Hi,

I am an engineer by training and my entire professional career is in IT systems engineering, i.e. the design and development of business operational systems at enterprise level. I have been working in a wide variety of sectors over a period of 30 years.

This is my submission to the Police Reform Commission. It relates to systems, not necessarily IT systems, but more to the data ecosystem along with the supporting processes, components, and interfaces that create and describe the corpus of knowledge and information that a police force would want to maintain, or perhaps should maintain. More specifically it relates to how that data ecosystem evolves over time with respect to what is known, when it is known, and when it is recorded as known. More prosaically, these concepts would be readily understood in terms of one of the most basic questions that a Garda must ask regularly, which is: "who knew what, and when?".

Let's take a use-case as an example. Let's imagine that an expiry date of a driving licence must be recorded as part of an accident investigation. Let's say that it was thought to have been originally entered incorrectly by Garda1 and went unnoticed for several months. Eventually, it gets corrected by Garda2. In this example, four dates need to be recorded in two time dimensions: ExpiryDate1 & ExpiryDate2, and RecordedDate1 & RecordedDate2. One time dimension for storing facts about reality and another time dimension storing when these facts became known to the system. This is an easy example. Let's then say that the original expiry date was in fact correct and requires subsequent updating by Garda3. Now imagine that high-level summary reports need to be produced at different times, from different time perspectives, for different contexts? This kind of capability requires a sophisticated data model manifested in a well-built system along with intuitive interfaces and, not least, a commensurate increase in the level of data and systems literacy in the police force. The area of database design that addresses these kinds of issues is referred to as bi-temporal data modelling. In a police context, location is also important, therefore spatio-bitemporal data modelling is required. These temporal features would need to be available to the business layer and user-interface layer of the system and not just squirrelled away in an audit layer.

PULSE was a system commissioned in the mid- to late-90's, meaning it was probably conceived in the early 90's. Based on my own impressions, my knowledge of other systems of similar provenance, and my understanding of the state of the art over the past 25 to 30 years, I would hazard a guess that the PULSE system falls short in this regard. Such shortcomings tend to impact negatively on the way in which an organisation manages data. In turn, it compromises and hinders good governance in any organisation. It also happens to enable poor governance. All of this is clearly evident in the case of An Garda Síochána.

As a system designer, I can imagine the kind of brief that the designers of PULSE would have received back in the 90's from their client. It was possible to design systems with these features back then: I was involved in the design and development of one for a large multinational at that time that incorporated such features that I have described above. However, I can see from afar that PULSE has all the hallmarks of a system that was compromised in its scope and nature and this would have been shaped by the culture, outlook, and expectations of the commissioning client, i.e. An Garda Síochána or perhaps the Department of Justice.

I would suggest that this time an independent entity defines the scope, functionality, and nature of any new system for the police force that bears the above points in mind.

I wish you well in your efforts to shape the future of policing in Ireland. I think this is long overdue.

Regards