

APS 1018: History and Philosophy of Engineering

Team # 5 – Executive Summary

Transportation and the Passive Society- The Role of Engineer in Society

Executive Summary

Engineers provide society with innovations and creations that they can use in their daily lives. As such, engineers work for the benefit of society. With every engineering innovation and its adaptation in society, there are always changes that occur on several facets of life, including social, economic and political. On one hand, these changes can result in positive outcomes for human beings. For example, with the introduction of airplanes and air vehicles, man has been able to fly to places they have never been able to do before (such as outer space). Engineering innovations facilitate daily tasks and enhance the quality of life. For instance, the Internet has allowed families spread all over the world to stay connected and share daily news and experiences. These changes may have reshaped the world like no one had ever imagined it could. On the other hand, engineering innovations may lead to some unforeseen changes (unintended consequences) in people's lives that may not be positive for them and their communities. Looking at the advancements in the technological sector, society has become much more dependent on technology. This has caused major transformations in the way people behave and in their expectations.

As engineers provide solutions to the people, it is critical for them to assess their innovations and understand the long term impacts on society. With every adaptation to a new technology, new challenges rise that engineers should look at as an opportunity for further enhancements and innovation. For instance, as society became used to the transportation advancements including the use of public transport in major cities, society requires and expects more reliable and enhanced systems to improve performance.

In this paper, two engineers take a look at some major dynamic changes introduced on society as a result of advanced engineering design and innovation. The changes assessed are those that touch society directly, including social communities, economic dynamics and political standpoint. The main focus of this paper relates to advancements in the transportation industries. Some technological engineering creations are also looked at, from the view of how they have further enhanced social changes and further added challenges to the transportation industry.

The audience includes practising engineers (aged between 25 and 60) as well as engineering students and trainees. The aim is to guide them to better understand upcoming challenges and their responsibilities as it pertains to those challenges. While this paper focuses mainly on the transportation industry, it is encouraged to conduct similar studies in other fields of engineering work. This paper is only a starting point in the journey of understanding the importance of the role of engineers in society. The hope is to encourage continuous critical thinking about what engineers create and their societal impact. The authors also invite other professions to read this analysis and conduct similar studies in their fields.