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## Advances in Developing Standards for Fibre-Optic Sensors

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Fibre optic sensors provide a great potential in different industrial as well as research fields. They are always then increasingly used if special requirements avoid the application of conventional electrical sensors. The scientific background for optical fibre sensors is well developed; however, not all users are already convinced that fibre optic sensors enable long-term stable function under harsh environmental conditions. There are still some restrictions with respect to long-term reliable use: first, some sensor products available on the market are sometimes not appropriately characterized and described. Second, application procedures are not always well validated due to a lack of understanding the mechanical, physical or chemical issues in the interface zone between sensor and measuring object.

Industrial users therefore need standardized description of the sensor system performance, recommendations what aspects have to be considered for reliable application and operation of sensors, and finally how to handle the application of sensors under possibly harsh environmental conditions. Technical rules must be provided. First guidelines for the appropriate specification and use of fibre optic sensors have been developed and published. Several European and international activities have been launched to push the development of further standards for special applications.

The paper informs about successful standardization activities. Worldwide running relevant guideline activities are presented. An outlook on important research activities to come to substantiated statements in standards is given.

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**Ключевые слова:**

### Содержание

Abstract

Introduction

Guidelines and standards – current situation

International standardization activities

Standards require experimental techniques