



Concept Study *VibroMag*: A New Dimension in Surveillance Technology

Surveillance of large fenced in areas is of increasing importance in the public as well as in the private sector. However, usually total surveillance is complex and costly.

At **Saarland University** a completely new concept was developed, which allows for fully automated remote surveillance of arbitrarily extended fencings. The approach is cost-effective, exhibits a small false alert rate, and permits exact location of an intrusion.

The complexity of surveillance arrangements could considerably be reduced and the inspection of arbitrary areas and buildings could be optimized.



VibroMag: A New Functional Principle

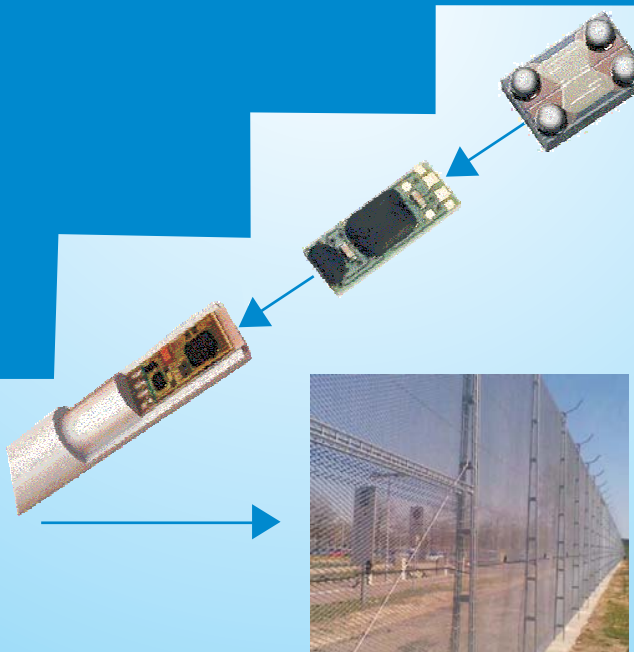
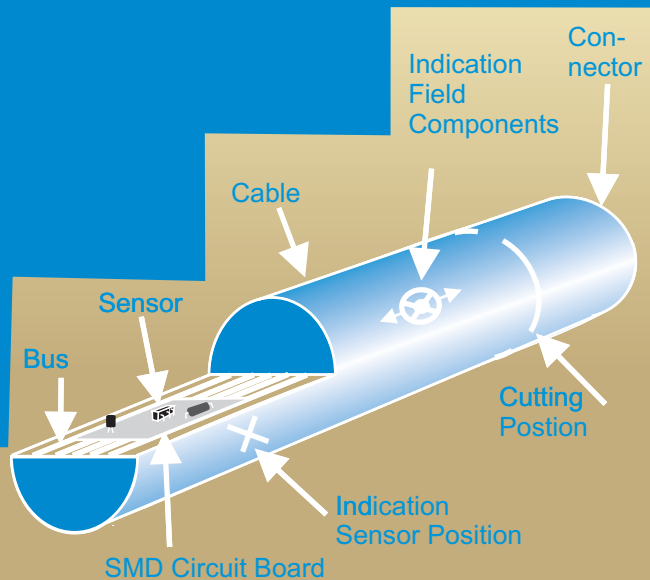
Highly sensitive miniaturized magnetic field sensors are integrated into a thin cable. The diameter is a few millimeters only. The sensors are connected through a digital/analog bus and they have a well-defined distance. The whole cable is connected to a data processing unit. The magnetic field sensors detect any tiny vibration of a fence or another security device to which the *VibroMag* cable is attached. By repeated cyclic interrogation of all sensors by the processing unit can the source of a vibration be localized in an accurate and instantaneous way. Signal processing is based on complex algorithms which permit the discrimination of false alerts and the identification of the intrusion category.



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First experimental research was conducted at **Saarland University** and a patent application was filed.

In order to develop real products based on the *VibroMag* approach we are seeking for industrial collaborators and in particular for suppliers and end users of security equipment.



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