

# Vetronics

## Towards a Generic Vehicle Architecture

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### I. INTRODUCTION

Since the start of the new millennium, the information gathering and processing capabilities of military land vehicles has steadily increased. As an example, the PIRANHA IIIC armoured vehicle is equipped with day- and infrared cameras, laser range finders, laser warning receivers, small-arms detection sensors, etc... Furthermore, these vehicles are part of a data network, capable of disseminating position updates and enemy spot reports to neighboring vehicles. In order to effectively exploit all this information, both from the sensors in the vehicle, as coming from other vehicles, the necessary infrastructure has to be put in place. Each vehicle is equipped with a Vehicular Tactical LAN (VTL), onto which all sensors and data radios are connected. The entirety of these subsystems is known as “Vetronics”.

### II. CHALLENGES

Integration of all kinds of new subsystems, in response to new threats and operational scenarios, has led to a proliferation of crew controls, power conflicts and a lack of standardization across the fleet. Both from a technical, logistical and interoperational point of view, this can in the long run become a serious problem.

### III. SOLUTION

The MILVA (Military Vetronics Association) has for several years organized an NVGA (NATO Generic Vehicle Architecture) working group, with the aim of producing an open, standardized architecture framework for vetronics. Proposed STANAG 4754 builds on the work of the UK Applied Research Program for Vehicle Systems Integration [1], and covers not only power and data interface aspects, but also the data software model and safety issues. This STANAG is currently in the final draft phase.

### IV. CONCLUSION

In order to cope with the ever increasing stream of data produced and received by the armored vehicle and its crew, a standard has to be put in place. MILVA aims to provide this standard by means of proposal STANAG 4754.

### REFERENCES

- [1] GVA Defence Standard 23-09, UK MOD