

## Design and Ethics Considerations

<b>Capstone Team #</b>	09
<b>Capstone Name</b>	VMS CAN Bus Sensor Array
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### Part 1: Design Considerations

- Public health, safety, and welfare
- Global factors
- Cultural factors
- Environmental factors
- Economic factors

<b>Consider:</b>	<b>Yes/No/ Possibly</b>	<b>Why?</b>
<b>Public health, safety, and welfare</b>	Yes	The implementation of CAN system can prevent dangerous operation of the EV that can result in a public safety event at a racetrack for example
<b>Global factors</b>	Yes	The parts that we spec and order from other countries affect our ability to collaborate with global vendors, and adapt to the time differences, language barriers, and other associated factors.
<b>Cultural factors</b>	Yes	How we work with our global vendors, how we work with the entire VMS team requires a clear understanding and requires our ability to adapt and respect cultural values of others and how they affect the way they react to conflict and how to perform overall.
<b>Environmental factors</b>	Yes	The overall EV project considers its environmental impact with the types of materials used and its environmental impact from global shipping requests as well as the positive impacts of being an emission free race car.
<b>Economic factors</b>	Yes	The budget of our capstone is dependent on the budget of the VMS team as a whole. All components used belong to the VMS team and should be utilized on the car. The availability of the certain components based on the current chip shortage as well as the cost of these components affects the number of features we may add onto our capstone.

## Part 2: Ethics Considerations

- Global
- Economic
- Environmental
- Societal

Consider a context for ethical decision-making	Applicable: Yes/No/Possibly	Why?
Global	Yes	A motorsports team with multiple sponsors may or may not feel obligated to restrict its vendors and manufacturers to a local level to emphasize its origins.
Economic	Yes	Having local vendors might be beneficial to support local businesses but the cost can be significantly different from overseas options.
Environmental	Yes	The pivoting decision of the sponsor to move from combustion powered race car to an EV carries a lot of positive environmental factors that a lot of innovators and prospective sponsors can stand behind.
Societal	Yes	Creating an open ended project for other communities at Portland State University to use as motivation and a driving aid to get involved with teams like VMS and many others on campus.