

Story 3: Consider working on a project in medical electronics where the system verification due to time limitations has to be finished before you feel confident that the system is fully verified. How should you act in relation to the management that is pushing you to cut back on system testing?

The dilemma here is whether one can compromise on testing systems that have the capacity to do harm to their users. Furthermore, what is the individual's responsibility to act against management and risk their jobs?

Medical equipment cannot be allowed to fail or otherwise malfunction, as it places lives at risk. On the other hand systems are impractical to test exhaustively, and complex systems can essentially never be guaranteed to be bug-free.

Beyond the potential harm to individuals, businesses suffer from incidents such as this, if it comes to light that testing was not adequate, and that "due diligence" was not exercised. a recent example is that of the Boeing 737 Max incidents. what due diligence mean in this context is hard to define, however. Furthermore, it is in the best interest of the company (and this management) to release products onto the market as soon as possible, in order to beat potential competitors.

But when is testing ever finished? When is it beyond reasonable doubt? I think engineers, who are necessarily have the most intimate knowledge of the system at hand, should have the final say on whether a system is verified "enough" to be released. I also think that medical equipment, which is always operated under strict conditions as opposed to cars, for instance) should be verified to the point at which it can not reasonably be expected to harm even a single individual.

I think it requires courage to resist managerial interference, and in the worst case may require action akin to that of a whistle-blower.