

Engineering-ethics, Present and Future

- Keynote Address-

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In driving of the conventional motor vehicle, the ethical decision belongs to its user rather than hardware i.e. engineering side. However, new technologies, such as autonomous driving based on artificial-intelligence, are going to change the boundary of the responsibility between the users and engineers, would require new ethical approach of the vehicle engineering, such as social acceptance.

In Japan, the educational curriculum of the engineering-ethics in university was introduced in 1999 based on that of the United States. In the first phase, the curriculum mainly focused on the issue of the preventive ethics, which was based on the code of conduct which rightness could be clearly distinguished regardless of values. In the second phase, the curriculum addressed aspirational ethics, which was more creative approach but was still self-absorbed, far from the issue of the social acceptance. Those suggest the needs of the education curriculum to enhance the ability of the communication with the society, which would be the essential ethical competency of the contemporary engineers.

The JSAE Committee of Ethical-engineer Education has started a discussion to establish the educational curriculum of the third phase addressing issues regarding social acceptance. This report presents the overview of the discussion in the committee, and the future perspective regarding key ethical competency required of the engineers being in charge of the technologies of the new age.



Fig.1 Perspective of Engineering-ethics Education Curriculum

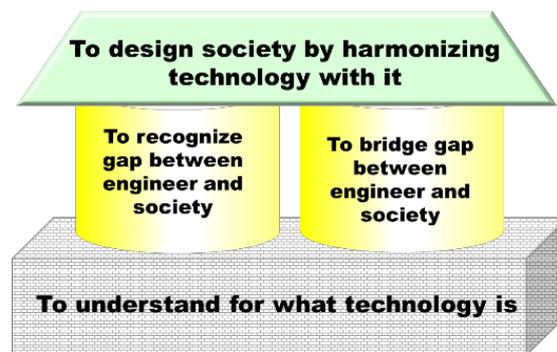


Fig.2 Schematic structure of competency of "Ethical-engineer"