

Technological opportunities and technology-related risks in the roadmap to life safety and security.

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ABSTRACT

Technological opportunities and technology-related risks are discussed from the point of view of a research department of a newborn research institution where open-minded research is considered crucial to foster innovation.

The development of a web-based society has almost completed the process of globalization which has always characterized sciences and cultures, and in the last century has involved markets and, finally, social life. Fast and widespread communication is almost always behind innovation and therefore constitutes the basis for the improvement of society. Today, innovation and emerging technologies stem from a basin of basic and applied researches carried out in barrier-free multidisciplinary environment. However, only in a few cases, classically represented by journals such as Nature and Science, scientists can rely on a widespread, non-sectorial, and simultaneous communication to the scientific community and dissemination to the general public. In this context, it is a great pleasure to welcome the beginning of a new editorial journey with a journal dedicated to all aspects of life safety and security. There is no doubt that key enabling technologies, today a priority theme in European research funding schemes, are strongly involved

in the set-up of protocols and procedures (e.g. scientific, medical, informatic, manufacturing, building, etc) to guarantee life safety and security. On the other hand, and at the same time, potential life-threatening risks are often related to new technologies that have not been fully evaluated or validated as "safe technologies" (e.g. nuclear related technologies). Also emerging technologies such as photochemistry, for Green Chemistry application, and next generation photovoltaics, with the development of Dye Sensitized Solar Cells (DSSCs) are not risk-free [1].

Therefore, there is a strong need of basic and applied research to verify opportunities offered by emerging technologies and, at the same time, to fully evaluate the potential risks related to their use.

In this context, at the Key-SET department of the EuroMediterranean Institute of Sciences and Technologies, competences from Maths, Physics, Chemistry, Biology, and Computer Sciences are joined into an open-minded environment to

develop technological aspects, assess scientific principles, and increase knowledge-base underlying and nurturing innovation[2-6]. At the same time, the independent nature of the research institution guarantees an objective perspective and strengthen each researcher's efforts to define standard risk-evaluation protocols of emerging technologies and to propose innovative solutions to societal challenges. The birth of an open-access journal such as Life Safety and Security will surely provide voice and a general auditorium to crucial research in this field.

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