



## international Engineering Safety Management

Formal system safety management has developed significantly during the last 20 years and whilst it has made a major contribution to preventing accidents during a period that railway systems have become more complex and whilst railways have become more intensively used, there have been a number of problems. Poor practice has seen

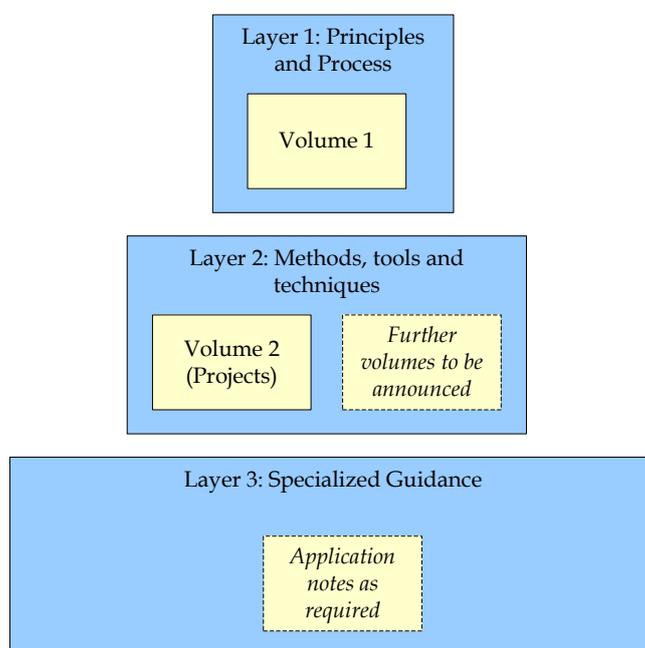
- the production of paper mountains instead of concise information and
- safety engineering starting too late after key decisions have been made resulting in safety work and safety cases being blamed for project delays and overspends.

The iESM workstream, started by experienced practitioners, is seeking to make the application of modern safety engineering a cost effective way for progressive businesses to achieve safety whilst maximizing business and project performance.

The primary purpose of international Engineering Safety Management (iESM) is to help people who lead and undertake railway engineering make sure that their work contributes efficiently to improved safety and helps new railways and changes to be accepted more efficiently.

iESM is about changing from *reaction* after an incident or accident to proactive *action* that seeks out and removes the causes of accidents before disaster can strike. This is best done early in project lifecycles where the costs of any change are minimal.

iESM does this by offering a set of Principles and Processes, summarized below and by providing more detailed guidance available separately to help put them into practice.



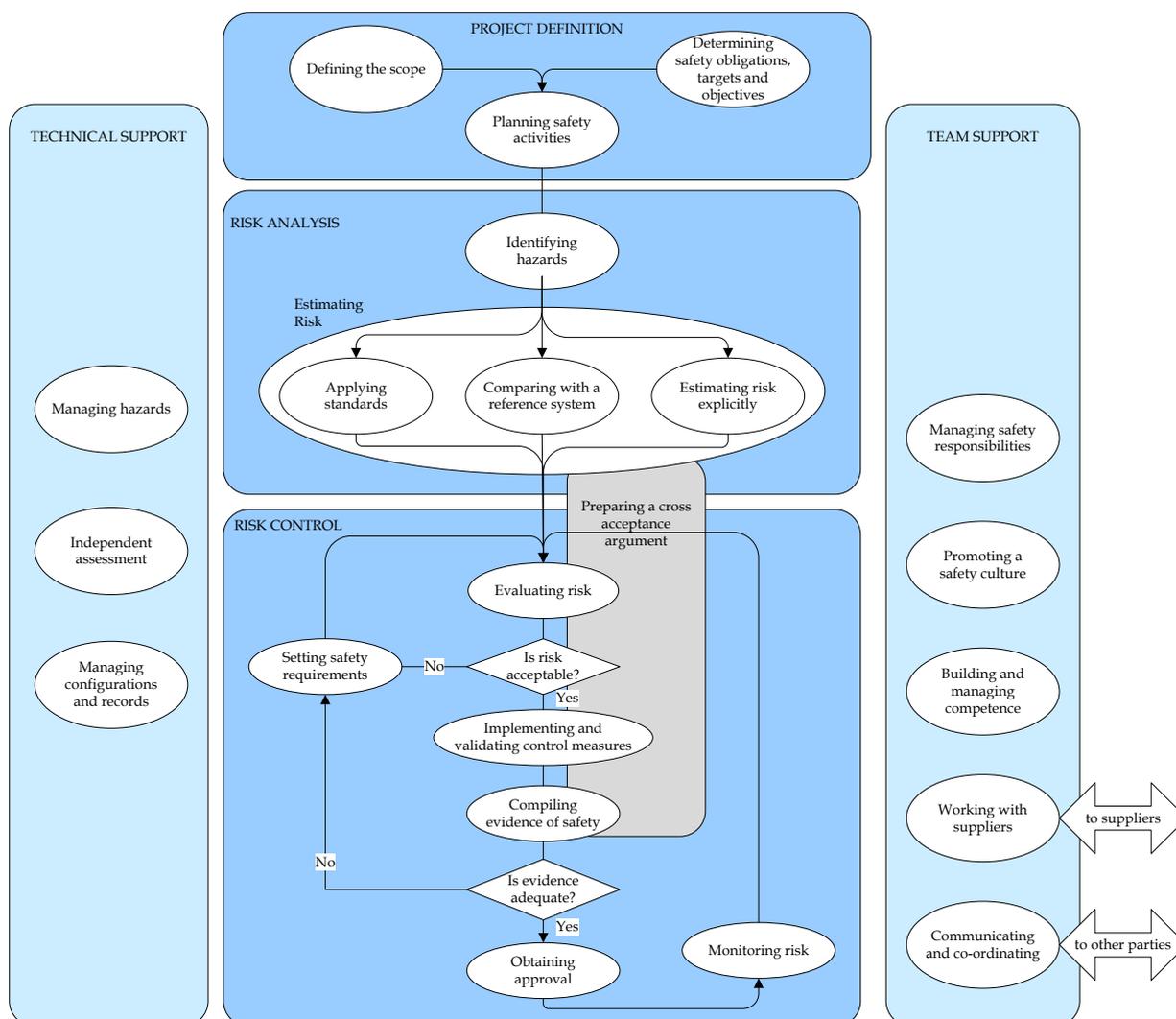
The iESM guidance has been prepared under the supervision of practitioners with international experience from world class organizations, in order to assure that iESM is consistent with emerging good practice. iESM does not assume, nor is biased towards any particular legal system or regulatory framework and in particular, does not assume a single way of accepting risk.



The focus of iESM is on:

- tackling the pressures from increased complexity of railway systems
- decreased public and passenger tolerance for avoidable accidents
- saving money by preventing incidents and smoothing the way for acceptance of new technology or novel applications.

The iESM Principles, processes and flows of information between them are shown in the figure below. iESM is not an “add-on” overhead – it should be an integral part of all engineering activities. You may find that your organization draws the boundaries between activities in different places or gives them different names. How you structure and name these activities makes no difference to their effectiveness. All that matters is that they should be done and done well. iESM provides a structured and systematic approach to managing railway system safety.



iESM is most effectively practiced by trained and competent professionals. iESM resources and a list of competent practitioners may be found at [www.intesm.org](http://www.intesm.org).