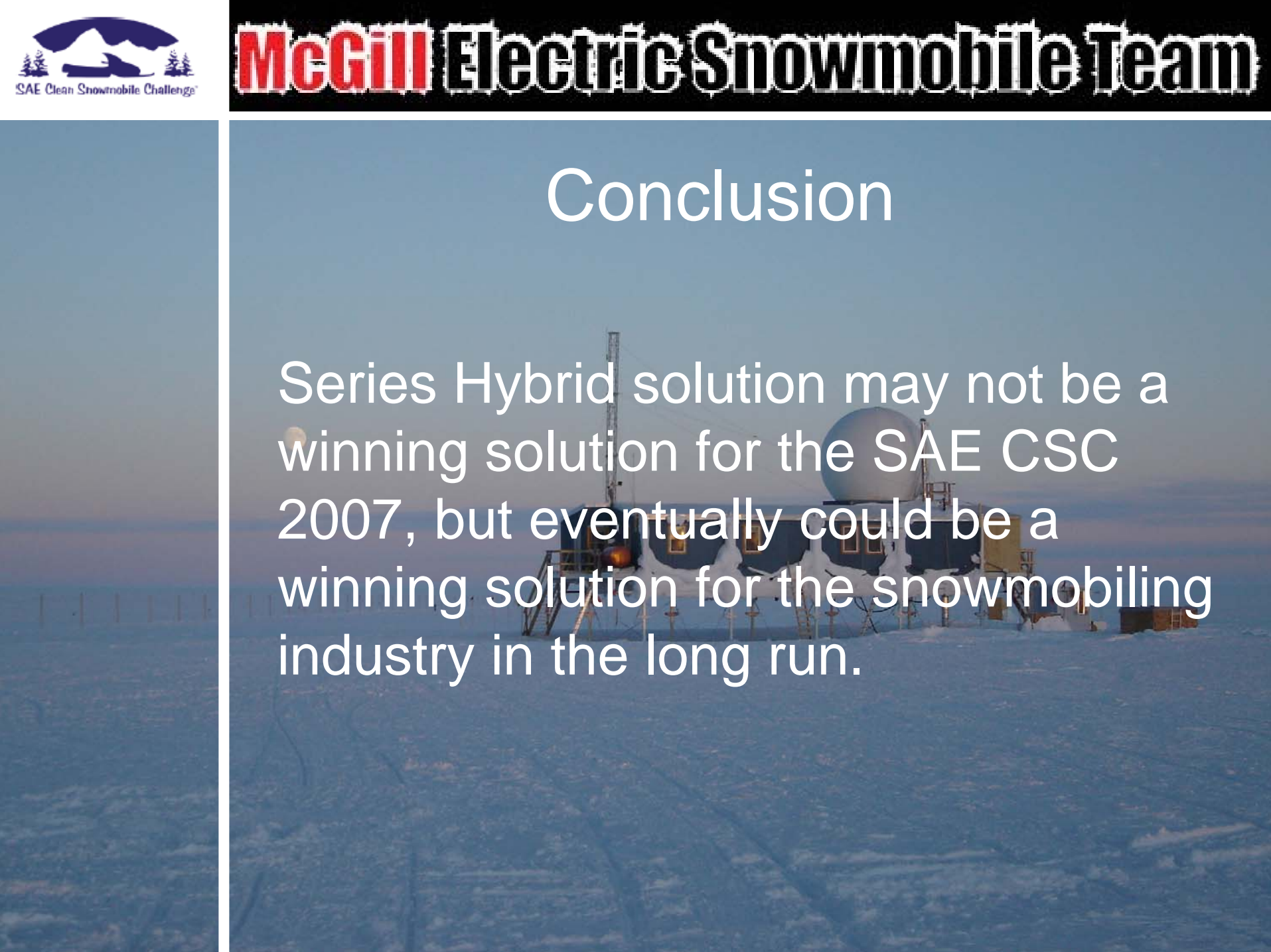
Performance (Calculated Estimates)

- Fully Electric Range:
Over 25 miles
- Time of Recharge with Generator:
1.5 hrs
- Top Speed:
Over 40 mph



Conclusion

Series Hybrid solution may not be a winning solution for the SAE CSC 2007, but eventually could be a winning solution for the snowmobiling industry in the long run.

A photograph of a snowmobile in a snowy field. The snowmobile is blue and white, with a large white dome on top. It is parked on a snow-covered ground with some tracks. The background is a clear blue sky.

Questions

