

2016 HPVC India Innovation Scoring Criteria

	Item	Question	Points	Discussion	Notes	Evaluation based on
Design	1	What is the need for the proposed innovation?	1	Students must document the target market and need of their specific innovation	All innovations solve problems for specific needs. Please list the embodiment of the need and how this innovation solves the problem.	Report
	2	Is the proposed innovation a new idea?	4	Students must provide clear evidence that they have thoroughly searched the literature and patents for prior and/or similar work.	List/discussion of similar patents, summary of literature review, patent application by students on team are sufficient. Points are only awarded in the first year a team submits a design. Ignorance of an existing design does not warrant allocation of points if the judging team does not feel the innovation is not a new idea.	Report
	3	Does the proposed innovation benefit or advance the state of the art of human-powered vehicles?	2	Students must clearly show that the innovation has benefits, which can be performance, ergonomics, cost, environmental, social, etc.	This can be applicable in the HPVC or to mainstream human powered vehicles.	Report
	4	Is the innovation possible with existing or proposed technology and is this specific proposed execution feasible?	3	Students must clearly demonstrate that the innovation is does not require a violation of the laws of physics or the use of an unavailable process or material. Students must also show that the proposed embodiment of the design is feasible. In other words, the concept will work.		Report
Concept Evaluation	5	Is the prototype functional?	3	Does the prototype do what was intended? This is not an evaluation of how well it performs, but a validation of the design concept.		Report
	6	Are the proposed benefits of the concept realized?	3	Students must provide data to show how effectively the prototype achieved the anticipated benefits in question 3.	This can be executed by testing a mock up, prototype, or even a full scale version	Report
	7	Are there any unanticipated benefits?	1	Students must provide data to show how effectively the prototype achieved unanticipated benefits. Often the proposed benefits are not as important as unanticipated benefits.	Often times during the innovation process unanticipated benefits outweigh the original goals of the design and advance the state of the art significantly.	Report
Learnings	8	How and why did you fail?	2	Students should document what did not work -- concepts that turned out to be infeasible (why?), prototypes that did not work (why), and unanticipated difficulties.	Read Henry Petroski to get an idea of how important failures are in innovation.	Report and Presentation
	9	What was learned from the failures?	3	Students should document how failures were used as stepping stones to subsequent successes.	Most innovations are built on what is learned by failures. In fact, more is learned from failures than from successes.	Report and Presentation
	10	What are the unanticipated negative aspects of the design?	2	Students should clearly identify and if possible quantify unanticipated negative aspects -- increased cost, regulatory restrictions, negative environmental aspects, etc.	Even though benefits are realized, the innovation may not have full value because of some unanticipated negatives.	Report and Presentation
Execution	11	How well does the concept function based on the quality of the design?	3	Students should demonstrate how well the concept performs based on the quality of the design and the quality of physical execution	Well executed designs that function as intended shall receive maximum points, whereas poorly executed concepts with low craftsmanship that do not function shall receive low points.	Presentation
	12	Does the quality of execution reinforce the benefit(s) of the innovation?	3	Students must show that the physical execution of the design allows for or exceeds the intended benefits of the innovation	If the execution of the concept performs up to or beyond the intended level described in the benefits, full points should be awarded. If explicit metrics for measuring the quality of execution are not available the judges will assess points at their discretion.	Presentation
Bonus	13	Did the proposed innovation apply to one of the targeted innovation areas?	1			Report