After the Rio Declaration on Environment and Development in 1992, it has become increasingly clear that sustainable development requires the implementation of new technologies in order to reduce the environmental impacts of human activity. Technical environmental innovations refer to the process, product and management innovations that enable the environmental impact of a facility to be reduced. Since then, strategies to regulate the enforcement of new technology have been implemented in many countries. Some environmental policies aim to link environmental management to technical environmental innovation and to improved economical performance in companies. In this respect, standards for environmental management systems such as the EU Eco-Management and Audit Scheme (EMAS), are the most important instruments. EMAS is the EU's voluntary tool which acknowledges organisations that improve their environmental performance on a continuous basis. Nevertheless, the influence of EMAS on technological environmental innovation and economic performance has not been studied systematically until now.

A recent German study has investigated the effects of different characteristics of EMAS on the implementation and diffusion of technological environmental innovation and economical performance of a facility. To this end, the authors use data from a broad, and so far unique, survey of all German EMAS-validated facilities in the manufacturing sector. The authors examine and compare the different levels of technological environmental innovation and economic performance in the participant facilities with regard to different ways of implementing EMAS. Such differences can be caused by the strategic goals identified by the facility for the EMAS implementation or by organisational aspects.

The main findings of the study were:

- Most of the studied firms and facilities reported a positive influence of EMAS on environmental process innovations.
- Furthermore, the resulting environmental reports on EMAS implementation suggested enhanced diffusion of technical environmental innovations.
- The degree of maturity of the implemented EMAS determines the environmental process innovation of the company.
- The strong participation of specific departments of the company, such as the R&D department, in the further development of EMAS improves the environmental process innovation in the company.
- The learning process promoted by EMAS has a very positive impact on environmental product innovation.

The authors also compared the European EMAS with the international ISO 14001 standard. They argued that, in practice, there are few differences between these two environmental management schemes and both offer enough freedom to design and adapt the system according to the company. The study reported other similarities between these two systems, which were exemplified by the fact that 55% of the EMAS-validated companies that participated in the study had also implemented ISO 14001. Thus the results should also be relevant for ISO 14001.

For more information about EMAS: [http://ec.europa.eu/environment/emas/index_en.htm](http://ec.europa.eu/environment/emas/index_en.htm)

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