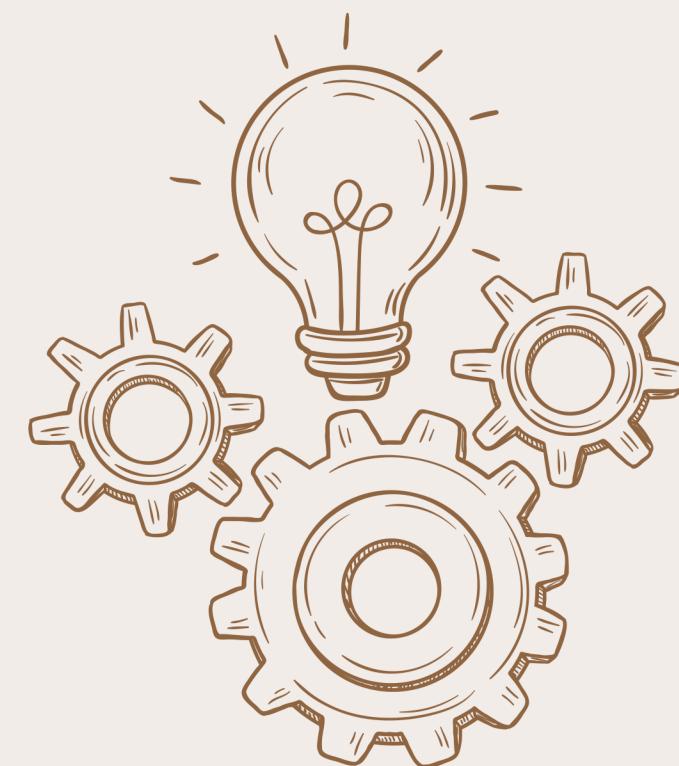




ENGINEERING ETHICS

Balancing Progress and Professionalism

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INTRODUCTION

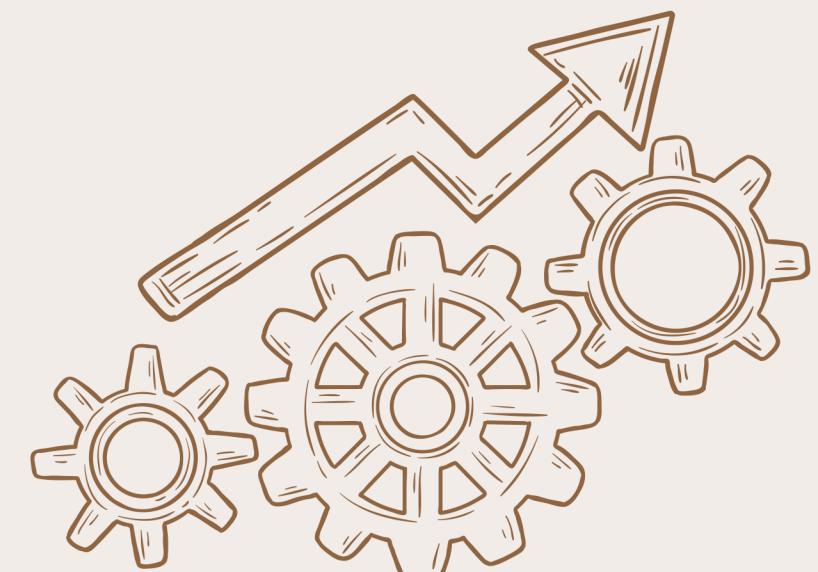
Engineering is the process of developing an efficient mechanism which quickens and eases the work using limited resources, with the help of technology. **Ethics** are the principles accepted by the society, which also equate to the moral standards of human beings.

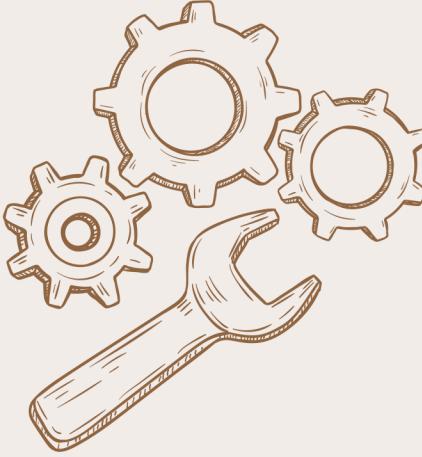
The ethics of engineering refers to the study of ethical principles and standards of conduct that apply to the practice of engineering. It deals with the moral responsibilities of engineers and the ethical implications of the decisions they make in their professional practice.



The Goal of engineering ethics is to ensure that engineers act in an ethical and responsible manner, and make decisions that are consistent with their ethical obligations. This includes prioritizing the *safety, health, and welfare of the public and the environment, acting with honesty and integrity, and respecting the confidentiality of information.*

An engineer with ethics, can help the society in a better way.





Ethical Issues in Engineering

- Public Safety
- Environmental Responsibility
- Intellectual Property
- Confidentiality
- Professional Standards
- Social Responsibility

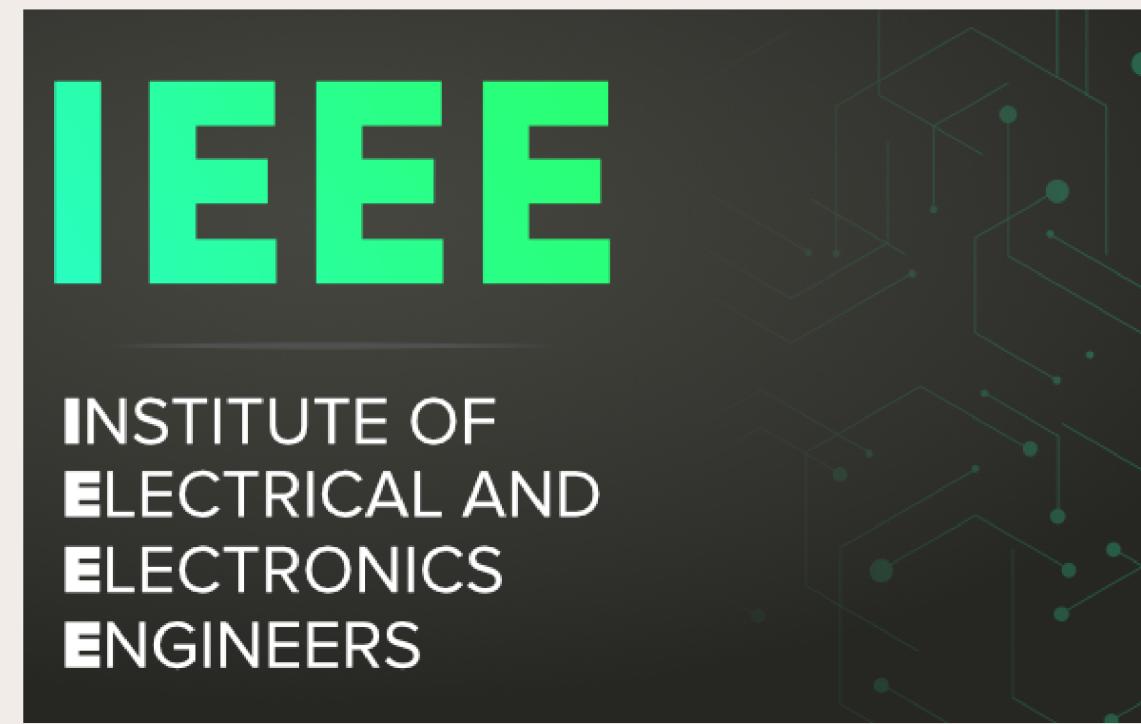
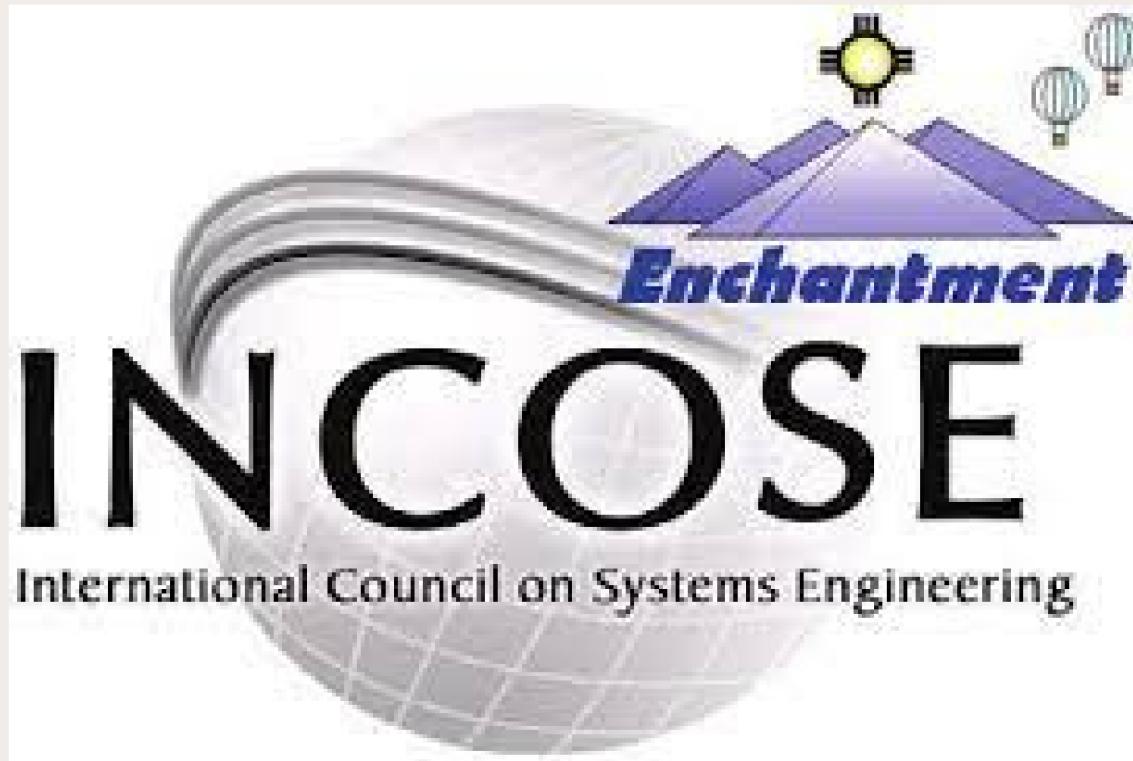


These issues illustrate the complex ethical challenges that engineers may face in their daily work, and the importance of being knowledgeable about ethical principles and having a strong ethical foundation.

CO-OP-ERATION

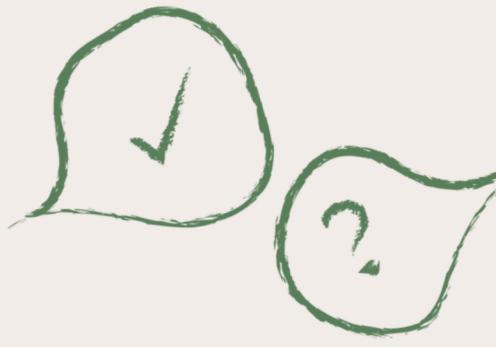
Engineers are responsible for creating products and services that improve the quality of life and meet society's needs. To ensure that they act with integrity and make decisions that align with public's best interests, they have ethical codes to follow.





These ethical codes are intended to provide guidance and support to engineers in making ethical decisions and to promote public trust in the engineering profession.

Ethical Obligations



Engineers have several ethical obligations in their professional practice, which are based on several principles.

- Responsibility to the public
- Professional competence
- Confidentiality
- Conflicts of interest
- Honesty and integrity
- Environmental responsibility
- Social Responsibility

By upholding these ethical obligations, engineers can ensure that their work is guided by professional and ethical standards.



Some real life examples...

The ATM Fraud

This non ethical hacking of ATM fraud happened in 2016 in India.

- The fraud, which was carried out by a group of hackers, resulted in the unauthorized withdrawal of over 1.5 crore Rupees from multiple ATMs across the country .
- Hackers had gained access to the ATM network by exploiting a vulnerability in the software used by the bank.



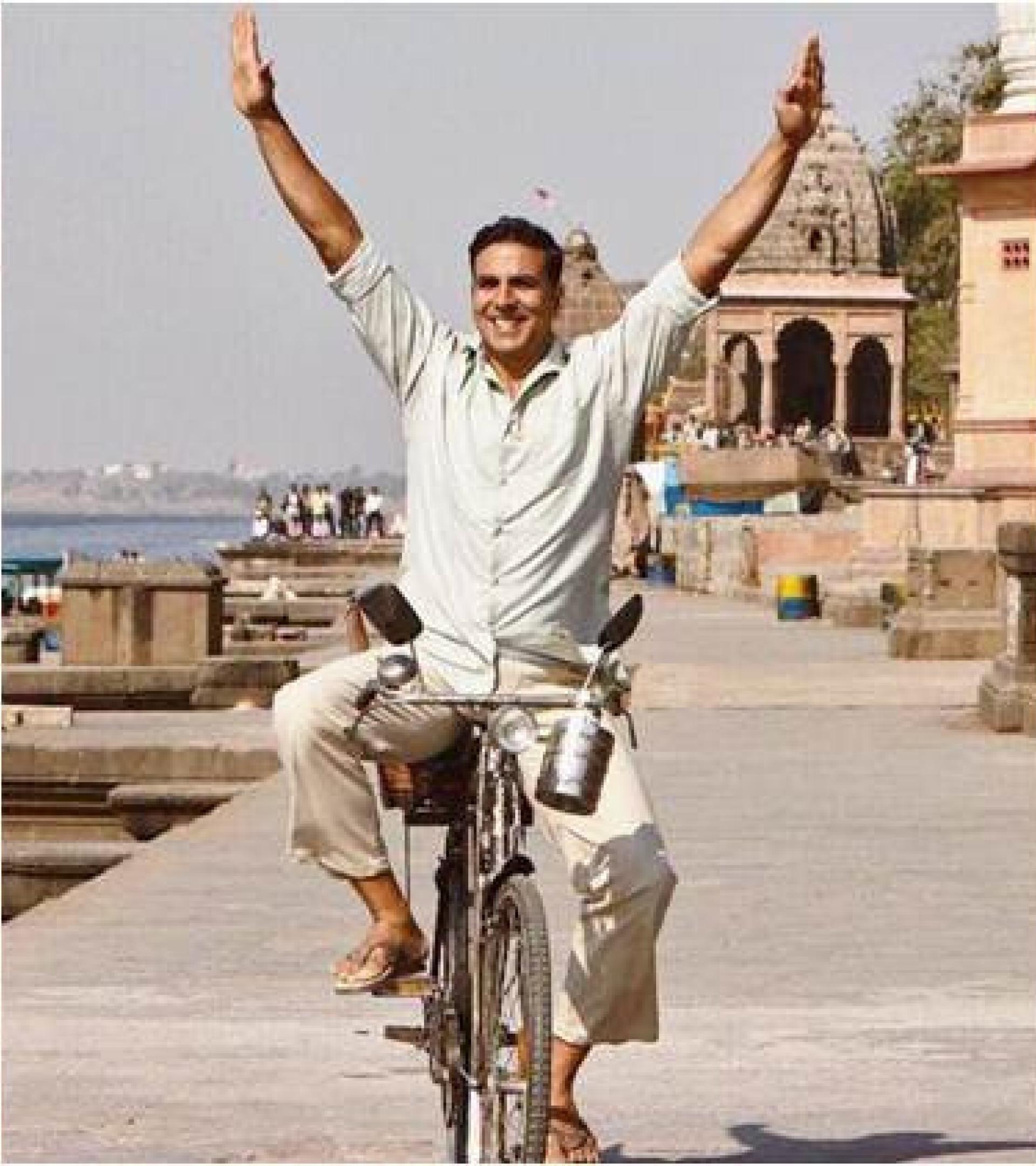
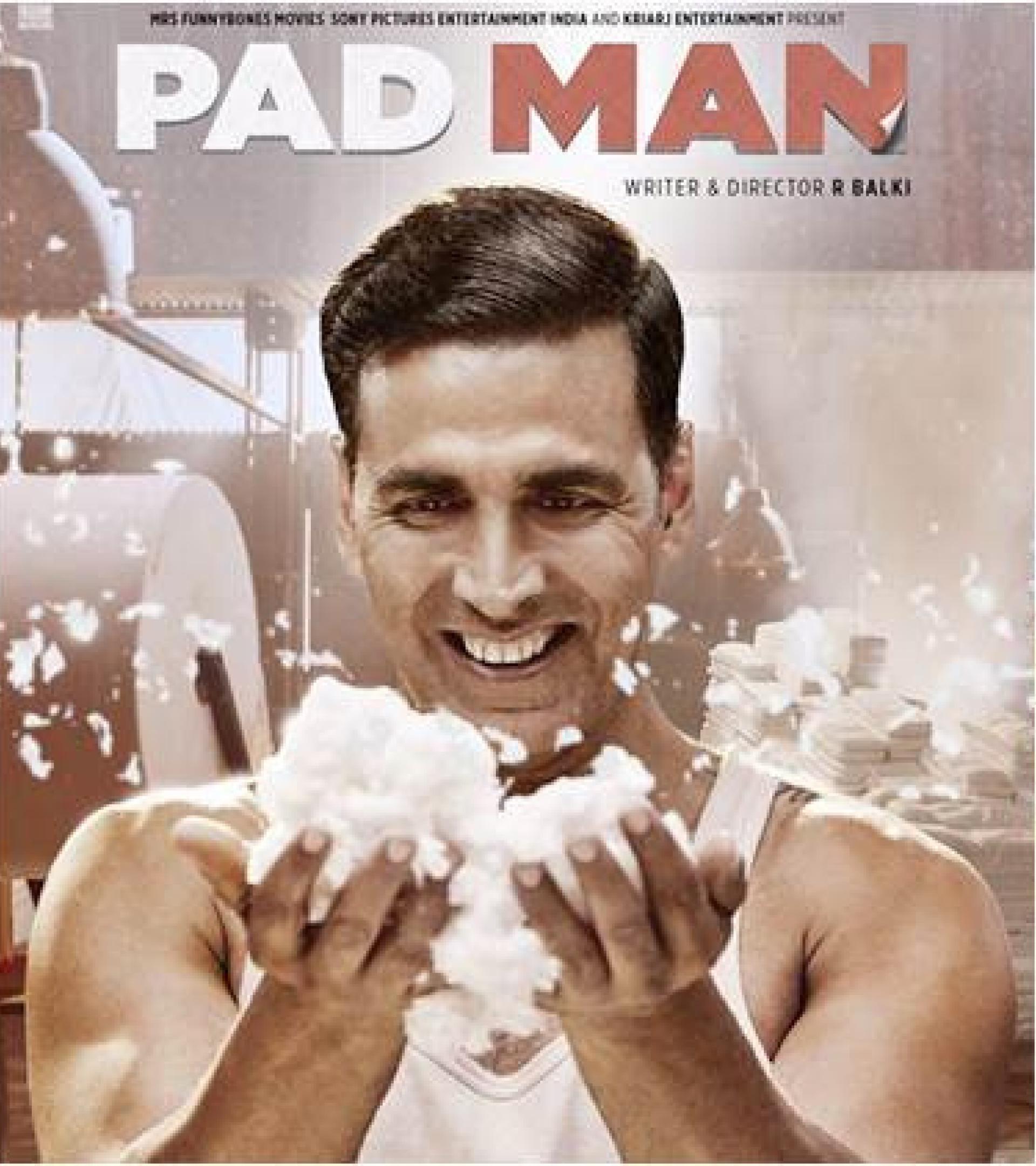
- The bank's engineers and security personnel had failed to properly secure the software, and to keep the software updated, which is a standard security measure to prevent cyberattacks.
- The bank was forced to reimburse the customers who were affected by the fraud, which led to a significant financial loss.
- This case serves as a reminder of the need for companies and organizations to prioritize cybersecurity and invest in effective security measures to prevent similar frauds from happening in the future.



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PADMAN

WRITER & DIRECTOR R. BALKI



The PadMan of India : Arunachalam Muruganantham



The 100 Most Influential People

TITANS **PIONEERS** **ARTISTS** **LEADERS** **SCIENTISTS**

The entrepreneur who is an unlikely health crusader

In a small south Indian town, a man's empathy for his wife has sparked a revolution. In 1998, Arunachalam Muruganantham asked his wife why she discarded dirty rags and was told she needed them during menstruation. Buying sanitary napkins would cost too much. His response: designing a simple machine to produce sanitary pads. He even tested some himself, using a fire pump to test absorption. And instead of selling his idea to the highest bidder, he supplies his low-cost machines to rural communities. Now millions of poor Indian women can avoid painful urinary tract infections and reuse their own pads.

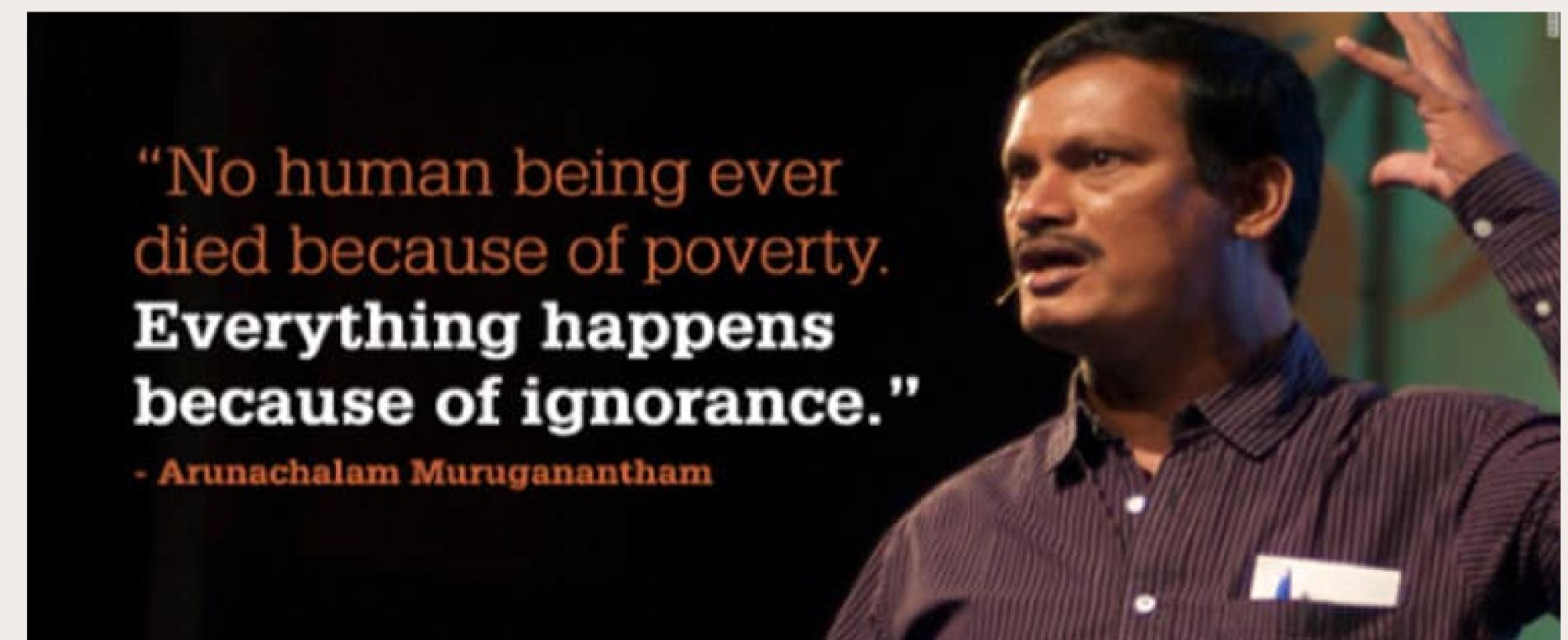


In 2006 he was awarded the National Innovation Award by the then-President of India, Pratibha Patil.

In 2014, TIME magazine placed him on its list of 100 Most Influential People in the World.

In 2016 He was Awarded Padma Shri by Government of India.

- He is an inventor and social entrepreneur who revolutionized the field of menstrual health and hygiene in India.
- He spent years researching and developing a low-cost machine that could manufacture sanitary pads, making them accessible to women and girls in rural and underprivileged communities.
- His work serves as an inspiration to engineers and entrepreneurs everywhere, demonstrating that it is possible to use technology and innovation for social good.
- His unwavering commitment to improving the lives of women and girls, combined with his adherence to ethical principles, makes him a model for engineers everywhere.

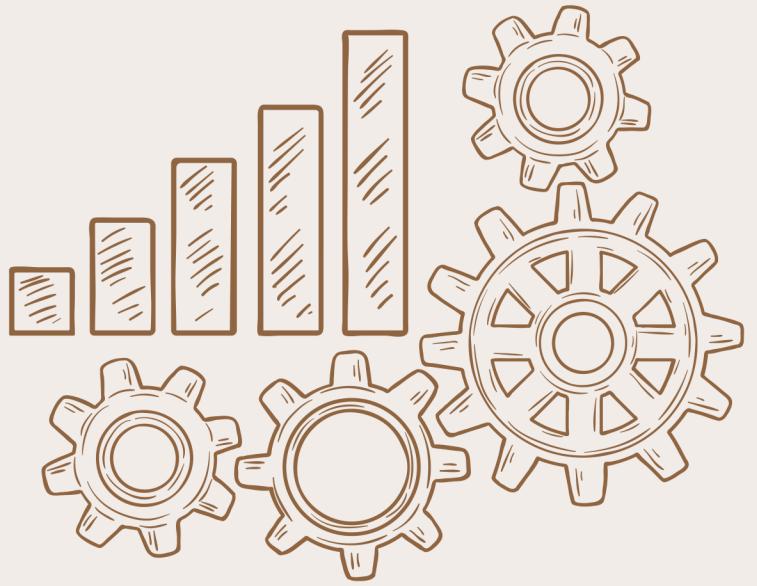


Role of Engineers in public safety

- **Responsibility:** Engineers must take responsibility for their actions and designs, and be accountable for any negative consequences that may result from their work.
- **Truthful:** Engineers should be transparent about the materials/technology they have used.
- **Patience:** Engineers should be calm and patient while other members of a team are giving their opinion as that could be helpful.



Conclusion



Thank you!