

historic poster

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Submission date: 07-May-2019 08:44AM (UTC+0100)

Submission ID: 106477980

File name: 13251_Lewis_Aubrey_historic_poster_163802_1453101785.pdf (380.82K)

Word count: 719

Character count: 3702

Technical poster on the history of Hybrid technology

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Introduction

A hybrid is a vehicle that has 2 methods of power, commonly found using a petrol fueled engine alongside a . In this technical poster I will discuss the history and innovations in hybrid technology over the past years.

This will include the beginning of hybrids and where they are today and how they have changed since they were released many years ago.

Background Hybrids

The first mass produced hybrid vehicle that entered the market was the Honda Insight, this was a subcompact car that was designed to be extremely aerodynamic and used a 1.0 litre 3 cylinder engine that used a very lean air to fuel ratio that was paired with a 13 horsepower electric motor that created a total power of 80 horsepower, this car also featured regenerative braking that would recharge the onboard battery while the car was decelerating.

This car sparked the interest of many other large manufactures and a year later led to the release of the Toyota Prius. The Prius was the first large hybrid vehicle to enter domestic markets, this car was mass produced and sold very well as it's the top selling hybrid vehicle to date. The first Prius used a 1.5 litre 4 cylinder engine and a 288 volt (V) hybrid system with a single speed gearing system.

The idea behind hybrids was to maximise the efficiency of an engine and battery system whilst keeping CO2 emissions down. This became very popular with buyers due to governments offering hybrid drivers a grant for owning one.



This is the first generation Honda insight that achieved a staggering 121.7 mpg

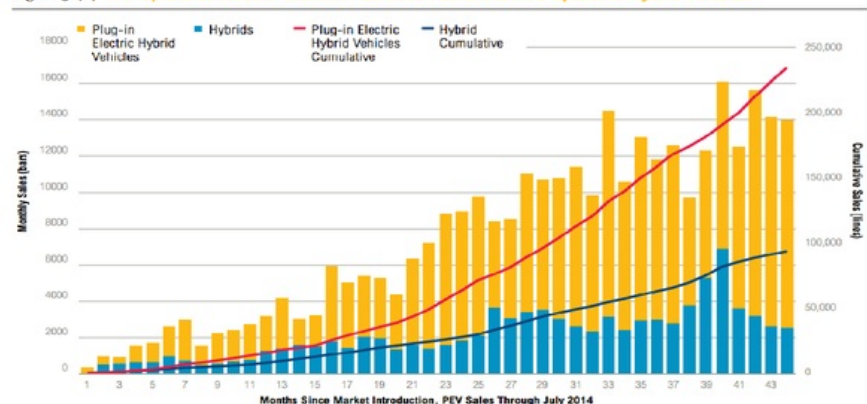
Photo courtesy of the "The New York Times"



This the new Toyota Prius C four featuring a larger design and taller body.

Photo courtesy of the "Berlin city Toyota me"

Figure 3-4 | The Uptake of Electric Vehicles Has Been Faster than the Uptake of Hybrid Vehicles



Where are hybrids going? Conclusion

In the Graff above you can see the sales of plug in hybrids and conventional hybrids, you will see that the sales of plug in hybrids have increased significantly more than conventional hybrids, this is due to the fact that plug in vehicles don't rely on the petrol engine to create energy, this is because the batteries in plug ins are charged up using a household charger or charge station rather than using a petrol powered engine. This has many benefits such as power as a conventional hybrid would have to charge up while driving which could take time to charge the battery to optimum capacity. I believe if the trend continues hybrids will become less popular due to electric vehicles becoming cheaper and being more beneficial as they already are cheaper to run and often work out cheaper to have in the long term as there are less service intervals that an engine would require.

To conclude this technical poster I personally don't believe that conventional hybrids will be around or available for much longer. This is because electric vehicles are getting cheaper and cheaper, an example of this was when the first Tesla saloon the model S went on sale it was \$57,000 dollars for the base model and now the new Tesla Model 3 starts at \$35,000, that's a reduction of \$22,000 in 5 years, this is because the technology used to create the batteries and the manufacturing procedure has gotten easier as technology has become cheaper. This then makes it not really financially viable to buy a new Toyota Prius at \$24,000 when a new fully electric vehicle from Tesla with no battery rental costs at \$35,000.

References

- Garrett, J. (2019). Honda Insight: The Once and Future Mileage King. [online] Nytimes.com. Available at: <https://www.nytimes.com/2006/08/27/automobiles/27HONDA.html> [Accessed 6 May 2019].
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- Berlincitytoyotame.com. (2019). 2018 Toyota Prius c Four - Toyota dealer serving Portland ME - New and Used Toyota dealership serving South Portland Scarborough Gorham ME. [online] Available at: https://www.berlincitytoyotame.com/specs-Portland-2018-Toyota-Prius+c-Four_-392080 [Accessed 7 May 2019].
- FUHS, A. (2017). HYBRID VEHICLES. [Place of publication not identified]: CRC Press.

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GRADEMARK REPORT

FINAL GRADE

44/100

GENERAL COMMENTS

Instructor

It is a shame that your attendance during semester 2 was so poor. (According to the registers you attend 1 lecture in Semester 2) This coursework did ask you to include information from the lectures on your posters. I am certain that there would have been lots of useful information in Mark Sandford's lecture which was all about Hybrids.

While you have a reference list, there should still be in-text citations for information included within the poster and for your figures. The reference list should be in alphabetical order.

There is not much 'history' on the page, the largest section is about where hybrid is going, i.e future.

You need to proof read your work before submitting.

Historic Poster = 44%

PAGE 1



Comment 1

no comment



Comment 2

Posters should still be written in the third person.



Comment 3

Not the first, the Toyota Prius was the first.



Comment 4

graph not Graff



Comment 5

I would expect an in-text citation here for the vehicle data.



Comment 6

The Prius was originally manufactured in 1997, where as the Honda Insight was originally manufactured in 1999. When stating facts like this, it is always wise to put in a citation to show where the information came from. A quick Wikipedia search shows this comment is incorrect.



Comment 7

This statement is not fully correct, while a plug in hybrid can be charged by plugging straight into the mains, many are also still charged by the petrol engine as. The advantage of the plug-in hybrid is that it gives to charging options.



Comment 8

The battery in the Tesla, surely isn't going to last the whole vehicle's life. How much will a new battery cost? What is the cost of electricity to charge an electric vehicle compared to the cost of petrol? Where is your proof that a full electric vehicle will be cheaper than a hybrid.



Comment 9

CO2 not c02

LITERATURESatisfactory
40-49%

(including reading, referencing, academic conventions and academic honesty)

OUTRIGHT FAIL 0-29%	Little or no evidence of reading and/or reliance on inappropriate sources. Views and findings mostly unsupported and non-authoritative. Referencing conventions used incoherently or largely absent.
UNSATISFACTORY 30-39%	Poor engagement with essential reading. No evidence of wider reading. Reliance on inappropriate sources, and/or indiscriminate use of sources. Heavily reliant on information gained through class contact. Inconsistent and weak use of referencing.
SATISFACTORY 40-49%	Engagement with a limited range of mostly relevant and credible sources but with some reliance on information gained through class contact. Some omissions and minor errors. Referencing conventions evident though not always applied accurately or consistently.
GOOD 50-59%	Engagement with an appropriate range of literature, including sources retrieved independently. Some over-reliance on texts rather than other sources. Referencing may show minor inaccuracies or inconsistencies.
VERY GOOD 60-69%	Engagement with a wide range of literature, including sources retrieved independently. Selection of relevant and credible sources. Generally sound referencing, with no/very few inaccuracies or inconsistencies.
EXCELLENT 70-84%	Engagement with an extensive range of relevant and credible literature. Consistently accurate application of referencing.
EXCEPTIONAL 85-100%	Exceptional engagement with an extensive range of relevant and credible literature. High-level referencing skills consistently applied.

K & U SUBJECTSatisfactory
40-49%

Knowledge and Understanding of Subject. Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.

OUTRIGHT FAIL 0-29%	Major gaps in knowledge and understanding of the basic underlying concepts and principles of the subject matter. Inclusion of irrelevant material. Substantial inaccuracies
UNSATISFACTORY 30-39%	Gaps in knowledge of the basic underlying concepts and principles, with flawed or superficial understanding. Some significant inaccuracies and/or irrelevant material.
SATISFACTORY 40-49%	Limited knowledge and understanding of the basic underlying concepts and principles within the subject area. Some elements may be missing
GOOD 50-59%	Knowledge of the basic underlying concepts and principles is accurate with a good understanding of the field of study but lacks depth and/or breadth.
VERY GOOD 60-69%	Competent knowledge of the basic underlying concepts and principles. Exhibits very good understanding

EXCELLENT 70-84% Excellent knowledge and understanding of the basic underlying concepts and principles of the subject.

EXCEPTIONAL 85-100% Exceptional, detailed knowledge and understanding of the basic underlying concepts and principles

C&I SKILLS

Satisfactory
40-49%

(Evaluate underlying concepts and principles of a subject and interpret qualitative and quantitative data in order to develop lines of argument and make sound judgements.)

OUTRIGHT FAIL 0-29% Wholly or almost wholly descriptive work. Little or no evaluation of the underlying concepts and principles. Failure to develop arguments, leading to illogical or invalid judgements. Minimal or no use of evidence to back up views.

UNSATISFACTORY 30-39% Largely descriptive work, with superficial evaluation of the underlying concepts and principles. Weak interpretation of data, flawed development of arguments and judgements. Information accepted uncritically, uses generalised statements made with scant evidence and unsubstantiated opinions. Ideas sometimes illogical and contradictory

SATISFACTORY 40-49% Limited attempt at evaluation of the underlying concepts and principles, tending towards description. Can interpret qualitative and quantitative data but with some errors. Some evidence to support emerging arguments and judgements but these may be underdeveloped or with a little inconsistency / mis-interpretation.

GOOD 50-59% Good evaluation of the underlying concepts and principles. Can interpret qualitative and quantitative data, with minor errors. An emerging ability to use evidence to support the argument. Mostly valid arguments and logical judgements.

VERY GOOD 60-69% Sound evaluation of the underlying concepts and principles. Can interpret qualitative and quantitative data accurately. Ability to devise arguments using evidence to make mostly appropriate and valid judgements.

EXCELLENT 70-84% Excellent evaluation of the underlying concepts and principles. Can interpret qualitative and quantitative data accurately and with some insight. Excellent ability to devise arguments using evidence and make appropriate and valid judgements

EXCEPTIONAL 85-100% Exceptional evaluation of the underlying concepts and principles based evidence. Outstanding interpretation of qualitative and quantitative data. Exceptional ability to devise arguments using evidence and make wholly appropriate and valid judgements

PROF PRAC

Good 50-59%

(Communicate the results of their study/work accurately and reliably, and with structured and coherent arguments; the qualities needed for employment requiring the exercise of some personal responsibility within a structured and managed environment.)

OUTRIGHT FAIL 0-29% Work is poorly structured, disorganised, inaccurate and/or confusingly expressed. Very weak use of language and/or very inappropriate style. Failure to work effectively individual or as part of a group. Little or no evidence of the skills for employment requiring the exercise of some personal responsibility.

UNSATISFACTORY 30-39%	Work is poorly presented in a disjointed manner. It is loosely, and at times incoherently, structured, with information and ideas often poorly expressed. Weak use of language and/or inappropriate style. Flawed approach to individual or group work, meeting only partial obligations to others. Limited evidence of the skills for employment requiring the exercise of some personal responsibility.
SATISFACTORY 40-49%	Mostly ordered presentation and structure in which relevant ideas / concepts are reasonably expressed. Work may lack coherence and/or accuracy in places. Can work as part of a group, meeting most obligations to others but perhaps with limited involvement in group activities. Demonstrates the basic skills for employment requiring the exercise of some personal responsibility, with some areas of minor weakness.
GOOD 50-59%	Mostly coherent, organised and accurate work, in a suitable structure and is for the most part clearly expressed. Can work effectively independently and/or as part of a team, with clear contribution to group activities. Demonstrates the skills for employment requiring the exercise of some personal responsibility, with some areas of strength and some of minor weakness.
VERY GOOD 60-69%	Work is accurate, coherent, fluent, well-structured and organised. Can work effectively independently and/or as part of a team, with very good contribution to group activities. Demonstrates very good skills for employment requiring the exercise of some personal responsibility, with just occasional minor weakness.
EXCELLENT 70-84%	Work is coherent, very fluent and is presented professionally. Can work effectively independently and/or as part of a team, with an excellent contribution to group activities. Demonstrates excellent skills for employment requiring the exercise of some personal responsibility with an appetite for further development.
EXCEPTIONAL 85-100%	Work is accurate, exceptionally coherent, very fluent and presented well. Can work effectively independently and/or as part of a team, with an exceptional contribution to group activities. Demonstrates exceptional skills for employment requiring the exercise of some personal responsibility with an appetite for further development.